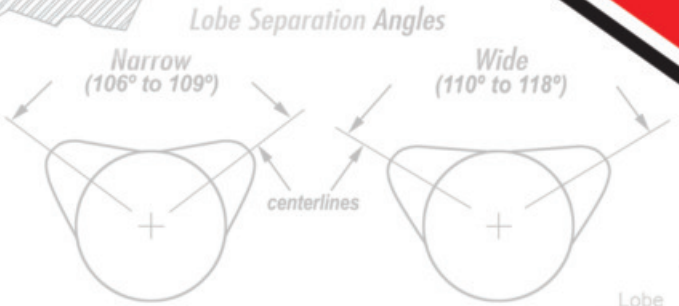
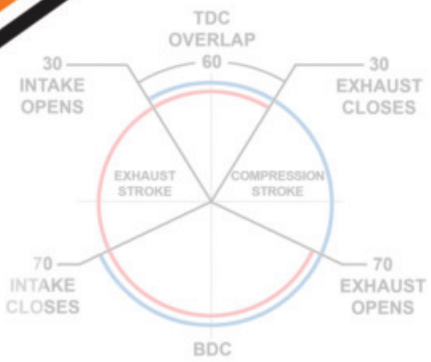
CAMSHAFT & VALVE TRAIN CATALOG

2020

ERSON CAMS





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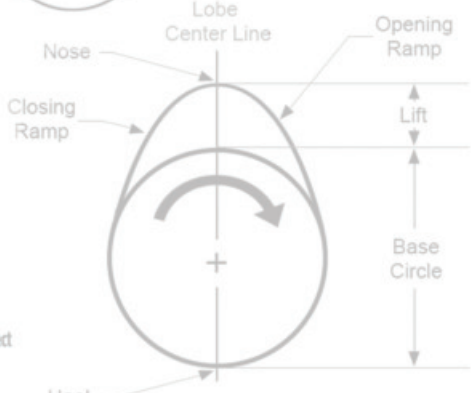
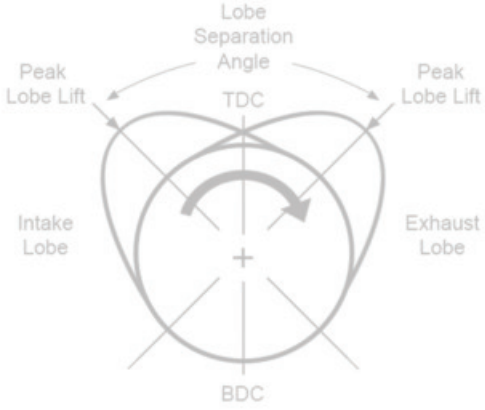




www.pbm-erson.com

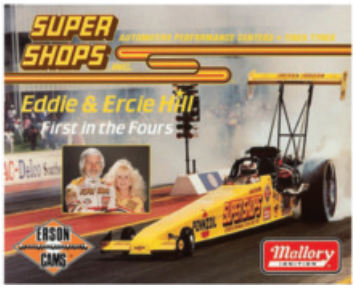
HISTORY OF ERSON CAMS

In 1964, armed with a tremendous wealth of knowledge and a single cam-grinding machine, Sig Erson Racing Camshafts was born. The goal: To produce the best possible camshafts for all types of racing. The first Erson facility was a small 1600 square foot truck repair shop in Hawthorne, California. Meager beginnings for what Erson Cams was to become.

With no budget for advertising or even state of the art machinery (lobe models and masters were often hand ground) Sig Erson Racing Camshafts quickly gained a huge following in both racing and the burgeoning hot rod scene of the 60's and 70's. It was simple, if you wanted a engine that made incredible power yet was easy on valve train parts, an Erson Cam was your only choice.

Sig Erson Racing Camshafts quickly out grew the Hawthorne Facility and moved, in 1967 to a 4000 sq ft facility in Long Beach, California. In 1969, Mr. Erson and his crew of 10 full time cam grinders, moved yet again to a 10,000 sq ft building. At the time it was the largest facility in the country dedicated to state of the art camshaft development and grinding.

In 1981 Super Shops Inc purchased Sig Erson Racing Camshafts. The name was changed to Erson Cams and the company was relocated to Carson City, Nevada.



Erson Camshafts have powered motor sport racings greats to some impressive milestones:

- **Eddie Hill: The first Top Fuel Dragster to break the four-second barrier.**
- **Chuck Etchells: The first Top Fuel Funny Car to break the four-second barrier.**
- **Kenny Bernstein: the first Top Fuel Dragster to run 300 mph.**
- **Jim Epler: The first Top Fuel Funny Car to run 300 mph.**
- **John Force: Thirteen NHRA Championships, and 100+ National Event wins.**
- **Tony Pedregon: 2007 NHRA Funny Car World Champion and ET record holder.**
- **Countless land speed records at both El Mirage and Bonneville Salt Flats.**
- **Circle Track Dirt and Asphalt Erson powers many prominent race teams.**

1997 marked the beginnings of dark times with Super Shops Inc. going bankrupt. Erson Cams and its sister company Mallory Electric, were purchased by a succession of owners: Echlin, Dana and finally Mr. Gasket. Despite the lack of ownership support, Erson Cams persevered, continuing to develop new product lines such as the FSP Valve Springs, FE Ford, Chrysler Shaft Mount Billet Rocker Arms and continued the development of camshafts.

In 2006 Erson Cams was purchased by Engine Parts Warehouse, Inc./PBM Performance Products of Louisville, KY. With the merger of Erson Cams and PBM Performance Products a complete line of valve train and related components was developed. This new product line offers state of the art valve train systems to complete race and performance engine packages.

Erson Cams has moved to Louisville, Kentucky and under the new ownership has developed over 100 new cam lobe profiles to satisfy the needs of the modern market from hydraulic roller 4-7 swap camshafts to new fuel profiles that are setting NHRA records.

- **The FXR Series flat tappet camshafts have become the engine builder's favorite.**
- **The Energy Series camshafts, big power cams that any racing budget can afford.**
- **The 422 series solid roller lobes, setting track records throughout the country.**
- **LS1 specific .365" roller hydraulic racing lobes.**
- **New F.S.P. series springs. Both new dimensions and further development on the most consistent and most durable valve spring the racing world has ever seen.**

The Erson staff are constantly working directly with professional race teams and engine builders to bring our customers the latest and most powerful camshafts in the industry through innovation and cutting edge technology.

Erson Cams: Over 50 Years of Power and Excellence.

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LIMITED WARRANTY

Erson Cams/PBM Performance Products warrants that all of its products are free from defects in material and workmanship, and against excessive wear for a period of 12 months from date of purchase. This **limited warranty** shall cover only the original purchaser. This warranty is valid on camshafts only where new lifters and proper valve springs are used, such as those found in our recommended matched components and cam kits. All flat tappet camshafts should use Erson Assembly Paste E911001 and E911000 4 oz Break-In Additive to engine oil to prevent premature scuffing of lifter face and cam lobe.

Erson Cams/PBM Performance Products's obligation under this warranty is limited to the repair or replacement of its product. To make a warranty claim, the part must be returned within one year of purchase to the address listed below, freight prepaid. Items covered under warranty will be returned to you freight collect.

Erson Cams Warranty Department
7301 Global Drive Louisville KY. 40258

It is the responsibility of the installer to ensure that all of the components are correct before installation. Proper assembly always requires that the installer measure all tolerances for proper clearance. We assume no liability for any errors made in tolerances, component selection, or installation.

There is absolutely no warranty on the following:

1) Any parts used in racing applications.
2) Any product that has been physically altered, or improperly installed or maintained.
3) Any product used in improper applications, abused, or not used in conjunction with the proper parts.

There are no implied warranties of merchantability or fitness for a particular purpose. There are no warranties, which extend beyond the description of the face hereof. Erson Cams/PBM Performance Products will not be responsible for incidental and consequential damages, property damage or personal injury damages to the extent permitted by law. Where required by law, implied warranties of merchantability and fitness are limited for a term of one (1) year from the date of original purchase.

This limited warranty gives you specific legal rights and you may also have other legal rights, which vary from state to state.

SALES AND ORDERING POLICY

We encourage customers to contact Erson technical department before making a camshaft selection. New products and profiles are developed continuously and our technical staff will be pleased to help keep you on top of the latest trends.

No merchandise should be returned to the factory for warranty or exchange without first contacting the factory for authorization and a RGA number. All returned merchandise should be sent attention Customer Service Department with complete details and instructions regarding the merchandise and any problem encountered.

All return shipments must be sent freight prepaid insured, as we will not accept collect shipments. Be sure to include your return address. Erson Cams/PBM reserves the right to change specifications, designs, materials and prices listed in this catalog at our discretion. Every effort has been made to guarantee all information in this catalog is correct. We cannot be responsible for typographical errors in specifications or prices. For Erson Cam Technical information call (800) 641-7920 Monday through Friday, 7:00 AM to 5:00 PM P.S.T.

IMPORTANT NOTICE

This catalog has been completed using our best efforts. We assume no liability for errors contained herein. The catalog on our website is updated on a regular basis and should be used to supplement the information contained herein.

It is the responsibility of the installer to ensure that all of the components are correct before installation. Proper assembly always requires that the installer measure all tolerances for proper clearance. We assume no liability for any errors made in component selection or installation.

Prices on all products are subject to change without notice. We reserve the right to make changes in products at any time.

Except as noted, products in this catalog may not be legal for sale or use in pollution-controlled motor vehicles (pre-1966 domestic vehicles certified to California standards, pre-domestic vehicles certified to federal standards.

Erson Camshaft Series

Over 80% of the camshafts now sold in the high performance aftermarket are for late model, low compression engines. Traditional high performance camshafts are totally unsuited for these engines. They kill low-end power, waste fuel and idle poorly. The following camshaft series incorporates all the performance and fuel saving technology developed in our testing programs and are available only from Erson Cams. These camshaft designs feature minimum duration with maximum opening velocity and lift. Valve timing is altered to produce high cylinder pressure and to keep heat in the combustion chamber. Intake opening and exhaust closing points are tailored to eliminate fuel loss during the overlap period. If you have questions or need help picking out a camshaft please feel free to call our tech line at 800-641-7920.

Energy Plus Camshaft *camshafts with grind numbers Torquemaster, Streetfighter, Eliminator,*

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.Refer to individual descriptions for best application information.

RV Camshaft *camshafts with grind numbers beginning with RV*

Originally designed for use in heavy vehicle and towing applications, these camshafts have proven to be the perfect answer for late model, low compression engines, and are now used primarily in passenger cars, station wagons and light utility vehicles.

RV Cams are suitable for use in otherwise stock low compression engines. Usable power is increased between 1500 and 5000 (depending on application). These camshafts have a smooth idle, excellent throttle response and acceleration, plus good fuel efficiency. For the best possible performance, the engine should be equipped with headers, a free-flow exhaust system, a small 4-barrel carburetor and a re-curved ignition system.

These camshafts are ideal for sedans, station wagons, pickups, vans and motor homes. Idle is smooth and standard gearing is satisfactory. RV Cams are available for all late model American passenger car and light truck engines in hydraulic or mechanical designs

M/P Camshaft *camshafts with grind numbers beginning with MP*

The M/P Cam has sufficient duration and special valve timing to bleed off enough compression at low RPM to help prevent preignition, plus deliver great mid-range power. It will also pull strong up to 5500/6000 RPM. The idle is fairly smooth and throttle response is good. When installing an M/P Cam, it will be necessary to re-curve the ignition. The curve must be tailored to advance smoothly to full advance at 3000/3500 RPM. Vacuum advance should be provided to enhance gas mileage at part-throttle cruise.

The existing carburetor or fuel injection system will need to be tuned. It will take careful tuning, but great performance, plus greatly improved mileage can be expected from a high performance, high compression engine.

TQ Camshaft *camshafts with grind numbers beginning with TQ*

Erson TQ Cams have undergone extensive testing during the past three decades and offer a big potential for performance improvement in a well set-up low compression engine. TQ Cams feature computer designed profiles incorporating short, fast opening ramps and maximum open velocity. Closing velocity is lower than opening and the closing ramp is slower and longer. This type design allows the engine to deliver good RPM and great power, without sacrificing idle characteristics, low-end power and throttle response. Lobe placement and camshaft phasing have been altered to maintain high cylinder pressure with low compression ratios. TQ Cams maintain good low and mid-range power and good idle characteristics, while producing good, usable power up to 5500/6000 RPM, depending on engine displacement and other performance equipment installed. TQ Cams should be used in engines with headers, a free-flow exhaust system and a good intake system with a small, 4-barrel carburetor. Distributor mechanical advance should be shortened to provide more low RPM advance. Standard gearing can be retained, but a lower gear ratio is beneficial to take advantage of the higher RPM potential. TQ Cams are available for all late model American passenger car and light truck engines for use with hydraulic or mechanical tappets.

High-Flow Camshaft *camshafts with grind numbers beginning with Hi FLOW*

The High-Flow series of high performance camshafts are computer designed short duration, maximum lift camshafts for modified engines with compression ratios of 8:1 up to 10.5:1. High-Flow Cams feature the highest possible lift with the shortest practical duration to produce good usable low-end power and excellent high RPM performance without wasting fuel. For best results, engines should have a good high performance intake and exhaust system, modified ignition and lower gear ratio. Due to their broad power range and good revving ability, the High-Flow Cams have proven to be consistent E.T. Bracket winners. High-Flow Cams are available for all late model, American passenger car engines in hydraulic or mechanical designs.

Erson Camshaft Series

High Boost Camshaft *camshafts with grind numbers beginning with HI BOOST*

Erson Cams, one of the industry's leaders in camshaft design technology, is proud to introduce its new line of High Boost Cams for the high performance enthusiast. Camshaft profiles, ranging in performance and application from the smaller, roots-style superchargers; all the way up to the larger, more performance oriented blowers of the family--not excluding Paxton or Vortex style Superchargers. As we are all aware, every engine combination is different, however, basic engine requirements still remain the same. Blower Cams are not exception to the rule. They have certain design characteristics that allow the supercharged engine builder to achieve the expected results he or she is striving for. These designs have been developed over many years of research at dyno facilities all over the country. That's why Erson feels confident to offer these profiles as some of the best, most competitive performance street blower grinds in the country.

JB Camshaft *camshafts with grind numbers beginning with JB*

The JB Cams were developed to compliment the unique characteristics of jet boats. The jet unit has a power absorption curve similar in shape to the power output curve of an engine, except at the top-end where the impeller power absorption curve becomes very steep. The RPM, where the power developed curve crosses the power absorbed curve, is the absolute maximum RPM the unit can turn. The spread between the curves is excess power and translates into acceleration. All JB Cams are developed to compliment the unusual shaped power absorption curve of the impeller. These designs produce power over a broad range and provide excellent acceleration if properly matched to the impeller curve. A special JB Cam can be produced for any modern OHV American production engine. Call our technical department to order one at 800-641-7920.

Oval Track Camshaft *camshafts with grind numbers beginning with OT*

Erson Cams has an ongoing program testing oval track cams on the dyno and at the track. Cams for all types of cars, from Hobby Class to "alky" burning Outlaw Sprints are constantly evaluated and refined to produce the best cam available. This catalog lists oval track cams for most popular engines. These cams were selected from our testing program and are proven performers. We realize it is impossible to design oval track cams for every engine combination run under the various sanctions around the country. We encourage our customers to work closely with our Technical Department when ordering an oval track cam. Erson Cams will design and custom grind a cam for your application. We will choose from our vast selection of Masters, the correct intake and exhaust profile, special lobe center, cam phasing, etc. to fit your needs.

Roller Tappet Camshaft *camshafts with grind numbers beginning with R*

Roller Tappet Cams, when not banned by the governing body, are the way to go for the most serious racing application. Roller Tappet designs produce more power over a broader range than any comparable tappet combination due to the high tappet velocity possible.

HR Energy Plus Hydraulic Roller Camshaft *camshafts with grind numbers beginning with RH*

Most of the "off the shelf" oils today, cannot keep a flat tappet camshaft alive in an engine. The lack of Zinc and Sulfur in the oils, coupled with worn lifter bores in old engine blocks has dramatically affected flat tappet camshaft life. Available for both O.E. and Retro applications, hydraulic roller cams are a huge upgrade from old flat tappet technology. No more camshaft break in, no more flat cams because the lifter stopped spinning in the lifter bore and no more special oils or additives. With faster opening and closing ramps, HR Energy Plus lobes create more torque and horsepower than a comparable flat tappet lobe.

Road Rage Camshaft *camshafts with grind numbers beginning with ROAD RAGE*

Erson Cams has introduced a new line of street performance camshafts and related valve train components called the ROAD RAGE series. Erson's specially developed Road Rage cam profiles produce an aggressive sounding Muscle Car idle and back it up with outstanding performance. Even the mildest Road Rage grinds will deliver significant gains in horsepower and torque over stock cams, and they are easy on your valve train components as well. The Road Rage cam series is available in hydraulic roller and hydraulic flat tappet styles designed to work with carbureted Small Block Chevy, Big Block Chevy and Small Block Ford engines. Erson Cams has engineered the Road Rage series with lobe profiles specifically suited to each engine design and with an optimal combination of lift, duration and overlap to deliver a downright mean-nasty sound and the power to go with it.

HYDRAULIC FLAT TAPPET CAMSHAFTS

AMC 6 CYLINDER

1964-1997 AMC/JEEP INLINE 6 CYLINDER 199-258 - 1998-2004 AMC 4.0 FUEL INJECTED

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent replacement cam for stock engines improved low end torque without sacrificing driveability/mileage. Works with stock gearing.	1000-4800	**E720111** RV5H	IN 274° EX 280°	202° 208°	.437" .448"	110°	4°	.000" .000"
Strong mid-range power. City, fast expressway and open road towing. Delivers max mid range torque. Good idle, throttle response plus fule economy.	1200-5000	**E720101** RV10H	IN 280° EX 280°	208° 208°	.448" .448"	111°	4°	.000" .000"
Improved low end torque and mid-range hp with minor modifications. Works best with 8.5-9.5:1 compression using headers and/or free flowing exhaust system. Great for low range or towing light to moderate loads.	1500-5000	**E720112** RV12H	IN 280° EX 288°	208° 214°	.448" .458"	112°	4°	.000" .000"
Strong mid range power. City and freeway driving, towing. Cars, wagons and pick ups. Good idle	1500-5000	**E720201** RV15H	IN 288° EX 288°	214° 214°	.458" .458"	111°	4°	.000" .000"
The Performer. Street performance at its best. Increased torque and great mid-range performance when installed in slightly modified engines. Fair idle.	1800-5000	**E723121** TQ20H	IN 292° EX 292°	214° 214°	.478" .478"	112°	4°	.000" .000"
One of Erson's premier profiles. Great mid range torque and top end HP. No less than 9.5:1 compression. Aftermarket intake, 500 two bbl or 390 cfm four bbl and headers for best results	2000-5500	**E720321** HI FLOW AH	IN 284° EX 284°	220° 220°	.504" .504"	110°	4°	.000" .000"
Mid range and strong top end. Need 4 bbl, headers and low gears. Ok for automatic. Fair idle and fuel efficiency.	2500-6000	**E723221** TQ30H	IN 310° EX 310°	226° 226°	.493" .493"	111°	4°	.000" .000"
High lift, short duration design delivers power over a broad range. Ok for automatic with gears.	2500-6000	**E720421** HI FLOW 1H	IN 296° EX 296°	228° 228°	.504" .504"	108°	0°	.000" .000"
1998-2004 4.0 Fuel injected. Excellent replacement cam for stock engines improved low end torque without sacrificing driveability/mileage.	1200-4800	**E730111** RV5H	IN 280° EX 280°	208° 208°	.437" .448"	110°	4°	.000" .000"
1998-2004 4.0 Fuel injected. Improved low end torque and mid-range hp with minor modifications. Works best with 8.5-9.5:1 compression using headers and/or free flowing exhaust. Great for low range or towing.	1200-5000	**E730112** RV12H	N 280° EX 288°	208° 214°	.448" .458"	112°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	504S	206	HA2011	N/A	N/A	T3035

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

HYDRAULIC FLAT TAPPET CAMSHAFTS

AMC V8

1966-1991 AMC V8 290-401

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Good idle quality. Low rpm torque. Works with stock or slightly modified engines.	1000-5000	**E710012** TORQUEMASTER	IN 270°	204°	.448"	110°	0°	.000"
			EX 280°	214°	.472"			.000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3325	504S	206	HA2011	1601-8	N/A	7600

Notes:
These cams may require conversion to an adjustable valve train.
Not legal for sale or use on pollution controlled vehicles.

Erson Break-In & Oil Additive

Erson's Break-In and Oil Additive with ZDDP is the best insurance for your new performance engine or classic car with flat tappet lifters and camshaft.

- Safe, proven ZDDP EP agent takes the worry out of using new oil formulas in engine that have flat tappet camshafts and lifters.
- Turns modern SM quality oil into the ideal oil for superior break-in and everyday use for superior protection.
- Compatible with ALL high-quality oils, standard or synthetic.
- You choose your preferred oil.
- One 4 oz. bottle of Erson's ZDDPlus™ per oil change with SM oil is more economical than 5 quarts of exotic oil.
- Erson with ZDDP is economical and provides the protection required for high performance engines. Great for every oil change.

Part # E911000- Erson's Break-In Oil Additive 4 oz.
Part # E911002- Erson's Assembly Paste with ZDDP

HYDRAULIC FLAT TAPPET CAMSHAFTS

AMC V8

1966-1991 AMC V8 290-401

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Broad power range. City and Freeway driving, towing. Heavier cars. Good idle and fuel mileage	1200-5000	**E710101** RV10H	IN 280° EX 280°	208° 208°	.448" .448"	111°	4°	.000" .000"
Broad power range, City and Expressway driving, towing. Cars, heavier rigs. Good idle, response and high fuel efficiency.	1000-4000	**E710112** RV12H	IN 280° EX 288°	208° 214°	.448" .458"	110°	0°	.000" .000"
Strong mid-range power. City, fast expressway and open road towing. Delivers max mid range torque. Good idle, throttle response plus fule economy.	1500-5000	**E710201** RV15H	IN 288° EX 288°	214° 214°	.458" .458"	111°	4°	.000" .000"
The Performer. Erson's most popular grind for improving all around street performance with minor modifications. A 600 CFM 4 bbl and free flowing dual exhaust increases low end torque and mid-range hp. Ok with stock converter	1500-4500	**E710121** TQ20H	IN 292° EX 292°	214° 214°	.478" .478"	111°	4°	.000" .000"
Allows high compression (10:1 and up) to operate on lower octane fuel with reasonable fuel mileage	1500-5000	**E711021** MP2	IN 288° EX 310°	214° 216°	.458" .493"	111°	4°	.000" .000"
High-lift, short duration dual pattern offers great mid-range in slightly modified engines with no less than 9.0:1 compression. Use good dual plane intake, 4 bbl and header for best results. Automatic cars advance cam 4 deg.	2200-5500	**E710321** TQ40H	IN 284° EX 296°	220° 228°	.504" .504"	110°	0°	.000" .000"
Mid range and top end power. Needs 4bbl, headers and low gears. OK with automatic with low gears. Fair idle and fuel efficiency.	2500-6000	**E710221** TQ30H	IN 310° EX 310°	226° 226°	.493" .493"	110°	4°	.000" .000"
High performance street seeking increased mid-range and top end performance from modified 360-401 CID engines. Use no less than 9.5:1 compression, torker style intake, up to 750 CFM 4 bbl and headers.	2700-5700	**E710421** HI FLOW I H	IN 296° EX 296°	228° 228°	.504" .504"	108°	0°	.000" .000"
Runs strong from 3000-6800 rpm. Stick or auto with gears. Needs good intake and headers. 9.5:1 compression or more. Lopey idle.	3000-6800	**E710521** HI FLOW IIH	IN 306° EX 306°	235° 235°	.504" .504"	108°	0°	.000" .000"
Hot street/Bracket cam, 390-401 CID with no less then 10.5:1. works with automatic with 3500 or more converter.	3500-7200	**E710621** HI FLOW IV H	IN 312° EX 320°	248° 256°	.536" .552"	110°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	504S	206	HA2011	1601-8	N/A	7600

Notes:
These cams may require conversion to an adjustable valve train.
Not legal for sale or use on pollution controlled vehicles.

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

AMC V8

1966-1991 AMC V8 290-401

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Broad power range. High lift, short duration cam. Pulls hard from low end to top end. Good for automatic transmission. Good idle	3000-6500	**E710721** HIGH FLOW IM	IN 286° EX 286°	242° 242°	.544" .544"	108°	0°	.022" .024"
Excellent entry level cam for high performance street seeking strong mid-range power. 360-401 CID engines need 10.5:1 compression and aftermarket intake/exhaust systems for best results. 4-speed manual transmission or automatics with 2500-3000 RPM converter recommended.	3000-6500	**E710501** HI FLOW AM	IN 286° EX 294°	242° 246°	.544" .544"	108°	0°	.022" .024"
Pro Street/E.T. Brackets. 390-401 CID with 10.5-11.5:1 compression need modified cylinder heads matched to a single plane intake, 750 CFM 4 bbl, 1.750" primary tube headers and 3" exhaust for best results. 2800-3400 lb automatic cars use 3500 RPM converter, 28" tire and 4.56 gear.	3500-7000	**E710502** F-296-1	IN 296° EX 302°	258° 264°	.600" .600"	108°	2°	.022" .024"
E.T. Brackets, 2600-3200 lb Javelins, AMXs, Gremlins, etc. using 390-413 CID engines need 11.5:1 compression resulting in consistent, reliable top end power. Compatible in 4 speed or automatic with 4500 RPM converter.	4000-7500	**E710503** F-306-1A	IN 306° EX 314°	268° 276°	.600" .600"	108°	0°	.022" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	506	204	MA998	N/A	N/A	7600

Notes:
It may be necessary to machine spring seat on some AMC/Jeep cylinder heads. For information regarding this procedure, call Erson's Technical Service Team at 800-641-7920.

For engines with non-adjustable valvetrains, it may be necessary to shim the rocker arm bridges to eliminate excessive hydraulic lifter pre-load.

Not legal for sale or use on pollution controlled vehicles.

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

HYDRAULIC FLAT TAPPET CAMSHAFTS

BUICK V6

19771/2-1988 BUICK V6 196, 231, 252

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent replacement camshaft to improve low end performance and driveability. Compatible with stock compression, torque converter and gearing. Approved for use with turbo chargers. Good idle.	1000-4000	**E670131** RV5H	IN 274° EX 274°	202° 202°	.423" .423"	110°	4°	.000" .000"
Designed to improve low end torque and mid-range performance. Great open road driveability and fuel efficiency. Naturally aspirated engines need free flowing dual exhaust system for best results. Enhances turbo charger performance with minimal effort.	1500-4800	**E670101** RV10H	IN 280° EX 280°	208° 208°	.434" .434"	111°	4°	.000" .000"
The "Performer". Erson's most popular Buick Grand National camshaft. Noticeable increase in mid-range performance in both acceleration and turbo response time. May require fuel system modifications for best results.	2000-5400	**E670121** TQ20H	IN 292° EX 292°	214° 214°	.463" .463"	111°	4°	.000" .000"
Naturally aspirated or turbo charged street machines seeking improved mid-range torque and top end hp look no further. Prefers 4 or 5 speed manual transmission and mid-3 series gearing for both results.	2500-5800	**E670321** Hi Flow AH	IN 284° EX 284°	220° 220°	.488" .488"	112°	4°	.000" .000"
Broad power camshaft. Should have headers and good intake system. OK for automatic. Fair idle.	2800-6500	**E670221** TQ30H	IN 310° EX 310°	226° 226°	.493" .493"	111°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000	501S	205	HA969	N/A	N/A	7500

CAUTION: Do not attempt to operate an engine with less than .150" retainer-to-guide clearance. If you are using valve seals, check the clearance from the top of the seal rather than the top of the guide.

CAUTION: Due to the unusual chamber design in the Buick cylinder head, valve-to-piston interference is always a problem. We recommend checking clearance on any camshaft of 290 degrees of duration or more.

WARNING--Some early Buick engines used 11/32" valve stems with 11° steel retainers. Only use matched components. Failure to do so may result in serious engine damage.

Not legal for sale or use on pollution controlled vehicles.

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

HYDRAULIC FLAT TAPPET CAMSHAFTS

BUICK V8

1961-67 BUICK 215-300-340
1968-94 ROVER 215/3.5L 240/3.9L 256/4.2L

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent replacement camshaft for vehicles seeking improved low end performance. No modifications necessary. Compatible with stock compression and gearing. Good idle.	1000-4000	**E640111** RV5H	IN 274° EX 280°	202° 208°	.437" .448"	110°	4°	.000" .000"
Broad power range. City and Freeway driving, towing. Heavier cars. Good idle and fuel mileage	1500-4800	**E640101** RV10H	IN 280° EX 280°	208° 208°	.448" .448"	111°	4°	.000" .000"
Rovers and TR-8s with lightly modified cylinder heads, aftermarket aluminum intake and free flowing dual exhaust system increases low end torque and mid-range hp. Fair idle.	1500-4500	**E640201** RV15H	IN 288° EX 288°	214° 214°	.458" .458"	111°	4°	.000" .000"
The "Performer". Broader power and more mid-range performance from modified engines. 4 or 5 speed manual transmission and low gears deliver best results. Noticeable idle.	2000-5000	**E643121** TQ20H	IN 292° EX 292°	214° 214°	.478" .478"	112°	5°	.000" .000"
Broad power range cam. Pulls hard past 6000. Ok with turbo hydro will well set up engine and low gears	2500-6000	**E640221** TQ30H	IN 310° EX 310°	226° 226°	.493" .493"	111°	4°	.000" .000"
Strong mid range power plus good RPM potential. Broad power range. Rough idle	2500-5500	**E640231** HI FLOW IH	IN 296° EX 296°	228° 228°	.504" .504"	108°	0°	.000" .000"
Mid range and top end power. Strong above 3500 rpm in large engine.	3000-6800	**E640241** HI FLOW IIH	IN 306° EX 306°	235° 235°	.504" .504"	108°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
N/A	N/A	N/A	HA969	N/A	N/A	N/A

TECH TIP:
When installing these cams, valve-to-piston clearance must be checked as there is a possibility of valve-to-piston interference. We recommend .080" intake and .100" exhaust minimum clearance.

WARNING: Some early Buick engines used 11/32" valve stems with 11° steel retainers. Only use matched components. Failure to do so may result in serious engine damage.

CAUTION: Not all optional high-performance parts for early Buick, Oldsmobile and Rover engines are interchangeable. Please call Erson's Technical Service Team at 800-641-7920 for assistance selecting additional components.

NOTE: It may be necessary to use stock OEM style valve locks due to an atypical 11° taper at the retainer.

Not legal for sale or use on pollution controlled vehicles.

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

HYDRAULIC FLAT TAPPET CAMSHAFTS

BUICK V8

1968-80 BUICK 350 “H” & “J” SERIES

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Broad power range, City and Expressway driving, towing. Cars, heavier rigs. Good idle, response and high fuel efficiency.	1000-4000	**E650101** RV10H	IN 280° EX 280°	208° 208°	.448” .448”	111°	4°	.000” .000”
Excellent choice for increasing low end torque and mid-range hp. Compatible with up to 9.5:1 compression, single 4 barrel and free flowing exhaust system. OK with stock converter, gearing and headers recommended.	1200-4500	**E650011** MP1	IN 280° EX 292°	208° 214°	.448” .478”	114°	6°	.000” .000”
Broad power range. City and Freeway driving, towing. Heavier cars. Good idle and fuel mileage	1500-5000	**E650201** RV15H	IN 288° EX 288°	214° 214°	.458” .458”	111°	4°	.000” .000”
The “Performer”. Super low- and mid-range power. Good idle, fuel efficiency and driveability. 4-barrel and headers recommended.	1500-4700	**E653121** TQ20H	IN 292° EX 292°	214° 214°	.478” .478”	111°	4°	.000” .000”
High-lift, short duration dual pattern camshaft builds excellent mid-range torque with minor modifications. Should have after- market aluminum dual plane intake, 600 cfm 4-barrel and headers for best results.	2000-5000	**E650321** TQ40H	IN 284° EX 296°	220° 228°	.504” .504”	110°	4°	.000” .000”
Broad power range cam, pulls hard past 6000. OK with turbo hydro will well set up engine and gears	2500-6000	**E650221** TQ30H	IN 310° EX 310°	226° 226°	.493” .493”	111°	4°	.000” .000”
Strong mid-range power plus good RPM potential, broad power range. Rough idle.	2500-5500	**E650231** Hi Flow 1H	IN 296° EX 296°	228° 228°	.504” .504”	108°	0°	.000” .000”
Mid range and top end power, strong above 3500 rpm in large engine. Rough idle	3000-6800	**E650241** Hi Flow IIH	IN 306° EX 306°	235° 235°	.504” .504”	108°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000	N/A	N/A	HA969* *1970-1980	N/A	N/A	T3003

NOTE: Late Model Buick 350 cubic inch V8 engines have several different valve spring installed heights. The two most common are 1.727” and 1.670” using a 1.300 O.D. spring. For assistance, in selecting these and other Buick valvetrain components, call Erson’s Technical Service Team at 800-641-7920

Not legal for sale or use on pollution controlled vehicles.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

BUICK V8

1967-76 400/430/455 cubic inch V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Great power increase over stock cams. Fair idle quality. Good low to mid-range torque and HP. Works with stock or modified engines.	1000-5000	**E630010** STREET FIGHTER	IN 280° EX 290°	214° 224°	.469" .493"	112°	5°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	504S	N/A	HA969	N/A	N/A	8540

TECH TIP:

When installing a hydraulic lifter racing camshaft in an engine that does not have adjustable rocker arms, care must be taken to ensure that the lifter is still able to adjust itself. If the camshaft has more than .500" valve lift or the heads or block have been milled excessively, the engine must be converted to adjustable rockers or adjustable pushrods.

CAUTION: **Due to the unusual chamber design in the Buick cylinder head, valve-to-piston interference is always a problem. We recommend checking clearance on any camshaft of 290 degrees of duration or more.**

Not legal for sale or use on pollution controlled vehicles.

HYDRAULIC FLAT TAPPET CAMSHAFTS

BUICK V8

1967-76 BUICK 400-430-455

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Smooth idle, broad torque range cam for passenger cars and station wagons	1000-4800	**E630101** RV10H	IN 280° EX 280°	208° 208°	.448” .448”	111°	4°	.000” .000”
Broad torque range cam. Good idle, Ok for automatic transmission	1200-5000	**E630110** RV15H	IN 288° EX 288°	214° 214°	.458” .458”	111°	4°	.000” .000”
The “Performer”. Excellent replacement camshaft for vehicles seeking improved low end and mid-range performance with minor modifications. Compatible with stock compression, torque converter and gearing. Should have free flowing dual exhaust system for best results.	1200-5000	**E630121** TQ20H	IN 292° EX 292°	214° 214°	.478” .478”	111°	4°	.000” .000”
Increased low end torque and mid-range HP over a broader RPM range. Good idle and driveability without harming fuel efficiency. OK with stock torque converter, power brakes and mild gearing.	1500-5000	**E630021** MP2	IN 292° EX 310°	214° 226°	.478” .493”	114°	4°	.000” .000”
Broad power range cam. Pulls hard from idle past 5000 rpm. Good for turbo hydro. Good idle	2200-5800	**E630221** TQ30H	IN 310° EX 310°	226° 226°	.493” .493”	111°	0°	.000” .000”
High-lift, short duration dual pattern camshaft offers increased mid-range torque and HP. Vehicles perform best with aftermarket dual plane intake, up to 750 cfm 4-barrel and free flowing exhaust system. Largest cam with stock converter. Fair idle.	2000-5200	**E630321** TQ40H	IN 284° EX 296°	220° 228°	.504” .504”	112°	4°	.000” .000”
Broad power range cam. Pulls hard from 1500 rpm up. High lift, short duration design packs a serious punch	2200-5800	**E630421** HI FLOW IH	IN 296° EX 296°	228° 228°	.504” .504”	108°	0°	.000” .000”
Excellent choice for mid-’60s, early-’70s Buick muscle cars seeking strong mid-range and top end performance from slightly modified 455 CID engines. Vehicles with 9.5-10.5:1 compression. Performer® style intake, 750 cfm carburetion and 3” diameter free flowing exhaust pull hardest.	2500-6000	**E630223** TQ50H	IN 296° EX 306°	228° 235°	.504” .504”	110°	0°	.000” .000”
Strong mid-range and top end power. 4-speed or automatic transmission with gears. Needs headers and good carburation	2500-6200	**E630521** HI FLOWI IH	IN 306° EX 306°	235° 235°	.504” .504”	108°	0°	.000” .000”
Strong mid range and top end cam. Pulls hard from 3000 rpm and up	2800-6600	**E635921** HI FLOWI IH	IN 316° EX 316°	240° 240°	.504” .504”	108°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	504S	N/A	HA969	N/A	N/A	8540

WARNING: May Cause Cancer and Reproductive Harm
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Not legal for sale or use on pollution controlled vehicles.

HYDRAULIC FLAT TAPPET CAMSHAFTS

CADILLAC V8

1980-1984 368, 1977-1979 425
1968-1974 472 AND 1970-1976 500

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent replacement cam for stock engines. Builds good power down low. recommended for towing light to moderate loads. Needs free flowing dual exhaust.	1000-4800	**E520101** RV10H	IN 280° EX 280°	208° 208°	.462" .462"	112°	0°	.000" .000"
Excellent choice for trucks, motor homes and heavier rigs with Cadillac powered transplants seeking increased low end torque and driveability.	1200-5000	**E520201** RV15H	IN 288° EX 292°	214° 214°	.472" .493"	112°	4°	.000" .000"
Great street performance grind offering good low end torque and mid-range hp. Should have aftermarket Performer style intake, 4-bbl carburetion and 2.5" or larger free flowing exhaust system. OK with stock converter.	1500-5500	**E520321** TQ40H	IN 284° EX 296°	220° 228°	.519" .519"	112°	4°	.000" .000"
Lots of mid-range torque and top end HP from Cadillac powered hot rods, street machines and trucks using 472-500 CID engines. Works best with 9.5:1 compression, aftermarket intake, lightly modified cylinder heads, 4-bbl and 3.70 or lower gears.	1800-6000	**E520501** TQ50H	IN 296° EX 306°	228° 235°	.519" .519"	114°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000	501S	205	HA969	N/A	N/A	T3034

Notes:
These cams may require conversion to an adjustable valve train.
Not legal for sale or use on pollution controlled vehicles.

WARNING: May Cause Cancer and Reproductive Harm
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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Inline 6

1963-1984 194-230-250

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
The "Commuter". More power than stock. Heavy traffic, expressway use. Smooth idle, good fuel efficiency.	1000-4000	**E160001** RV5H	IN 274° EX 280°	202° 208°	.478" .490"	110°	4°	.000" .000"
Excellent choice for increasing low and mid-range performance. Works well with minor modifications to the intake and exhaust sides of the motor. Suitable for marine applications with outdrives.	1500-4500	**E160112** RV12H	IN 280° EX 288°	208° 214°	.490" .500"	112°	4°	.000" .000"
The "Performer". Chevrolet II's, Camaros and light duty trucks seeking improved mid-range performance. For increased top end, use aftermarket aluminum intake with 390 cfm 4 barrel or 500 cfm 2 barrel and headers.	2000-5000	**E160121** TQ20H	IN 292° EX 292°	214° 214°	.523" .523"	110°	4°	.000" .000
Mid range and top end runner. Needs 4 barrel, headers and gear. Fair idle	2750-5600	**E160221** TQ30H	IN 310° EX 310°	226° 226°	.540" .540"	110°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ABOVE ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501S	205	HA817	N/A	N/A	Call

CHEVROLET Inline 6

1963-1989 292

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
The "Commuter". More power than stock. Heavy traffic, expressway use. Smooth idle, good fuel efficiency.	1000-4000	**E170001** RV5H	IN 274° EX 280°	202° 208°	.478" .490"	110°	4°	.000" .000"
Excellent choice for increasing low and mid-range performance. Works well with minor modifications to the intake and exhaust sides of the motor. Suitable for marine applications with outdrives.	1500-4500	**E170112** RV12H	IN 280° EX 288°	208° 214°	.490" .500"	112°	4°	.000" .000"
The "Performer". Chevrolet II's, Camaros and light duty trucks seeking improved mid-range performance. For increased top end, use aftermarket aluminum intake with 390 cfm 4 barrel or 500 cfm 2 barrel and headers.	2000-5000	**E170121** TQ20H	IN 292° EX 292°	214° 214°	.523" .523"	110°	4°	.000" .000
Mid range and top end runner. Needs 4 barrel, headers and gear. Fair idle	2000-5500	**E170221** TQ30H	IN 310° EX 310°	226° 226°	.540" .540"	110°	4°	.000" .000""

MATCHED COMPONENTS FOR CAMS ABOVE ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501S	205	HA817	N/A	N/A	TG2528S

Notes:
These cams may require conversion to an adjustable valve train.
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WARNING: May Cause Cancer and Reproductive Harm
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SOLID/MECHANICAL FLAT TAPPET CAMSHAFTS

CHEVROLET Inline 6

1959-1963 235-261

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Smooth idle, broad torque range cam for passenger cars, station wagons, pick ups and RV'S	800-4800	**E150301** RV10M	IN 254° EX 254°	210° 210°	.435" .435"	110°	4°	.016" .018"
Good all around cam. Ok with power-glide if used with low gears. Ideal for on carb	1200-5000	**E151221** 260F	IN 272° EX 274°	216° 216°	.410" .410"	110°	0°	.016" .018"
Best all around camshaft for street and strip. Very good short track racer with heavy car	2200-6500	**E151321** 280F	IN 280° EX 280°	232° 232°	.440" .440"	110°	0°	.016" .018
Should be used only in the larger engine with gears, mulitple carbs and headers	2800-7000	**E151421** 290F	IN 290° EX 290°	244° 244°	.460" .460"	110°	0°	.016" .018"

MATCHED COMPONENTS FOR CAMS ABOVE ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501S	205	*Call	N/A	N/A	Call

CAUTION:
When using high-pressure springs (springs having more than 130 pounds of seat load or more than 330 pounds of nose load) with a flat tappet camshaft, Erson Cams requires that you break the camshaft in for 30 minutes while using just the outer spring. Only after the break-in period should the inner spring be installed. Following this procedure will greatly reduce any chance of camshaft or lifter failure.

Not legal for sale or use on pollution controlled vehicles.

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET 90° V6

1985-1986 262

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent replacement camshaft. First level over stock offers improved low end performance and driveability. Compatible with stock compression and gearing. Good idle.	1000-4000	**E195001** TQ10H	IN 274° EX 274°	202° 202°	.410" .410"	110°	4°	.000" .000"
The "Commuter". Good all around driveability in passenger cars and light trucks seeking improved low end performance. Great for towing light to moderate loads. Good idle. Compatible with 1.6 rockers.	1200-4300	**E195111** RV5H	IN 274° EX 280°	202° 208°	.410" .420"	111°	4°	.000" .000"
Great cam for slightly modified V6 engines in 2 wheel drive and 4x4 pickups seeking strong low and mid-range performance. Works best with headers and free flowing exhaust. Compatible with 1.6 rockers and small superchargers.	1500-4500	**E195112** RV12H	IN 280° EX 288°	208° 214°	.420" .429"	112°	4°	.000" .000"
The "Performer". Our most popular cam for improving mid-range performance. Easy on parts, requires limited modifications for noticeable gains.	2000-5000	**E195121** TQ20H	IN 292° EX 292°	214° 214°	.449" .449"	111°	4°	.000" .000"
Excellent choice for modified V6 engines with aluminum aftermarket intake manifolds, 390 cfm 4 barrel, lightly modified cylinder heads and free flowing exhaust system enhance mid-range torque and top end horsepower.	2500-5500	**E195321** TQ40H	IN 284° EX 296°	220° 228°	.472" .472"	110°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ABOVE ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000	501S	205	HA817	N/A	N/A	700

Not legal for sale or use on pollution controlled vehicles.

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

HYDRAULIC ROLLER CAMSHAFTS

CHEVROLET 90° V6

1987-1997 262 w/o Balance Shaft

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
First performance level over stock, improved low end and mid-range performance compatible with stock compression and gearing. OK for towing light to moderate loads.	1200-4500	**E195501** RH-276-3	IN 276° EX 276°	208° 208°	.480" .480"	112°	4°	.000" .000"
Excellent choice for passenger cars and light trucks seeking strong low end and mid-range performance. Compatible with on board fuel management and power brakes. Works best with 4 or 5-speed manual transmission and mid-3 series gearing.	1500-4800	**E195502** RH-276-4	IN 276° EX 282°	208° 214°	.480" .480"	114°	6°	.000" .000"
Slightly modified engines seeking performance-oriented hydraulic roller with emphasis on mid-range torque and horsepower. Headers with free flowing cat-back exhaust system recommended. Aftermarket computer chip may be necessary.	2000-5200	**E195503** RH-282-6A	IN 282° EX 286°	214° 218°	.480" .510"	112°	4°	.000" .000"
New lobe technology incorporates faster ramps and longer seat timing resulting in more torque throughout. Great all around performance in street machines, hot rods and sport trucks. May need aftermarket computer chip to enhance performance.	2500-6000	**E195504** RH-282-3	IN 282° EX 282°	222° 222°	.480" .480"	112°	4°	.000" .000"

CHEVROLET 90° V6

1987-1997 262 with Balance Shaft

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
First performance level over stock, improved low end and mid-range performance compatible with stock compression and gearing. OK for towing light to moderate loads.	1200-4500	**E195501B** RH-276-3	IN 276° EX 276°	208° 208°	.480" .480"	112°	4°	.000" .000"
Excellent choice for passenger cars and light trucks seeking strong low end and mid-range performance. Compatible with on board fuel management and power brakes. Works best with 4 or 5-speed manual transmission and mid-3 series gearing.	1500-4800	**E195502B** RH-276-4	IN 276° EX 282°	208° 214°	.480" .480"	114°	6°	.000" .000"
Slightly modified engines seeking performance-oriented hydraulic roller with emphasis on mid-range torque and horsepower. Headers with free flowing cat-back exhaust system recommended. Aftermarket computer chip may be necessary.	2000-5200	**E195503B** RH-282-6A	IN 282° EX 286°	214° 218°	.480" .510"	112°	4°	.000" .000""

MATCHED COMPONENTS FOR CAMS ABOVE ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3200	501S	205	HA2079	N/A	N/A	700

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
TORQUEMASTER cams are ideal for Cars, Trucks & RV's . Good idle quality. Low rpm torque. Will work with stock or slightly modified engine. Stock rear end gears. Manual or auto transmission.	600-4000	**E110009*** TORQUEMASTER	IN 260° EX 270°	194° 204°	.398" .420"	112°	5°	.000" .000"
	800-4800	**E110014** TORQUEMASTER	IN 270° EX 280°	204° 214°	.420" .443"	110°	0°	.000" .000"
	1000-5000	**E110016** TORQUEMASTER	IN 270° EX 280°	204° 214°	.420" .443"	112°	5°	.000" .000"
	1200-5000	**E110020** TORQUEMASTER	IN 275° EX 278°	209° 216°	.443" .455"	112°	5°	.000" .000"
STREETFIGHTER camshafts offer great power increase over stock cams, engine modifications will further enhance performance. Fair idle quality. Good low to mid-range torque and HP. Will work with stock or modified engine.	1100-5200	**E110022** STREET FIGHTER	IN 280° EX 280°	214° 214°	.443" .443"	110°	5°	.000" .000"
	1200-5200	**E110024** STREET FIGHTER	IN 280° EX 280°	214° 214°	.443" .443"	112°	5°	.000" .000"
	1200-5500	**E110026** STREET FIGHTER	IN 280° EX 290°	214° 224°	.443" .465"	112°	12°	.000" .000"
	1200-5500	**E110028** STREET FIGHTER	IN 280° EX 290°	214° 224°	.443" .465"	112°	5°	.000" .000"
	1500-5600	**E110030** STREET FIGHTER	IN 284° EX 284°	218° 218°	.458" .458"	110°	5°	.000" .000"
	2200-6200	**E110032** STREET FIGHTER	IN 281° EX 281°	225° 225°	.480" .480"	108°	4°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000	501	205	HA817	1601-8	100-16	700

Notes:
*Preferred choice for computer controlled engines.
These cams may require conversion to an adjustable valve train.
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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
STREETFIGHTER camshafts offer great power increase over stock cams, engine modifications will further enhance performance. Fair idle quality. Good low to mid-range torque and HP. Will work with stock or modified engine.	1500-5500	**E110034** STREET FIGHTER	IN 306° EX 306°	222° 222°	.447" .447"	114°	4°	.000" .000"
	2000-6200	**E110036** STREET FIGHTER	IN 288° EX 292°	224° 224°	.450" .460"	114°	2°	.000" .000"
	2000-6200	**E110038** STREET FIGHTER	IN 290° EX 290°	224° 224°	.465" .465"	112°	5°	.000" .000"
	2000-6200	**E110040** STREET FIGHTER	IN 290° EX 300°	224° 234°	.465" .488"	112°	5°	.000" .000"
	2000-6200	**E110042** STREET FIGHTER	IN 284° EX 384°	230° 230°	.453" .453"	114°	2°	.000" .000"
ELIMINATOR Hot Street and Strip, these cams require modifications, stall converters, gears, headers, raised compression, larger carbs. Some applications are suited for nitrous and super charge use. Rough idle quality. Good mid to high rpm torque and horsepower. For use with manual transmission or high stall automatic. Will have lower vacuum than stock.	1800-5600	**E110050** ELIMINATOR	IN 290° EX 300°	222° 231°	.468" .480"	110°	4°	.000" .000"
	1800-5800	**E110044** ELIMINATOR	IN 292° EX 292°	230° 230°	.480" .480"	108°	1°	.000" .000"
	2200-6200	**E110046** ELIMINATOR	IN 292° EX 300°	232° 234°	.488" .488"	108°	2°	.000" .000"
	2200-6400	**E110048** ELIMINATOR	IN 300° EX 310°	234° 244°	.488" .510"	112°	5°	.000" .000"
	2800-6800	**E110052** ELIMINATOR	IN 310° EX 310°	244° 244°	.510" .510"	108°	1°	.000" .000"
	3200-7000	**E110054** ELIMINATOR	IN 310° EX 320°	244° 254°	.510" .533"	112°	5°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501	205	HA817	1601-8	100-16	700

Notes:
These cams may require conversion to an adjustable valve train.
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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Smooth idle. Slightly over stock. Improved low RPM driveability	1000-3500	**E110001** TQ-10-H	IN 274° EX 284°	202° 202°	.410” .410”	108°	0°	.000” .000”
Broad power range. City and expressway driving and towing. Cars, wagons,pickups and heavier rigs. Good idle,throttle response and high-fuel efficiency.	1250-4000	**E110101** RV10H	IN 280° EX 280°	208° 208°	.420” .420”	111°	4°	.000” .000”
Good idle and fuel efficiency in smaller engines. Computer compatible. Works well in light trucks and 4x4 trucks.Towing light to moderate loads. OK with small superchargers.	1500-4500	**E111011** M/P1	IN 280° EX 292°	208° 214°	.420” .449”	114°	6°	.000” .000”
Strong mid-range power. City, fast expressway and open road towing.Delivers maximum mid-range torque.Good idle, throttle response and fuel efficiency.	1750-4750	**E110201** RV15H	IN 288° EX 288°	214° 214°	.429” .429”	111°	4°	.000” .000”
The Performer. Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel and headers recommended.	2000-4750	**E113121** TQ-20-H	IN 292° EX 292°	214° 214°	.449” .449”	111°	4°	.000” .000”
Stroker version of E113121	2000-4750	**E113121S** TQ-20-H	IN 292° EX 292°	214° 214°	.449” .449”	111°	4°	.000” .000”
Good idle and throttle response in larger engines. Prefers 4 barrel, headers, manual transmission and low gears for towing moderate to heavy loads. OK with small superchargers.	2000-5000	**E111021** M/P2	IN 292° EX 310°	214° 226°	.449” .462”	114°	6°	.000” .000”
Stroker version of E111021	2000-5000	**E111021S** M/P2	IN 292° EX 310°	214° 226°	.449” .462”	114°	6°	.000” .000”
Fair idle. Resonable fuel efficiency good low and mid range power.	1800-5800	**E110321** HI FLOW AH	IN 284° EX 284°	220° 220°	.472” .472”	108°	0°	.000” .000”
Street and Strip. High-lift, dual pattern. Fair idle. Reasonable fuel efficiency. Needs 4 bbl, headers and lower gears. OK with automatic and 2,500 RPM stall speed torque converter.	2500-5500	**E113321** TQ40H	IN 284° EX 296°	220° 228°	.472” .472”	110°	4°	.000” .000”
Stroker version of E113321	2500-5500	**E113321S** TQ40H	IN 284° EX 296°	220° 228°	.472” .472”	110°	4°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501/501S	201/205	HA817/E914501	1601-8/1901-8	100-16/800-16	700/7981

Notes:
If you wish to fit a new camshaft in a 1955-57 small block Chevrolet engine, the rear camshaft journal must be modified with a groove for the oiling system. Failure to do this will result in severe engine damage. Erson Cams can make this modification for you if requested with the order.

These cams may require conversion to an adjustable valve train.
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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Recommended for roots, vane or centrifugal-style superchargers. Low-moderate boost 5-8 lbs. Good idle with increased low and mid-range performance.	2000-5500	**E113322** HI-BOOST 1H	IN 284° EX 296°	220° 228°	.472” .472”	112°	4°	.000” .000”
Stock converter ok, but would like 2200 better ,9.5-10.5 compression	2000-5000	**E113510** ROAD RAGE	IN 284° EX 296°	220° 235°	.473” .473”	108°	5°	.000” .000”
Vacuum Rule Circle Track	2000-6000	**E110220** VAC280	IN 280° EX 280°	224° 224°	.465” .465”	112°	4°	.000” .000”
General purpose street and strip cam for 302 & larger engines. Fair Idle	1800-5200	**E112061** VIKING100H	IN 290° EX 290°	224° 224°	.450” .450”	108°	0°	.000” .000”
Lift Rule Circle Track Hydraulic Flat Tappet	2000-6000	**E110405** H300/270	IN 300° EX 300°	224° 224°	.405” .405”	107°	0°	.000” .000”
Lift Rule Circle Track Hydraulic Flat Tappet	2400-6400	**E110406** H300/270-1	IN 300° EX 312°	224° 236°	.405” .405”	107°	0°	.000” .000”
Strong broad power range for engines over 300 ci and boost up to 12lbs.	2200-5600	**E110011** TURBO II	N 310° EX 292°	226° 214°	.462” .449”	112°	0°	.000” .000”
Fair idle and fuel efficiency. Strong mid-range performance. Works best with 4 barrel, headers, 4 speed manual transmission and low gears.	2750-5750	**E113221** TQ30H	IN 310° EX 310°	226° 226°	.462” .462”	114°	6°	.000” .000”
Restricted intake. 9-1 to 10-1 compression.Good exhaust. Short 1/4-3/8 mile sticky tracks. Great for heavier cars	2000-5500	**E110422** HI-FLOW 1H RP	IN 296° EX 284°	228° 220°	.472” .472”	107°	5°	.000” .000”
Smooth torque for small track with smooth driver	2500-5800	**E110470** HL-294-355RP	IN 302° EX 284°	228° 220°	.532” .472”	106°	5°	.000” .000”
Hot Street/E.T. Brackets, etc. High lift.Short duration. Delivers broad power range, strong top end. Fair idle. Needs 4 barrel, headers, compression and gears.	2750-5750	**E110421** HI-FLOW 1H	IN 296° EX 296°	228° 228°	.472” .472”	108°	0°	.000” .000”
Stroker version of E111421	2750-5750	**E110421S** HI-FLOW 1H	IN 296° EX 296°	228° 228°	.472” .472”	108°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501/501S	201/205	HA817/E914501	1601-8/1901-8	100-16/800-16	700/7981

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Street and Strip. High-lift, dual pattern. Rough idle. Good mid and top range horsepower. Needs 4 barrel intake, headers and lower gears. OK with automatic and 3,000 RPM stall speed torque converter. 9:1 compression or more.	2800-6200	**E113421** TQ-50-H	IN 296° EX 306°	228° 235°	.472" .472"	110°	4°	.000" .000"
Stroker version of E113421	2800-6200	**E113421S** TQ-50-H	IN 296° EX 306°	228° 235°	.472" .472"	110°	4°	.000" .000"
Hot Street Machine with at least 9.5:1 compression. Aftermarket dual or single plane intake, 650 CFM or larger carb. Headers, dual exhaust, 2500 RPM converter and 3.42 or lower gears.Lopey idle.	2500-5500	**E110103** HL-294-355	IN 294° EX 302°	228° 236°	.532" .532"	108°	0°	.000" .000"
Excellent choice for street machines with roots or centrifical type superchargers,running 6 to 8 lbs of boost.2500 RPM converter and good exhaust. Also works well with fuel injected normally aspirated engines.Will require performance chip or tunable type fuel injection.	2700-5700	**E110106** HL-294-355-1	IN 294° EX 302°	228° 236°	.532" .532"	112°	0°	.000" .000"
Designed for street rodders looking for more mid-range performance. Blown cars with 8-15 lbs. boost. Cylinder head modifications and large exhaust helpful.	2500-6000	**E113323** HI-BOOST2H	IN 296° EX 316°	228° 240°	.472" .472"	114°	6°	.000" .000"
Needs good intake, 10.5 compression, Headers, Gear	2600-5600	**E113515** ROAD RAGE	IN 296° EX 316°	228° 240°	.473" .473"	108°	5°	.000" .000"
Hot Street/E.T Brackets no less than 10:1 compression, aftermarket heads with 1.6 rockers for best performance. Needs good intake manifold, 750 CFM or larger carb At least 2800RPM converter and 3.73 or lower gears.	2800-5800	**E110109** HL-298-355	IN 298° EX 306°	232° 240°	.532" .532"	108°	0°	.000" .000"
Excellent choice for street machines with roots or centrifical type superchargers,running 6 to 12 lbs of boost.2800 RPM converter and good exhaust. Also works well with fuel injected normally aspirated engines.Will require performance chip or tunable type fuel injection.	2800-5800	**E110112** HL-298-355-1	N 298° EX 306°	232° 240°	.532" .532"	112°	0°	.000" .000"
Vacuum Rule Circle Track	2800-6600	**E110225** VAC290	IN 290° EX 290°	234° 234°	.488" .488"	112°	4°	.000" .000"
Heavy cars with intake restricted motors. Serious mid-range torque.10-1 to 11-1 compression.Tremendous power out of the corners and on re-starts.	3000-6500	**E110522** HI-FLOW 2HRP	IN 306° EX 296°	235° 228°	.472" .472"	107°	5°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501/501S	201/205	HA817/E914501	1601-8/1901-8	100-16/800-16	700/7981

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Runs strong 3,500-7,000 RPM. Stick or automatic with gears. Needs good intake and headers. 9.5:1 or more compression. Lopey idle.	3200-6400	**E110521** HI-FLOW11H-1	IN 306° EX 306°	235° 235°	472” .472”	108°	0°	.000” .000”
Stroker version of E110521	3200-6400	**E110521S** HI-FLOW11H-1	IN 306° EX 306°	235° 235°	.472” .472”	108°	0°	.000” .000”
Big Power and Lots of noise! Needs compression, headers, good intake, gears	2800-5500	**E113520** ROAD RAGE	IN 306° EX 316°	235° 240°	.473” .473”	108°	5°	.000” .000”
Big hit and rumble. Prefers cubic inches and compression	2800-5500	**E113521** TQ55H	N 306° EX 316°	235° 240°	.473” .473”	108°	0°	.000” .000”
Lift Rule Circle Track Hydraulic Flat Tappet	2500-6500	**E110408** H312/270 RP	IN 312° EX 300°	236° 224°	.405” .405”	107°	2°	.000” .000”
Lift Rule Circle Track Hydraulic Flat Tappet	2800-6600	**E110407** H312/270	IN 312° EX 312°	236° 246°	.405” .405”	107°	2°	.000” .000”
Hot Street/E.T Brackets no less than 10:1 compression, aftermarket heads with 1.6 rockers for best performance. Needs good intake manifold, 750 CFM or larger carb. At least 3000 RPM converter and 4.10 or lower gears.	3000-6000	**E110115** HL-302-355-1	IN 302° EX 310°	236° 244°	.532” .532”	108°	0°	.000” .000”
Serious street machines with roots or centrifical type superchargers, up to15 lbs of boost. Needs 2500 RPM converter, headers and free flowing exhaust. Also a good choice for 383cior larger cubic inch engines with aftermarket fuel injection.	3000-6000	**E110118** HL-302-355-1	IN 302° EX 310°	236° 244°	.532” .532”	112°	4°	.000” .000”
Broad predicatable power band for restricted intakes. Smooth torque curve	3200-6400	**E110478** HL306/355RPA	IN 306° EX 294°	240° 228°	.472” .472”	107°	5°	.000” .000”
350-383 restricted intake and free flowing exhaust. Lots of torque down low and good midrange for 2 bbl engines	3800-7000	**E115914** HI-FLOW 3/1 RP	IN 316° EX 296°	240° 228°	.472” .472”	106°	4°	.000” .000”
Monster torque. 11.5-1 to 12.5-1 compression.BIG low and mid-range power. Must have good exhaust. Heavy car and sticky track.	3500-6800	**E115913** HI-FLOW 3HRP	IN 316° EX 306°	240° 235°	.472” .472”	106°	4°	.000” .000”
Mid-range and top end for higher boost application	2800-6000	**E110010** TURBO III	IN 316° EX 308°	240° 235°	.472” .472”	112°	0°	.000” .000”
Great restricted intake camshaft. Lots of midrange pull.	3000-6400	**E110475** HL-306-355RP	IN 306° EX 302°	240° 236°	.532” .532”	107°	5°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501/501S	201/205	HA817/E914501	1601-8/1901-8	100-16/800-16	700/7981

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NOTE: Increased installed height needed for high lift. Check coil bind.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Runs strong 4,000-7,500 RPM. Needs lower gears, 4 barrel, headers and compression for maximum performance. Rough idle	3500-6500	**E115911** HI-FLOW111H	IN 316° EX 316°	240° 240°	.472” .472”	108°	0°	.000” .000”
Hot Street/E.T Brackets no less than 10:1 compression, aftermarket heads with 1.6 rockers for best performance. Needs good intake manifold, 750 CFM or larger carb. At least 3000 RPM converter and 4.10 or lower gears.	3200-6200	**E110121** HL-306-355	IN 306° EX 314°	240° 248°	.532” .532”	108°	2°	.000” .000”
Hot Street/E.T Brackets no less than 10:1 compression, aftermarket heads with 1.6 rockers for best performance. Needs good intake manifold, 750 CFM or larger carb. At least 3000 RPM converter and 4.10 or lower gears.	3200-6200	**E110124** HL-306-355-1	IN 306° EX 314°	240° 248°	.532” .532”	110°	2°	.000” .000”
.450 lift rule circle track	3000-7000	**E110455** .450 LIFT RULE	IIN 294° EX 294°	241° 241°	450” .450”	106°	0°	.000” .000”
Vacuum Rule Circle Track	3200-6800	**E110230** VAC308	N 308° EX 308°	243° 243°	.467” .467”	112°	4°	.000” .000”
High lift version of 500H. Strong mid range and top end	3200-6800	**E111121** 500HLH	IN 318° EX 318°	244° 244°	.504” .504”	108°	0°	.000” .000”
2 barrel or 4 barrel limited sportsman racers on 1/4-3/8 mile oval tracks. Proven winner in .500 lift rule hydraulic classes.	3500-6500	**E111122** OTH500	IN 318° EX 318°	244° 244°	.504” .504”	106°	0°	.000” .000”
Serious pro-street cars with 6-71 superchargers or equivalent. 12(+) lbs.of boost, multiple carburetion, large,free flowing exhaust system, aftermarket or modified cylinder heads. Uses 2,500-3,500 RPM convertor and low gears.	3500-7000	**E113324** HI-BOOST 3H	IN 308° EX 316°	244° 252°	.503” .517”	114°	4°	.000” .000”
Dual pattern high lift cam. A winner in well prepared 327 or larger engine	3200-6700	**E110621** 525H	IN 308° EX 318°	244° 252°	.505” .505”	108°	0°	.000” .000”
Hot Street/E.T Brackets strong mid-range torque and top end horsepower,in 383 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake, 1.6 rockers for best performance. 3000 to 3500 RPM converter and 4.10 or lower gears. Rough idle.	3500-6500	**E110127** HL-310-355	IN 310° EX 318°	244° 252°	.532” .532”	108°	2°	.000” .000”
Hot Street/E.T Brackets strong mid-range torque and top end horsepower,in 383 CID and larger engines. No less than 11.0:1 compression, aftermarket heads, single plane intake, 1.6 rockers for best performance. 3000 to3500 RPM converter and 4.10 or lower gear. Up to 400 HP shot of nitrous.	3800-6800	**E110142** HL-310-355-N	IN 310° EX 318°	244° 252°	.532” .532”	114°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501/501S	201/205	HA817/E914501	1601-8/1901-8	100-16/800-16	700/7981

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NOTE: Increased installed height needed for high lift. Check coil bind.
Not legal for sale or use on pollution controlled vehicles.

HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
.420 lift rule circle track	3200-7000	**E110420** .420 LIFT RULE	IN 297° EX 297°	246° 246°	.420" .420"	106°	0°	.000" .000"
Hot Street/E.T. Brackets. 377-410 CID engines with no less than 10.5:1 compression. Aftermarket or modified cylinder heads. Automatic cars use 3,500-4,000 RPM converter and 3 inch exhaust. Nitrous oxide optional.	3750-7000	**E115912** HI-FLOW IVH	IN 312° EX 320°	248° 256°	.503" .517"	110°	4°	.000" .000"
Stroker version of E115912	3750-7000	**E115912S** HI-FLOW IVH	IN 312° EX 320°	248° 256°	.503" .517"	110°	4°	.000" .000"
Hot Street/E.T Brackets strong mid-range torque and top end horsepower,in 383 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake, 1.6 rockers for best performance. 3000 to3500 RPM converter and 4.10 or lower gears. Rough idle.	3750-6750	**E110130** HL-314-355	IN 314° EX 320°	248° 256°	.532" .532"	110°	4°	.000" .000"
383 cid with 10.5 compression. Needs aftermarket heads, intake, headers and gears¦. Pretty much the whole enchilada .	3500-7000	**E113535** ROAD RAGE	IN 314° EX 322°	248° 256°	.533" .533"	108°	5°	.000" .000"
.420 lift rule circle track .	3500-6800	**E110430** .420 LIFT RULE	IN 299° EX 297°	250° 246°	.420" .420"	106°	0°	.000" .000"
More top end than OTH500. 2 barrel or 4 barrel limited sportsmans on 3/8-1/2 mile tracks. Championship performance in .500 lift rule hydraulic camshaft classes.	3750-6750	**E110622** OTH525	IN 324° EX 324°	252° 252°	.502" .502"	106°	0°	.000" .000"
Hot Street/E.T. Brackets. Upper mid-range and top end power in 388-410 CID engines with no less than 11.0:1 compression using large valve aftermarket cylinder heads, single plane intake manifold, 750-850 CFM carburetion and open or free flowing exhaust.	4000-7200	**E113422** TQ60H	IN 316° EX 324°	252° 260°	.517" .517"	108°	0°	.000" .000"
Hot Street/E.T Brackets with at least 10.0:1 compression. Good heads and a single plane manifold,headers and free flowing exhaust. Strong mid-range performance. 3000 RPM converter and 3.73 or lower gear. Up to 250 HP shot of nitrous.	3500-6500	**E110139** HL-298-355-N	IN 298° EX 310°	252° 260°	.532" .532"	113°	0°	.000" .000"
Pro Street/E.T Brackets max effort in larger cubic inch engines. No less than 11:1 compression, aftermarket heads, Victor style intake with at least 850 CFM carb, large tube headers.3500 to 4000 RPM converter and 4.56 gears. Pulls strong to 7000 RPM.	4000-7000	**E110133** HL-318-355	IN 318° EX 324°	252° 260°	.532" .532"	110°	4°	.000" .000"

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VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501/501S	201/205	HA817/E914501	1601-8/1901-8	100-16/800-16	700/7981

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
.450 lift rule circle track	3500-7200	**E110460** .450 LIFT RULE	IN 308° EX 308°	254° 254°	.450" .450"	106°	0°	.000" .000"
Great replacement for the 30-30 327 cid camshaft from the 60's.		**E113030** 375/327	IN 346° EX 346°	254° 254°	.485" .485"	114°	6°	.000" .000"
Hot Street/Strip/Bracket Racer. New design. Strong through broad range. Pulls hard from 4000 up. for the built engine with no less than 12.0:1 compression only.	4500-7500	**E111031** 990AH	IN 312° EX 312°	268° 268°	.575" .575"	108°	0°	.000" .000"

7/4 FIRING ORDER SWAP HYDRAULIC FLAT TAPPET CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Restricted intake. 9-1 to 10-1 compression.Good exhaust. Short 1/4-3/8 mile sticky tracks. Great for heavier cars. 7/4 firing order swap	2000-5500	**E110422-47** HI-FLOW IHRP7/4	IN 296° EX 284°	228° 220°	.472" .472"	107°	5°	.000" .000"
Heavy cars with intake restricted motors. Serious mid-range torque.10-1 to 11-1 compression.Tremendous power out of the corners and on re-starts. 7/4 firing order swap	3000-6500	**E110522-47** .HI-FLOW 2HRP7/4	IN 306° EX 296°	235° 228°	.472" .472"	107°	5°	.000" .000"
350-383 restricted intake and free flowing exhaust. Lots of torque down low and good midrange for 2 bbl engines 7/4 swap	3800-7000	**E115914-47** HI-FLOW3/1 RP 4/7	IN 316° EX 296°	240° 228°	.472" .472"	106°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3000/3200	501/501S	201/205	HA817/E914501	1601-8/1901-8	100-16/800-16	700/7981

NOTE: Increased installed height needed for high lift. Check coil bind.

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Short duration fast action high lift. Makes power over broad range. Smooth idle good for turbo hydro	2000-5000	**E113122** TQ20M	IN 270° EX 270°	220° 220°	.465" .465"	108°	0°	.022" .022"
Hot Street/S.C.C.A. Slalom Racer.Good low and mid-range power in small cubic inch engines. 600-650 CFM4 barrel, dual plane manifold, 1.6 rockers and 4 speed with low gears.	2500-5500	**E113123** TQ30M	N 280° EX 280°	230° 230°	.465" .465"	108°	0°	.022" .022"
Moderate lift and duration delivers more power through entire RPM range. The ideal street camshaft with minor modifications.	3000-6000	**E110721** HI-FLOW IM	IN 286° EX 286°	242° 242°	.510" .510"	108°	0°	.022" .022"
Great replacement for the LT1 350HP/350 CID cam from the 70's.		**E110278** 350HP	IN 295° EX 310°	242° 254°	.459" .485"	112°	4°	.022" .022"
Big torque restricted intake cam for stock head classes. Needs 9.5+ compression	3000-6500	**E110901** HI FLOW II M RP	IN 296° EX 286°	246° 242°	.510" .510"	107°	5°	.022" .022"
Hot Street/E.T. Bracket. Super mid-range performance. Needs 4 barrel, headers and low gears for best performance. 1.6 rockers optional.	3250-6250	**E110821** HI-FLOW IIM	IN 294° EX 294°	246° 246°	.510" .510"	108°	0°	.022" .022"
For small displacement engines using stock heads with no modifications. OK for 2 barrel or 4 barrel classes, with headers on short tracks. 1/4 mile to tight 3/8 mile. Advance 4° for best results.	3000-6000	**E116300** F-282-1	IN 282° EX 282°	246° 246°	.510" .510"	106°	0°	.022" .022"
327-350 CID engines with no less than 10.0:1 compression. Can be used with1.6:1 rockers to enhance mid-range performance or with manual or automatic transmission and 3000 RPM converter.	3250-6500	**E110822** F-282-3	IN 282° EX 290°	246° 254°	.510" .510"	108°	2°	.025" .025"
High Performance Marine/BlowerGrind. Also works well in 3000-3400 lb Street Machine with 4 or 5-speed manual transmission. OK with nitrous oxide.	3000-6500	**E110823** HI-BOOST IM	IN 282° EX 290°	246° 254°	.510" .510"	114°	6°	.025" .025"
383-406 Hot Street Cam. Needs minimum 10-1 compression, good heads.Great camshaft for the occasional shot of nitrous.	3200-6500	**E110829** F-282-3	IN 282° EX 290°	246° 254°	.510" .510"	112°	4°	.022" .022"
Increased mid-range and top end power in 327-355 CID engines.Aftermarket intake and carburetion with cast iron exhaust. OK with flat top pistons. Easy on parts.	3200-6400	**E116301** F-282-2	IN 282° EX 290°	246° 254°	.510" .510"	106°	0°	.022" .022"
1/4-3/8 mile. Big torque down low and through the mid-range. Great for 2 barrel and small 4 barrel classes.	3200-6500	**E116405** FXR-288-2	IN 288° EX 288°	250° 250°	.562" .562"	106°	6°	.022" .022"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400/3450	502/502S	201	MA992/MA995	1901-8	800-16	7981/8981T

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Nitrided version of E116405	3200-6500	**E116405-NIT** FXR-288-2	IN 288° EX 288°	250° 250°	.562" .562"	106°	6°	.022" .022""
Low lift version of E116405	3200-6500	**E116405-A** FXR-288-2	IN 288° EX 288°	250° 250°	.533" .543"	106°	6°	.022" .022"
1/4-3/8 mile, good mid-range. 2 bbl 4412 or 4 bbl with good intake and exhaust	3200-6800	**E116400** FXR-288-1	IN 288° EX 292°	250° 254°	.562" .562"	106°	4°	.018" .018"
Nitrided version of E116400	3200-6500	**E116400-NIT** FXR-288-1	IN 288° EX 292°	250° 254°	.562" .562"	106°	4°	.018" .018""
Low lift version of E116400	3200-6800	**E116400A** FXR-288-1	I IN 288° EX 292°	250° 254°	.533" .543"	106°	4°	.018" .018""
Hot Street/E.T. Bracket. Works well in 350-406 CID engines with 10.0-11.0:1 compression. Aftermarket heads, 1.6 rockers, single plane manifold, free flowing exhaust, 3500 converter and low gears.	3500-6600	**E110824** F-286-3	IN 286° EX 294°	250° 258°	.510" .510"	110°	4°	.025" .025"
New oval track camshaft from Erson.Good low end power, yet likes to run upstairs. 4 barrel and headers recommended.1/4 mile to fast 3/8 mile dirt or asphalt tracks.	3500-6700	**E116306** F-286-1A	IN 288° EX 294°	250° 258°	.510" .510"	106°	0°	.022" .022"
Lot's of smooth torque and big power for restricted intake, stock headed classes. Must have 10.5 to 1 compression and headers	3500-6800	**E110905** HI FLOW III M RP	IN 306° EX 296°	254° 246°	.510" .510"	107°	5°	.022" .022"
Reverse pattern version of our 116400. Lots of torque in small two barrel engines	3200-6800	**E116401** FXR-288-1	IN 292° EX 288°	254° 250°	.562" .562"	106°	4°	.018" .018"
Nitrided version of E116401	3200-6800	**E116401-NIT** FXR-288-1	IN 292° EX 288°	254° 250°	.562" .562"	106°	4°	.018" .018"
Lower lift version of FXR camshaft E116401	3200-6500	**E116405A** FXR-288-2	IN 284° EX 286°	254° 250°	.533" .543"	106°	4°	.018" .018""
Mid Range and top end camshaft for larger engines	3500-6800	**E110831** HI FLOW II M	IN 306° EX 306°	254° 254°	.510" .510"	108°	0°	.022" .022"
2 bbl or 390 CFM 4 bbl Restricted Class. This cam should be considered for 3/8-1/2 mile fast tracks	3200-5600	**E116420** FXR-292-2	IN 292° EX 292°	254° 254°	.562" .562"	108°	0°	.018" .018"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400/3450	502/502S	201	MA992/MA995	1901-8	800-16	7981/8981T

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Lower lift version of FXR camshaft E116420	3200-6800	**E116420A** FXR-292-2	IN 288° EX 292°	250° 254°	.543" .552"	108°	0°	.018" .018""
Top end camshaft in 327-355 CID engines on tight tracks, with limited cast iron intakes. 2 barrel to small 4 barrel carburetion. Low lift. Can be used with stamped steel rockers.	3750-6750	**E116302** F-290-1	IN 290° EX 294°	254° 258°	.510" .510"	106°	0°	.022" .022""
Good 2 and 4 barrel cam. Fast 1/4-3/8 11.5-1+ Ok with small 4brl 327-358 cid	3400-7000	**E116410** FXR-292-1	IN 292° EX 296°	254° 258°	.562" .562"	106°	4°	.018" .018"
Lower lift version of FXR camshaft E116410	3400-7000	**E116410A** FXR-292-1	IN 306° EX 296°	254° 246°	.533" .543"	106°	4°	.018" .018"
3/8-1/2 mile fast tracks. 4 barrel, big power out of the corners, yet runs strong on the top end.	3400-7000	**E116425** FXR-292-1	IN 292° EX 298°	254° 260°	.562" .562"	106°	4°	.022" .022"
High Performance Blower Grind .250 series or 6-71 roots-style supercharger.Single 850 or twin 650-750 CFM carburetors, good heads, low gears, 3500 RPM converter.	3500-7000	**E110825** HI-BOOST IIM	IN 292° EX 302°	254° 264°	.562" .562"	114°	4°	.025" .025"
Mid-range and top end performer.Good closed-course road race camshaft. Easy on parts. Works best with 4 or 5-speed manual transmission	3750-6750	**E110921** 320HLM	IN 320° EX 320°	256° 256°	.533" .534"	108°	0°	.022" .022""
Big power for the 350/383 crowd. Needs good heads, 4brl and headers	2200-6500	**E110732** HI FLOW II M	IN 287° EX 295°	256° 264°	.537" .537"	106°	0°	.024" .024"
Same as E110732 with 1.100" base circle	2200-6500	**E110734** HI FLOW II M	IN 287° EX 295°	256° 264°	.537" .537"	106°	0°	.024" .024"
Reverse pattern version of our 116410. Lots of torque. Prefers 383-400+ inch engines	3400-7000	**E116411** FXR-292-1	IN 296° EX 292°	258° 254°	.562" .562"	106°	4°	.018" .018"
Lower lift version of E116411	3400-7000	**E116411A** FXR-292-1A	IN 296° EX 292°	258° 254°	.552" .543"	106°	4°	.018" .018""
Strong camshaft for limited 2 barrel classes up to 360 CID, on 1/4 mile to3/8 mile dirt or asphalt tracks. 1.6:1rocker ratio on the intake enhances performance, rules permitting.	3800-7000	**E116307** F-294-1	IN 294° EX 294°	258° 258°	.510" .510"	106°	4°	.022" .022""
E.T. Bracket/Road Racer. No less than 11.0:1 compression, 2800-3200 lb modified production car. Single 4 barrel, good heads with mild head work. Headers and free flowing 3" exhaust system	3800-6800	**E110826** F-296-1	IN 296° EX 302°	258° 264°	.562" .562"	108°	0°	.025" .025"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400/3450	502/502S	201	MA992/MA995	1901-8	800-16	7981/8981T

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
355-406 cu in 1/4-1/2 mile track.Good cylinder heads and intake12.1+ strong runner	3400-7200	**E116430** FXR-296-1	IN 296° EX 302°	258° 264°	.562" .562"	106°	4°	.018" .018"
355-406 CID in 1/4-1/2 mile tracks.Good cylinder heads and intake12.0:1+ compression. Strong runner.	3400-7200	**E116480** F-296-2	IN 296° EX 302°	258° 264°	.562" .562"	106°	4°	.018" .018"
355-406 CID in 1/4-1/2 mile tracks.Good cylinder heads and intake12.0:1+ compression. Great top end performance	3600-7400	**E116482** F-296-3	IN 292° EX 298°	254° 260°	.562" .562"	108°	4°	.018" .018"
2 bbl or 390 CFM 4 bbl for larger engines 3/8-1/2 mile fast track.Good heads, for restricted classes.	3800-7200	**E116460** FXR-298-2	IN 298° EX 292°	260° 254°	.562" .562"	106°	6°	.018" .018"
355-406 cubic inch engines, 1/4-1/2 mile tracks, cylinder heads and improved intake recommended. No less than 12.0:1 compression for this barn burner.	4000-7250	**E116303** F-298-1	IN 298° EX 302°	260° 264°	.562" .562"	106°	0°	.022" .022"
355-406 CID 1/4-1/2 mile tracks,cylinder heads and improved intake recommended. No less than 12.0:1 compression for this barn burner.	3500-7300	**E116486** F-298-4	IN 298° EX 302°	260° 264°	.562" .562"	106°	4°	.018" .018"
E.T. Bracket/Oval Track Camshaft. 355-406 CID engines with 11.0:1-12.0:1 compression. Modified steel or aluminum heads. Light to moderate weight chassis, fast 3/8-1/2 mile tracks. Alcohol or gas.	4000-7000	**E110827** F-298-4	IN 298° EX 306°	260° 268°	.562" .562"	108°	0°	.022" .022""
One of Erson's most popular grinds. 355-406 engines, running on fast 3/8-1/2 mile tracks. Quick out of the turns and fast down the shoots.	4200-7500	**E116308** F-298-3	IN 298° EX 306°	260° 268°	.562" .562"	106°	4°	.022" .022""
3/8-1/2 mile 355-406 12.1+ 4bbl. Good intake and exhaust. Great top end performance.	3600-7400	**E116440** FXR-298-1	IN 298° EX 306°	260° 268°	.562" .562"	106°	4°	.018" .018"
Nitrided version of E116440	3600-7400	**E116440-NIT** FXR-298-1	IN 298° EX 306°	260° 268°	.562" .562"	106°	4°	.018" .018"
When modified heads are allowed, yet 2 bbl or 390 CFM 4 bbl restrictions are imposed, this camshaft is a proven winner! 3/8-1/2 mile fast tracks,asphalt or dirt.	4500-7200	**E116309** F-302-3	IN 302° EX 296°	264° 258°	.562" .562"	106°	6°	.022" .022"
355 CID or larger engines, in late model sportsman cars, on 1/2-5/8 mile tracks with tight turns. Good in traffic.	4500-7600	**E116304** F-302-1	IN 302° EX 306°	264° 268°	.562" .562"	106°	0°	.022" .022"
355 CID or larger engines, in late model sportsman cars, on 1/2-5/8 mile tracks with tight turns. Good in traffic.	3600-7500	**E116490** F-302-4	IN 302° EX 306°	264° 268°	.562" .562"	106°	0°	.018" .018"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400/3450	502/502S	201	MA992/MA995	1901-8	800-16	7981/8981T

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E.T. Bracket/Road Racer. Builds big torque in 355-388 CID engines with 12.0-12.5:1 compression. Works well with single 4 barrel or low profile 2x4 barrel manifolds.	4200-7200	**E110828** F-302-2	IN 302° EX 310°	264° 272°	.562” .562”	108°	0°	.022” .022”
355-406 Late Model Sportsman 1/2 mile to 5/8. 12.1+ 4 bbl with good intake.	3500-7400	**E116450** FXR-302-1	IIN 302° EX 310°	264° 272°	.562” .562”	106°	4°	.018” .018”
Nitrided version of E116450	3500-7400	**E116450-NIT** FXR-302-1	IN 302° EX 310°	264° 272°	.562” .562”	106°	4°	.018” .018”
Big inch engines with good intake and exhaust systems. Needs modified heads and larger valves. May consider 1.6:1 rockers for more top end. Fast 1/2-5/8 mile tracks.	4500-7800	**E116305** F-306-1	IN 302° EX 314°	268° 276°	.562” .562”	106°	0°	.022” .022””
Big inch engines with good intake and exhaust system, good heads a must! for fast 1/2-5/8 mile track.	4500-7800	**E116470** FXR-306-1	IN 306° EX 314°	268° 276°	.562” .562”	106°	0°	.018” .018””
Broad power range cam for 302-327 engines. Will pull heavy chassis in class or bracket racing	4500-7500	**E113231** 999XX	IN 320° EX 320°	276° 276°	.575” .575”	108°	0°	.022” .022”
E.T. Bracket/Super Categories. Serious drag racing only. Light 2 speed dragsters or alterds with 5000-5500 RPM converter. 331-377 CID engines with no less than 13.0:1 compression.Good flowing heads a must!	4800-8200	**E111009** 2450X	IN 310° EX 320°	276° 286°	.565” .566”	108°	0°	.022” .022”
Strong mid-range and top end camshaft. Pulls hard past 7000 in well set up engine. Bracket racers favorite.Can be used with 1.6:1 rockers.	5000-8000	**E118631** 990SB	IN 318° EX 318°	278° 278°	.550” .550”	108°	0°	.022” .022”
Drag Race Only. Must have Good Heads and induction system.	5200-8600	**E111007** 2505X-1	IN 320° EX 330°	286° 296°	.565” .565”	108°	0°	.022” .022”
Big Cubic Inch Engines Only. Can Be used with NOS type tunnel ram manifolds	5500-9000	**E111008** 3010DP-1	IN 332° EX 340°	290° 311°	.592” .592”	108°	0°	.022” .022”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400/3450	502/502S	201	MA992/MA995	1901-8	800-16	7981/8981T

NOTE: It is possible to install a high performance hydraulic (non-roller) camhaft or a mechanical flat tappet camshaft in a block originally equipped with a hydraulic roller camshaft. Matching lifters, pushrods, timing chains and, in some cases, rocker arms must be used to accommondate this conversion.

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

7/4 FIRING ORDER SWAP MECHANICAL FLAT TAPPET CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Big torque restricted intake cam for stock head classes. Needs 9.5+ compression. 7/4 swap	3000-6500	**E110901-47** HI FLOW II M RP	IN 296° EX 286°	246° 242°	.510" .510"	107°	5°	.022" .022"
1/4-3/8 mile. Big torque down low and through the mid-range. Great for 2 barrel and small 4 barrel classes. 7/4 swap	3200-6500	**E116405-47** FXR-288-2-47	IN 288° EX 288°	250° 250°	.562" .562"	106°	6°	.022" .022"
1/4-3/8 mile, good mid-range. 2 bbl 4412 or 4 bbl with good intake and exhaust. 7/4 swap	3000-6800	**E116400-47** FXR-288-1-47	IN 288° EX 292°	250° 254°	.562" .562"	106°	4°	.018" .018"
New oval track camshaft from Erson.Good low end power, yet likes to run upstairs. 4 barrel and headers recommended.1/4 mile to fast 3/8 mile dirt or asphalt tracks. 7/4 swap	3500-6700	**E116306-47** F-286-1A	IIN 286° EX 294°	250° 258°	.510" .510"	106°	0°	.022" .022"
Lot's of smooth torque and big power for restricted intake, stock headed classes. Must have 10.5 to 1 compression and headers. 7/4 swap	3500-6800	**E110905-47** HI FLOW III M RP	IN 306° EX 296°	254° 246°	.510" .510"	107°	5°	.022" .022"
2 bbl or 390 CFM 4 bbl Restricted Class. This cam should be considered for 3/8-1/2 mile fast tracks 7/4 swap.	3200-5600	**E116420-47** FXR-292-2-47	IN 292° EX 292°	254° 254°	.562" .562"	108°	0°	.018" .018
Good 2 and 4 barrel cam. Fast 1/4-3/8 11.5-1+ Ok with small 4brl 327-358 cid 7/4 swap.	3400-7000	**E116410-47** FXR-292-1-47	IN 292° EX 296	254° 258°	.562" .562"	106°	4°	.018" .018"
Nitrided version of E116410-47 7/4 swap	3400-7000	**E116410-NIT** FXR-292-1-47	IN 292° EX 296	254° 258°	.562" .562"	106°	4°	.018" .018"
3/8-1/2 mile fast tracks. 4 barrel, big power out of the corners, yet runs strong on the top end. 7/4 swap	3400-7000	**E116425-47** FXR-292-1-47	IN 292° EX 298°	254° 260°	.562" .562"	106°	4°	.022" .022"
355-406 cu in 1/4-1/2 mile track.Good cylinder heads and intake12.1+ strong runner. 7/4 swap	3400-7200	**E116430-47** FXR-296-1-47	IN 296° EX 302°	258° 264°	.562" .562"	106°	4°	.018" .018"
Nitrided version of E116430-47. 7/4 swap	3400-7200	**E116410-NIT** FXR-292-1-47	IN 296° EX 302°	258° 264°	.562" .562"	106°	4°	.018" .018"
2 bbl or 390 CFM 4 bbl for larger engines 3/8-1/2 mile fast track.Good heads, for restricted classes. 7/4 swap	3800-7200	**E116460-47** FXR-298-2-47	IN 298° EX 292°	260° 254°	.562" .562"	106°	6°	.018" .018"
3/8-1/2 mile 355-406 12.1+ 4bbl. Good intake and exhaust. Great top end performance. 7/4 swap	3600-7400	**E116440-47** FXR-298-1-47	IN 298° EX 306°	260° 268°	.562" .562"	106°	4°	.018" .018"
355-406 Late Model Sportsman 1/2 mile to 5/8. 12.1+ 4 bbl with good intake.7/4 swap	3500-7400	**E116450-47** FXR-302-1-47	IN 302° EX 310°	264° 272°	.562" .562"	106°	4°	.018" .018"
Big inch engines with good intake and exhaust system, good heads a must! for fast 1/2-5/8 mile track. 7/4 swap	4500-7800	**E116470-47** FXR-306-1-47	IN 306° EX 314°	268° 276°	.562" .562"	106°	0°	.018" .018"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400/3450	502/502S	201	MA992/MA995	1901-8	800-16	7981/8981T

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HYDRAULIC ROLLER CAMSHAFTS - Retro-Fit

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
305-350 cid engines in cars and light trucks seeking more mid range performance. Automatic with overdrive OK. Computer compatible.	1250-4250	**E119825** RH-276-3	IN 276° EX 276°	208° 208°	.480" .480"	112°	4°	.000" .000"
Recommended for passenger cars and light trucks seeking improved low and mid range. Great for towing low and moderate loads. Good idle.	1500-4000	**E119814** RH-276-2	IIN 276° EX 282°	208° 214°	.480" .480"	110°	4°	.000" .000"
First level of performance over stock. Increased low and mid range. Compatible with stock computers and fuel injection.	1500-4500	**E119821** RH-276-4	IN 276° EX 282°	208° 214°	.480" .480"	114°	6°	.000" .000"
Camaro's, Firebirds and light trucks wanting to improve low and mid range performance. Aftermarket intake and exhaust helpful. Low boost superchargers OK. Computer Compatible.	1500-4500	**E119826** RH-276-4	IN 276° EX 282°	208° 214°	.480" .480"	114°	6°	.000" .000"
Mild hydraulic roller offering improved low and mid range power in passenger cars and light trucks. Works well with stock converter and mild gearing. Noticable idle.	1750-4250	**E119811** RH-282-1	IN 282° EX 282°	214° 214°	.480" .480"	110°	0°	.000" .000""
Modified 305 or 350 cid engines with aftermarket manifolds and throttle modifications, headers and free flowing exhaust.	2000-5000	**E119823** RH-282-6	IN 282° EX 286°	214° 218°	.480" .510"	114°	6°	.000" .000""
305-350 cid engines in cars and light trucks seeking more mid range performance. Automatic with overdrive OK. Free flowing exhaust and lightly modified intake.	1750-4750	**E119822** RH-282-2A	IN 282° EX 288°	214° 219°	.480" .480"	115°	7°	.000" .000"
Performance orientated passenger cars with intake and exhaust modifications. Produces good low and mid range performance. Works well in 1500-2500 series trucks. Needs computer tuning.	1750-4750	**E119827** RH-272-2A	IN 282° EX 288°	214° 219°	.480" .480"	115°	7°	.000" .000"
Dual purpose camshaft Camaro's and Sport trucks looking for broad power, increased low end and strong mid range. Should have 5 speed transmission, 3:40-3:70 gears. Excellent choice for supercharged street rods.	2000-5000	**E119815** RH-282-8	IN 282° EX 294°	214° 226°	.480" .510"	114°	6°	.000" .000"
Improved mid and upper midrange performance when used with aftermarket cylinder heads and manifold. Should have headers and free flowing exhaust. Works well with superchargers, small shots of nitrous and marine compatible.	2200-5500	**E119816** RH-268-1	IN 286° EX 294°	218° 226°	.510" .510"	112°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3200	501S	205	SL930/5732	1929-8	800-16	700

NOTES: Thrust Button must be used on Retro Roller conversions, to hold cams to back of engine. Part # PBM325.
When converting an engine originally equipped with hydraulic flat tappets to an engine using longer than stock retrofit hydraulic roller tappets one must also use shorter than originally equipped pushrods.
*SL930- Fits blocks 1987-93 5.0, 5.7 & 4.3L. Recommended for Street performance use only. *Use RL930 for blocks below 1987.

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HYDRAULIC ROLLER CAMSHAFTS - Retro-Fit

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong mid range power, needs at least 9.5-1 compression, dual plane intake an free flowing exhaust.	2200-5200	**E119840** RH-272-32	IN 272° EX 280°	218° 226°	.480" .480"	108°	0°	.000" .000"
This cam offers lots of torque throughout the entire mid range. Should have lightly modified cylinder heads, 4 barrel and headers. Largest cam with stock converter.	2200-5200	**E119813** RH-288-1	IN 288° EX 288°	219° 219°	.480" .480"	110°	0°	.000" .000"
Increases idle quality without sacrificing mid and upper mid range performance. After market heads and exhaust. Computer modifications will be necessary.	2200-5500	**E119824** RH-282-3A	IN 282° EX 282°	222° 222°	.480" .480"	116°	8°	.000" .000"
Higher cylinder pressure and better throttle response by modifying timing points. Improved mid range without compromising driveablity. Marine compatible.	2400-5400	**E119817** RH-282-4A	IN 282° EX 286°	222° 226°	.480" .480"	112°	4°	.000" .000""
Super mid range performance. New lobe design, faster ramps and improved timing events. Cylinder heads, manifolds and free flowing exhaust a must. Great for 4 or 5 speed trans or automatics with low gears.	2200-5500	**E119828** RH-282-5	IN 282° EX 286°	222° 226°	.480" .480"	116°	8°	.000" .000""
Designed for the 350-383 crowd. O.E. heads ok, but it would prefer aftermarket heads, 9.0-10.5-1 compression and while you're doing it, step up to the plate and get a good intake and headers too.	2000-5500	**E119600** ROAD RAGE	IN 290° EX 302°	222° 234°	.510" .510"	108°	5°	.000" .000"
Supercharged Street Rods and Street machines pushing 8-15 psi of boost through modified cylinder heads create respectable gains in mid range torque and horsepower. OK with nitrous.	3000-6000	**E119818** RH-294-1	IN 294° EX 296°	226° 234°	.510" .533"	114°	6°	.000" .000"
Great hydraulic roller hot rod cam. 350-383 cid. OE head friendly. Needs 9.5-1 compression, headers and good intake. Low vacuum. Use E119836 for power brake applications.	2500-5500	**E119835** RH-286-365	IN 294° EX 302°	226° 234°	.510" .510"	108°	0°	.000" .000"
Great hydraulic roller hot rod cam. 350-383 cid. OE head friendly. Needs 9.5-1 compression, headers and good intake.	2600-5700	**E119836** RH-294-4	IN 294° EX 302°	226° 234°	.510" .510"	110°	0°	.000" .000"
Broad power range in 350-383 cid applications. Wider lobe separation for supercharged engines or aftermarket, programable fuel injections.	2800-6000	**E119837** RH-294-5	IN 294° EX 302°	226° 234°	.510" .510"	112°	0°	.000" .000"
Hot street machines with 10.0-1 compression. Aftermarket dual or single plane intake. 650 CFM + carb. Headers and 2500 rpm converter. Lopey idle.	2500-5500	**E119845** RH-286-365	IN 286° EX 294°	226° 234°	.548" .548"	108°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3200/3400	501S/502S	205	SL930/5732/RL930/4602	1929-8	800-16	700/7981

NOTES: Thrust Button must be used on Retro Roller conversions, to hold cams to back of engine. Part # PBM325.
When converting an engine originally equipped with hydraulic flat tappets to an engine using longer than stock retrofit hydraulic roller tappets one must also use shorter than originally equipped pushrods.
*SL930- Fits blocks 1987-93 5.0, 5.7 & 4.3L. Recommended for Street performance use only. *Use RL930 for blocks below 1987.

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HYDRAULIC ROLLER CAMSHAFTS - Retro-Fit

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent choice for street machines with roots or centrifugal type superchargers,running 6 to 12 lbs of boost.2000 RPM converter and good exhaust. Also works well with fuel injected normally aspirated engines.Will require performance chip or tuneable type fuel injection.	2500-5500	**E119847** RH-286-365-1	IN 286° EX 294°	226° 234°	.548” .548”	112°	0°	.000” .000”
Compression and aftermarket heads are a must. Gearing and a 2800 stall would be a good idea.	2500-5500	**E119605** ROAD RAGE	IN 288° EX 298°	226° 238°	.532” .532”	108°	5°	.000” .000””
Hot Street Machines with at least 9.0-1 compression. Aftermarket dual plane intake and headers. Ok with up to 150 shot of nitrous.	3000-6000	**E119858** RH-386-365-N	IN 286° EX 298°	226° 238°	.548” .548”	112°	0°	.000” .000”
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 650 CFM or larger carb, headers and a 2800 RPM converter.3.73 or lower gears.	2800-5800	**E119848** RH-298-365	IN 290° EX 298°	230° 238°	.548” .548”	108°	0°	.000” .000”
Hot Street and ET Brackets. Should have no less than 10:1 compression, modified cylinder heads and single plane intake. Automatics use 3000 converter, 4:56 gears and 28" tire..	3250-6250	**E119819** RH-302-1	IN 310° EX 310°	234° 242°	.510” .510”	110°	4°	.000” .000”
10.5 compression, headers, intake, gears and aftermarket heads are a must. Big power in a properly set up combination.	3500-6500	**E119610** RH-298-365	IN 296° EX 306°	234° 246°	.532” .548”	108°	5°	.000” .000”
Hot Street/E.T. Brackets. No less than 10:1 compression, aftermarket heads with 1.6 rockers for best performance. Needs good intake manifold, 750 CFM or larger carb. At least 3000 RPM converter, 4.10 or lower gears.	3000-6000	**E119849** RH-298-365	IN 298° EX 306°	238° 246°	.548” .548”	108°	0°	.000” .000”
Serious street machines with roots or centrifugal type superchargers, up to15 lbs boost. Needs 2500 RPM converter, headers and free flowing exhaust. Good choice for 383CID or larger engines with aftermarket fuel injection.	3000-6000	**E119851** RH-298-365-1	IN 298° EX 306°	238° 246°	.548” .548”	112°	0°	.000” .000”
Hot street machines with 9.5-1 compression. Good heads, intake and exhaust. Up to 250 shot of nitrous.	2500-5500	**E119862** RH-294-365-N	IN 294° EX 306°	238° 246°	.548” .548”	112°	0°	.000” .000””
Large gains in torque and upper end horsepower from modified 383-410 cid small block. 10.5-1 compression. Compadible with 4 or 5 speed trans. Automatics with 3500 stall.	3500-6500	**E119820** RH-310-1	IN 310° EX 318°	242° 250°	.510” .510”	108°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3200/3400	501S/502S	205	SL930/5732/RL930/4602	1929-8	800-16	700/7981

NOTES: Thrust Button must be used on Retro Roller conversions, to hold cams to back of engine. Part # PBM325.
When converting an engine originally equipped with hydraulic flat tappets to an engine using longer than stock retrofit hydraulic roller tappets one must also use shorter than originally equipped pushrods.
*SL930- Fits blocks 1987-93 5.0, 5.7 & 4.3L. Recommended for Street performance use only. *Use RL930 for blocks below 1987.

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HYDRAULIC ROLLER CAMSHAFTS - Retro-Fit

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot street and ET Bracket. Strong mid range torque and top end horsepower. No less that 10.5-1 compression, aftermarket cylinder heads and single plane intake.	3500-6500	**E119853** RH-302-365	IN 302° EX 310°	242° 250°	.548" .548"	108°	2°	.000" .000"
Don't skimp on this bad boy, needs cubic inches, compression, aftermarket heads, intake and exhaust.	3500-6500	**E119620** ROAD RAGE	IN 302° EX 314°	242° 254°	.548" .548"	108°	5°	.000" .000"
Hot Street and ET Brackets. Strong mid range torque and top end horsepower. 383 or larger engines. 10.5-1 compression, Aftermarket heads, single plane intake and 3000-3500 converter. Up to 400 shot of nitrous.	3800-6800	**E119866** RH-302-365-N	IN 302° EX 314°	242° 254°	.548" .548"	114°	0°	.000" .000"
Pro Street and ET Brackets. Max Effort larger cubic inch engines. No less than 11;0-1 compression, Victor style intake and 850 carb.	3800-6800	**E119855** RH-310-365	IN 310° EX 318°	250° 258°	.548" .548"	108°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3200/3400	501S/502S	205	SL930/5732/RL930/4602	1929-8	800-16	700/7981

NOTES: Thrust Button must be used on Retro Roller conversions, to hold cams to back of engine. Part # PBM325.
When converting an engine originally equipped with hydraulic flat tappets to an engine using longer than stock retrofit hydraulic roller tappets one must also use shorter than originally equipped pushrods.
*SL930- Fits blocks 1987-93 5.0, 5.7 & 4.3L. Recommended for Street performance use only. *Use RL930 for blocks below 1987.

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- CST process improves the life of Cyloy springs with consistent spring pressures

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HYDRAULIC ROLLER CAMSHAFTS - Late Model Step Nose

CHEVROLET Small Block V8

1987-97 305-350 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent choice for street machines with roots or centrifugal type superchargers,running 6 to 12 lbs of boost.2000 RPM converter and good exhaust. Also works well with fuel injected normally aspirated engines.Will require performance chip or tuneable type fuel injection.	2200-5200	**E119700** RH-272-320	IN 226° EX 234°	214° 219°	.548” .548”	112°	4°	.000” .000”
Strong mid-range power needs at least 9.5:1 compression, dual plane intake, free flowing exhaust and at least 2000 RPM converter for best performance. Will have noticeable idle.	2400-5400	**E119703** RH-272-320	IN 272° EX 280°	216° 226°	.480” .480”	108°	0°	.000” .000”
Great choice for fuel injected street machines. Strong mid-range power needs at least 9.0:1 compression.Free flowing exhaust and at least 2200 RPM converter for best performance.Small supercharger or 125HP shot of nitrous O.K. May require performance chip.	2000-5500	**E119500** ROAD RAGE	IN 272° EX 280°	218° 226°	.480” .480”	112°	4°	.000” .000”
Hot Street Machine with at least 9:1 compression. Aftermarket dual or single plane manifold, 650 CFM or larger carb, headers and a 2500 RPM converter. 3.42 or lower gears. Up to 150HP shot of nitrous.	3000-6000	**E119724** RH-286-365-N	IN 272° EX 280°	218° 226°	.480” .480”	112°	4°	.000” .000”
Designed for the 350-383 crowd. O.E. heads ok, but it would prefer aftermarket heads,9.0-10.5-1 compression and while you’re doing it, step up to the plate and get a good intake and headers too.	2500-5500	**E119706** RH-286-365	IN 290° EX 302°	222° 234°	.510” .510”	108°	5°	.000” .000”
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold. 650 CFM or larger carb, headers and a 2500 RPM converter .3.42 or lower gears. Lopey idle.	2700-5700	**E119709** RH-286-365-1	IN 286° EX 294°	226° 234°	.548” .548”	108°	0°	.000” .000”
Great Hot Rod cam. Needs 9.5+ compression. Can be used with OE type heads. Great sound. Low vacuum.	2400-5400	**E119735** RH-294-2	IN 294° EX 302°	226° 234°	.510” .510”	108°	0°	.000” .000”
Great Hot Rod cam. Needs 9.5+ compression. Can be used with OE type heads. Great sound. 110 LSA for better vacuum signal.	2500-5500	**E119736** RH-294-4	IN 294° EX 302°	226° 234°	.510” .510”	110°	0°	.000” .000”
Great choice for street blower (6-10 psi) or higher compression engines with programable fuel injection.	2600-5600	**E119737** RH-294-5	IIN 294° EX 302°	226° 234°	.510” .510”	112°	0°	.000” .000”
Compression and aftermarket heads are a must. Gearing and a 2800 stall would be a good idea.	2500-5500	**E119505** ROAD RAGE	IN 288° EX 298°	226° 238°	.532” .548”	108°	5°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3200/3400	501S/502S	201/205	HA2148	1931-8	800-16	7975

Long pin hollow nose can be used with opti-spark type ignition.

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HYDRAULIC ROLLER CAMSHAFTS - Late Model Step Nose

CHEVROLET Small Block V8

1987-97 305-350 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 650 CFM or larger carb, headers and a 2800 RPM converter.3.73 or lower gears.	2800-5800	**E119710** RH-290-365	IN 290° EX 298°	230° 238°	.548” .548”	108°	0°	.000” .000”
10.5 compression, headers, intake, gears and aftermarket heads are a must. Big power in a properly set up combination.	3500-6500	**E119510** ROAD RAGE	IN 296° EX 306°	234° 246°	.532” .548”	108°	5°	.000” .000”
Hot Street/E.T. Brackets. No less than 10:1 compression, aftermarket heads with 1.6 rockers for best performance. Needs good intake manifold,750 CFM or larger carb. At least 3000 RPM converter and 4.10 or lower gears.	3000-6000	**E119712** RH-298-365	IN 298° EX 306°	238° 246°	.548” .548”	108°	0°	.000” .000”
Serious street machines with roots or centrifugal type superchargers, up to15 lbs of boost. Needs 2500 RPM converter, headers and free flowing exhaust. Also a good choice for 383 cior larger cubic inch engines with aftermarket fuel injection.	3200-6200	**E119715** RH-298-365-1	IN 298° EX 306°	238° 246°	.548” .548”	112°	4°	.000” .000”
Hot Street/E.T. Brackets. Strong mid-range torque and top end horsepower,in 383 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake, 1.6 rockers for best performance. 3000-3500 RPM converter and 4.10 or lower gears. Rough idle.	3500-6500	**E119718** RH-302-365-1	IN 302° EX 310°	242° 250°	.548” .548”	108°	2°	.000” .000”
Don't skimp on this bad boy, needs cubic inches, compression, aftermarket heads, intake and exhaust.	3500-6500	**E119520** ROAD RAGE	IN 302° EX 314°	242° 254°	.548” .548”	108°	5°	.000” .000”
Hot Street/E.T. Brackets. Strong mid-range torque and top end horsepower,in 383 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake, 1.6 rockers for best performance. 3000-3500 RPM converter and 4.10 or lower gear. Up to 400 HP shot of nitrous.	3800-6800	**E119730** RH-302-365-N	IN 302° EX 314°	242° 254°	.548” .548”	114°	0°	.000” .000”
Pro Street/E.T. Brackets. Max effort in larger cubic inch engines. No less than 11.1 compression, aftermarket heads, Victor style intake with at least 850 CFM carb, large tube headers.3500-4000 RPM converter and 4.56 gears. Pulls strong to 7000 RPM.	3800-6800	**E119721** RH-310-365	IN 310° EX 318°	250° 258°	.548” .548”	108°	4°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3200/3400	501S/502S	201/205	HA2148	1931-8	800-16	7975

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Entry level solid roller camshaft for mild street machines and street rods. 9.5-1 compression, single 4 barrel, headers and moderate gearing. OK in heavy car.	2500-6000	**E119830** R-270-1	IN 270° EX 278°	230° 238°	.555" .555"	112°	4°	.022" .022"
Street rolle with excellent low and mid range. 10.0-1 compression, 650-750 carburetion and mild head work with dual plane manifold makes big torque.	3000-6500	**E119800** R-278-1	IN 278° EX 286°	238° 246°	.555" .555"	108°	0°	.022" .022"
High performance street roller with broad power range. Works well in supercharges street rod with 8-12 psi boost. Marine, 17-19ft hull and loose impeller. OK with nitrous.	3400-6800	**E119831** R-286-1A	IN 286° EX 294°	246° 254°	.555" .555"	114°	6°	.022" .022"
Low lift street roller. Big power, easy on the valve train. 10-1+ compression.	3000-6800	**E119834** R-286-1B	IN 286° EX 294°	246° 254°	.555" .555"	107°	5°	.022" .022"
Heavy late model sportsmans. 355 cid engines 9.0-1 compression. 390+ cfm carb 1.6 intake and exhaust rockers.	3500-6500	**E119921** R-282-2	IN 282° EX 288°	253° 259°	.600" .600"	106°	4°	.022" .022"
.900 base circle version of E119921	3500-6500	**E119921S** R-282-2	IN 282° EX 288°	253° 259°	.600" .600"	106°	4°	.022" .022"
Our largest low lift blower cam for the street. Aftermarket aluminum heads, big valves 671 Supercharger, low gears and 3500 converter.	3500-7000	**E119833** R-282-1A	IN 282° EX 292°	253° 263°	.600" .600"	114°	6°	.022" .022"
All out street roller. Works well in 3000-3400 lb car. 10.0-1 compression minimum. Ok with small shot of NOS.	3500-7000	**E119801** R-291-1	IN 294° EX 302°	254° 260°	.555" .555"	108°	0°	.022" .022"
350-383 ci. Good cylinder heads, 1.6 intake rockers 1/4-3/8 tracks.	4000-7500	**E119952** RXR	IN 290° EX 290°	256° 264°	.422" .430"	107°	5°	.022" .026"
.900 base circle version of E119952	4000-7500	**E119952S** RXR	IN 290° EX 290°	256° 264°	.422" .430"	107°	5°	.022" .026"
355-383 cid Good heads 1/4-3/8 tracks	4000-7500	**E119957** SXR	IN 282° EX 290°	256° 264°	.430" .430"	107°	5°	.026" .026"
.900 base circle version of E119957	4000-7500	**E119957S** SXR	IN 282° EX 290°	256° 264°	.430" .430"	107°	5°	.026" .026"
358-410 cubic inch engines. Winged sprint cars or late model sportsman.1/4-1/2 mile tacky tracks.	3800-6800	**E119922** R-286-4	IN 286° EX 290°	260° 264°	.675" .645"	106°	6°	.022" .022"
.900 base circle version of E119922	3800-6800	**E119922S** R-286-4	IN 286° EX 290°	260° 264°	.675" .645"	106°	6°	.022" .022"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850	508^{Ti} / 507	203	RL955/6475	1903-8	801-16	8981/8981T
E915043	517^{Ti} / VTR743^{Ti}	203/VL7010	RL981/4843	1903-8	Shaft System	8981T/8981TA 8981TG/8981TAG

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
358-410 winged sprint or late model. 1/4- 3/8 tracks.	4000-7500	**E119860** SXR	IN 286° EX 264°	260° 264°	.430" .430"	107°	5°	.026" .026"
.900 base circle version of E119960	4000-7500	**E119960S** SXR	IN 286° EX 264°	260° 264°	.430" .430"	107°	5°	.026" .026"
358-416 Late models. Big torque and broad power range 1.6 int rockers	4000-7400	**E119970** SXR	IN 294° EX 290°	260° 264°	.422" .430"	107°	5°	.022" .026"
.900 base circle version of E119970	4000-7400	**E119970S** SXR	IN 294° EX 290°	260° 264°	.422" .430"	107°	5°	.022" .026"
358-416 Late models. Big torque and broad power range 1.6 int rockers	4000-7400	**E119970** SXR	IN 294° EX 290°	260° 264°	.422" .430"	107°	5°	.022" .026"
.900 base circle version of E119970	4000-7400	**E119970S** SXR	IN 294° EX 290°	260° 264°	.422" .430"	107°	5°	.022" .026"
ET Brackets. 350-406 engines with no less that 11.0-1 compression, ported and polished heads, good intake and headers. 4000 rpm converter.	4000-7500	**E119906** R-286-5	IN 286° EX 294°	260° 268°	.675" .645"	108°	4°	.022" .022"
.900 base circle version of E119906	4000-7500	**E119906S** R-286-5	IN 286° EX 294°	260° 268°	.675" .645"	108°	4°	.022" .022"
Erson's first camshaft recommended for non-restricted classes. Late models or limited sprinters, tight 3/8-1/2 mile dirt or asphalt tracks. Use 1.6 rocker.	4000-7200	**E119923** R-286-3	IN 286° EX 294°	260° 268°	.645" .615"	106°	4°	.022" .022"
.900 base circle version of E119923	4000-7200	**E119923S** R-286-3	IN 286° EX 294°	260° 268°	.645" .615"	106°	4°	.022" .022"
383-421 Late model and sprint car 1/4-3/8 tracks.	4000-7600	**E119955** SXR	IN 286° EX 294°	260° 268°	.675" .645"	106°	6°	.022" .022"
.900 base circle version of E119955	4000-7600	**E119955S** SXR	IN 286° EX 294°	260° 268°	.675" .645"	107°	5°	.022" .024"
380-410 Late model and sprint car. 3/8-1/2 mile tracks 1.6 int rockers	4000-7500	**E119965** SXR	IN 286° EX 294°	260° 268°	.430" .430"	107°	5°	.026" .026"
.900 base circle version of E119965	4000-7500	**E119965S** SXR	IN 286° EX 294°	260° 268°	.430" .430"	107°	5°	.026" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850 E915043	508^{Ti} / 507 517^{Ti} / VTR743^{Ti}	203 203/VL7010	RL955/6475 RL981/4843	1903-8 1903-8	801-16 Shaft System	8981/8981T 8981T/8981TA 8981TG/8981TAG

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
380-410 Late model and sprint car. 3/8-1/2 mile tracks 1.6 int rockers.	4000-7500	**E119975** SXR	IN 294° EX 294°	260° 268°	.422" .430"	107°	5°	.022" .026"
.900 base circle version of E119975	4000-7500	**E119975S** SXR	IN 294° EX 294°	260° 268°	.422" .430"	107°	5°	.022" .026"
327-355 cid ET bracket cars with 11.0 to 12.0-1 compression. Low gears, 4000 stall converter.	4000-7500	**E119832** R302-3	IN 302° EX 312°	260° 270°	.555" .555"	106°	0°	.022" .022"
355-406 CID engines with limited carburetion.2 barrel or 390 CFM 4 barrel,3/8-1/2 mile dirt or asphalt tracks.	4200-7500	**E119924** R-290-1	IN 290° EX 290°	264° 264°	.645" .645"	106°	4°	.022" .022"
.900 base circle version of E119924	4200-7500	**E119924S** R-290-1	IN 290° EX 290°	264° 264°	.645" .645"	106°	4°	.022" .022"
377(+) cubic inch, late model sportsman,modified or super modified.Slick 3/8-5/8 mile tracks. No restrictions.	4200-7600	**E119925** R-290-5	IN 290° EX 294°	264° 268°	.645" .645"	106°	4°	.022" .022"
.900 base circle version of E119925	4200-7600	**E119925S** R-290-5	IN 290° EX 294°	264° 268°	.645" .645"	106°	4°	.022" .022"
ET Brackets and Road Race. 350-377 cid engines, good heads and exhaust. No less than 11.5-1 compression.	4200-7600	**E119907** R-290-5	IN 290° EX 298°	264° 272°	.675" .645"	108°	4°	.026" .022"
.900 base circle version of E119907	4200-7600	**E119907S** R-290-5	IN 290° EX 298°	264° 272°	.675" .645"	108°	4°	.022" .022"
Late model sportsman/sprint car.Closed course road racer. 350-410 CID. No restrictions. Alcohol or gas.	4400-7800	**E119926** R-290-4	IN 290° EX 298°	264° 272°	.645" .645"	106°	2°	.022" .022"
.900 base circle version of E119926	4400-7800	**E119926S** R-290-4	IN 290° EX 298°	264° 272°	.645" .645"	106°	2°	.022" .022"
410+ inch Late models 3/8 to 1/2 mile tracks 1.6 intake rockers.	4200-8200	**E119980** SXR	IN 298° EX 298°	264° 272°	.422" .430"	107°	5°	.022" .026"
.900 base circle version of E119980	4200-8200	**E119980S** SXR	IN 298° EX 298°	264° 272°	.422" .430"	107°	5°	.022" .026"
410+ inch Late models 3/8 to 1/2 mile tracks.	4200-8200	**E119985** SXR	IN 290° EX 298°	264° 272°	.430" .430"	107°	5°	.026" .026"
.900 base circle version of E119985	4200-8200	**E119985S** SXR	IN 290° EX 298°	264° 272°	.430" .430"	107°	5°	.026" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850 E915043	508^{Ti} / 507 517^{Ti} / VTR743^{Ti}	203 203/VL7010	RL955/6475 RL981/4843	1903-8 1903-8	801-16 Shaft System	8981/8981T 8981T/8981TA 8981TG/8981TAG

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
410+ inch Late models 3/8 to 1/2 mile tracks.	4200-8200	**E119990** SXR	IN 290° EX 298°	264° 272°	.450” .430”	107°	5°	.026” .026”
.900 base circle version of E119990	4200-8200	**E119990S** SXR	IN 290° EX 298°	264° 272°	.450” .430”	107°	5°	.026” .026”
Maximum camshaft for the street. Our most popular e.t. bracket cam.	4500-7800	**E119802** R-296-1	IN 296° EX 308°	266° 278°	.600” .600”	108°	0°	.022” .022”
410+ cid, injected alcohol, outlaw sprint car or late model on fast 1/2 - 5/8 track.	4500-8000	**E119927** R-290-4	IN 294° EX 300°	268° 274°	.675” .645”	106°	4°	.022” .022”
.900 base circle version of E119925	4500-8000	**E119927S** R-290-4	IN 294° EX 300°	268° 274°	.675” .645”	106°	4°	.022” .022”
2800-3200 lb door slammers with 350-406 cubic inch engines. 12.0-1 compression. Great all around power.	4500-7700	**E119908** R-294-6	IN 294° EX 320°	268° 276°	.675” .645”	106°	0°	.022” .022”
.900 base circle version of E119908	4500-7700	**E119908S** R-294-6	IN 294° EX 302°	268° 276°	.675” .645”	106°	0°	.022” .022”
Ersons version of one of the industries most popular camshafts. Longer seat timing on the intake builds higher torque for automatic cars. Use 1.8/1.6 rocker combo for best results.	4500-8000	**E119909** R-294-3	IN 294° EX 308°	268° 282°	.615” .645”	104°	4°	.022” .022”
.900 base circle version of E119909	4500-8000	**E119909S** R-294-3	IN 294° EX 308°	268° 282°	.615” .645”	104°	4°	.022” .022”
Excellent all around camshaft, makes great mid range torque and top end horsepower. Intended for 327-350 engines, heavy automatic cars. 3 speed automatics use 4500 converter, 5:38 gears and 30" tires.	4500-7800	**E119910** R-298-3	IN 298° EX 306°	272° 280°	.645” .645”	104°	0°	.022” .022”
327-350 inch door slammers, with good cylinder heads and intake. Automatics use 5000 stall converter.	4600-7800	**E119911** R-300-1	IN 300° EX 304°	274° 278°	.675” .645”	104°	4°	.022” .022”
Serious ET Bracket racers with 377-406 inch engines, boasting 12.8 to 13.5-1 compression, Super Stock 327-350 cid 4spd cars or 2400lb super gas roadsters, this cam is for you.	4800-8000	**E119912** R-302-5	IN 302° EX 310°	276° 284°	.675” .675”	106°	4°	.022” .022”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850 E915043	508^{Ti} / 507 517^{Ti} / VTR743^{Ti}	203 203/VL7010	RL955/6475 RL981/4843	1903-8 1903-8	801-16 Shaft System	8981/8981T 8981T/8981TA 8981TG/8981TAG

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
350 cid stick cars may install this cam straight up or advanced depending on vehicle weight and compression. 377+ cid super gas roadsters pulls hard coming off the throttle stop. May use 1.6 rockers to enhance flow characteristics.	5000-8000	**E119913** R-308-2	IN 308° EX 308°	278° 282°	.712” .675”	106°	4°	.024” .024”
Small cubic inch engines (up to 357 cid) with 13.0-1 to 15.0-1 compression using heavily modified 18 degree cylinder heads in a light (1500 lb) chassis. Makes relentless top end power.	5200-8200	**E119914** R-310-4	IN 310° EX 314°	280° 288°	.712” .675”	110°	3°	.024” .024”
Primarily intended for large cubic inch small blocks in light chassis. ET Bracket catagories. 2 spd automatic cars use 5500 converter	5500-8500	**E119916** R-312-1	IN 312° EX 318°	282° 292°	.712” .675”	109°	4°	.024” .024”
350 Cid, stick shift, super stockers. Good with 4 barrel and light car.	5200-7800	**E119902** R-314-3	IN 314° EX 326°	283° 292°	.667” .645”	106°	0°	.024” .026”
2600-3200 lb super stock automatic cars with 350-364 cid or 383-410 cid super gas roadsters and super comp dragsters with no less than 13.0-1 compression. Compatible with both gas and alcohol.	5500-8400	**E119915** R-314-6	IN 314° EX 314°	284° 288°	.712” .675”	106°	2°	.024” .024”
Designed for and proven winner in 287-323 econo altereds and economy dragsters running B or C classes.	6000-9200	**E119917** R-314-7	IN 314° EX 330°	284° 298°	.712” .667”	111°	0°	.024” .024”
287-323 econo altereds and economy dragsters running b or c classes with clutchless 4 and 5 speed transmissions. Prefers Dart-Buick splayed valve cylinder heads.	6000-9200	**E119918** R314-7A	IN 314° EX 330°	284° 298°	.712” .667”	113°	0°	.024” .024”
323-347 cid econo altereds and dragsters with 14.5 to 16.0-1 compression.	6400-9400	**E119919** R-314-8	IN 314° EX 338°	284° 302°	.727” .688”	111°	0°	.024” .024”
347 and larger cubic inch engines sporting 4 and 5 speed clutchless manual transmissions. Works well in gas dragsters and altereds. Prefers 1.7/1.6 rocker combo	6600-9600	**E119920** R-316-1	IN 316° EX 346°	286° 308°	.727” .688”	111°	0°	.024” .024”
For small cid, modified engine with tunnel ram and modified cylinder heads.	5300-8200	**E119903** R-320-2	IN 320° EX 330°	289° 298°	.712” .645”	108°	0°	.024” .026”
327-350 cid modified engine with tunnel ram and good cylinder heads.	5400-8400	**E119904** R-324-2	IN 324° EX 332°	291° 301°	.667” .645”	109°	0°	.024” .026”
350 cid and larger engines. Needs good heads to work best.	5500-8600	**E119905** R-326-2A	IN 326° EX 334°	293° 302°	.712” .645”	110°	0°	.024” .026”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3860 E915043	508^{Ti} / 507 517^{Ti} / VTR743^{Ti}	203 203/VL7010	RL955/6475 RL981/4843	1903-8 27900-8	801-16 Shaft System	8981/8981T 8981T/8981TA 8981TG/8981TAG

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

7/4 FIRING ORDER SWAP MECHANICAL ROLLER CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Heavy late model sportsman. 355 cid 9.0-1 compression. 390+ cfm carb 1.6 intake and exhaust rockers. 7/4 swap	3000-6500	**E119921-47** R-282-2	IN 282° EX 288°	253° 259°	.600" .600"	106°	4°	.022" .022"
.900 base circle version of E119921-47 7/4 swap	3000-6500	**E119921-47S** R-282-2	IN 282° EX 288°	253° 259°	.600" .600"	106°	4°	.022" .022"
350-383 ci. Good cylinder heads, 1.6 intake rockers 1/4-3/8 tracks. 7/4 swap	4000-7500	**E119952-47** RXR	IN 290° EX 290°	256° 264°	.422" .430"	107°	5°	.022" .026"
.900 base circle version of E119952-47 7/4 swap	4000-7500	**E119952-47S** RXR	IN 290° EX 290°	256° 264°	.422" .430"	107°	5°	.022" .026"
355-383 cid Needs good heads 1/4-3/8 tracks. 7/4 swap	4000-7500	**E119957-47** SXR	IN 282° EX 290°	256° 264°	.430" .430"	107°	5°	.026" .026"
.900 base circle version of E119957-47 7/4 swap	4000-7500	**E119957-47S** SXR	IN 282° EX 290°	256° 264°	.430" .430"	107°	5°	.026" .026"
358-410 cubic inch engines. Winged sprint cars or late model sportsman.1/4-1/2 mile tacky tracks. 7/4 swap	3800-6800	**E119922-47** R-286-4	IN 286° EX 290°	260° 264°	.675" .645"	106°	6°	.022" .022"
.900 base circle version of E119922-47 7/4 swap	3800-6800	**E119922-47S** R-286-4	IN 286° EX 290°	260° 264°	.675" .645"	106°	6°	.022" .022"
358-410 winged sprint or late model. 1/4- 3/8 tracks. 7/4 swap	4000-7500	**E119960-47** SXR	IN 286° EX 264°	260° 264°	.430" .430"	107°	5°	.026" .026"
.900 base circle version of E119960-47 7/4 swap	4000-7500	**E119960-47S** SXR	IN 286° EX 264°	260° 264°	.430" .430"	107°	5°	.026" .026"
358-416 Late models. Big torque and broad power range 1.6 int rockers. 7/4 swap	4000-7400	**E119970-47** SXR	IN 294° EX 290°	260° 264°	.422" .430"	107°	5°	.022" .026"
.900 base circle version of E119970-47 7/4 swap	4000-7400	**E119970-47S** SXR	IN 294° EX 290°	260° 264°	.422" .430"	107°	5°	.022" .026"
Erson's first camshaft recommended for non-restricted classes. Late models or limited sprinters, tight 3/8-1/2 mile dirt or asphalt tracks. Use 1.6 rocker. 7/4 swap	4000-7200	**E119923-47** R-286-3	IN 286° EX 294°	260° 268°	.645" .615"	106°	4°	.022" .022"
.900 base circle version of E119923-47	4000-7200	**E119923-47S** R-286-3	IN 286° EX 294°	260° 268°	.645" .615"	106°	4°	.022" .022"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850 E915043	508^{Ti} / 507 517^{Ti} / VTR743^{Ti}	203 203/VL7010	RL955/6475 RL981/4843	1903-8 1903-8	801-16 Shaft System	8981/8981T 8981T/8981TA 8981TG/8981TAG

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

7/4 FIRING ORDER SWAP MECHANICAL ROLLER CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
383-421 Late model and sprint car 1/4-3/8 tracks. 7/4 swap	4000-7600	**E119955-47** SXR	IN 286°	260°	.675”	107°	5°	.022”
			EX 294°	268°	.645”			.024”
.900 base circle version of E119955-47 7/4 swap	4000-7600	**E119955-47S** SXR	IN 286°	260°	.675”	107°	5°	.026”
			EX 294°	268°	.645”			.026”
380-410 Late model and sprint car. 3/8-1/2 mile tracks 1.6 int rockers. 7/4 swap	4000-7500	**E119965-47** SXR	IN 286°	260°	.430”	107°	5°	.026”
			EX 294°	268°	.430”			.026”
.900 base circle version of E119965-47 7/4 swap	4000-7500	**E119965-47S** SXR	IN 286°	260°	.430”	107°	5°	.026”
			EX 294°	268°	.430”			.026”
380-410 Late model and sprint car. 3/8-1/2 mile tracks 1.6 int rockers. 7/4 swap	4000-7500	**E119975-47** SXR	IN 294°	260°	.422”	107°	5°	.022”
			EX 294°	268°	.430”			.026”
.900 base circle version of E119975-47 7/4 swap	4000-7500	**E119975-47S** SXR	IN 294°	260°	.422”	107°	5°	.022”
			EX 294°	268°	.430”			.026”
355-406 CID with limited carburetion. 2 barrel or 390 CFM 4 barrel, 3/8-1/2 mile dirt or asphalt tracks. 7/4 swap	4200-7500	**E119924-47** R-290-1	IN 290°	264°	.645”	104°	4°	.022”
			EX 290°	264°	.645”			.022”
.900 base circle version of E119924-47 7/4 swap	4200-7500	**E119924-47S** R-290-1	IN 290°	264°	.645”	104°	4°	.022”
			EX 290°	264°	.645”			.022”
377(+) CID, late model sportsman,modified or super modified.Slick 3/8-5/8 mile tracks. No restrictions. 7/4 swap	4200-7600	**E119925-47** R-290-5	IN 290°	264°	.645”	106°	4°	.022”
			EX 294°	268°	.645”			.022”
.900 base circle version of E119925-47 7/4 swap	4200-7600	**E119925-47S** R-290-5	IN 290°	264°	.645”	106°	4°	.022”
			EX 294°	268°	.645”			.022”
Late model sportsman/sprint car. Closed course road racer. 350-410 CID. No restrictions. Alcohol or gas. .900 base circle 7/4 swap	4400-7800	**E119926-47S** SXR	IN 290°	264°	.645”	106°	2°	.022”
			EX 298°	272°	.645”			.022”
410+ inch Late models 3/8 to 1/2 mile tracks 1.6 intake rockers. 7/4 swap	4200-8200	**E119980-47** SXR	IN 298°	264°	.422”	107°	5°	.022”
			EX 298°	272°	.430”			.026”
.900 base circle version of E119980-47 7/4 swap	4200-8200	**E119980-47S** SXR	IN 298°	264°	.422”	107°	5°	.022”
			EX 298°	272°	.430”			.026”
410+ inch Late models 3/8 to 1/2 mile tracks. 7/4 swap	4200-8200	**E119985-47** SXR	IN 290°	264°	.430”	107°	5°	.026”
			EX 298°	272°	.430”			.026”
.900 base circle version of E119985-47 7/4 swap	4200-8200	**E119985-47S** SXR	IN 290°	264°	.430”	107°	5°	.026”
			EX 298°	272°	.430”			.026”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3860 E915043	508^{Ti} / 507 517^{Ti} / VTR743^{Ti}	203 203/VL7010	RL955/6475 RL981/4843	1903-8 27900-8	801-16 Shaft System	8981/8981T 8981T/8981TA 8981TG/8981TAG

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

7/4 FIRING ORDER SWAP MECHANICAL ROLLER CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
410+ inch Late models 3/8 to 1/2 mile tracks. 7/4 swap	4200-8200	**E119990-47** SXR	IN 290°	264°	.450"	107°	5°	.026"
			EX 298°	272°	.430"			.026"
900 base circle version of E119990-47 7/4 swap	4200-8200	**E119990-47S** SXR	IN 290°	264°	.450"	107°	5°	.026"
			EX 298°	272°	.430"			.026"
410+ cid, injected alcohol, outlaw sprint car or late model on fast 1/2 - 5/8 track 7/4 swap	4500-8000	**E119927-47** SXR	IN 294°	268°	.675"	106°	4°	.022"
			EX 300°	274°	.645"			.022"
900 base circle version of E119927-47 7/4 swap	4500-8000	**E119927-47S** SXR	IN 294°	268°	.675"	106°	4°	.022"
			EX 300°	274°	.645"			.022"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3860	508^{Ti} / 507	203	RL955/6475	1903-8	801-16	8981/8981T
E915043	517^{Ti} / VTR743^{Ti}	203/VL7010	RL981/4843	27900-8	Shaft System	8981T/8981TA 8981TG/8981TAG

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MECHANICAL/SOLID ROLLER CAMSHAFTS 50mm

CHEVROLET Small Block V8

1957-86 262-400 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	DURATION @.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
50mm - Short track small engine 2 barrel class or open carb with heavy car.	3200-6600	**E119930** RXR 50MM	IN 282° EX 288°	248° 252°	.422” .422”	106°	0°	.020” .022”
50mm - Short track 2 barrel, under 400 c.i.	3200-6800	**E119932** RXR 50MM	IN 288° EX 290°	252° 256°	.422” .422”	106°	0°	.020” .022”
50mm - Short track late model 358 with good heads and valve train, or larger engine 400ci with high rocker ratios. 1.8 / 1.7.	5000-8500	**E119934** RXR 50MM	IN 294° EX 302°	260° 268°	.422” .422”	106°	0°	.020” .022”
50mm - Late model 406-415ci good heads and valve train with high rocker ratios.	5000-8500	**E119936** RXR 50MM	IN 296° EX 302°	262° 268°	.422” .422”	106°	0°	.020” .022”
50mm - Late model 430ci good heads and valve train.	5000-8500	**E119938** RXR 50MM	IN 296° EX 298°	262° 272°	.422” .422”	107°	0°	.022” .022”
50mm - Late model 415-430ci 18° heads and good valve train. High ratios.	5400-8500	**E119940** RXR 50MM	IN 298° EX 304°	264° 270°	.422” .422”	107°	0°	.022” .022”
50mm - 355-400ci with good heads, high rpm long track.	5600-8500	**E119942** RXR 50MM	IN 304° EX 304°	270° 278°	.422” .430”	108°	0°	.022” .026”
50mm - Good short track 410-421ci. Good cylinder heads. Broad torque band,high ratios 1.8 / 1.7.	4500-8200	**E119944** RXR 50MM	IN 290° EX 298°	256° 264°	.422” .422”	107°	0°	.022” .022”
50mm - 421+ci with good heads. Great powerband with good torque range.1.8 / 1.7 ratio.	4500-8200	**E119946** RXR 50MM	IN 294° EX 304°	260° 270°	.422” .422”	107°	0°	.022” .022”
50mm - 358-410 winged sprint or late model. 1/4- 3/8 tracks.	4000-7500	**E119950** RXR 50MM	IN 286° EX 290°	260° 264°	.450” .430”	107°	5°	.026” .026”
50mm - Small base circle version of E119950	4000-7500	**E119950S** RXR 50MM	IN 286° EX 290°	260° 264°	.450” .430”	107°	5°	.026” .026”
50mm - 4/7 Swap version of E119950	4000-7500	**E119950-47** RXR 50MM	IN 286° EX 290°	260° 264°	.450” .430”	107°	5°	.026” .026”
50mm - Small base circle, 4/7 Swap version of E119950	4000-7500	**E119950-47S** RXR 50MM	IN 286° EX 290°	260° 264°	.450” .430”	107°	5°	.026” .026”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850 E915043	508^{Ti} / 507 517^{Ti} / VTR743^{Ti}	203 203/VL7010	RL955 RL981	1903-8 1903-8	801-16 Shaft System	8981/8981T 8981T/8981TA

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HYDRAULIC ROLLER CAMSHAFTS

CHEVROLET Gen III / LS V8

1997-PRESENT LS1, LS2, LS6, 3 BOLT
4.8L, 5.3L, 5.7L, 6.0L

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent choice for trucks seeking improved low and mid-range torque without sacrificing mileage. Great for tow vehicles, does not require computer modifications.	1200-4200	**E112000** LSRH-256-1	IN 256° EX 264°	202° 210°	.510" .510"	114°	0°	.000" .000"
Great replacement for GM Performance cam 12565308	1500-5500	**E112308** LSRH-268-1	IN 268° EX 286°	204° 218°	.550" .550"	117.5°	0°	.000" .000"
Mild hydraulic roller with strong mid-range torque. This cam gives a good performance increase without having to make other internal modifications.Will benefit from free flowing exhaust.Good mileage and idle, computer compatible	1500-4500	**E112001** LSRH-264-1	IN 264° EX 272°	210° 218°	.510" .510"	112°	0°	.000" .000"
Great mid-range power, good choice for supercharged engines with 5-8 PSI of boost. Needs free flowing exhaust, ok with nitrous. Will require computer tuning.	2000-5200	**E112003** LSRH-268-1	IN 268° EX 276°	215° 233°	.544" .544"	112°	2°	.000" .000"
Great replacement for GM Performance cam 8895873	2500-5800	**E112873** LSRH-278-1	IN 278° EX 288°	219° 228°	.525" .525"	112°	0°	.000" .000"
LS Road Rage, lots of overlap, muscle car sound. Not for Fuel Injected applications	1800-5500	**E112004** LSRH-286-2	IN 286° EX 296°	219° 236°	.578" .578"	109°	0°	.000" .000"
10-15 psi boost turbos will love this cam. Good exhaust a must	1800-6000	**E112005** LSRH-286-1A	IN 286° EX 286°	220° 220°	.578" .578"	114°	0°	.000" .000"
Hot Street strong mid-range and top end performance, needs headers and good exhaust. 2000 RPM converter. Will require computer tuning.	2500-5800	**E112006** LSRH-286-1	IN 286° EX 294°	220° 228°	.578" .578"	112°	2°	.000" .000"
Excellent for low boost 6-8 psi turbo.	2000-6200	**E112002** LSRH-276-2	IN 276° EX 276°	222° 222°	.544" .544"	114°	0°	.000" .000"
Turbo cam for the 10 to 15psi crowd. Lots of mid range and hard runner on the top end.	2500-6500	**E112007** LSRH-290-2B	IN 290° EX 290°	225° 225°	.578" .578"	114°	0°	.000" .000"
Great hot rod cam. Camaros and Corvettes. Big torque, needs computer tuning.	2500-6800	**E112008** LSRH-290-3A	IN 290° EX 294°	225° 230°	.578" .578"	114°	0°	.000" .000"
Hot Street/E.T. Brackets, best dual purpose street strip cam. Needs 2500 RPM converter 3.42 or lower gear. Will require computer tuning. .578" lift	2800-6000	**E112009A** LSRH-290-2A	IN 290° EX 296°	225° 236°	.578" .578"	110°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3250	513	200	HA2079/HA2148	1933-8	???-16	8977T

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HYDRAULIC ROLLER CAMSHAFTS

CHEVROLET/GM Gen III / LS V8

1997-PRESENT LS1, LS2, LS6, 3 BOLT
4.8L, 5.3L, 5.7L, 6.0L

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets, best dual purpose street strip cam. Needs 2500 RPM converter 3.42 or lower gear. Will require computer tuning.	2800-6000	**E112009** LSRH-286-1A	IN 286° EX 294°	226° 234°	.621" .621"	110°	0°	.000" .000"
Hot Street/E.T. Brackets. Turbo charged engines with up to 25 PSI ofboost. Best with at least 3000 RPM converter and 3.42 or lower gears.Will require computer tuning.	3000-6500	**E112012** LSRH-290-1	IN 290° EX 290°	230° 230°	.621" .621"	114°	0°	.000" .000"
Hot Street/E.T. Brackets. Turbo charged engines with up to 25 PSI of boost. Best with at least 3000 RPM converter and 3.42 or lower gears. Will require computer tuning. .578" lift	3000-6500	**E112112A** LSRH-294-2A	IN 294° EX 294°	230° 230°	.578" .578"	114°	0°	.000" .000"
Hot Street/E.T. Brackets, ported factory or aftermarket heads, good intake,headers and exhaust. 3000 RPM converter,3.73 or lower gear. Will require computer tuning.	3000-6500	**E112115** LSRH-294-1	IN 294° EX 302°	234° 242°	.621" .621"	110°	2°	.000" .000"
Hot Street/E.T. Brackets, ported factory or aftermarket heads, good intake,headers and exhaust. 3000 RPM converter,3.73 or lower gear. Will require computer tuning. .578" lift	3000-6800	**E112115A** LSRH-296-2A	IN 296° EX 310°	236° 245°	.578" .578"	110°	2°	.000" .000"
400+ cid, supercharged 10-15 psi boost. Big mid range torque in properly set up engine .578 lift for stock head applications.	3200-7000	**E112116A** LSRH-302-2A	IN 292° EX 310°	237° 245°	.578" .578"	114°	0°	.000" .000"
LS Road Rage, lots of overlap, muscle car sound. Not for Fuel Injected applications. Must have good heads, compression and gears.	2800-6500	**E112113** LSRH-302-1	IN 302° EX 318°	237° 254°	.578" .578"	109°	0°	.000" .000"
400+ cid, supercharged 10-15 psi boost. Big mid range torque in properly set up engine.	3200-7000	**E112116** LSRH-298-2	IN 298° EX 306°	238° 246°	.621" .621"	114°	0°	.000" .000"
Hot Street/E.T. Brackets, strong mid-range torque and top end horsepower in engines up to 427 CID. No less than 11.0:1 compression, aftermarket heads, good intake and exhaust. 3000-3500 RPM converter and 4.10 or lower gears. Rough idle, requires computer tuning.	3500-7000	**E112118** LSRH-302-1	IN 302° EX 310°	242° 250°	.621" .621"	110°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3250	513	200	HA2079/HA2148	1933-8	???-16	8977T

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Absolute BEST valve spring for the LS1 or SBC engine

- Conical design oval wire valve spring will fit factory retainer
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- Ideal for hydraulic roller cam applications

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HYDRAULIC ROLLER CAMSHAFTS

CHEVROLET/GM Gen III / LS V8

2007 & LATER LS2 SINGLE BOLT

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent choice for trucks seeking improved low and mid-range torque without sacrificing mileage. Great for tow vehicles, does not require computer modifications.	1200-4200	**E117000** LSRH-256-1	IN 256° EX 264°	202° 210°	.510" .510"	114°	0°	.000" .000"
Great replacement for GM Performance cam 12565308	1500-5500	**E117308** LSRH-268-1	IN 268° EX 286°	204° 218°	.550" .550"	117.5°	0°	.000" .000"
Mild hydraulic roller with strong mid-range torque. This cam gives a good performance increase without having to make other internal modifications.Will benefit from free flowing exhaust.Good mileage and idle, computer compatible	1500-4500	**E117001** LSRH-264-1	IN 264° EX 272°	210° 218°	.510" .510"	112°	0°	.000" .000"
Great mid-range power, good choice for supercharged engines with 5-8 PSI of boost. Needs free flowing exhaust, ok with nitrous. Will require computer tuning.	2000-5200	**E117003** LSRH-268-1	IN 268° EX 276°	215° 233°	.544" .544"	112°	2°	.000" .000"
Great replacement for GM Performance cam 8895873	2500-5800	**E117873** LSRH-278-1	IN 278° EX 288°	219° 228°	.525" .525"	112°	0°	.000" .000"
LS Road Rage, lots of overlap, muscle car sound. Not for Fuel Injected applications	1800-5500	**E117004** LSRH-286-2	IN 286° EX 296°	219° 236°	.578" .578"	109°	0°	.000" .000"
10-15 psi boost turbos will love this cam. Good exhaust a must	1800-6000	**E117005** LSRH-286-1A	IN 286° EX 286°	220° 220°	.578" .578"	114°	0°	.000" .000"
Hot Street strong mid-range and top end performance, needs headers and good exhaust. 2000 RPM converter. Will require computer tuning.	2500-5800	**E117006** LSRH-286-1	IN 286° EX 294°	220° 228°	.578" .578"	112°	2°	.000" .000"
Excellent for low boost 6-8 psi turbo.	2000-6200	**E117002** LSRH-276-2	IN 276° EX 276°	222° 222°	.544" .544"	114°	0°	.000" .000"
Turbo cam for the 10 to 15psi crowd. Lots of mid range and hard runner on the top end.	2500-6500	**E117007** LSRH-290-2B	IN 290° EX 290°	225° 225°	.578" .578"	114°	0°	.000" .000"
Great hot rod cam. Camaros and Corvettes. Big torque, needs computer tuning.	2500-6800	**E117008** LSRH-290-3A	IN 290° EX 294°	225° 230°	.578" .578"	114°	0°	.000" .000"
Hot Street/E.T. Brackets, best dual purpose street strip cam. Needs 2500 RPM converter 3.42 or lower gear. Will require computer tuning. .578" lift	2800-6000	**E117009A** LSRH-290-2A	IN 290° EX 296°	225° 236°	.578" .578"	110°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3250	513	200	HA2079/HA2148	1933-8	???-16	8977T

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HYDRAULIC ROLLER CAMSHAFTS

CHEVROLET/GM Gen III / LS V8

2007 & LATER LS2 SINGLE BOLT

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets, best dual purpose street strip cam. Needs 2500 RPM converter 3.42 or lower gear. Will require computer tuning.	2800-6000	**E117009** LSRH-286-1A	IN 286° EX 294°	226° 234°	.621" .621"	110°	0°	.000" .000"
Hot Street/E.T. Brackets. Turbo charged engines with up to 25 PSI ofboost. Best with at least 3000 RPM converter and 3.42 or lower gears.Will require computer tuning.	3000-6500	**E117012** LSRH-290-1	IN 290° EX 290°	230° 230°	.621" .621"	114°	0°	.000" .000"
Hot Street/E.T. Brackets. Turbo charged engines with up to 25 PSI of boost. Best with at least 3000 RPM converter and 3.42 or lower gears. Will require computer tuning. .578" lift	3000-6500	**E117112A** LSRH-294-2A	IN 294° EX 294°	230° 230°	.578" .578"	114°	0°	.000" .000"
Hot Street/E.T. Brackets, ported factory or aftermarket heads, good intake,headers and exhaust. 3000 RPM converter,3.73 or lower gear. Will require computer tuning.	3000-6500	**E117115** LSRH-294-1	IN 294° EX 302°	234° 242°	.621" .621"	110°	2°	.000" .000"
Hot Street/E.T. Brackets, ported factory or aftermarket heads, good intake,headers and exhaust. 3000 RPM converter,3.73 or lower gear. Will require computer tuning. .578" lift	3000-6800	**E117115A** LSRH-296-2A	IN 296° EX 310°	236° 245°	.578" .578"	110°	2°	.000" .000"
400+ cid, supercharged 10-15 psi boost. Big mid range torque in properly set up engine .578 lift for stock head applications.	3200-7000	**E117116A** LSRH-302-2A	IN 292° EX 310°	237° 245°	.578" .578"	114°	0°	.000" .000"
LS Road Rage, lots of overlap, muscle car sound. Not for Fuel Injected applications. Must have good heads, compression and gears.	2800-6500	**E117113** LSRH-302-1	IN 302° EX 318°	237° 254°	.578" .578"	109°	0°	.000" .000"
400+ cid, supercharged 10-15 psi boost. Big mid range torque in properly set up engine.	3200-7000	**E117116** LSRH-298-2	IN 298° EX 306°	238° 246°	.621" .621"	114°	0°	.000" .000"
Hot Street/E.T. Brackets, strong mid-range torque and top end horsepower in engines up to 427 CID. No less than 11.0:1 compression, aftermarket heads, good intake and exhaust. 3000-3500 RPM converter and 4.10 or lower gears. Rough idle, will require computer tuning.	3500-7000	**E117118** LSRH-302-1	IN 302° EX 310°	242° 250°	.621" .621"	110°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3250	513	200	HA2079/HA2148	1933-8	???-16	8977T

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Ideal for Cars, Trucks & RV's . Good idle quality. Low rpm torque. Will work with stock or slightly modified engine. Stock rear end gears. Manual or auto transmission.	800-4800	**E120002** TORQUEMASTER	IN 270° EX 280°	204° 214°	.476" .501"	112°	5°	.000" .000"
This range of camshafts offer great power increase over stock cams, engine modifications will further enhance performance. Fair idle quality. Good low to mid-range torque and HP. Will work with stock or modified engine.	1000-4900	**E120004** STREET FIGHTER	IN 278° EX 278°	212° 212°	.476" .476"	110°	4°	.000" .000"
	1100-5000	**E120006** STREET FIGHTER	IN 280° EX 280°	214° 214°	.501" .501"	114°	5°	.000" .000"
	1200-5000	**E120008** STREET FIGHTER	IN 284° EX 284°	214° 224°	.501" .527"	112°	5°	.000" .000"
	1500-5200	**E120014** STREET FIGHTER	IN 292° EX 292°	224° 224°	.510" .510"	115°	1°	.000" .000"
	1500-5400	**E120016** STREET FIGHTER	IN 290° EX 292°	224° 232°	.527" .553"	114°	4°	.000" .000"
Hot Street and Strip, these cams require modifications, stall converters, gears, headers, raised compression, larger carbs. Some applications are suited for nitrous and super charge use. Rough idle quality. Good mid to high rpm torque and horsepower. For use with manual transmission or high stall automatic. Will have lower vacuum than stock.	2000-6200	**E120018** ELIMINATOR	IN 292° EX 292°	230° 230°	.544" .544"	109°	2°	.000" .000"
	2200-6400	**E120022** ELIMINATOR	IN 300° EX 310°	234° 244°	.553" .578"	112°	5°	.000" .000"
	3000-6800	**E120026** ELIMINATOR	IN 310° EX 320°	244° 254°	.578" .603"	110°	5°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3050	504S	206	HA817	1603/1604	105-16	701

Notes:

If you wish to fit a new camshaft in a 1965-66bigl block Chevrolet engine, the rear camshaft journal must be modified with a groove for the oiling system. Failure to do this will result in severe engine damage. Erson Cams can make this modification for you if requested with the order.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Broad power range. City and Freeway driving, towing. Heavier cars. Good idle and fuel mileage.	1000-4500	**E120101** RV-10-H	IN 256° EX 256°	208° 208°	.485" .485"	112°	0°	.000" .000"
Erson's first choice over stock.Excellent for 2 wheel drive pickups with campers, 4x4s, utility trucks and motor homes wishing to improve low end performance and driveability.	1000-4000	**E120102** M/P1	IN 280° EX 292°	208° 214°	.482" .514"	112°	4°	.000" .000"
Great for mild street turbo application.	1500-5000	**E120001** TURBO1	IN 292° EX 280°	214° 208°	.514" .482"	112°	0°	.000" .000"
The Performer. Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel, headers and free flowing dual exhaust system recommended. OK for towing moderate loads.	1500-5000	**E120121** TQ20H	IN 292° EX 292°	214° 214°	.514" .514"	112°	4°	.000" .000"
Strong mid-range power. City, fast expressway and open road towing.Delivers maximum mid-range torque.Good idle, throttle response and fuel efficiency.	1250-4250	**E120201** RV15H	IN 288° EX 288°	214° 214°	.482" .482"	112°	4°	.000" .000"
Suburbans, duallies and 4x4s seeking more mid-range torque and horsepower.recommended for towing horse trailers, boats or fifth wheels when used with a dual plane intake manifold. A 4 barrel, free flowing exhaust and low gears.	1500-4750	**E121021** M/P2	IN 292° EX 310°	214° 226°	.514" .530"	114°	4°	.000" .000"
Great camshaft for the slightly modified street car or sport truck. Good low end torque and mid-range horsepower can be used with 4 speed manual or automatic with stock converter.	1750-5000	**E120320** HI-FLOW AH	IN 284° EX 284°	220° 220°	.542" .542"	111°	0°	.000" .000"
High-lift, short duration, dual pattern camshaft. Builds good torque down low with strong mid-range power. Largest cam recommended with stock converter.	1800-5250	**E120621** TQ40H	IN 284° EX 296°	220° 228°	.542" .542"	110°	0°	.000" .000"
9.5-10.5 compression	1800-4800	**E120510** ROAD RAGE	IN 284° EX 296°	220° 235°	.542" .542"	108°	5°	.000" .000"
Fair idle. Dual pattern camshaft.Works best in 454-502 cubic inch marine applications with through transom exhaust and single 4 barrel. Miniday cruiser or jets with impeller.	2000-5500	**E122061** VIKING 100H	IN 306° EX 322°	221° 235°	.500" .512"	114°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3050	504S	202	HA817	1603-8 Int 1604-8 Exh	805-16	701

CAUTION: Most production engines can not accept more than .500" valve lift without modifying the valve guides for increased clearance. When installing a cam with more than .500 lift, it is absolutely essential that the valve spring retainer-to-guide clearance be checked. Do not attempt to operate an engine with less than .150 retainer-to-guide clearance. If you are using valve seals, check the clearance from the top of the seal rather than the top of the guide.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong broad power range for engines with up to 12lbs of boost.	2200-5600	**E120010** TURBO II	IN 310° EX 292°	226° 214°	.533" .514"	112°	0°	.000" .000"
Mid-range and strong top end. Needs 4 barrel, headers and low gears. OK with automatic with low gears. Fair idle and fuel efficiency.	2250-5400	**E120221** TQ30H	IN 310° EX 310°	226° 226°	.530" .530"	114°	4°	.000" .000"
Strong street and strip cam for heavier car. High-lift and short duration guarantees lots of torque. OK for Turbo Hydro for 3.55 gears.	2500-5500	**E120421** HI-FLOW IH	IN 296° EX 296°	228° 228°	.542" .542"	111°	0°	.000" .000"
High-lift. Dual pattern camshaft. Needs 4 barrel, headers and low gears. 10.0:1 compression. 4 speedor automatic with 2500 (+) RPM converter.OK with small shot of nitrous oxide.	2750-5800	**E120721** TQ50H	IN 296° EX 306°	228° 235°	.542" .542"	110°	0°	.000" .000"
Big power for big block boat engines. Low lift works with broad range of cylinder heads.	2900-5900	**E120722** TQ50H/114	IN 296° EX 306°	228° 235°	.542" .542"	114°	0°	.000" .000"
Dual Pattern high lift cam for Jet boats. Use "A" impeller in heavier boats and cruisers.	2800-5800	**E125321** JB100	IN 298° EX 306°	228° 235°	.542" .542"	112°	4°	.000" .000"
Strong mid range power needs at least 9.5:1 compression, dual plane intake, free flowing exhaust and at least 2000 RPM converter for best performance. Will have slighty Lopey idle.	2500-5500	**E120103** HL-294-355	IN 294° EX 302°	228° 236°	.604" .604"	110°	0°	.000" .000"
Excellent choice for street machines with roots or centrifical type superchargers,running 6 to 8 lbs of boost. 2500 RPM converter and good exhaust. Also works well with fuel injected normally aspirated engines. Will require performance chip or tunable type fuel injection.	2700-5700	**E120106** HL-294-355-1	IN 294° EX 302°	228° 236°	.604" .604"	112°	0°	.000" .000"
Dual purpose camshaft. Replaces JB-100 with strong emphasis on marine applications having an "A" impeller or street machines with small supercharger.	2800-6000	**E120322** HI-BOOST IH	IN 296° EX 316°	228° 240°	.542" .542"	112°	4°	.000" .000"
Needs good intake, 10.5 compression, Headers, Gear.	2200-5250	**E120515** ROAD RAGE	IN 296° EX 316°	228° 240°	.542" .542"	108°	5°	.000" .000"
Hot Street/E.T Brackets strong mid-range torque and top end horsepower,in 454 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake. 3000 RPM converter and 3.73 or lower gear.	3400-6400	**E120118** HL-306-355-1	IN 306° EX 314°	240° 248°	.604" .604"	112°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3050	504S	202	HA817	1603-8 Int 1604-8 Exh	805-16	701

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T Brackets with at least10.5:1 compression. Good heads and a single plane manifold,headers and free flowing exhaust. Strong mid-range performance.3000 RPM converter and 3.73 or lower gear. Up to 250 HP shot of nitrous.	3800-6800	**E120139** HL-310-355-N	IN 310° EX 318°	244° 252°	.604” .604”	114°	0°	.000” .000”
For the more serious jet boater. Must have good exhaust (no wet mainifolds) and ram type intake, loose impeller.	3800-6800	**E125521** JB300	IN 308° EX 316°	244° 252°	.576” .576”	112°	4°	.000” .000”
Hot Street/E.T Brackets strong mid-range torque and top end horsepower,in 454 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake.3500 RPM converter and 4.10 or lower gear.	3750-6750	**E120120** HL-314-355	IN 314° EX 320°	248° 256°	.604” .586”	110°	4°	.000” .000”
Pro Street machines with roots or centrifical type superchargers, up to15 lbs of boost. Needs headers and free flowing exhaust, 3000 RPM converter and 373 or lower gears. Also a good choice for 500 CID and larger engines, with carburetor or aftermarket fuel injection.	3750-6750	**E120124** HL-314-355-1	IN 314° EX 320°	248° 256°	.604” .586”	112°	4°	.000” .000”
Serious street machines. 6.71 supercharger.Multiple carburetion, low gear, free flowing exhaust, large cubic inch marine applications. OK with nitrous oxide.	4000-7000	**E120323** HI-BOOST IIIH	IN 312° EX 320°	248° 256°	.576” .593”	114°	4°	.000” .000”
Needs aftermarket heads, intake, headers and gears. pretty much the whole enchilada.	3000-6500	**E120535** ROAD RAGE	IN 314° EX 322°	248° 256°	.611” .611”	108°	5°	.000” .000”
Hot Street/E.T Brackets strong mid-range torque and top end horsepower,in 496 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake.3500 to 4000 RPM converter and 4.10 or lower gear.	4000-7000	**E120127** HL-318-355	IN 318° EX 324°	252° 260°	.604” .586”	110°	4°	.000” .000”
Pro Street/E.T Brackets max effort in 540 and larger cubic inch engines. No less than 10.5:1 compression, aftermarket heads, Victor style intake with at least 850 CFM carb, large tube headers. Needs at least a 3000 RPM converter and 4.10 gears.	4000-7000	**E120130** HL-318-355-1	IN 318° EX 324°	252° 260°	.604” .586”	112°	4°	.000” .000”
Strong mid-range and top end performance.468(+) cubic inch engines. No less than 11.0:1 compression. 2800-3200 lb vehicle. 4 series gear. High performance with low maintenance.	4200-7200	**E120324** TQ70H	IN 320° EX 324°	256° 260°	.593” .593”	110°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3050	504S	202	HA817	1603-8 Int 1604-8 Exh	805-16	701

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong low and mid range power. Ok for Turbo hydro. Good for towing and heavy vehicles.	2200-5500	**E121051** TQ30M	IN 280° EX 280°	230° 230°	.533” .533”	112°	0°	.022” .022”
Excellent replacement for 1970 LS6 454	2200-6500	**E121620** 3904362	IN 336° EX 316°	242° 242°	.520” .520”	114°	6°	.022” .022”
High lift-Short Duration cam comes on strong from 2000 RPM and up. Good for Turbo Hydro with gears. Fair Idle.	3000-6000	**E121721** HI-FLOW IM	IN 286° EX 286°	242° 242°	.585” .585”	110°	0°	.024” .025”
High Performance Street/E.T.Bracket camshaft. 10.5:1 compression,4 barrel, free flowing exhaust.Pulls hard in heavier chassis when advanced 4°.	3250-6250	**E121821** HI-FLOW IIM	IN 294° EX 294°	246° 246°	.585” .585”	110°	0°	.024” .025”
Strong low end and mid range when used in heavier cars with limited intake.	3500-6500	**E120300** F-282-2	IN 282° EX 290°	246° 254°	.585” .585”	106°	0°	.022” .022”
Hot Street/E.T. Brackets/Marine.Good mid-range power with 10.5-11.0:1 compression and 4 speed withlow gears. Jet boat with blueprinted pump and A-B impeller. Works well with nitrous oxide.	3500-6500	**E120306** F-282-4	IN 282° EX 290°	246° 254°	.585” .585”	112°	4°	.025” .025””
Great low end torque and mid-range horsepower. Works best with lightly modified cylinder heads. 750-850 CFM,4 barrel carburetion, and 3500 RPM converter. Intended for 1/8-1/4 mile drag strips or 1.4-3/8 mile tacky dirt tracks.	3750-6750	**E120307** F-286-2	IN 286° EX 294°	250° 258°	.585” .585”	108°	0°	.025” .025””
Hot Street/Marine/Blower grind. 6-71 Superchargers producing 8-15 lbs.of boost or jet boats with tunnel ram style intake manifolds using 2x750 CFM carburetors, open exhaust and blueprinted pum produce big power.OK with nitrous oxide.	4000-7000	**E120308** F-292-1	IN 292° EX 302°	254° 264°	.645” .645”	114°	4°	.025” .025”
Best on 1/3 to 1/2 mile tracks in heavy cars.	4000-7000	**E120302** F-298-1	IN 298° EX 302°	260° 264°	.645” .645”	106°	0°	.022” .022”
Hot Street/E.T. Brackets/Oval Track. Strong mid-range performance from 11.0-12.0:1 big blocks using TH-400 transmission with 4000 RPM converter. 3/8-1/2 mile asphalt modifieds or late model sportsman on dry, slick track.	4200-7200	**E120309** F-298-4	IN 298° EX 306°	260° 268°	.645” .645”	108°	0°	.025” .025”
E.T. Brackets/Oval Track/RoadRacer. Great all around power. 12.5:1 427s-11.5:1 468 cubic inch engines. S.C.C.A. production road racers or late model sportsman/modifieds on 1/2 mile high banked asphalt tracks.	4400-7400	**E120303** F-302-2	IN 302° EX 310°	264° 272°	.645” .645”	108°	0°	.025” .025”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504	202	MA992	1920-8/1921-8	805-16	7991

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NOTE: Pushrod lengths will vary

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E.T. Brackets. 2800-3200 lb early Camaro or Nova. 427-454 CID engines, single plane manifold, oval port heads, mild head work. Upper mid-range and top end power. Easy on parts.	4400-7400	**E125021** 1900X	IN 308° EX 314°	268° 274°	.610" .625"	108°	0°	.025" .025"
E.T. Brackets. Very popular camshaft in 427-454 CID big blocks with 11.5-12.5:1 compression. Good heads, single 4 barrel, 4500 RPM converter. Modified or limited super-modifieds on fast 1/2 mile track.	4500-7500	**E120304** F-306-1A	IN 306° EX 314°	268° 276°	.645" .645"	108°	0°	.024" .025"
Pro Street/Marine/Blower grind. Popular in large, cubic inch pro-street cars. 3200-3400 lb. Camaros, Chevelles, etc. Automatic transmission with 4500 converter, 500 + cubic inch blown river racers, flats with V-drive.	4000-7500	**E120310** F-306-2	IN 306° EX 314°	268° 276°	.645" .645"	114°	4°	.024" .025"
E.T. Brackets/Super Street. 454 (+) cubic inch engines with 12.5-13.5:1 compression with good heads and intake using up to 1,050 CFM carburetion on alcohol or gas. 2400-2800 lb. cars use 5000 RPM converter, 14" slick and 5.38 gears.	4750-7800	**E120311** F-310-2	IN 310° EX 314°	272° 276°	.645" .645"	108°	0°	.024" .025""
E.T. Brackets/Super Categories.468(+) CID engines with 13.5-14.5:1 compression. Aftermarket aluminum heads, large single or dual 4 barrel carburetion, 2200-2600 lb. roadsters. Use 4500-5500 RPM converter.	5000-8000	**E124931** 2450X	IN 310° EX 320°	276° 286°	.650" .650"	108°	0°	.024" .025""
Top end power. ET bracket, Hot Ski Boat best power over 4000 rpm. Must have open exhaust.	4800-7800	**E124421** 2500XX	IN 320° EX 320°	286° 286°	.650" .650"	108°	0°	.024" .025"
E.T. Brackets/Super Categories. Intended for 500(+) cubic inch engines with no less than 14.5:1 compression. Light 2 speed dragsters or altereds with good flowing Cylinder heads, carbureted on gas or alcohol injected. Use 5500 RPM converter.	5000-8000	**E124531** 2505X	IN 320° EX 330°	286° 296°	.650" .650"	110°	2°	.024" .025"
Upper mid range and top end power. Tunnel ram or injectors, open exhaust essential	5500-8500	**E128331** 3010DP	IN 332° EX 340°	290° 311°	.680" .660"	110°	0°	.026" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504	202	MA992	1920-8/1921-8	805-16	7991

NOTE: Pushrod lengths will vary

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HYDRAULIC ROLLER CAMSHAFTS - Retro-Fit

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
2 wheel drive and 4x4 pickups, duallies and RVs seeking improved low end performance for towing. Compatible with stock compression, torque converter and gearing. Free flowing exhaust enhances mileage and performance.	1250-4250	**E120202** RH-276-1	IN 276° EX 282°	208° 214°	.550" .550"	112°	4°	.000" .000"
Good idle and low end performance with increased mid-range. Our largest camshaft. recommended for 454 CID pickups and RVs towing with stock compression. RV converter, free flowing exhaust.	1500-4500	**E120203** RH-282-7	IN 282° EX 294°	214° 226°	.550" .550"	114°	4°	.000" .000"
Mild Street Performance/Marine grind. Increased mid-range in heavier chassis, i.e.: Chevelles, Impalas, Corvettes, 9.0:1 compression, dual plane manifold, 3 speed automatics ,3.55-3.73 gears, small shot nitrous oxide.	2000-5000	**E120204** RH-286-1	IN 286° EX 294°	218° 226°	.585" .585"	114°	4°	.000" .000""
High Performance Street Machines. New lobe design. Increases cylinder pressure and torque. Fair idle. Good low and mid-range performance.9.5:1-10.0:1 compression. 4 speed or automatic. Easy on parts.	2500-5500	**E120205** RH-282-4	IN 282° EX 286°	222° 226°	.550" .550"	110°	0°	.000" .000"
O.E. heads ok, but it would prefer aftermarket heads, 9.0-10.5-1 compression and while you're doing it, step up to the plate and get a good intake and headers too.	1800-5000	**E129600** ROAD RAGE	IN 290° EX 302°	222° 234°	.580" .580"	108°	5°	.000" .000"
Hot Street and E.T. Brackets. Rough idle. 9.5:1-10.0:1 compression. Mild head work, gasket matching, etc. Single plane manifold, 750 CFM 3" exhaust, 2500 converter and low gears needed for best results.	3000-6000	**E120206** RH-294-2	IN 294° EX 302°	226° 234°	.585" .585"	108°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504	202	RL931/SL931	1946-8/1965-8	805-16	7991

All of the above cams must be checked for valve clearance. We recommend .080" intake and .100" exhaust.

NOTE:

1967-90 big block Chevrolet engines came equipped with adjustable valvetrains. This made adjusting hydraulic lifter pre-load very easy. For example, using a 7/16" x 20" stud, common to big block Chevrolet engines, each 360° rotation in an upward or downward directions equals .050". Therefore, to properly adjust a hydraulic valvetrain, one would go 3/4 to 1 full turn past zero lash at the rocker arm adjusting nut, providing the lifter is at the base circle of the camshaft.

In 1991, General Motors introduced the 454-502 cubic inch, Generation V, big block engine. These engines produced from 1991-95 had non-adjustable valvetrains. When installing any camshaft with over .500" gross valve lift, the cylinder heads must be converted to adjustable valvetrains.

In 1996, General Motors introduced the 454-502 cubic inch, Generation VI, big block engine. These engines came equipped with hydraulic roller camshafts and have adjustable valvetrains. They require the use of a 2-bolt thrust plate for proper camshaft positioning and a special timing set.

TECH INFO:

For those customers who wish to have their hydraulic roller camshaft ground on a 2 piece billet, contact Erson's Technical Support Team at 800-641-7920.

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HYDRAULIC ROLLER CAMSHAFTS - Retro-Fit

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong mid-range power needs at least 9.5:1 compression, dual plane intake, free flowing exhaust and at least 2000 RPM converter for best performance. Will have slightly Lopey idle.	2500-5500	**E120230** RH-288-355	IN 288° EX 296°	226° 234°	.604" .604"	108°	0°	.000" .000"
Compression and aftermarket heads are a must. Gearing and a 2500 stall would be a good idea.	2200-5000	**E129605** ROAD RAGE	IN 288° EX 298°	226° 238°	.604" .621"	108°	5°	.000" .000"
Hot street machine with at least 10:1 compression. After market dual or single plane manifold, 750 CFM or larger carb, headers, good exhaust. 2500RPM converter, 3.42 or lower gears. O.K. with 125 HP shot of nitrous.	2700-5700	**E120231** RH-290-355	IN 290° EX 298°	230° 238°	.604" .604"	110°	2°	.000" .000"
Strong mid-range and top end power in 454-496 CID engines. Needs 9.5:1 compression, good intake. Best choice for heavier boats needing torque to get on plane.	2200-5200	**E120824** RH-292-355M	IN 292° EX 302°	230° 238°	.603" .603"	112°	2°	.000" .000"
Hot Street Machine with at least 9:1 compression. Aftermarket dual or single plane manifold. 750 CFM or larger carb, headers and a 2500 RPM converter. 3.42 or lower gears. Up to 150HP shot of nitrous.	3200-6200	**E120343** RH-290-365-N	IN 290° EX 302°	230° 242°	.621" .621"	114°	0°	.000" .000"
Hot Street/E.T. Brackets/Performance Marine 427-468 CID engines. 10.0:1-10.7:1 compression. Single or dual 4 barrel, carburetion,headers, 3 speed automatics with 3000 RPM converter. OK with nitrous oxide.	3500-6500	**E120207** RH-302-2	IN 302° EX 310°	234° 242°	.585" .585"	112°	4°	.000" .000"
10.5 compression, headers, intake, gears and aftermarket heads are a must. Big power in a properly set up combination.	3000-6000	**E129610** ROAD RAGE	IN 290° EX 306°	234° 246°	.604" .621"	108°	5°	.000" .000"
Hot Street Machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 750 CFM or larger carb, headers, 2500 RPM converter, 3.42 or lower gears. Lopey idle.	3000-6000	**E120233** RH-298-365	IN 298° EX 306°	234° 246°	.621" .621"	108°	0°	.000" .000"
Excellent choice for street machines with roots or centrifical type superchargers, running 6-12 lbs of boost. 2500 RPM converter and good exhaust. Also works well with fuel injected normally aspirated engines. Will require performance chip.	3000-6000	**E120234** RH-298-365-1	IN 298° EX 306°	238° 246°	.621" .621"	112°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504	202	RL931/SL931	1946-8/1965-8	805-16	7991

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HYDRAULIC ROLLER CAMSHAFTS - Retro-Fit

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
High Performance Street/E.T.Brackets. 454 or larger CID engines using 10.5:1-11.25:1 compression, aftermarket heads, single plane manifold, 850 CFM, 3800 converter and 4.10 or lower gears increase mid-range and top end performance.	3800-6800	**E120208** RH-310-2	IN 310° EX 318°	242° 250°	.585” .585”	110°	2°	.000” .000”
Strong top end power in 496 CID and larger engines. Needs 10:1 compression, good cylinder heads and intake. Also great choice for supercharged engines up to 540 CID.	2500-5500	**E120826** RH-310-365M	IN 302° EX 310°	244° 250°	.621” .621”	114°	0°	.000” .000””
Hot Street/E.T. Brackets with at least 9.5:1 compression. Good heads and a single plane manifold, headers and free flowing exhaust. Strong mid-range performance. 3000 RPM converter and 3.73 or lower gear. Up to 250 HP shot of nitrous.	3200-6500	**E120346** RH-302-365-N	IN 302° EX 314°	242° 254°	.621” .621”	114°	2°	.000” .000”
Don't skimp on this bad boy, needs cubic inches, compression, aftermarket heads, intake and exhaust.	3200-6250	**E129620** ROAD RAGE	IN 302° EX 314°	242° 254°	.621” .621”	108°	5°	.000” .000”
Hot Street/E.T. Brackets strong mid-range torque and top end horsepower in 454 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake. 3000-3500 RPM converter and 3.73 or lower gear.	3500-6500	**E120236** RH-306-365	IN 306° EX 314°	246° 254°	.621” .621”	108°	2°	.000” .000”
Hot Street/E.T. Brackets. Strong mid-range torque and top end horsepower in 496 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake.3000-3500 RPM converter and 4.10 or lower gear. Up to 400 HP shot of nitrous	3800-6800	**E120349** RH-310-365-N	IN 310° EX 322°	250° 262°	.621” .621”	114°	0°	.000” .000”
Serious street machines with roots or centrifical superchargers, up to15 lbs of boost. 2500 RPM converter, headers and free flowing exhaust. Also a good choice for 540 and larger cubic inch engines with aftermarket fuel injection.	3800-6800	**E120339** RH-314-365	IN 314° EX 322°	254° 262°	.621” .621”	110°	2°	.000” .000””
Hot Street/E.T. Brackets. Strong mid-range torque and top end horsepower,in 496 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake,3000-3500 RPM converter and 4.10 or lower gear	3800-6800	**E120340** RH-314-365	IN 314° EX 322°	254° 262°	.621” .621”	114°	2°	.000” .000”
Pro Street/E.T. Brackets. Max effort in 540-632 cubic inch engines. No less than 10.5:1 compression, aftermarket heads, Victor style intake with at least 850 CFM carb, large tube headers. Needs at least a 3000 RPM converter and 3.73 gears.	3500-6500	**E120341** RH-322-365	IN 322° EX 330°	262° 270°	.621” .621”	112°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504	202	RL931/SL931	1946-8/1965-8	805-16	7991

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HYDRAULIC ROLLER CAMSHAFTS - Retro-Fit

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

7/4 FIRING ORDER SWAP HYDRAULIC ROLLER CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E.T. Brackets/Super Gas/SuperComp, in 540 to 565 cubic inch engines. Must have at least 13.1:1 compression, 5000 RPM converter. Will work in door cars as well as dragsters. Makes great power and is Easy on parts. **4/7 Swap**	2500-5500	**E120230-47** RH-288-355	IN 288° EX 296°	226° 234°	.604” .604”	108°	0°	.000” .000”
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 750 CFM or larger carb, headers, good exhaust. 2500RPM converter, 3.42 or lower gears.O.K. with 125 HP shot of nitrous. **4/7 Swap**	2700-5700	**E120231-47** RH-290-355	IN 290° EX 298°	230° 238°	.604” .604”	110°	2°	.000” .000”
Hot Street Machine with at least 9:1 compression. Aftermarket dual or single plane manifold. 750 CFM or larger carb, headers and a 2500 RPM converter. 3.42 or lower gears. Up to 150HP shot of nitrous. **4/7 Swap**	3200-6200	**E120343-47** RH-290-365-47N	IN 290° EX 302°	230° 242°	.621” .621”	114°	0°	.000” .000”
Hot Street Machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 750 CFM or larger carb, headers, 2500 RPM converter, 3.42 or lower gears. Lopey idle. **4/7 Swap**	3000-6000	**E120233-47** RH-298-365	IN 298° EX 306°	238° 246°	.621” .621”	108°	0°	.000” .000”
Excellent choice for street machines with roots or centrifical type superchargers, running 6-12 lbs of boost. 2500 RPM converter and good exhaust. Also works well with fuel injected normally aspirated engines. Will require performance chip. **4/7 Swap**	3000-6000	**E120234-47** RH-298-365-1	IN 298° EX 306°	238° 246°	.621” .621”	112°	0°	.000” .000”
Hot Street/E.T. Brackets with at least 9.5:1 compression. Good heads and a single plane manifold, headers and free flowing exhaust. Strong mid-range performance. 3000 RPM converter and 3.73 or lower gear. Up to 250 HP shot of nitrous. **4/7 Swap**	3200-6500	**E120346-47** RH-302-365-47N	IN 302° EX 314°	242° 254°	.621” .621”	114°	2°	.000” .000”
Hot Street/E.T. Brackets strong mid-range torque and top end power in 454+ CID engines. No less than 10.5:1 compression, aftermarket heads, single plane intake.3000-3500 RPM converter and 3.73 or lower gear. **4/7 Swap**	3500-6500	**E120236-47** RH-306-365	IN 306° EX 314°	246° 254°	.621” .621”	108°	2°	.000” .000”
Hot Street/E.T. Brackets. Strong mid-range torque and top end horsepower in 496 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake.3000-3500 RPM converter and 4.10 or lower gear. Up to 400 HP shot of nitrous. **4/7 Swap**	3800-6800	**E120349-47** RH-310-365-47N	IN 310° EX 322°	250° 262°	.621” .621”	114°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504	202	RL931/SL931	1946-8/1965-8	805-16	7991

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HYDRAULIC ROLLER CAMSHAFTS - Retro-Fit

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

7/4 FIRING ORDER SWAP HYDRAULIC ROLLER CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Serious street machines with roots or centrifical type superchargers, up to15 lbs of boost. Needs 2500 RPM converter, headers and free flowing exhaust. Also a good choice for 540 and larger cubic inch engines with aftermarket fuel injection. **4/7 Swap**	3800-6800	**E120339-47** RH-314-365	IN 314° EX 322°	254° 262°	.621" .621"	110°	2°	.000" .000"
Hot Street/E.T. Brackets. Strong mid-range torque and top end horsepower,in 496 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake,3000-3500 RPM converter and 4.10 or lower gear. **4/7 Swap**	3800-6800	**E120340-47** RH-314-365	IN 314° EX 322°	254° 262°	.621" .621"	114°	2°	.000" .000"
Pro Street/E.T. Brackets. Max effort in 540-632 cubic inch engines. No less than 10.5:1 compression, aftermarket heads, Victor style intake with at least 850 CFM carb, large tube headers. Needs at least a 3000 RPM converter and 3.73 gears. **4/7 Swap**	3500-6500	**E120341-47** RH-322-365	IN 322° EX 330°	262° 270°	.621" .621"	112°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504	202	RL931/SL931	1946-8/1965-8	805-16	7991

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HYDRAULIC ROLLER CAMSHAFTS - Late Model Step Nose

CHEVROLET Big Block V8

1996-1999 BIG BLOCK CHEVROLET GEN VI

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Great for trucks looking to improve low and mid-range performance. Compatible with stock computer, injection, converter and gearing.	1000-4000	**E120800** RH-260-300	IN 260° EX 268°	204° 212°	.510" .510"	114°	2°	.000" .000"
Strong low and mid-range performance,great for towing. Compatible with stock computer and injection. Will benefit from free flowing exhaust.	1250-4250	**E120802** RH-264-300	IN 264° EX 272°	208° 216°	.510" .510"	114°	2°	.000" .000"
Excellent choice for slightly modified engines in towing applications. Needs good exhaust and computer modifications. Will require adjustable valve train and additional retainer to guide clearance on stock heads.	1500-4500	**E120804** RH-272-320	IN 272° EX 280°	218° 226°	.544" .544"	114°	2°	.000" .000"
O.E. heads ok, but it would prefer aftermarket heads, 9.0-10.5-1 compression and while you're doing it, step up to the plate and get a good intake and headers too.	1800-5000	**E129500** ROAD RAGE	IN 290° EX 302°	222° 234°	.578" .578"	108°	5°	.000" .000"
Strong mid-range power needs at least 9.5:1 compression, works with fuel injection but will require computer programming. Best with good intake and free flowing exhaust. Needs at least 2000 RPM converter and 3.42 gears for best performance. Ok with up to 125 shot of nitrous.	2500-5500	**E120806** RH-294-340	IN 294° EX 302°	226° 234°	.578" .578"	112°	2°	.000" .000"
For use with carburated engines.Strong mid-range power needs at least 9.5:1 compression, dual plane intake, free flowing exhaust and at least 2000 RPM converter for best performance. Noticeable idle.	2250-5250	**E120808** RH-288-355	IN 288° EX 296°	226° 234°	.603" .603"	108°	0°	.000" .000"
Best choice for slightly modified engines. Great low and mid-range power. Good for supercharged engines with up to 8 PSI of boost.	2000-5000	**E120822** RH-294-340M	IN 294° EX 302°	226° 234°	.578" .578"	114°	4°	.000" .000""
Compression and aftermarket heads are a must. Gearing and a 2500 stall would be a good idea.	2200-5000	**E129505** ROAD RAGE	IN 288° EX 298°	226° 238°	.604" .621"	108°	5°	.000" .000"
Hot street machine uses our newest hi-lift short duration lobe technology. Aftermarket dual or single plane manifold, 750 CFM or larger carb, headers.2500 RPM converter, 3.42 or lower gears.	2500-5500	**E120810** RH-290-365	IN 290° EX 298°	230° 238°	.621" .621"	110°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	504S	201	HA2080			8994

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HYDRAULIC ROLLER CAMSHAFTS - Late Model Step Nose

CHEVROLET Big Block V8

1996-1999 BIG BLOCK CHEVROLET GEN VI

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 750 CFM or larger carb, headers. 2800 RPM converter, 3.42 or lower gears.	3000-6000	**E120812** RH-302-340	IN 302° EX 310°	234° 242°	.578" .578"	108°	4°	.000" .000"
10.5 compression, headers, intake, gears and aftermarket heads are a must. Big power in a properly set up combination.	3000-6000	**E129510** ROAD RAGE	IN 290° EX 306°	234° 246°	.604" .621"	108°	5°	.000" .000"
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 850 CFM or larger carb, headers. 3000 RPM converter, 3.73 or lower gears. Lopey idle.	3200-6200	**E120814** RH-300-355	IN 300° EX 308°	238° 246°	.603" .630"	110°	0°	.000" .000"
Hot street/E.T. Brackets strong mid-range torque and top end horsepower in 454 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake. 3000-3500 RPM converter and 4.10 or lower gear.	3500-6500	**E120816** RH-302-365	IN 302° EX 310°	242° 250°	.621" .621"	110°	4°	.000" .000"
Don't skimp on this bad boy, needs cubic inches, compression, aftermarket heads, intake and exhaust.	3200-6250	**E129520** ROAD RAGE	IN 302° EX 314°	242° 254°	.621" .621"	108°	5°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504S	201	HA2080			8994

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HYDRAULIC ROLLER CAMSHAFTS - Late Model Step Nose

CHEVROLET Big Block V8

2001-09 BIG BLOCK CHEVROLET 8.1L

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Great for trucks looking to improve low and mid-range performance.Compatible with stock computer,injection, converter and gearing.	1000-4000	**E128800** RH260-300	IN 260° EX 268°	204° 212°	.510” .510”	114°	2°	.000” .000”
Strong low and mid-range performance,great for towing. Compatible with stock computer and injection. Will benefit from free flowing exhaust.	1250-4250	**E128802** RH-264-300	IN 264° EX 272°	208° 216°	.510” .510”	114°	2°	.000” .000”
Excellent choice for slightly modified engines in towing applications. Needs good exhaust and computer modifications.Will require adjustable valve train and additional retainer to guide clearance on stock heads.	1500-4500	**E128804** RH-272-320	IN 272° EX 280°	218° 226°	.544” .544”	114°	2°	.000” .000”
Strong mid-range power needs at least 9.5:1 compression, works with fuel injection but will require computer programming. Best with good intake and free flowing exhaust. Needs at least 2000 RPM converter and 3.42 gears for best performance. Ok with up to 125 shot of nitrous.	2500-5500	**E128806** RH-294-340	IN 294° EX 302°	226° 234°	.578” .578”	112°	2°	.000” .000”
Best choice for slightly modified engines. Great low and mid-range power. Good for supercharged engines with up to 8 PSI of boost.	2000-5000	**E128822** RH-294-340M	IN 294° EX 302°	226° 234°	.578” .578”	114°	4°	.000” .000”
Strong mid-range and top end power in 496 CID engines. Needs 9.5:1 compression, good intake. Best choice for heavier boats need ing torque to get on plane.	2200-5200	**E128824** RH-292-355M	IN 292° EX 302°	230° 238°	.603” .603”	112°	2°	.000” .000””
Strong top end power in 496 CID and larger engines. Needs 10:1 compression good cylinder heads and intake.Also great choice for supercharged engines up to 540 CId.	2500-5500	**E128826** RH-310-365M	IN 302° EX 310°	242° 250°	.621” .621”	114°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3450	504S	202	HA2080			8994

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street machine, 9.5:1-10.1:1 compression. Single or dual plane intake, 750 CFM carb. Minimum 2800 RPM converter and 3.73 gear. Good low end performance in heavy chassis.	3250-6500	**E120828** R-278-370	IN 278° EX 286°	238° 246°	.629" .629"	110°	2°	.025" .025"
Hot Street/Street Rods/Marine. 9.5-10.1:1 compression. 750 CFM single 4 barrel, dual plane manifold. Jet boat with A impeller. Good low end performance in heavy chassis.	3250-6500	**E129869** R-278-2	IN 278° EX 286°	238° 246°	.629" .629"	112°	4°	.022" .024"
Hot Street/E.T. Brackets, no less than 10.1:1 compression, single plane intake, 850 CFM carb. 3000-3500RPM converter. 4.10 gear. Strong low and mid-range power.	3500-6500	**E120831** R-286-1	IN 286° EX 294°	246° 254°	.629" .629"	108°	0°	.025" .025"
Hot Street/Marine/Blower Grind. B&M 250 series. 6-71 style supercharger. Single or 2x4 barrel carburetion. 4 speed or automatic transmission with 2500 RPM converter. Jetboat with blueprinted pump and A impeller.	3400-6700	**E129870** R-286-1B	IN 286° EX 294°	246° 254°	.629" .629"	114°	4°	.022" .024"
Hot Street/E.T. Brackets. 396 or larger CID engines with no less than 10.0:1 compression. Strong low endand mid-range performance. 4 speed manual or automatic transmission with 3000-3500 RPM converter.	3500-6500	**E129890** R-286-1	IN 286° EX 294°	246° 254°	.629" .629"	108°	0°	.022" .024"
Hot Street/E.T. Brackets/Oval Track. Strong mid-range performance. 10.5-11.0:1 compression. Single 750-850CFM, 4 barrel 3" free flowing exhaust. OK with nitrous oxide. Heavy late model or modifieds on 1/4-1/2 mile dirt or asphalt tracks.	3750-7000	**E129871** R-282-1	IN 282° EX 292°	253° 263°	.680" .680"	110°	2°	.024" .026"
Hot Street/E.T. Brackets/Oval Track. Great baseline camshaft for modified big blocks. Mild head work, slightly larger valves, 3200-3400 lb cars. Fast 3/8-1/2 mile tracks.	3800-6800	**E129891** R-294-1	IN 294° EX 302°	254° 260°	.629" .629"	108°	0°	.022" .024"
E.T. Brackets/Oval Track. 396-427CID engines with 11.0:1 compression. 4 speed or automatic transmissions and 4000 RPM converter. Easy onparts. Good closed-course, road race camshaft.	4000-7000	**E129892** R-286-1A	IN 302° EX 308°	260° 266°	.629" .629"	108°	0°	.022" .024"
E.T. Brackets/Oval Track. Our first in a series of new lobe designs with more area under the curve. 1/8-1/4 mile drags or 468 CID asphalt modifieds on 1/4-1/2 track.	4000-7200	**E129872** R-286-2	IN 286° EX 294°	260° 268°	.697" .697"	108°	0°	.024" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3870	510	203 11/16	RL925	1920-8	805-16	8981
E915160	516	203 3/8	RL982	1921-8	Shaft System	8981T

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E.T. Brackets/Pro-Street/Blower Grind. Largest streetable camshaft. 6-71 supercharger. 2x4 barrel carburetion. 2800-3200 lb chassis. 4000-4500 RPM converter.	4000-7000	**E129873** R-302-3A	IN 302° EX 312°	260° 270°	.629" .629"	114°	4°	.022" .024"
E.T. Brackets/Oval Track/Road Race/Marine. 427-468 CID. 11.5-12.5:1 compression. Aftermarket rectangle port or modified oval port cylinder heads. 850-1050CFM. Popular all around camshaft. Broad power range.	4200-7200	**E129874** R-290-3	IN 290° EX 298°	264° 272°	.731" .697"	108°	2°	.024" .026"
E.T. Brackets/Super Street/Marine. Without a doubt, our most popular camshaft. Excellent mid-range and top end power. Easy on parts, 468CID engines with no less than 11.5:1 compression, 3200-3600 lb engines. OK with nitrous oxide.	4200-7300	**E129893** R-296-1	IN 296° EX 308°	266° 278°	.680" .680"	108°	0°	.024" .026"
E.T. Brackets/Oval Track. 468 cubic inch or larger engines with 13.0-14.5:1 compression on 1/8 dragstrips. Good 1/4 mile camshaft in smaller engines. Also works well on 1/2-5/8 mile, high-banked asphalt tracks in modifieds and super modifieds.	4400-7500	**E129875** R-294-4	IN 294° EX 298°	268° 272°	.731" .697"	108°	2°	.025" .026"
E.T. Brackets/Oval Track. 396-427CID engines with 12.5:1 compression or more or 454-468 CID engines with no less than 11.5:1 compression. Great camshaft in heavier chassis with 5.13 or lower gears and 4000-4500 RPM converter. More top end than E129875.	4400-7600	**E129876** R-294-2	IN 294° EX 302°	268° 276°	.697" .697"	108°	0°	.025" .026"
E.T. Brackets/Super Street. 427-434CID engines with 12.5-13.5:1 compression. Single 850-1050 CFM carburetion, ported and polished GM rectangleport or aftermarket oval port cylinder heads with 2.250 x 1.88 stainless valves. OK with 2 or 3 speed automatics.	4500-7500	**E129877** R-298-3A	IN 298° EX 306°	272° 280°	.731" .731"	108°	0°	.025" .026"
E.T. Brackets/Super Street/SuperGas. 454-502 CID engines in full bodied cars or roadsters. 13.0-14.0:1 compression, good heads, 1050 CFM carb, alcohol or gas. Easy on parts.	4500-7500	**E120837** R-302-2A	IN 302° EX 306°	274° 278°	.741" .741"	108°	0°	.026" .028"
Big power in 454-502 cid. Needs 13-1 compression. Great for heavier cars	4500-7500	**E129894** R-302-2A	IN 302° EX 306°	274° 278°	.740" .740"	108°	0°	.025" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3870	510	203 11/16	RL925	1920-8	805-16	8981
E915160	516	203 3/8	RL982	1921-8	Shaft System	8981T

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E.T. Brackets/Super Gas/Marine. Very popular all around camshaft. Makes big power, yet easy on parts. Single 4 barrel or tunnel ram applications, roadsters or altereds with 2 speed automatics. Unblown gas, flat bottoms or hydros with V-drives.	4600-7800	**E129878** R-302-4	IN 302° EX 310°	276° 284°	.731" .731"	108°	0°	.025" .026"
Super Gas/Super Stock. Low compression 454s or high compression 396-427 CID super stockers. Also works well in larger cubic inch big blocks competing in super gas with 2.250 primary tubes and 2 speed power glides with 4500-5000 RPM converter.	4750-7800	**E129879** R-304-1	IN 304° EX 310°	278° 284°	.765" .731"	108°	2°	.025" .026"
E.T. Brackets/Super Gas/SuperComp. 468-502 CID engines 13.5:1 or higher compression, good flowing heads, Victor style intake, 1050 CFM or larger carb. 4500-5000 RPM converter.	4500-7800	**E120840** R-306-450	IN 306° EX 314°	280° 288°	.765" .765"	110°	2°	.026" .028"
Super Street/Super Gas. 427-468CID engines in 2400-2800 lb chassis. Must have fairly high compression, good flowing cylinder heads and manifold. Will work on cars with open exhaust or cars with free flowing 4" mufflers.	4800-8000	**E129880** R-306-2A	IN 306° EX 314°	280° 288°	.765" .731"	110°	2°	.025" .026"
E.T. Brackets/Super Gas/SuperComp in 509 to 540 cubic inch engines. Needs at least 12.5:1 compression, 4500 RPM converter. Good choice for heavy chassis. Works with gas or alcohol.	4200-7200	**E129025** R-310-4	IN 310° EX 318°	280° 292°	.807" .765"	112°	0°	.026" .026"
Best in 454-500 CID engines with 12.5:1-14.0:1 compression. Mild lift so it can be used with factory heads that have limited valve spring options. Great for Pro-street cars with 540 CID or larger engines. Can use up to 350HP or fogger system.	4500-7500	**E129065** R-306-N	IN 306° EX 322°	280° 296°	.765" .731"	114°	0°	.026" .028"
Single 4 barrel with stick shift in mild bracket engines. Will also work in high stall automatics.	4500-7200	**E129895** R-314-1A	IN 314° EX 314°	283° 283°	.765" .765"	108°	0°	.025" .026"
All out single 4 barrel. Needs stick, good heads and intake. Can be used in econo rail dragsters with auto trans.	4600-7600	**E129990** R-314-2A	IN 314° EX 320°	283° 288°	.765" .740"	108°	0°	.025" .026"
Super Gas/Super Comp. Great camshaft in 468-502 CID roadsters with 13.0:1 compression or more. Compatible with alcohol or gas. Also, high compression 427 CID engines in super stock with 1.80:1 intake rockers, 2 or 3 speed automatics with 5000 RPM converter.	5000-8000	**E129881** R-310-2	IN 310° EX 314°	284° 288°	.731" .731"	108°	0°	.025" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3870	510	203 11/16	RL925	1920-8	805-16	8981
E915160	516	203 3/8	RL982	1921-8	Shaft System	8981T

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Super Comp/Super Gas. 468-500CID engines up to 14.5:1 compression. Large, single 4 barrel carburetor 2 speed power glide 5000 RPM converter. Alcohol or gas.	5000-8200	**E129882** R-310-2	IN 310° EX 318°	284° 292°	.731” .731”	110°	2°	.026” .026”
E.T. Brackets/Super Gas/SuperComp, in 540 to 565 cubic inch engines. Must have at least 13.1:1 compression, 5000 RPM converter. Will work in door cars as well as dragsters. Makes great power and is Easy on parts.	4500-7500	**E129030** R-314-1	IN 314° EX 328°	284° 298°	.807” .748”	112°	0°	.026” .026”
E.T. Brackets/Super Gas/SuperComp, in 555 to 598 cubic inch engines. Must have at least 13.1:1 compression, 5000 RPM converter. Primarily for light cars, roadsters or dragsters.	4700-7700	**E129035** R-314-2	IN 314° EX 328°	284° 298°	.807” .748”	114°	0°	.026” .026”
Competition Eliminator/Superstock. 430-480 CID A/Dragster engines or 427-454 CID high compression SS, SS/GT 4 speed cars, can use up to 1.8:1 rocker intake only.	5000-8750	**E129883** R-314-9	IN 314° EX 346°	284° 308°	.825” .780”	114°	0°	.026” .026”
Pro-Stock/Competition Eliminator.500 CID, NHRA legal, pro-stock engines. Best of everything! 1.85 IN x 1.80 EX rockers. 4 or 5 speed manual transmission. Also works in large cubic inch A/Dragsters.	6500-9300	**E129884** R-308-3	IN 308° EX 342°	284° 312°	.867” .808”	116°	0°	.026” .026”
Heavy tunnel ram cars with the best of everything. Has strong midrange power, even with stock heads.	4800-7800	**E129991** R-318-2	IN 318° EX 326°	285° 292°	.765” .740”	108°	0°	.025” .026”
Designed for 454-496 CID engines with factory cast iron heads that are limited on valve springs and require less lift. Needs at least 12.0:1 compression, good intake and exhaust.	4800-7800	**E129086** R-312-1P	IN 312° EX 308°	286° 282°	.765” .731”	110°	2°	.026” .028”
Use in 454-496 CID engines with13.5:1 or better compression. Aftermarket aluminum heads, Victor style intake, large tube headers. 2 or 4wd trucks, great torque and top end horsepower.	5000-8000	**E129088** R-316-1P	IN 316° EX 308°	286° 282°	.807” .765”	110°	2°	.026” .028”
Blown-Gas Categories. Hydros, flatbottoms and coupes. 10-71 to 14-71 Rootes-type or high helix superchargers. No less than 16 nozzles. Powerful nostalgia eliminator!	5000-9000	**E129885** R-314-5	IN 314° EX 324°	286° 296°	.782” .748”	110°	0°	.026” .026”
Use in 540-598 CID engines with no less than 13.0:1 compression. Conventional or Big Chief heads. Works good in smaller CID engines with limited tires. Up to 500 HP shot.	4800-7800	**E129070** R-316-N	IN 316° EX 340°	286° 304°	.807” .780”	116°	0°	.026” .028”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3870	510	203 11/16	RL925	1920-8	805-16	8981
E915160	516	203 3/8	RL982	1921-8	Shaft System	8981T

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
598-632 cubic inch engines, 14.0-1 to 16.0-1, symetrical port cylinder heads. Works great with gas or alcohol.	4500-7500	**E129040** R-310-5	IN 310° EX 340°	286° 310°	.867” .807”	114°	0°	.026” .026”
598-632 cubic inch engines, 14.0-1 to 16.0-1, symetrical port cylinder heads. Works great with gas or alcohol. Proven winner for dragsters seeking a strong top end charge.	4500-7500	**E129045** R-310-6	IN 310° EX 340°	286° 310°	.867” .807”	116°	0°	.026” .026”
Super Comp. 480-541 CID engines in light rear engine dragsters or roadsters. 14.0-15.0:1 compression. Large single 4 barrel carburetion. Alcohol or gas. Ported and polished aluminum cylinder heads with big 2.300 x 1.900 valves.	5250-8500	**E129886** R-314-4	IN 314° EX 324°	288° 298°	.765” .731”	110°	2°	.026” .026”
Maximum effort in 598-632 CID engines with no less than 14.1:1 compression. Big Chief heads, single Dominator or two 4 bbl tunnel ram. 500 HP plus nitrous system.	4700-7700	**E129080** R-312-N	IN 312° EX 340°	288° 310°	.867” .807”	118°	0°	.026” .028”
Primarily for 540-598 CID engines with 14.1:1 compression. Conventional heads, injected alcohol or gas. 2 or 4wd trucks.	5000-8000	**E129090** R-320-1P	IN 322° EX 314°	292° 302°	.824” .807”	110°	2°	.026” .028”
Super Comp/Super Eliminator/Top-Sportsman. 541-650 CID engines with no less than 14.5:1 compression on alcohol or gas. 1700-2100 lb rearengine dragsters. 2 speed powerglide with 5000-5500 RPM converter.	5500-8500	**E129887** R-322-4	IN 322° EX 338°	292° 284°	.808” .780”	112°	4°	.026” .026”
Pro-Modified/I.H.R.A. Pro-Stock.650(+) CID engines. Heavily modified billet cylinder heads, sheet metal intake and big carburetors. 4 or 5 speed manual transmission. Lots of nitrous oxide, class permitting.	5500-8500	**E129888** R-322-5	IN 322° EX 348°	292° 318°	.825” .808”	118°	0°	.026” .026”
Blown Alcohol Categories. NHRA,IHRA, NDBA, etc. 430-450 CID engines using billet cylinder heads,high helix roots type or screw type superchargers and 3 speed planetary transmissions compete heads up for championship results.	5000-8500	**E129889** R-322-6	IN 322° EX 316°	294° 288°	.850” .850”	116°	4°	.026” .026”
Designed for 598 CID and larger engines with Big Chief heads. Needs 14.1:1 or more compression, single Dominator or two 4bbl tunnel ram. Alcohol or gas.	4800-7800	**E129092** R-326-1P	IN 326° EX 318°	296° 288°	.867” .807”	112°	4°	.026” .028”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3870	510	203 11/16	RL925	1920-8	805-16	8981
E915160	516	203 3/8	RL982	1921-8	Shaft System	8981T

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

7/4 FIRING ORDER SWAP HYDRAULIC ROLLER CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Big power in 454-502 cid. Needs 13-1 compression. Great for heavier cars **4/7 Swap**	4500-7500	**E129894-47** R-302-2A	IN 302° EX 306°	274° 278°	.740" .740"	108°	0°	.025" .026"
E.T. Brackets/Super Gas/SuperComp in 509 to 540 cubic inch engines. Needs at least 12.5:1 compression, 4500 RPM converter. Good for heavy chassis. Works with gas or alcohol. **4/7 Swap**	4200-7200	**E129025-47** R-310-4	IN 310° EX 318°	280° 292°	.807" .765"	112°	0°	.026" .026"
Best in 454-500 CID engines with 12.5:1-14.0:1 compression. Mild lift so it can be used with factory heads that have limited valve spring options. Great for Pro-street cars with 540 CID or larger engines. Can use up to 350HP or fogger system. **4/7 Swap**	4500-7500	**E129065-47** R-306-47N	IN 306° EX 322°	280° 296°	.765" .731"	114°	0°	.026" .028"
E.T. Brackets/Super Gas/SuperComp, in 540 to 565 cubic inch engines. Must have at least 13.1:1 compression, 5000 RPM converter. Will work in door cars as well as dragsters. Makes great power and is Easy on parts. **4/7 Swap**	4500-7500	**E129030-47** R-314-1	IN 314° EX 328°	284° 298°	.807" .748"	112°	0°	.026" .026"
E.T. Brackets/Super Gas/SuperComp, in 555 to 598 cubic inch engines. Must have at least 13.1:1 compression, 5000 RPM converter. Primarily for light cars, roadsters or dragsters. **4/7 Swap**	4700-7700	**E129035-47** R-314-2	IN 314° EX 328°	284° 298°	.807" .748"	114°	0°	.026" .026"
Designed for 454-496 CID engines with factory cast iron heads that are limited on valve springs and require less lift. Needs at least 12.0:1 compression, good intake and exhaust. **4/7 Swap**	4800-7800	**E129086-47** R-312-1P	IN 312° EX 308°	286° 282°	.765" .731"	112°	2°	.026" .028"
Use in 454-496 CID engines with13.5:1 + compression. Aftermarket aluminum heads, Victor style intake, large tube headers. 2 or 4wd trucks, great torque and top end horsepower. **4/7 Swap**	5000-8000	**E129088-47** R-316-1P	IN 316° EX 308°	286° 282°	.807" .765"	110°	2°	.026" .028"
Use in 540-598 CID engines with no less than 13.0:1 compression. Conventional or Big Chief heads. Works good in smaller CID engines with limited tires. Up to 500 HP shot. **4/7 Swap**	4800-7800	**E129070-47** R-316-47N	IN 316° EX 340°	286° 304°	.807" .780"	116°	0°	.026" .028"
598-632 cubic inch engines, 14.0-1 to 16.0-1, symetrical port cylinder heads. Great with gas or alcohol. **4/7 Swap**	4500-7500	**E129040-47** R-310-5	IN 310° EX 340°	286° 310°	.867" .807"	114°	0°	.026" .026"
598-632 cubic inch engines, 14.0-1 to 16.0-1, symetrical port cylinder heads. Works great with gas or alcohol. Proven winner for dragsters seeking a strong top end charge. **4/7 Swap**	4500-7500	**E129045-47** R-310-6	IN 310° EX 340°	286° 310°	.867" .807"	116°	0°	.026" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3870	510	203 11/16	RL925	1920-8	805-16	8981
E915160	516	203 3/8	RL982	1921-8	Shaft System	8981T

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET Big Block V8

1967-96 396-454 cubic inch V8

7/4 FIRING ORDER SWAP HYDRAULIC ROLLER CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Maximum effort in 598-632 CID engines with no less than 14.1:1 compression. Big Chief heads, single Dominator or two 4 bbl tunnel ram. 500 HP plus nitrous system. **4/7 Swap**	4700-7700	**E129080-47** R-312-47N	IN 312° EX 340°	288° 310°	.867” .807”	118°	0°	.026” .028”
Dragsters and Top Sportsman cars with 598-632 CID engines 14.0:1+ compression, conventional or Big Chief heads. Great for limited tire cars in shootout classes. Up to 600HP shot. **4/7 Swap**	4500-7500	**E129075-47** R-320-47N	IN 320° EX 346°	290° 308°	.824” .780”	117°	0°	.026” .028”
Primarily for 540-598 CID engines with 14.1:1 compression. Conventional heads, injected alcohol or gas. 2 or 4wd trucks. **4/7 Swap**	5000-8000	**E129090-47** R-320-1P	IN 322° EX 314°	292° 284°	.824” .807”	110°	2°	.026” .028”
Designed for 598 CID and larger engines with Big Chief heads. Needs 14.1:1 or more compression, single Dominator or two 4bbl tunnel ram. Alcohol or gas. **4/7 Swap**	4800-7800	**E129092-47** R-326-1P	IN 326° EX 318°	296° 288°	.867” .807”	112°	4°	.026” .028”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3870 E915160	510 516	203 11/16 203 3/8	RL925 RL982	1920-8 1921-8	805-16 Shaft System	8981 8981T

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHEVROLET 348/409 V8

1958-65 348-409 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Super low and mid range power. Good idle, fuel efficiency and driveability.	1500-5200	**E143121** TQ20H	IN 292°	214°	.523”	111°	4°	.000”
			EX 292°	214°	.523”			.000”
Great cam for slightly modified street car. Good mid range horsepower.	1800-5500	**E140321** HI-FLOW AH	IN 284°	220°	.551”	111°	0°	.000”
			EX 284°	220°	.551”			.000”
High lift, short duration builds torque down low with strong mid range power.	2000-5800	**E143321** TQ40H	IN 284°	220°	.551”	110°	0°	.000”
			EX 296°	228°	.551”			.000”
Low lift hot rod cam eases valve to piston clearance. Wants 9-1+ compression. Fair idle.	1800-5600	**E140270** H-300	IN 300°	224°	.473”	110°	4°	.000”
			EX 300°	224°	.473”			.000”
Low lift hot rod cam eases valve to piston clearance. Needs 10.5-1 or better compression.	2000-5800	**E140275** H-300-2	IN 300°	224°	.473”	110°	4°	.000”
			EX 312°	236°	.473”			.000”
Mid range and top end runner. Needs 4 barrel, headers and gear. Fair idle.	2000-5800	**E143221** TQ30H	IN 310°	226°	.542”	114°	4°	.000”
			EX 310°	226°	.542”			.000”
Strong street and strip cam for heavier car. Hi lift and short duration. Big torque.	2000-6000	**E140421** HI-FLOW IH	IN 296°	228°	.551”	111°	0°	.000”
			EX 296°	228°	.551”			.000”
High lift dual pattern cam. Needs 4 barrel, Headers and low gears. Ok with small shot of nitrous.	2000-6000	**E143421** TQ50H	IN 296°	228°	.551”	110°	0°	.000”
			EX 306°	235°	.551”			.000”
High lift, long duration and a tight lobe separation. Lots of overlap= big time rumble.	2200-6200	**E143521** TQ55H	IN 306°	235°	.551”	108°	0°	.000”
			EX 316°	240°	.551”			.000”
Low lift hot rod cam eases valve to piston clearance. Prefers lighter car and compression.	2200-6200	**E140280** H-312	IN 312°	236°	.473”	110°	4°	.000”
			EX 312°	236°	.473”			.000”
Single pattern camshaft offering super mid range and top end performance. Excellent bracket cam In bigger cubic inch engines with no less than 10.5-1 compression.	2500-6500	**E145911** HI-FLOW IIIH	IN 316°	240°	.551”	111°	0°	.000”
			EX 316°	240°	.551”			.000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
N/A	N/A	N/A	HA817	N/A	805-16	N/A

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHEVROLET 348/409 V8

1958-65 348-409 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Great mid range torque and horse-power. Works best with headers and 4spd or automatic with gears.	2400-6400	**E141721** HI-FLOW IM	IN 286° EX 286°	242° 242°	.596" .596"	110°	0°	.022" .024"
Needs 4 barrel and free flowing exhaust. Pulls hard in heavy cars.	2500-6500	**E141821** HI-FLOW IIM	IN 294° EX 294°	246° 246°	.596" .596"	110°	0°	.022" .024"
Great low end torque and mid range horsepower. Works best with modified cylinder heads and 750-850 carb.	2800-6500	**E140307** F-286-2	IN 282° EX 294°	250° 258°	.595" .595"	108°	0°	.024" .026"
Strong mid range performance from 11.0 to 12.0:1. Needs 4000 converter.	3200-7000	**E140309** F-298-4	IN 298° EX 306°	260° 268°	.656" .656"	108°	0°	.024" .026"
Broad power band, needs compression and gears.	3400-7200	**E140303** F-302-2	IN 302° EX 310°	264° 272°	.656" .656"	108°	0°	.024" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
N/A	N/A	N/A	MA992	N/A	805-16	N/A

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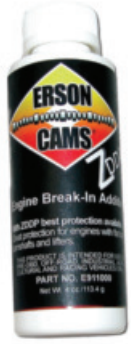
Erson Break-In & Oil Additive



Erson's Break-In and Oil Additive with ZDDP is the best insurance for your new performance engine or classic car with flat tappet lifters and camshaft.

- Safe, proven ZDDP EP agent takes the worry out of using new oil formulas in engine that have flat tappet camshafts and lifters.
- Turns modern SM quality oil into the ideal oil for superior break-in and everyday use for superior protection.
- Compatible with ALL high-quality oils, standard or synthetic.
- You choose your preferred oil.
- One 4 oz. bottle of Erson's ZDDPlus™ per oil change with SM oil is more economical than 5 quarts of exotic oil.
- Erson with ZDDP is economical and provides the protection required for high performance engines. Great for every oil change.

Part # E911000- Erson's Break-In Oil Additive 4 oz.
Part # E911002- Erson's Assembly Paste with ZDDP

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HYDRAULIC ROLLER CAMSHAFTS

CHEVROLET 348/409 V8

1958-65 348-409 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong mid-range power needs at least 9.5:1 compression, dual plane intake, free flowing exhaust and at least 2000 RPM converter for best performance. Will have slightly Lopey idle. **4/7 Swap**	2500-6000	**E140230-47** RH-288-365	IN 288° EX 296°	226° 234°	.638” .638”	108°	0°	.000” .000”
Hot Street/E.T. Brackets strong mid-range torque and top end horsepower. No less than 10.5:1 compression, aftermarket heads, single plane intake. 3000-3500 RPM converter and 3.73 or lower gear. **4/7 Swap**	3500-7000	**E140236-47** RH-306-365	IN 306° EX 314°	246° 254°	.638” .638”	108°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
N/A	N/A	N/A	SL975	N/A	805-16	N/A

MECHANICAL/SOLID ROLLER CAMSHAFTS

CHEVROLET 348/409 V8

1958-65 348-409 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
9.5 - 10.1:1 compression. 750 single 4 barrel and dual plane mainifold. Good low end performance in heavier car.	2000-6000	**E149869** R-278-2	IN 278° EX 286°	238° 246°	.647” .647”	112°	4°	.022” .024”
Strong mid range performance. 10.5-11.0:1 engines. Ok with nitrous.	2500-6500	**E149871** R-282-1	IN 282° EX 292°	253° 263°	.700” .700”	110°	2°	.022” .024”
Largest streetable cam. 4500-5000 converter. Ok with nitrous.	3000-7000	**E149873** R-302-3A	IN 302° EX 312°	260° 270°	.647” .647”	114°	4°	.022” .024”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
N/A	N/A	N/A	5347/6742	N/A	805-16	N/A

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHRYSLER Slant 6

1960-80 170-198-225 cubic inch 6 Cylinder

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Smooth idle, broad torque range cam for passenger cars, station wagons,pickups and RVs.	1000-4000	**E470301** RV10M	IN 254° EX 254°	210° 210°	.435” .435”	111°	4°	.022” .022”
Strong mid-range power. OK with torque flyte with gears. Fair idle.	2000-5000	**E470621** TQ20M	IN 270° EX 270°	220° 220°	.465” .465”	111°	4°	.022” .022”
Hot Street/E.T. Brackets. Strong mid-range performance from slightly modified engines with 9.5-10.5:1 compression. Should have 4 speed transmission and low gears for best results.	3000-6000	**E470302** TQ30M	IN 280° EX 280°	230° 230°	.465” .465”	110°	4°	.022” .022”
Short duration, high lift cam. Delivers strong power from 2000 RPM and up. Great for Torque Flyte with gears.	2800-6600	**E470721** HI-FLOW IM	IN 286° EX 286°	242° 242°	.510” .510”	108°	0°	.022” .022”
E.T. Brackets. Dodge Darts, Plymouth Valiants and other Chrysler products seeking mid-range torque and top end horsepower, need modified cylinder heads, aftermarket aluminum 4 barrel manifold with up to 600 CFM carburetion, 1 5/8 primary tube header and low gears.	3800-6800	**E470521** HI-FLOW AM	IN 286° EX 294°	242° 246°	.510” .510”	108°	0°	.022” .022”
Strong mid-range and top end, while retaining good low end power. Fair idle, good for street/strip.	3000-6800	**E470821** HI-FLOW IIM	IN 294° EX 294°	246° 246°	.510” .510”	108°	0°	.022” .022”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3150	504S	206	MA2084	N/A	N/A	T3022

NOTE:
Most American production engines cannot accept more than .500” lift without modifying the valve guides. When installing a camshaft with more than .500” lift, it is absolutely essential that clearance between the valve spring retainer and guide be checked. Do not attempt to operate an engine with less than .150” retainer-to-guide clearance. If you are using valve seals, check the clearance from the top of the seal rather than the top of the guide.

NOTE:
When using a flat tappet camshaft and high pressure valve springs with more than 130 lbs of seat lead or 330 lbs of nose load, Erson Cams requires a 30 minute break-in period using only the outer springs. Install the inner spring only after the break-in period. Following this procedure will greatly reduce the chance of camshaft of lifter failure.

NOTE:
When installing a hydraulic lifter racing camshaft in an engine that does not have adjustable rocker arms, care must be taken to ensure that the lifter is still able to adjust itself. If the camshaft has more than .500” valve lift, or if the heads or block have been milled excessively, the engine must be converted to adjustable rockers or adjustable pushrods.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHRYSLER “A” V8

1964-92 273-318-340-360 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Broad power range. City and expressway driving or towing. Cars, wagons,pickups or heavier rigs. Good idle,throttle response and high fuel efficiency.	1000-4000	**E420101** RV10H	IN 280° EX 280°	208° 208°	.420” .420”	111°	4°	.000” .000”
Dodge vans and pickups seeking improved low end and mid-range performance. Good on or off-road driveability with slightly modified engine. OK for towing light to moderate loads. Compatible with stock converter and gearing.	1250-4250	**E420112** RV12H	IN 280° EX 288°	208° 214°	.420” .429”	110°	4°	.000” .000”
Good idle and fuel efficiency with more low end and mid-range power. Excellent replacement camshaft for passenger cars or light trucks with campers, towing moderate loads. Works best with aftermarket, dual plane intake, 600 CFM 4 barrel and headers with free flowing dual exhaust. OK with small shot of nitrous oxide!	1250-4500	**E421011** MP/1	IN 280° EX 292°	208° 214°	.420” .449”	114°	4°	.000” .000”
Designed for smaller engine or low boost 5 psi or less. Broad power range, smooth idle and good throttle response.	1500-5000	**E423101** TURBO I	IN 292° EX 280°	214° 208°	.449” .420”	112°	0°	.000” .000”
The Performer. Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel and headers recommended.	1800-4800	**E420121** TQ20H	IN 292° EX 292°	214° 214°	.449” .449”	112°	4°	.000” .000”
Strong mid-range power. City, fast expressway and open road towing. Delivers maximum mid-range torque. Good idle, throttle response and fuel efficiency.	1500-4600	**E420201** RV15H	IN 288° EX 288°	214° 214°	.429” .429”	110°	4°	.000” .000”
Excellent choice for slightly modified, daily drivers, i.e.: Dodge Darts or Plymouth Challengers with 8.75-9.5:1 compression in 318-340 CID engines. Should have aftermarket aluminum, dual plane style intake with up to 650CFM 4 barrel carburetion and gasket matched cylinder heads for best results. Largest camshaft with stock converter and mid-3 series gearing.	2000-5000	**E420322** HI-FLOW AH	IN 284° EX 284°	220° 220°	.472” .472”	108°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175	504S	N/A	HA2011	N/A	N/A	703

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NOTE:
1992-later 5.2L and 5.9L “Magnum” engines came with a 1.6:1 pedestal-mount rockers as opposed to 1.5:1 shaft-mount in earlier engines.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHRYSLER "A" V8

1964-92 273-318-340-360 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
High lift, dual pattern. Needs 4 barrel,headers, lower gears and medium stall speed converter if used with automatic. Extremely strong mid-range camshaft.	2250-5200	**E420222** TQ40H	IN 284° EX 296°	220° 228°	.472" .472"	110°	0°	.000" .000"
Stock heads ok, but would prefer after-markets. 9.5 to 10.5 compression. Good intake and headers.	2000-5200	**E421510** ROAD RAGE	IN 284° EX 306°	220° 235°	.473" .473"	108°	5°	.000" .000"
Street and strip cam. Ok for torque flyte in 318 and larger engines with gears. Good idle.	2000-5600	**E422061** VIKING 100H	IN 290° EX 290°	224° 224°	.447" .447"	108°	0°	.000" .000"
Strong broad range cam for engines 340 cid and bigger. Good throttle response . Fair idle and fuel effciency.	2000-5400	**E423110** TURBO II	IN 310° EX 292°	226° 214°	.462" .449"	112°	0°	.000" .000"
Noticeable idle and increased mid-range performance from 318-340 CID engines with 9.5-10.5:1 compression using an aftermarket single or dual plane intake manifold, 600-650 CFM 4 barrel carburetion, lightly modified stock cast iron cylinder heads and headers. May require vacuum canister if used with power brakes.	2500-5500	**E420221** TQ30H	IN 310° EX 310°	226° 226°	.462" .462"	111°	4°	.000" .000"
Hot Street, E.T. Brackets, etc. High lift, short duration. Delivers broad power range and strong top end. Fair idle. Needs 4 barrel, headers, compression and gears.	2700-5700	**E420421** HI-FLOW IH	IN 296° EX 296°	228° 228°	.472" .472"	108°	0°	.000" .000"
High lift, dual pattern. Needs 4 barrel, headers and lower gears. Works best with stick or high-stall automatic. Strong top end camshaft. Rough idle. Should have at least 9:1 compression ratio.	2800-6200	**E420223** TQ50H	IN 296° EX 306°	228° 235°	.472" .472"	110°	0°	.000" .000"
Strong mid-range power needs at least 9.5:1 compression, dual plane intake, free flowing exhaust and at least 2000 RPM converter for best performance. Lopey idle.	2600-5600	**E420128** HL-294-1	IN 294° EX 302°	228° 236°	.532" .532"	108°	2°	.000" .000"
Excellent choice for street machines with rootes or centrifical type superchargers, running 6-8 lbs of boost. 2500 RPM converter and good exhaust. Also works well with aftermarket fuel injection. Up to 150 shot of nitrous.	2800-5800	**E420130** HL-294-1A	IN 294° EX 302°	228° 236°	.532" .532"	112°	4°	.000" .000"
Needs good intake. 10.5-1 compression Headers and gears.	2800-6200	**E421515** ROAD RAGE	IN 296° EX 316°	228° 240°	.473" .473"	108°	5°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175/3400*	504S**	204**	HA2011	N/A	N/A	703

*over .500" lift **for single groove valves

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHRYSLER "A" V8

1964-92 273-318-340-360 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Good intake and gears, 1.6 rocker arms if clearance allows.	2800-6200	**E421525** ROAD RAGE	IN 294° EX 306°	228° 240°	.532" .532"	108°	5°	.000" .000"
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 750 CFM or larger carb, headers. 2500 RPM converter, 3.55 or lower gears.	3000-6000	**E420132** HL-298-1	IN 298° EX 306°	232° 240°	.532" .532"	110°	2°	.000" .000"
Runs strong 3500-7000 RPM. Stick or automatic, with gears. Needs good intake and headers. 9.5:1 or more compression. Lopey idle.	3000-6000	**E420521** HI-FLOW IIH	IN 306° EX 306°	235° 235°	.472" .472"	108°	0°	.000" .000"
Big power, Lots of overlap for a muscle car sound.	3000-6400	**E421520** ROAD RAGE	IN 306° EX 316°	235° 240°	.473" .473"	108°	5°	.000" .000"
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 750 CFM or larger carb, headers. 2800 RPM converter, 3.55 or lower gears.	3200-6500	**E420135** HL-302-1	IN 302° EX 310°	236° 244°	.532" .532"	110°	4°	.000" .000"
Needs compresssion, good intake and headers. 2500-3000 stall.	3000-6400	**E421530** ROAD RAGE	IN 302° EX 314°	236° 248°	.532" .532"	108°	5°	.000" .000"
Strong past 7000 RPM in well set up engine. Needs headers and good carburetion. Excellent for E.T. Bracketracing. Rough idle.	3500-6500	**E420321** HI-FLOW IIIH	IN 316° EX 316°	240° 240°	.472" .472"	108°	0°	.000" .000"
Hot Street/E.T. Brackets strong mid-range torque and top end horsepower in 340 CID and larger engines. No less than 11.0:1 compression, aftermarket heads, single plane intake. 3000-3500 RPM converter and 3.91or lower gear.	3800-6800	**E420137** HL-306-1	IN 306° EX 314°	240° 248°	.532" .532"	108°	2°	.000" .000"
Hot Street/E.T. Brackets. Super mid-range torque and top end horsepower from 318-360 CID engines with 10.5-11.5:1 compression. Should have ported and polished stock or W-2 style cylinder heads with gasket matched, open plenum, intake manifold and 750 CFM 4 barrel or multiple carburetion, headers and 2.5" free flowing exhaust for best results. Automatic cars use 3500-4000 RPM converter and 4.10 or lower gears.	4000-7000	**E420621** HI-FLOW IVH	IN 312° EX 320°	248° 256°	.503" .517"	110°	4°	.000" .000"
Needs aftermarket heads intake and gears.	4000-7000	**E421535** ROAD RAGE	IN 314° EX 322°	248° 256°	.533" .533"	108°	5°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175/3400*	504S**	204**	HA2011	N/A	N/A	703

*over .500" lift **for single groove valves

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHRYSLER "A" V8

1964-92 273-318-340-360 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent choice for 273-340 cubic inch, early Mopars with 9.5-10.5:1 compression, seeking improved low end and mid-range performance without expensive engine and cylinder head modifications. Use 1.6:1 shaft mount rockers, aluminum dual plane intake, 600 CFM 4 barrel and headers to enhance flow characteristics.	2800-5800	**E420305** TQ30M	IN 280° EX 280°	230° 230°	.465" .465"	110°	4°	.022" .024"
Moderate lift and duration delivers more power through entire RPM range. The ideal street camshaft with minor modifications.	3000-6000	**E420721** HI-FLOW IM	IN 286° EX 286°	242° 242°	.510" .510"	108°	0°	.022" .024"
Hot Street/E.T. Brackets. Great mid-range performance from 318-340 CID engines with 10.5-11.5:1 compression. Needs modified stock or W-2 style cylinder heads, gasket-matched,single plane, open plenum intake manifold and up to 750 CFM 4 barrel carburetion, 3200-3600 lb. Bracketeers can use 4 speed manualor torque flyte automatic with 3500RPM converter and low gears.	3500-6500	**E420306** HI-FLO AM	IN 286° EX 294°	242° 246°	.510" .510"	108°	0°	.022" .024"
Extra mid range and top end power. Strong from 3000 rom and up. Perfect for street/strip machine with headers and 4 speed.	3400-6400	**E420821** HI-FLOW IIM	IN 294° EX 294°	246° 246°	.510" .510"	108°	0°	.022" .024""
Hot street and brackets. Needs 340+ cid, 11.0-1+ compression 3500 stall and gears.	3800-7000	**E420105** F-313-1	IN 288° EX 296°	250° 258°	.562" .562"	108°	0°	.018" .020""
Hot Street/E.T. Brackets/Oval Track. Excellent choice for Darts and Dusters seeking uncompromised mid-range and top end power. 318-360CID engines with 11.0-12.5:1 compression using modified W-2 or W-5 cylinder heads, Victor Jr. style intake, single blueprinted 750 CFM 4 barrel and 1.750 diameter, equal length headers will see large gains. Also works well in modified sportsman cars on fast 1/4-3/8 mile dirt or asphalt tracks with no carburetor restrictions.	3800-7000	**E420307** F-288-2	IN 288° EX 296°	250° 258°	.562" .562"	106°	0°	.022" .024"
Mid range and top end cam for drags. Broad power range in larger engine. Rough idle.	3800-6800	**E420921** 320HLM	IN 320° EX 320°	256° 256°	.537" .537"	108°	0°	.022" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	504S	204**	MA2084	N/A	N/A	7985

**for single groove valves

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHRYSLER "A" V8

1964-92 273-318-340-360 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E.T. Brackets/Hot street machine in 340-408 CID engines. Needs at least 11.5:1 compression, aftermarket heads and a single plane intake. Use 850 CFM or larger carb, headers and at least 3 inch exhaust. Minimum 3500RPM converter and 4.10 gears.	3800-7000	**E420109** F-321-1	IN 296° EX 302°	258° 264°	.562" .562"	108°	0°	.018" .020"
Oval Track. Proven winner and repeated track champion in well setup, modified sportsman cars running on 1/4-1/2 mile tracks. Works best in 340-360 CID engines with up to 12.5:1 compression using ported and polished, W-2 style cylinder heads, aftermarket 1.6:1 rockers, single plane manifold with 500 CFM 2 barrel and headers.	4000-7300	**E420308** F-302-3	IN 302° EX 296°	264° 258°	.562" .562"	106°	6°	.022" .024"
E.T. Brackets/Pro street machine in larger CID engines. Needs at least 12.0:1 compression, aftermarket heads and a single plane intake. Use 850 CFM or larger carb, large tube headers and 3" to 4" exhaust. Minimum 4000 RPM converter and 4.30 gears.	4000-7000	**E420115** F-325-1	IN 302° EX 306°	264° 270°	.612" .612"	108°	2°	.018" .020"
E.T. Brackets/Pro street machine. Needs at least 12.5:1 compression, aftermarket heads and a single plane intake. Use 850 CFM or Dominator carb, large tube headers and 3" to 4" exhaust. Minimum 4500 RPM converter and 4.56 or lower gears.	4500-7500	**E420120** F-329-1	IN 304° EX 308°	266° 272°	.612" .612"	108°	4°	.018" .020"
E.T. Brackets. recommended for 2600-3000 lb door-slammers with 340 cubic inch or larger engines having 12.5-13.5:1 compression. Needs modified W-2 or W-5 cylinder heads, large valves, roller rockers, matched intake and single or multiple carburetion on alcohol or gas. Open headers or large diameter free flowing exhaust, enhance performance.Automatic cars, use 4500 RPM 8" converter, 4.56 gears and 28" tire.	4500-7800	**E420309** F-308-1A	IN 308° EX 308°	272° 272°	.612" .612"	106°	4°	.022" .024""
Strong mid range and top end competition cam. Broad power range, pulls hard from 4000 to 7000 RPM.	4000-7500	**E428631** 990SB	IN 318° EX 318°	278° 278°	.550" .550"	107°	0°	.024" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	504S	204**	MA2084	N/A	N/A	7985

**for single groove valves

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HYDRAULIC ROLLER CAMSHAFTS

CHRYSLER "A" V8

1964-92 273-318-340-360 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Recommended for passenger cars and light trucks seeking improved low and mid range. Great for towing low and moderate loads. Good idle	1500-4000	**E429814** RH-276-2	IN 276° EX 282°	208° 214°	.480" .480"	110°	4°	.000" .000"
Improved midrange performance with aftermarket cylinder heads and manifold. Headers and free flowing exhaust. Works well with superchargers, small shots of nitrous and marine compatible.	2200-5500	**E429816** RH-268-1	IN 286° EX 294°	218° 226°	.510" .510"	112°	4°	.000" .000"
Higher cylinder pressure & better throttle response by modifying timing points. Improved mid range without compromising driveablity. Marine compatible.	2400-5400	**E429817** RH-282-4A	IN 282° EX 286°	222° 226°	.480" .480"	112°	4°	.000" .000"
Great hydraulic roller hot rod cam. 340-360 cid. OE head friendly. Needs 9.5-1 compression, headers and good intake.	2600-5700	**E429836** RH-294-4	IN 294° EX 302°	226° 234°	.510" .510"	110°	0°	.000" .000"
Excellent for street machines with roots or centrifugal superchargers running 6 to 12 lbs of boost. 2000 RPM converter and good exhaust. Works well with fuel injected normally aspirated engines with chip or tuneable fuel injection.	2500-5500	**E429847** RH-286-365-A	IN 286° EX 294°	226° 234°	.548" .548"	112°	0°	.000" .000"
Hot street machine with 10:1+ compression. Aftermarket dual or single plane, 650 CFM+ carb, headers and 2800 RPM converter. 3.73 or lower gears.	2800-5800	**E429848** RH-298-365	IN 290° EX 298°	230° 238°	.548" .548"	108°	0°	.000" .000"
Hot Street and ET Brackets. Min. 10:1 compression, modified cylinder heads and single plane intake. Automatics use 3000 converter, 4:56 gears and 28" tire.	3250-6250	**E429819** RH-302-1	IN 302° EX 310°	234° 242°	.510" .510"	110°	4°	.000" .000"
Hot Street/E.T. Brackets. Min. 10:1 compression, aftermarket heads, 1.6 rockers for best performance. Good intake manifold, 750 CFM+ carb. At least 3000 RPM converter and 4.10 or,lower gears.	3000-6000	**E429849** RH-298-365	IN 298° EX 306°	238° 246°	.548" .548"	108°	0°	.000" .000"
Serious street machines with roots or centrifugal superchargers, up to15 lbs of boost. 2500 RPM converter, headers and free flowing exhaust. Also a good choice for 383 cior larger cubic inch engines with aftermarket fuel injection.	3000-6000	**E429851** RH-298-365-1	IN 298° EX 306°	238° 246°	.548" .548"	112°	0°	.000" .000"
Hot street and ET Bracket. Strong mid range torque and top end horsepower. Min. 10.5-1 compression, aftermarket cylinder heads and single plane intake.	3500-6500	**E429853** RH-302-365	IN 302° EX 310°	242° 250°	.548" .548"	108°	2°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	504S	204**	SL967	N/A	N/A	7985

**for single groove valves

Note: Hydraulic roller camshafts will not work with Chrysler X or J cylinder heads.

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHRYSLER "A" V8

1964-92 273-318-340-360 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets. Excellent choice for high performance street machines seeking an entry level camshaft with stout mid-range performance. Recommended for 318-360 cubic inch engines with 10.5-11.5:1 compression, modified stock or aftermarket cylinder heads, matched single plane intake, 750 CFM 4 barrel and headers. Also works well with 1.6:1 rockers and small shot of nitrous oxide. Automatic cars use 3500 RPM converter.	3600-6600	**E420991** R-286-1	IN 286° EX 294°	246° 254°	.555" .555"	108°	0°	.022" .022"
For short tracks where maximum power is needed off the corners. Strong mid range performance yet still pulls strong past 7000.	3400-7400	**E429997** R-288-1	IN 288° EX 296°	260° 266°	.600" .600"	108°	0°	.024" .026"
E.T. Brackets/Oval Track. Strong mid-range torque and top end HP from modified 340-360 CID engines with 11.5-12.5:1 compression. Should have ported and polished W-2 or W-5 cylinder heads, shaft-mount roller rockers, match-ported and flowed single plane intake with blueprinted 750 CFM 4 barrel and headers for best results. Also works well in alcohol injected 360 cubic inch limited sprinters on 3/8-1/2 mile tracks.	4500-7600	**E420992** R-286-5A	IN 286° EX 294°	260° 268°	.675" .645"	106°	4°	.026" .028"
Bracket racing with single 4 barrel and automatic transmission. 34-360 CID engines.	3600-7600	**E429890** R-296-1A	IN 296° EX 308°	266° 278°	.600" .600"	106°	0°	.024" .026""
Medium length tracks up to 1/2 mile. Works well with big engines. Has strong flat torque curve.	4000-7600	**E429998** R-298-1	IN 298° EX 302°	270° 274°	.652" .652"	106°	0°	.024" .026""
Pro Brackets/Super Categories. Full chassis cars weighing 2000-2600 lbs Substantial gains in upper mid-range and top end power from 340 cubic inch and larger engines. 13.5-14.5:1 compression. Modified Mopar or aftermarket aluminum cylinder heads. 1.6 shaft mount roller rockers, alcohol or gas and open headers. 2 speed automatic cars use 5000 RPM converter, 5.13 gears and 14" x 32" slick.	5000-8000	**E420993** R-302-7	IN 302° EX 310°	276° 284°	.675" .645"	106°	0°	.026" .028"
W-2 heads a must. Performs well with single carb and stick shift. Can also be used in tunnel ram applications.	4500-8000	**E429995** R-318-2A	IN 318° EX 324°	285° 291°	.667" .667"	108°	0°	.024" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850	507	N/A	RL965	N/A	N/A	8965

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HYDRAULIC ROLLER CAMSHAFTS

CHRYSLER “Magnum” V8

1992-02 5.2L-5.9L V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Recommended for passenger cars and light trucks seeking improved low and mid range. Great for towing low and moderate loads. Good idle. Great for factory fuel injection	1500-4000	**E430842** RH-260	IN 260° EX 268°	202° 212°	.480” .480”	112°	4°	.000” .000”
Dual purpose camshaft cars and Sport trucks looking for broad power, increased low end and strong mid range. Works wih factory fuel injection, tune may be required	2000-5000	**E430843** RH-282	IN 282° EX 294°	214° 226°	.480” .512”	114°	6°	.000” .000”
Improved mid and upper midrange performance when used with aftermarket cylinder heads and manifold. Should have headers and free flowing exhaust. Tuning required for factory fuel injection.	2200-5500	**E430844** RH-268	IN 286° EX 294°	218° 226°	.512” .512”	112°	4°	.000” .000”
Higher cylinder pressure and better throttle response by modifying timing points. Improved mid range without compromising driveablity.	2400-5400	**E430845** RH-282-1	IN 282° EX 286°	222° 226°	.512” .512”	112°	4°	.000” .000”
Great hydraulic roller hot rod cam. 340-360 cid. OE head friendly. Needs 9.5-1 compression, headers and good intake.	2600-5700	**E430846** RH-294	IN 294° EX 302°	226° 230°	.512” .512”	110°	0°	.000” .000”
Broad power range in 340-360 cid applications. Wider lobe separation for supercharged engines or aftermarket, programable fuel injections.	2800-6000	**E430848** RH-294-1	IN 294° EX 302°	226° 230°	.512” .512”	112°	0°	.000” .000”
Hot Street and ET Brackets. Should have no less than 10:1 compression, modified cylinder heads and single plane intake. Automatics use 3000 converter, 4:56 gears and 28" tire.	3250-6250	**E430849** RH-302	IN 302° EX 310°	234° 242°	.544” .544”	110°	4°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175	502S	N/A	HA2225	N/A	N/A	N/A

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHRYSLER “B” V8

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson’s value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Ideal for Cars, Trucks & RV’s . Good idle quality. Low rpm torque. Will work with stock or slightly modified engine. Stock rear end gears. Manual or auto transmission.	1000-4800	**E410052** TORQUEMASTER	IN 270° EX 280°	204° 214°	.420” .443”	112°	5°	.000” .000”

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3325	504S	206	HA2011	N/A	N/A	7607

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHRYSLER "B" V8

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
First choice over stock for heavy cars and trucks. Good idle and driveability with improved low and mid-range performance. Compatible with stock compression, converter and gearing. OK for towing light to moderate loads.	1250-4250	**E411011** M/P 1	IN 280° EX 292°	208° 214°	.420" .449"	114°	4°	.000" .000"
Strong mid-range power, city, fast expressway and open road towing. Delivers max mid-range torque. Good idle, throttle response plus fuel efficiency.	1200-5000	**E410110** RV15H	IN 288° EX 288°	214° 214°	.432" .432"	111°	4°	.000" .000"
The Performer. Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel and headers recommended.	1500-5200	**E410121** TQ20H	IN 292° EX 292°	214° 214°	.449" .449"	111°	4°	.000" .000"
Good idle and throttle response from larger engines. Power Wagons and Ram Chargers with stock or aftermarket dual plane intake, 4 barrel and headers with dual exhaust. Noticeable gains when towing moderate to heavy loads. Best w/ 4 or 5 speed manual, low gears.	1500-4750	**E411021** M/P 2	IN 292° EX 310°	214° 226°	.449" .462"	114°	4°	.000" .000"
Excellent for lightly modified street machines or muscle trucks. Improved low-end torque and mid-range HP. 383-440 CID engines with 8.75-9.5:1 compression, aluminum dual plane intake, 650-750 CFM carb and headers with large diameter, free flowing dual exhaust.	1800-4800	**E410322** HI-FLOW AH	IN 284° EX 284°	220° 220°	.472" .472"	112°	4°	.000" .000"
High-lift, dual pattern. Needs 4 barrel, headers, lower gears and medium stall speed converter if used with automatic. Extremely strong mid-range camshaft.	2000-5000	**E410222** TQ40H	IN 284° EX 296°	220° 228°	.472" .472"	110°	0°	.000" .000"
Stock heads ok, but would prefer aftermarkets. 9.5 to 10.5 compression. Good intake and headers.	1500-5200	**E411510** ROAD RAGE	IN 284° EX 306°	220° 235°	.473" .473"	108°	5°	.000" .000"
Strong broad power range for engines 383 and larger with high boost. Good idle.	1500-5200	**E410141** TURBO II	IN 310° EX 292°	226° 214°	.462" .449"	112°	0°	.000" .000"
Noticeable idle and strong mid-range performance from 383-440 CID with 9.5-10.5:1 compression. Mildly-ported stock cylinder heads, gasket-matched dual plane intake with up to 750 CFM carb for best results. May require vacuum canister for power brakes.	2500-5500	**E410221** TQ30H	IN 310° EX 310°	226° 226°	.462" .462"	111°	4°	.000" .000"
Hot Street, E.T. Brackets, etc. High lift,short duration, delivers broad power range and strong top end. Fair idle. Needs 4 barrel, headers, compression and gears.	2500-5500	**E410421** HI-FLOW IH	IN 296° EX 296°	228° 228°	.472" .472"	108°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3325	504S	N/A	HA2011	N/A	N/A	7607

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHRYSLER "B" V8

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
High-lift, dual pattern. Needs 4 bbl, headers and low gears. Best with stick or high-stall automatic. Strong top end. Rough idle. At least 9.1 compression.	2600-5800	**E410223** TQ50H	IN 296° EX 306°	228° 235°	.472" .472"	110°	0°	.000" .000"
Needs good intake. 10.5-1 compression Headers and Gears.	1800-5400	**E411515** ROAD RAGE	IN 296° EX 316°	228° 240°	.473" .473"	108°	5°	.000" .000"
Good intake and gears, 1.6 rocker arms if clearance allows.	1800-5400	**E411525** ROAD RAGE	IN 294° EX 306°	228° 240°	.532" .532"	108°	5°	.000" .000"
Runs strong 3500-7000 RPM. Stick or automatic, with gears. Needs good intake and headers with 9.5:1 or more compression. Lopey idle.	3000-6000	**E410521** HI-FLOW IIH	IN 306° EX 306°	235° 235°	.472" .472"	108°	0°	.000" .000"
Big power, Lots of overlap for a muscle car sound.	3000-6200	**E410522** TQ55H	IN 306° EX 316°	235° 240°	.472" .472"	108°	0°	.000" .000"
Big power, Lots of overlap for a muscle car sound.	2500-6200	**E411520** ROAD RAGE	IN 306° EX 316°	235° 240°	.473" .473"	108°	5°	.000" .000"
Needs compression, good intake and headers. 2500-3000 stall.	2500-6200	**E411530** ROAD RAGE	IN 302° EX 314°	236° 248°	.532" .532"	108°	5°	.000" .000"
Runs strong from 3500 to 7000 RPM. Stick or auto with gears. Need good intake and headers. 9.5:1 compression or more. Lopey idle.	3200-5800	**E410321** HI-FLOW IIIH	IN 316° EX 316°	240° 240°	.472" .472"	108°	0°	.000" .000"
High lift redesign of the 500H. Strong upper mid range and top end. Needs headers and gear.	3600-6800	**E411121** 500HLH	IN 318° EX 318°	244° 244°	.504" .504"	108°	0°	.000" .000"
Hot Street/E.T. Brackets. Strong mid-range and top end power. 413-440 CID with 10.5-11.5:1 compression. Modified Stage V or VI heads, 1.6 shaft mount roller rockers, Victor Jr. style intake, 850CFM 4 bbl and 2" headers. 3000-3400 lb cars use 3500 RPM converter, 4.56 gear and 28" soft tire.	3500-6500	**E411322** HI-FLOW IVH	IN 312° EX 320°	248° 256°	.503" .517"	110°	4°	.000" .000"
Needs aftermarket heads intake and gears.	3500-6500	**E411535** ROAD RAGE	IN 314° EX 322°	248° 256°	.533" .533"	108°	5°	.000" .000"
Hot Street/E.T. Brackets. Increased upper-mid and top end power in 2800-3200 lb door-slammers with 440 CID+. At least 11.5:1 compression. Good heads, 1.6 shaft-mount roller rockers, single or 2x4 bbl open plenum intake and 850+ CFM carburetion. Torque flyte cars use 4000 RPM converter and 4.30 gears with 30" tire.	4000-7000	**E411224** TQ60H	IN 316° EX 324°	252° 260°	.517" .517"	108°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3325	504S	N/A	HA2011	N/A	N/A	7607

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HYDRAULIC FLAT TAPPET CAMSHAFTS

CHRYSLER "B" V8 3-BOLT

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Stock heads ok, but would prefer aftermarkets. 9.5 to 10.5 compression. Good intake and headers.	1500-5200	**E411510-3** ROAD RAGE	IN 284° EX 306°	220° 235°	.473" .473"	108°	5°	.000" .000"
Strong mid range power. Needs at least 9.5:1 compression, dual plane and headers. 2000 stall converter.	2200-5600	**E410128** HL-294-1	IN 294° EX 302°	228° 236°	.532" .532"	108°	0°	.000" .000"
Excellent choice for street machines with root or centrifical type super charger. 6-8 lbs boost. 2500 converter. Up to 150 shot of nitrous.	2200-5600	**E410130** HL-294-1A	IN 294° EX 302°	228° 236°	.532" .532"	112°	4°	.000" .000"
Needs good intake. 10.5-1 compression Headers and Gears.	1800-5400	**E411515-3** ROAD RAGE	IN 296° EX 316°	228° 240°	.473" .473"	108°	5°	.000" .000"
Good intake and gears, 1.6 rocker arms if clearance allows.	1800-5400	**E411525-3** ROAD RAGE	IN 294° EX 306°	228° 240°	.532" .532"	108°	5°	.000" .000"
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold. 750 cfm or larger carb. Headers. 2500 stall converter and 3:55 or lower gears.	2500-5800	**E410132** HL-298-1	IN 298° EX 306°	232° 240°	.532" .532"	110°	0°	.000" .000"
Big power, Lots of overlap for a muscle car sound.	2500-6200	**E411520-3** ROAD RAGE	IN 306° EX 316°	235° 240°	.473" .473"	108°	5°	.000" .000"
Hot street machine with at least 10:1 compression. Aftermarket dual or single plane manifold. 750 cfm or larger carb. Headers. 2800 stall converter and 3:55 or lower gears.	2800-6000	**E410135** HL-302-1	IN 302° EX 310°	236° 244°	.532" .532"	110°	2°	.000" .000"
Needs compression, good intake and headers. 2500-3000 stall.	2500-6200	**E411530-3** ROAD RAGE	IN 302° EX 314°	236° 248°	.532" .532"	108°	5°	.000" .000"
Hot street/ET brackets. Strong mid and top end in 440 and larger engine. No less that 10.5:1 compression, aftermarket heads, single plane intake 3000-3500 converter and 3:91 or lower gears.	3000-6400	**E410137** HL-306-1	IN 306° EX 314°	240° 248°	.532" .532"	108°	0°	.000" .000"
Needs aftermarket heads intake and gears.	3500-6500	**E411535-3** ROAD RAGE	IN 314° EX 322°	248° 256°	.533" .533"	108°	5°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3325	504S	N/A	HA2011	N/A	N/A	7606

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHRYSLER "B" & "RB' V8 3-BOLT

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Short duration high lift design delivers power from 2000 RPM and up. Ideal street/strip cam. OK for Torque Flyte.	2800-5800	**E410721** HI-FLOW IM	IN 286° EX 286°	242° 242°	.510" .510"	108°	0°	.022" .024"
Broad power range cam. Pulls hard from 2500 RPM and up. OK for Torque Flyte with gears. Fair idle.	3000-6200	**E410821** HI-FLOW IIM	IN 294° EX 294°	246° 246°	.510" .510"	108°	0°	.022" .024"
Hot Street/E.T. Brackets. Excellent choice for 3400-3800 lb "B" bodied Chrysler products seeking strong mid-range performance. Works best in 383-440 CID engines with 10.0-11.0:1 compression using modified stock cylinder heads, single or multiple carburetion and headers with 3" diameter,dual exhaust system. Use 4 speed manual transmission with 4.10 nitrous oxide for best results.	3500-6500	**E410001** F-282-6	IN 282° EX 290°	246° 254°	.510" .510"	110°	4°	.020" .022"
E.T. Brackets/Hot Street Machine in 440 to 500 CID engines. Needs 10.0:1 or higher compression, recommend aftermarket aluminum heads, or ported factory heads with 2.14/1.81 valves. Can use high rise dual plane intake for street or single plane for best performance. Use 750 CFM or larger carb, headers and 2.5" or larger exhaust. Minimum 3000RPM converter and 3.55 or lower gears.	3000-6000	**E410105** F-295-1	IN 288° EX 296°	250° 258°	.562" .562"	108°	0°	.022" .024"
Mid range and top end power. Strong from 3500 rpm and up. Recommended for well set up street racers.	3400-6600	**E410921** 320HLM	IN 320° EX 320°	256° 256°	.534" .534"	108°	0°	.022" .024"
E.T. Brackets/Hot Street Machine in 440 to 528 CID engines. 10.5:1 to 12.5:1 compression, high flowing aluminum heads and a single plane intake. Use 850 CFM or larger carb,headers and at least 3" exhaust. Minimum 3200 RPM converter and 3.91 gears. Would only recommend for street cars in 500 CI and larger engines.	3200-6200	**E410109** F-313-1	IN 296° EX 302°	258° 264°	.562" .562"	108°	0°	.022" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3450	504S	N/A	MA2084/SL1969	N/A	N/A	7606

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IMPORTANT NOTE: Mechanical flat tappet racing cams have been the staple of the high performance industry for years. Setting numerous speed records and winning many championship events even as we speak. Not until recently have solid roller cams gained such wide spread popularity. However, solid roller cams are not ideal for all driving conditions. Mechanical flat tappet cams however deliver adequate power for most high performance applications with much less cost and maintenance. The one draw back is as with any cast iron camshaft and rotating lifter assembly, that they are sensitive to wear induced during the break-in procedure. Erson Cams recommends that all high performance mechanical flat tappet camshafts with heavier than stock OEM valve spring loads, be broken-in on the outer spring only. Erson also recommends the use of any good engine break-in oil supplement.

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

CHRYSLER "B" & "RB' V8 3-BOLT

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets. Maximum street performance from 413-440 cubic inch engines boasting 11.0-12.0:1 compression. Should have mildly-ported, Stage IV or V Cylinder heads, gasket-matched to a single plane intake with 750-850 CFM carburetion and 2" diameter headers.Works well with 4 speed or automatic with 4000 RPM converter and low gears.	3800-6800	**E410002** F-296-6	IN 296° EX 306°	258° 268°	.562" .562"	108°	0°	.022" .024"
E.T. Brackets/Pro Street Machine in 500 to 572 CID engines. Needs at least 11.0:1 compression, large runner aluminum heads and a single plane intake. Use 850 CFM or larger carb, large tube headers and 3" to " exhaust. Minimum 3200 RPM converter and at least 3.91 gears. Will also work good in high RPM 440 to 472 CID engines with 12.1:1 or higher compression, a light chassis and 4000 to 4500 RPM converter.	3500-6500	**E410115** F-321-1	IN 302° EX 306°	264° 270°	.612" .612"	108°	0°	.015" .017"
E.T. Brackets/Pro Street Machine max effort in 500 to 572 CID engines. Needs 11.0:1 or higher compression, the best flowing aftermarket heads and a single plane intake. Use at least an 850 CFM carb for street or 1050CFM or larger Dominator on 540 CID and larger engines, large tube headers,3" exhaust. Minimum 3500RPM converter and at least 4.10 gears.	3800-6800	**E410120** F-325-1	IN 304° EX 308°	266° 272°	.612" .612"	110°	2°	.015" .017"
Broad power range competition cam. Good for the heavier car and some torque flyte applications.	3800-7200	**E418631** 990SB	IN 318° EX 318°	278° 278°	.550" .550"	108°	0°	.024" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3450	504S	N/A	MA2084/SL1969	N/A	N/A	7606

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HYDRAULIC ROLLER CAMSHAFTS

CHRYSLER "B" & "RB' V8 3-BOLT

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong mid-range power needs at least 9.0:1 compression, dual plane intake, free flowing exhaust and at least 2000 RPM converter for best performance. Good replacement for factory 383-440 magnum camshaft. Will have slightly lopey idle.	2000-5000	**E419100** RH-272-320	IN 272° EX 280°	218° 226°	.480" .480"	108°	0°	.000" .000"
Strong mid-range power needs at least 9.0:1 compression, dual plane intake, free flowing exhaust and at least 2000 RPM converter for best performance. Higher lift version of E419100. Can be used with fuel injection or up to 150 shot of nitrous. Will have slightly lopey idle.	2000-5000	**E419105** RH-286-340	IN 286° EX 294°	218° 226°	.510" .510"	110°	0°	.000" .000"
Stock heads ok, but would prefer after-markets. 9.5 to 10.5 compression. Good intake and headers.	2000-5000	**E410500** ROAD RAGE	IN 290° EX 302°	222° 234°	.510" .510"	108°	5°	.000" .000"
Hot Street Machine with at least 9.5:1 compression. Aftermarket dual or single plane manifold, 750 CFM or larger carb, headers. 2200 RPM converter, 3.23 or lower gears. Lopey idle.	2500-5500	**E419110** RH-286-365	IN 286° EX 296°	226° 234°	.548" .533"	108°	0°	.000" .000"
Compression and aftermarket heads are a must. Gearing and a 2500 stall would be a good idea.	2200-5200	**E410505** ROAD RAGE	IN 288° EX 298°	226° 238°	.532" .548"	108°	5°	.000" .000"
Good idle and throttle response from larger engines. Prefers stock or after-market dual plane intake manifold, 4 barrel carburetion, headers and 4 or 5 speed manual transmission with low gears for towing moderate to heavy loads. OK for use with small super-chargers.	2800-5800	**E419115** RH-290-365	IN 290° EX 300°	230° 238°	.548" .533"	112°	0°	.000" .000"
Hot Street Machine with at least 10:1 compression. Aftermarket dual or single plane manifold, 750 CFM or larger carb, headers. 2500 RPM converter, 3.55 or lower gears. Lopey idle.	3000-6000	**E419120** RH-294-365	IN 294° EX 304°	234° 242°	.548" .533"	108°	0°	.000" .000"
10.5+ compression, headers, intake, gears and aftermarket heads are a must	2500-5800	**E410510** ROAD RAGE	IN 296° EX 306°	234° 246°	.532" .548"	108°	5°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504S	206	N/A	N/A	N/A	8606

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HYDRAULIC ROLLER CAMSHAFTS

CHRYSLER “B” & “RB’ V8 3-BOLT

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Don't skimp on this bad boy, needs cubic inches, compression, aftermarket heads and exhaust. 3500 stall.	3000-6400	**E410520** ROAD RAGE	IN 302° EX 314°	242° 254°	.548” .548”	108°	5°	.000” .000”
Hot Street/E.T. Brackets strong mid-range torque and top end horsepower in 440 CID and larger engines. No less than 10.5:1 compression, ported factory or aftermarket heads, single plane intake. Headers and minimum 2.5” exhaust. 3000 to 3500 RPM converter and 3.91 or lower gear.	3200-6200	**E419125** RH-306-365	IN 306° EX 314°	246° 254°	.548” .548”	110°	0°	.000” .000”
Hot Street/E.T. Brackets strong mid-range torque and top end horsepower, in 496 CID and larger engines. No less than 10.5:1 compression, aftermarket heads, single plane intake. Headers and 3” exhaust. 3000 to 3500 RPM converter and 4.10 or lower gear.	3500-6500	**E419130** RH-314-365	IN 314° EX 262°	254° 262°	.548” .548”	112°	2°	.000” .000”
Pro Street/E.T. Brackets max effort in 528 to 572 cubic inch engines. No less than 10.5:1 compression, aftermarket heads, single plane intake with at least 850 CFM carb, large tube headers, 3" exhaust. Needs at least a 3000 RPM converter and 3.91 gears.	3500-6500	**E419135** RH-322-36	IN 322° EX 330°	262° 270°	.548” .548”	112°	2°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504S	206	N/A	N/A	N/A	8606

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHRYSLER "B" & "RB' V8 3-BOLT

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Pro Street/E.T. Brackets.recommended for 3200-3600 lb A or B bodies street machines using 413-440 cubic inch engines with 11.0-12.0:1 compression. Excellent mid-range performance when used with modified cast iron or aluminum Cylinder heads, single plane intake, 850CFM 4 barrel, 2" diameter primary tube headers and 150 HP shot of nitrous oxide. Torque flyte cars use 3500RPM converter, 4.56 gear and 28" soft-compound tires.	3500-6500	**E419705** R-276-1	IN 276° EX 286°	252° 260°	.675" .675"	110°	4°	.026" .028"
Low and mid-range cam. Can be used for all out street cars or heavy oval track cars on short tracks.	3500-6800	**E419703** R-302-1	IN 302° EX 302°	260° 260°	.555" .555"	106°	0°	.024" .026"
E.T. Brackets. Weekend warriors seeking reliable top end power and valve train stability from big block Chrysler engines up to 452 cubic inches with no less than 11.5:1 compression. Smaller engines (i.e.: 383-400 CID), may need higher compression to run well. Should have modified Stage V big valve or Stage VI aluminum cylinder heads, gasket matched MI® or similar plane intake, blueprinted 850 CFM 4 barrel and 2.125" primary tube headers for best results. Needs 4500 RPM converter and can be used with 1.6:1 rockers.	4500-7500	**E419706** R-294-7	IN 294° EX 302°	268° 276°	.645" .615"	108°	0°	.026" .028"
Maximum mid-range power while still retaining good low-end torque. Works well in most oval track applications.	3800-7400	**E419704** R-308-1	IN 304° EX 304°	278° 278°	.615" .615"	106°	0°	.024" .026"
Super Gas/Super Stock. Excellent upper mid-range torque and top end HP can be found in 2400-2800 lb super gassers using tall deck Chrysler big block engines up to 482 cubic inches with 12.5-13.5:1 compression. Works best with modified B-1 or Indy type cylinder heads, matched single plane intake with 1050 CFM Dominator or tunnel ram with 2 x 750s, can be used with 1.6 shaft-mount roller rockers, clearance permitting, and 2.250" diameter primary tube headers. Also works well in 4 speed 383 cubic inch super stockers.	5000-8000	**E419707** R-308-4	IN 308° EX 312°	278° 282°	.712" .712"	108°	4°	.026" .028"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3870	510	203 (11/32) 204 (3/8)	RL968	N/A	N/A	8606

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHRYSLER "B" & "RB' V8 3-BOLT

1955-78 B 350-440 cubic inch V8 (Exc. Hemi)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Good in Bracket racers with automatic trans and a heavy car. Single 4 barrel or Tri-Power carb set up suggested.	4000-7600	**E419700** R-314-1	IN 310° EX 310°	284° 284°	.675" .675"	110°	0°	.024" .026"
Super Gas/Super Comp. When you come off the throttle stop and you need to charge, this is the camshaft for you! Intended for 1800-2400 lb altereds, dragsters and roadsters using up to 500 cubic inch engines with 13.5-14.5:1 compression. Compatible with B1-T5 or similar aftermarket cylinder heads, 1.6 or 1.7 roller rockers single dominator on gas or tunnel ram style injected alcohol induction and large diameter headers. 2 speed automatic cars use 5500RPM converter, 4.10 gear and 32" tires.	5500-8500	**E419708** R-316-2	IN 316° EX 316°	286° 292°	.712" .675"	110°	0°	.026" .028"
Pro-Gas engines with the best of everything. Requires good heads and high compression ratio. High stall converter.	4200-7800	**E419701** R-320-1	IN 320° EX 320°	288° 288°	.712" .712"	106°	0°	.024" .026"
Modified tunnel ram engines. Works best with Max Wedge or Stage 4 heads.	4400-8000	**E419702** R-326-1	IN 326° EX 326°	294° 294°	.712" .712"	106°	0°	.024" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3870	510	203 (11/32) 204 (3/8)	RL968	N/A	N/A	8606

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHRYSLER/DODGE/PLYMOUTH HEMI V8

426 HEMI 45° BLOCK ENGINES (INCLUDES KEITH BLACK, STAGE VI & EARLIER BLOCKS)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Super Comp/Top Sportsman. Good top end power from 1800-2200 lb dragsters and altereds using 426-500 cubic inch engines with 13.5-15.0:1 compression. Should use modified aluminum cylinder heads, single dominator, 2x4 barrel or injected alcohol type induction for best results. Automatic cars use 5000 RPM converter.	4800-7800	**E469500** R-318-3	IN 318° EX 322°	288° 292°	.761” .737”	110°	2°	.026” .026”
E.T. Brackets/Super Stock. Excellent choice for 2600-3100 lb door-slammers, i.e.: SS/AA through SS/BA with 426-439 CID engines. Single or 2x4 barrel carburetion recommended with 2.125”-2.250” x 28” long primary tube headers for best results.	5000-8000	**E469501** R-312-3	IN 312° EX 312°	288° 288°	.800” .775”	108°	4°	.026” .026”
Alcohol Dragsters/Flat Bottoms Hydros. Primarily intended for 430-480 cubic inch blown alcohol engines. Should have high-helix or screw-type supercharger with 3 speed planetary transmission and high-ratio intake rockers for increased power.	5500-9500	**E469502** R-324-3	IN 324° EX 326°	294° 298°	.761” .760”	114°	0°	.026” .026”
Top Fuel. Proven Winner! Intelligent choice for top fuel teams on a budget. Excellent match race camshaft. Easy on parts.	4800-7800	**E469503** R-326-3	IN 326° EX 314°	296° 288°	.745” .684”	110°	0°	.026” .026”
Top Fuel. Highly competitive profile! Needs good heads, prefers high-ratio intake rocker.	5000-8000	**E469504** R-326-4	IN 326° EX 326°	296° 296°	.745” .722”	112°	0°	.026” .026”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
E915043	517	N/A	RL900	N/A	N/A	N/A

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHRYSLER/DODGE/PLYMOUTH HEMI V8

426 HEMI 48° STANDARD CORE ENGINES

(INCLUDES KEITH BLACK, STAGE VII & LATER BLOCKS, EXCEPT STAGE X & RODECK TFX BLOCKS)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Blown Alcohol. Top alcohol funny cars equipped with 500(+) cubic inch engines with no less than 11.5:1 compression. Should be used with screw-type superchargers, good flowing cylinder heads with high-ratio rockers and 3 speed planetary transmission.	5500-9500	**E466004** R-324-4	IN 324° EX 324°	296° 296°	.785" .760"	116°	3°	.026" .026"
A/Fuel. 480(+) cubic inch engines with no less than 13.5:1 compression, need big valve, high-flow cylinder heads with high-ratio intake rockers, state-of-the-art fuel system and clutch management system for National Event winning performance.	2500-6500	**E466005** R-322-6A	IN 322° EX 316°	294° 288°	.785" .760"	114°	2°	.026" .026"
Top Fuel. Top fuel dragsters and funny cars who haven't made the change to the large core billet, this one's for you! A standard of the industry, 4-second E.T.'s at 300 mph.	5000-8300	**E466006** R-328-4	IN 328° EX 328°	298° 298°	.745" .722"	113°	0°	.026" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
E915055	509	N/A	RL900	N/A	N/A	N/A

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NOTE:
All gross lift figures are calculated using stock rocker ratios.

NOTE:
For more up to date information regarding Erson's complete list of computer designed lobe profiles or more information about our championship grinds not listed, please call Erson's Technical Service Team at 800-641-7920.

FSP Professional Racing Valve Springs

Designed for the professional and sportsman racer - oval track,endurance and drag racing. Specially formed structural process provides the highest levels of performance and durability to date by any steel spring. FSP Springs use superclean, ultra-strong, specially blended steel alloy of the highest quality to provide longer life for maximum value.

MECHANICAL/SOLID ROLLER CAMSHAFTS

CHRYSLER/DODGE/PLYMOUTH HEMI V8

426 HEMI LARGE CORE, 2.125" JOURNAL 48° ENGINES

(INCLUDES B.A.E. BLOCK, RODECK TFX & KEITH BLACK STAGE X BLOCKS)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
A/Fuel Dragsters; using 420-450 cid engines limited to 97% nitro. High lift short duration helps to create higher static cylinder pressure, also utilizing better head flow technology. New series of computer generated lobe designs aids in performance gains. Must check valve spring travel when using Brad VI cylinder heads.	4500-6500	**E466910** R-309-1	IN 309° EX 315°	272° 278°	.892" .840"	114°	2°	.026" .026"
A/Fuel Dragsters; Small cubic inch A/Fuel cars i.e. 420-450 cid engines limited to 97 percent by sanctioning bodies. Multiple national event winner. Referred to as "The Hail Mary" cam.	4500-6500	**E466909** R-306	IN 306° EX 314°	276° 288°	.850" .760"	113°	0°	.026" .026"
A/Fuel Dragsters; The old standby, very popular profile used by highly competitive teams, *"when tippin' the can was all you ran"* 429-480 CID engines, 1.7 IN 1.6 EX rockers, not recommended in bad air.	4500-6500	**E466908** R-310-4	IN 310° EX 314°	284° 288°	.807" .760"	110°	2°	.026" .026"
A/Fuel. Baseline camshaft for 480(+) cubic inch injected nitro cars with no less than 13.5:1 static compression. Big valve cylinder head and high cfm runners add to winning performance. Use 1.7" intake and 1.6" exhaust rockers, state-of-the-art fuel system and high-teck clutch management for best results. Designed for use with 1" lifters.	4000-6500	**E466901** R-318-4	IN 318° EX 314°	294° 288°	.785" .737"	114°	2°	.026" .026"
AA/Fuel Hydros. This cam was made famous by Alan Johnson and is a staple for performance in Blown Fuel categories recommended in Blown Fuel categories. Recommended for classes that do not limit or dilute nitromethane.	4500-8500	**E466906** R-320-1	IN 320° EX 322°	295° 295°	.824" .760"	112.5	0°	.026" .026"
Blown-Alcohol Categories. Primarily intended for 500(+) cubic inch funny cars with no less than 11.5:1 static compression. This camshaft also works well in blown alcohol hydros. The use of high-flow billet cylinder heads with 1.7" intake and 1.6" exhaust rockers, screw-type supercharger and 3 speed planetary transmission yield highly competitive results.	5500-9500	**E466902** R-322-7	IN 322° EX 322°	296° 296°	.785" .760"	116°	3°	.026" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
E915050 E915049 E915048	509	N/A	RL900	N/A	N/A	N/A

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MECHANICAL/SOLID ROLLER CAMSHAFTS

CHRYSLER/DODGE/PLYMOUTH HEMI V8

426 HEMI LARGE CORE, 2.125" JOURNAL 48° ENGINES

(INCLUDES B.A.E. BLOCK, RODECK TFX & KEITH BLACK STAGE X BLOCKS)

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Top Fuel. Attention Top Fuel Crew Chiefs! Excellent choice for 500 cubic inch nitro burners when atmospheric conditions indicate bad air, i.e.: high altitude. Intake opens at 34° B.T.D.C. eliminating aggressive behavior at the hit and exhaust opens at a safe 82° B.B.D.C. Overlap at .050" equals 74°, reducing cylinder pressure and cooling combustion chamber, requiring high-fuel volume. Use high-ratio rockers for best results.	5000-8000	**E466903** R-324-5	IN 324° EX 324°	296° 296°	.746" .722"	114°	0°	.026" .026"
Top Fuel Dragsters/Funny Cars. Regarded as one of the best good air camshafts in the industry. Intake opens at 37° B.T.D.C. and the exhaust opens at a conservative 81° B.B.D.C. Overlap at .050" equals 74°, reducing cylinder pressure and cooling combustion chamber, requiring high-fuel volume. Use high-ratio rockers for best results.	5300-8300	**E466904** R-326-5	IN 326° EX 326°	298° 298°	.746" .722"	112°	0°	.026" .026"
AA/Fuel Funnycars; Referred to as our "Starter Cam". Performance oriented and valve train safe. Recommended for teams that love to compete without having to pay the price of larger more aggressive cams.	4500-8500	**E466907** R-326-7	IN 326° EX 326°	298° 298°	.807" .760"	114°	2°	.026" .026"
Top Fuel/Funny Cars. Well funded teams seeking low 4 second E.T.s and 320+ MPH speeds need this camshaft! A good blower, high-flow billet cylinder heads, strong magnetos, high-tech fuel system and state-of-the-art clutch management is required for championship performance. Also works well in blown fuel hydros. Intake opens at 36° B.T.D.C. and exhaust opens at 82° B.B.D.C. with 70° overlap at .050" lift.	5200-8200	**E466905** R-326-6	IN 326° EX 324°	300° 296°	.746" .722"	114°	0°	.026" .026"
AA/Fuel Dragsters and Funnycars; Our #1 choice for highly competitive teams. This cam has won several world championships in both standard and 7-4 swap firing order configuration. Best of everything and well-funded Team required.	4500-8500	**E466911** R-322-7	IN 322° EX 326°	298° 302°	.880" .800"	114°	2°	.026" .026"
AA/Fuel Dragsters and Funnycars; Only well funded and highly competitive teams need apply here. Big intake duration helps to soften low end performance without sacrificing 60 foot times while providing exceptional performance and MPH. Widely used in the NHRA.	4500-8500	**E466912** R-326-8	IN 326° EX 340°	302° 304°	.880" .800"	114°	0°	.026" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
E915050 E915049 E915048	509	N/A	RL900	N/A	N/A	N/A

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HYDRAULIC ROLLER CAMSHAFTS

CHRYSLER LATE HEMI V8

2003 & Up Hemi V8 Without VVT

Erson Cams now offers a new line of performance camshafts for 2003 & Later 5.7L/6.1L, non-variable valve timing, Chrysler Hemi V8 engines. These cams are designed to boost horsepower and torque in both cars and trucks. Ranging from mild profiles which provide a noticeable power increase, even with a stock Hemi engine, to very aggressive power producing designs. These camshafts require custom computer tuning and correctly matched Erson valve springs and retainers.

Erson Cams also specializes in custom ground cams, so if you don't see the grind you need, our expert technicians can work with you to produce a winning design.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Good torque and horsepower gain with just cam change. Great for towing and heavy vehicles.	800-5000	**E440815** RH-252-5	IN 252° EX 252°	199° 199°	.448" .448"	114°	4°	.000" .000"
Strong low and mid range. Good fuel economy. Great for trucks and towing	1000-5400	**E440820** RH-260-5	IN 260° EX 264°	207° 211°	.480" .480"	115°	3°	.000" .000"
Broad power through entire rpm range in performance street application.	1500-5800	**E440830** RH-268-5	IN 268° EX 272°	215° 220°	.480" .480"	115°	4°	.000" .000"
Aftermarket intake, headers and free flowing exhaust. Great for supercharged applications.	2000-6200	**E440840** RH-276-5	IN 276° EX 280°	224° 228°	.512" .512"	116°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
N/A	N/A	N/A	HA2335	N/A	N/A	N/A

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HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD PINTO 4 CYLINDER

1974-78 2300cc/2.3L OHC 4 Cylinder

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Erson's first choice over stock, can be used in stock or slightly modified engines seeking improved low endand mid-range performance.	1000-4000	**E253222** 264P	IN 264° EX 264°	205° 205°	.418" .418"	110°	4°	.000" .000"
Strong street performer. Strong bottom end and mid range. Plus a good top end increase.	1500-4500	**E253322** 274P	IN 274° EX 274°	212° 212°	.450" .450"	110°	4°	.000" .000"
Recommended for serious turbocharged cars seeking sustained high boost and strong mid-range performance. Needs 4 or 5 speed transmission and mid-3 series gearing for best results.	1500-5500	**E253522** 276P	IN 276° EX 274°	218° 212°	.456" .450"	110°	4°	.000" .000"
Strong street performer when used in modified 2300cc engines. 9.0-10.5:1 compression, 390 CFM 4 barrel, headers and mild head work with a 75 horsepower shot of nitrous brings this combo to life.	2000-5500	**E253622** 280P	IN 280° EX 284°	222° 226°	.456" .455"	110°	4°	.000" .000"
Great performer, will pull 17" vacuum in properly set up engine.	2200-5600	**E253625** VAC284	IN 284° EX 284°	226° 226°	.455" .455"	113°	6°	.000" .000"
Light street machines, kit cars and hotrods seeking improved mid-range torque and horsepower should have modified intake and exhaust system for best results. Also works on turbocharged cars.	3000-6000	**E253722** 284P	IN 284° EX 284°	226° 226°	.455" .455"	110°	4°	.000" .000"
Hot street machines need ing Strong mid-range and top end power must have modified aftermarket intake and exhaust system towork best. Needs manual transmission and gears. Noticeable idle.	3500-7000	**E253422** 288P	IN 288° EX 288°	230° 230°	.500" .500"	110°	4°	.000" .000"

SOLID FLAT TAPPET CAMSHAFTS

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Solid/Mechanical Good mid range and top end for medium length circle tracks.	3000-7000	**E253644** P286LT	IN 286° EX 286°	250° 250°	.474" .474"	109°	0°	.008" .010"
Solid/Mechanical Top end flyer. Needs compression, good heads and momentum type track	3500-7500	**E253666** P264/268	IN 296° EX 296°	264° 264°	.444" .444"	109°	0°	.008" .010"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3150	N/A	N/A	HA2012 (Hyd)	N/A	EL1037	N/A

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HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD 6 CYLINDER

1962-83 144-170-200-250 CID 6 Cylinder

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
The Commuter. More power through entire range. Stop and go traffic and expressway use. Good idle, throttle response, fuel efficiency.	800-4500	**E280111** RV5H	IN 274° EX 280°	202° 208°	.410" .420"	110°	4°	.000" .000"
Smooth idle, broad torque range cam for passenger cars, station wagons, pick-ups and RVs.	1000-4800	**E280101** RV10H	IN 280° EX 280°	208° 208°	.420" .420"	111°	4°	.000" .000"
Smooth, strong broad range cam in 200/250 engine. Mid-range cam in smaller engine. Fair idle.	1500-5200	**E280121** TQ20H	IN 292° EX 292°	214° 214°	.449" .449"	110°	4°	.000" .000"
High torque, broad power range cam for on and off-road. Good idle.	1200-5000	**E280201** RV15H	IN 288° EX 288°	214° 214°	.449" .449"	111°	4°	.000" .000"
Works great in slightly modified engines with up to 9.5:1 compression. High-lift and short duration builds good torque and mid-range performance.	2000-5000	**E280321** HI-FLOW -AH	IN 284° EX 284°	220° 220°	.504" .504"	110°	4°	.000" .000"
Mid range power cam. Good torque in larger CID engines. Should have headers and good intake. Lopey idle.	2500-6500	**E280221** TQ30H	IN 310° EX 310°	226° 226°	.462" .462"	110°	4°	.000" .000"
Broad power range cam. High lift and short duration pulls hard from 2000 RPM and up.	2800-6500	**E280521** HI-FLOW IIH	IN 306° EX 306°	235° 235°	.504" .504"	108°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175	N/A	N/A	HA900	N/A	N/A	T3026*

*Will not fit 250. Please call for application.

NOTE-- Between 1960-67, mechanical flat tappet camshafts were used in 144-170 CID 6 cylinder engines. Call Erson's Technical Service Team at 775.882-1622 for more information regarding these applications.

NOTE-- When installing aftermarket valve springs during camshaft upgrades, it is important to check the spring seat register. Often, the manufacturer cuts the cylinder head to accommodate a specific spring. This register, if not removed, decreases spring travel and can cause premature coil bind on the inner spring, resulting in valvetrain failure.

Not legal for sale or use on pollution controlled vehicles.

HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD 6 CYLINDER

1965-95 240-300 CID 6 Cylinder, Gear Driven

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
The commuter cam. More power than stock. Smooth idle, good mileage.	800-4500	**E270111** RV5H	IN 274° EX 280°	202° 208°	.410" .420"	110°	4°	.000" .000"
Broad power range. City and expressway driving and towing. Cars, wagons, pickups and heavier rigs. Good idle, throttle response and fuel efficiency.	1000-4800	**E270101** RV10H	IN 280° EX 280°	208° 208°	.448" .448"	110°	4°	.000" .000"
Strong mid range power. City, fast expressway and open road towing. Delivers max mid-range torque. Good idle, throttle response plus fuel efficiency.	1200-5000	**E270110** RV15H	IN 288° EX 288°	214° 214°	.449" .449"	110°	4°	.000" .000"
The Performer. Superior low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel carburetor and headers recommended.	1500-5200	**E270121** TQ20H	IN 292° EX 292°	214° 214°	.478" .478"	111°	4°	.000" .000"
Works great in slightly modified engines with up to 9.5:1 compression. High-lift and short duration builds good torque and mid-range performance.	2000-5000	**E270321** HI-FLOW -AH	IN 284° EX 284°	220° 220°	.504" .504"	108°	4°	.000" .000"
Broad power camshaft. Should have headers and good intake system. OK for automatic. Fair idle.	2500-6500	**E270221** TQ30H	IN 310° EX 310°	226° 226°	.462" .462"	110°	4°	.000" .000"
Broad power range cam. High lift and short duration pulls hard from 2000 RPM and up.	2800-6500	**E270521** HI-FLOW IIH	IN 306° EX 306°	235° 235°	.504" .504"	108°	0°	.000" .000"

MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD V6

1983-86 2600cc, 2800ccc V6

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong low and mid-range power camshaft for street driven cars. OK with automatic with gears. Good idle.	2000-5000	**E254221** 270-F	IN 270° EX 270°	220° 220°	.456" .456"	111°	0°	.018" .018"
Mid-range performance camshaft.Broad power range. Needs headers and 4 speed for best results.	3000-6000	**E254321** 280-F	IN 286° EX 286°	242° 242°	.500" .500"	111°	0°	.018" .018"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175	N/A	N/A	HA900 (Hyd)	N/A	N/A	N/A

NOTE-- Camshafts for 1972-79 Ford 2600-2800cc V6 engines have smaller journal diameters than 1983-85 Ford V6 engines commonly found in Bronco IIs and light-duty Ford trucks. Therefore, these camshafts are not interchangeable. Call Erson's Technical Service Team at 800-641-7920 for profiles suitable for this application.

NOTE-- It is recommended that year, make and model be supplied to the salesperson when ordering these camshafts.

Not legal for sale or use on pollution controlled vehicles.

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD "Y" BLOCK V8

1955-64 272-292-312 CID V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong low and mid-range power for passsenger cars and pickups. Smooth idle.	1250-4250	**E201121** RV10M	IN 254° EX 254°	210° 210°	.426" .426"	111°	0°	.018" .018"
Broad power range cam. Fair idle. OK for automatic transmission with 3.78 or lower gears.	2000-5000	**E201131** TQ20M	IN 270° EX 270°	220° 220°	.456" .456"	112°	0°	.018" .018"
Broad power range. High-lift, short duration cam. Pulls hard from idle up. Good for automatic transmission with lower gears.	3500-6500	**E201721** HI-FLOW IM	IN 286° EX 286°	242° 242°	.500" .500"	112°	0°	.018" .018"
Mid-range and top end power cam. Needs good intake system, heads and headers to work.	3800-6800	**E201821** HI-FLOW IIM	IN 294° EX 294°	246° 246°	.500" .500"	112°	0°	.018" .018"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
N/A	N/A	N/A	N/A	N/A	N/A	T3031

NOTE--
All valve lifts in this series are figured using 1.47:1 rocker ratios. The 1957 high performance engines had 1.54:1 rocker arm ratio. If you have these rockers, the lift will be increased proportionately.

NOTE--
We offer an extensive selection of computer-designed camshaft lobes to complement your Ford "Y Block". For more extreme profiles, call Erson's Technical Service Team at 800-641-7920.

Not legal for sale or use on pollution controlled vehicles.

MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD FLATHEAD V8

1949-53 239 CID V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong low and mid-range power, can use stock intake and carburation, great for street rods. Lopey idle.	1250-4000	**E290101** Hi-Flow-1M	IN 250° EX 250°	226° 226°	.360" .360"	106°	0°	.015" .015"
Great mid-range and top end power, needs modified intake, carburation and exhaust. Serious street effort, rough idle.	1500-4200	**E290105** Hi-Flow-2M	IN 270° EX 270°	234° 234°	.340" .340"	106°	2°	.018" .018"
Drag race and competition use. Need increased compression, good intake, carburation and headers. Strong top end performance.	2500-4500	**E290110** Hi-Flow-3M	IN 278° EX 278°	242° 242°	.340" .340"	108°	4°	.018" .018"

FORD FLATHEAD V8

1932-48 239 CID V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong low and mid-range power, can use stock intake and carburation, great for street rods. Lopey idle.	1250-4000	**E291100** Hi-Flow-1M	IN 250° EX 250°	226° 226°	.360" .360"	106°	0°	.015" .015"
Great mid-range and top end power, needs modified intake, carburation and exhaust. Serious street effort, rough idle.	1500-4200	**E291104** Hi-Flow-2M	IN 270° EX 270°	234° 234°	.340" .340"	106°	2°	.018" .018"
Drag race and competition use. Need increased compression, good intake, carburation and headers. Strong top end performance.	2500-4500	**E291109** Hi-Flow-3M	IN 278° EX 278°	242° 242°	.340" .340"	108°	4°	.018" .018"

FORD Small Block V8

1962-91 221-255-260-289-302 cubic inch V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street and Strip, these cams require modifications, stall converters, gears, headers, raised compression, larger carbs. Some applications are suited for nitrous and super charge use. Rough idle quality. Good mid to high rpm torque and horsepower. For use with manual transmission or high stall automatic. Will have lower vacuum than stock.	1000-4800	**E210028** TORQUEMASTER	IN 270° EX 280°	204° 214°	.448" .472"	112°	5°	.000" .000"
This range of camshafts offer great power increase over stock cams, engine modifications will further enhance performance. Fair idle quality. Good low to mid-range torque and HP. Will work with stock or modified engine.	1100-5200	**E210032** STREET FIGHTER	IN 280° EX 290°	214° 224°	.472" .496"	112°	5°	.000" .000"
	1500-5600	**E210034** STREET FIGHTER	IN 288° EX 288°	218° 218°	.460" .460"	112°	5°	.000" .000"
	2000-6200	**E210038** STREET FIGHTER	IN 290° EX 300°	224° 234°	.496" .520"	112°	5°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100[1] 3175[2]	502S	205	HA900	1620/1621	106-16[3]	702[4] 7982[5]

[1]late model heads 1.800 installed height
[2]early model heads 1.680 installed height
[3]requires head machining
[4]2 pc eccentric
[5]1 pc eccentric

Note: These cams can be used in the 351W and 302 HIGH OUTPUT Engines by rewiring the distributor to firing order 1-5-4-2-6-3-7-8.
NOTES:
The cam base circle sizes of this camshaft may require the valve train to be adjustable or use of special length pushrods.

The valve lift of this camshaft may require special pushrods, rocker arms or springs to keep geometry correct or prevent binding and damage.

HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1962-91 221-255-260-289-302 cubic inch V8
Except 1982-Later 302 HO

Firing Order 1 5 4 2 6 3 7 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Erson's first choice over stock. Excellent replacement camshaft offering more low end performance. No modifications necessary. OK with stock carburetion, compression and converter. Good idle.	800-3800	**E210120** TQ10H	IN 274° EX 274°	202° 202°	.437" .437"	108°	0°	.000" .000"
The Commuter. More power through entire range. Stop and go traffic and expressway driving use. Good idle, throttle response and fuel efficiency.	1000-4000	**E210111** RV5H	IN 274° EX 280°	202° 208°	.437" .448"	110°	4°	.000" .000"
Broad power range. City and Freeway driving, towing. Heavier cars. Good idle and fuel mileage.	1200-4200	**E210201** RV10H	IN 280° EX 280°	208° 208°	.480" .480"	111°	4°	.000" .000"
Early Broncos and ford pickups seeking improved low end and mid-range performance. Good on and off-road driveability with slightly modified engine. OK for towing light to moderate loads.	1250-4400	**E210112** RV12H	IN 280° EX 288°	208° 214°	.448" .458"	110°	4°	.000" .000"
Good idle and fuel efficiency. Excellent replacement camshaft for cars or trucks with campers towing moderate loads. May be used with small displacement centrifugal or roots type superchargers.	1250-4750	**E211011** M/P1	IN 280° EX 292°	208° 214°	.448" .478"	114°	6°	.000" .000"
Strong mid range power. City and freeway driving, towing. Cars, wagons and pick ups. Good idle.	1200-5000	**E210110** RV15H	IN 288° EX 288°	214° 214°	.458" .458"	110°	4°	.000" .000"
The Performer. Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel and headers recommended.	1500-4500	**E210121** TQ20H	IN 292° EX 292°	214° 214°	.478" .478"	110°	4°	.000" .000"
Fair idle with reasonable fuel efficiency. Good low and mid-range horsepower in lighter chassis. Street rods or street machines with up to 9.5:1 compression.	2000-5000	**E210321** HI-FLOW AH	IN 284° EX 284°	220° 220°	.504" .504"	108°	0°	.000" .000"
High lift. Dual pattern. Needs 4 barrel, headers, lower gears and medium stall speed converter if used with automatic. Extremely strong mid-range camshaft.	2200-5200	**E210222** TQ40H	IN 284° EX 296°	220° 228°	.504" .504"	110°	4°	.000" .000"
Recommended for centrifugal, vane or small B&M roots-type superchargers. Low to moderate boost levels 5-12lbs. Fair idle with strong low and mid-range performance.	2250-5500	**E210422** HI-BOOST IH	IN 284° EX 286°	220° 228°	.504" .504"	114°	6°	.000" .000"
Strong low and mid range power plus good high rpm performance. Use with up to 10lbs of boost	2000-6000	**E210011** TURBO II	IN 310° EX 292°	226° 214°	.493" .478"	112°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100[1]/3175[2]	502S	205	HA900	1621-8	106-16[3]	702[4]/7982[5]

[1]late model heads 1.800 installed height / [2]early model heads 1.680 installed height
[3]requires head machining
[4]2 pc eccentric / [5]1 pc eccentric

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

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HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1962-91 221-255-260-289-302 cubic inch V8

Except 1982-Later 302 HO

Firing Order 1 5 4 2 6 3 7 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Engines with 9.5-10.5:1 compression, aftermarket intake manifold, 600-650CFM 4 barrel, mild head work and headers offer increased mid-range performance. Works best with 4 speed top loader and lower gears.	2500-5800	**E210221** TQ30H	IN 310° EX 310°	226° 226°	.493” .493”	110°	4°	.000” .000”
Broad power range. High lift with short duration guarantees extra performance for the smaller engine. Good for automatic transmission in 289 or larger engines.	3000-6000	**E210421** HI-FLOW IH	IN 296° EX 296°	228° 228°	.504” .504”	108°	0°	.000” .000”
Serious street machines/street rodders seeking more mid-range and top end performance. 289-306 CID engines with aftermarket cylinder heads and big valves, free flowing exhaust, single or 2x4 barrel carburetion. 8-15 lbs. boost. OK with nitrous oxide!	3000-6500	**E210522** HI-BOOST IIH	IN 296° EX 316°	228° 240°	.504” .504”	114°	6°	.000” .000”
Super power range, high lift camshaft. Strong from 3500-7500 in 289 or larger engine. Needs 4 speed, 4 barrel and headers.	3500-6500	**E210521** HI-FLOW IIH	IN 306° EX 306°	235° 235°	.504” .504”	108°	0°	.000” .000”
Good mid-range and top end power. Needs all the good stuff to work best. E.T. Bracket winner. Should have No less than 10.0:1 compression.	3600-6600	**E210621** HI-FLOW IIIH	IN 316° EX 316°	240° 240°	.504” .504”	108°	0°	.000” .000”
Competition camshaft. 5500-7500RPM. Needs good heads, lots of carburetor area and open exhaust to work its best.	3800-6800	**E211121** 500HLH	IN 318° EX 318°	244° 244°	.538” .538”	108°	0°	.000” .000”
Hot Street/E.T. Brackets. 300(+) cubic inch engines with 10.5-11.5:1 compression, modified aftermarket cylinder heads, 750 CFM 4 barrel, 2.5" exhaust, C-4 automatic with 4000RPM converter. OK with nitrous oxide.	4000-7000	**E210921** HI-FLOW-IVH	IN 312° EX 320°	248° 256°	.536” .552”	110°	4°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100[1] /3175[2]	502S	205	HA900	1621-8	106-16[3]	702[4]/7982[5]

[1]late model heads 1.800 installed height / [2]early model heads 1.680 installed height

[3]requires head machining

[4]2 pc eccentric / [5]1 pc eccentric

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WARNING: May Cause Cancer and Reproductive Harm
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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1962-91 221-260-289-302 cubic inch V8
Except 1982-Later 302 HO

Firing Order 1 5 4 2 6 3 7 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets. 289-302CID engines with 9.5-10.0:1 compression. Excellent low and mid-range power in 3200-3600 lb vehicles having 600-650 CFM. 4 barrel, headers, free flowing exhaust and 4 or 5 speed manual transmission.	3000-6000	**E210021** TQ30M	IN 280° EX 280°	230° 230°	.496” .496”	110°	4°	.018” .018”
High lift short duration cam delivers a fantastic power range. Strong from 2500 to 7000. Ok for automatic. Fair Idle.	3200-6400	**E210721** HI -FLOW IM	IN 286° EX 286°	242° 242°	.544” .544”	108°	0°	.022” .024”
Hot Street/E.T. Brackets. Strong mid-range performance in 10.0-11.0:1 compression engines. Mildly ported stock heads or aftermarket heads with larger valves, single 4 barrel or low profile 2x4 barrel set-ups, 4 speed manual or C-4 automatics with 3000-3500 RPM converter.	3500-6500	**E210322** HI FLOW AM	IN 286° EX 294°	242° 246°	.544” .544”	108°	0°	.020” .022”
Bottom end power cam for small engines. Pulls hard from 2500 to 6000.	3200-6400	**E210300** F-282-1	IN 282° EX 282°	246° 246°	.544” .544”	106°	0°	.020” .022”
Hot Street/E.T. Brackets/Oval Track. One of our most popular cams. Good mid-range and upper mid-range performance in 3000-3400 lb. early Mustangs, Comets, Mavericks, etc. No less than 10.5:1 compression. Fast 1/4-3/8 mile, dirt or asphalt tracks.	3200-6600	**E210301** F-282-2	IN 282° EX 290°	246° 254°	.544” .544”	106°	0°	.020” .022”
Pro Street/E.T. Brackets. 289-302 engines with ported and polished aftermarket cylinder heads, large diameter, free flowing exhaust, 700-750 CFM 4 barrel and low gears.Excellent nitrous camshaft.	3600-6800	**E210306** F-288-1	IN 288° EX 296°	250° 258°	.600” .600”	110°	4°	.022” .024”
E.T. Brackets. 2800-3200 lb. doorslammers with 11.5-12.5:1 compression engines. Good heads and intake, 750 CFM carburetion. 4 speed or C-4 automatic with trans brake and 4000RPM converter. 10" slick or 12" D.O.T. soft compound tire and low gears. OK with nitrous.	3600-7000	**E210307** F-296-1	IN 296° EX 302°	258° 264°	.600” .600”	108°	2°	.022” .024”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	502S	205	MA914	1928-8	806-16	702

NOTE--
It is recommended that during the critical break-in period on any high performance flat tappet mechanical valvetrain, strict attention be paid to proper set up. Always follow the manufacturer’s recommended valve spring installation procedures. This may include modifications to the cylinder head and/or the use of longer valves or offset locks and retainers to accommodate these new dimensions. We also recommend you break-in the new camshaft and lifters on the outer spring only. This helps to insure against premature failure during the first few minutes of operation when loads are high and lubrication scarce.

WARNING: May Cause Cancer and Reproductive Harm
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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1962-91 221-260-289-302 cubic inch V8
Except 1982-Later 302 HO

Firing Order 1 5 4 2 6 3 7 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Mid range and top end cam. Works well on short, fast tracks.	3400-6800	**E210303** F-298-1	IN 298° EX 302°	260° 264°	.600" .600"	106°	2°	.022" .024"
For long tracks that require good power off the corners. Pulls hard to 7000.	3600-7000	**E210304** F-302-1	IN 302° EX 306°	264° 268°	.600" .600"	106°	2°	.022" .024"
E.T. Brackets/Super Street. Excellent mid-range and top end power in 2600-3000 lb. door-cars. 289-310 CID engines with 12.5-13.5:1 compression, single 4 barrel or tunnel ram on alcohol or gas. 2 or 3 speed automatics with 5000 RPM converter and 5.13 gears. Use E915251 valve springs at 1.900" installed height.	3800-7200	**E210308** F-304-1A	IN 304° EX 308°	266° 272°	.653" .653"	106°	4°	.022" .024"
Top end only cam, for long fast tracks. Must have best of everything.	3800-7400	**E210305** F-306-1	IN 306° EX 314°	268° 276°	.600" .600"	106°	2°	.022" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	502S	205	MA914	1928-8	806-16	702

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We Specialize In Custom Ground Cams
If you are looking for something special,
contact our technical department at 800-641-7920

WARNING: May Cause Cancer and Reproductive Harm
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MECHANICAL/SOLID ROLLER CAMSHAFTS

FORD Small Block V8

1962-91 221-260-289-302 cubic inch V8
Except 1982-Later 302 HO

Firing Order 1 5 4 2 6 3 7 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets. 289-306CID with 10.5-11.5:1 compression in 3000-3400 lb. vehicles. Mildly ported and polished aftermarket cylinder heads, open plenum style intake manifold with up to 750 CFM carburetion. 4 speed top loader or C-4 automatic with 3500 RPM converter and low gears. OK with small supercharger or nitrous oxide.	3400-6600	**E210900** R-286-1C	IIN 286° EX 294°	246° 254°	.592" .592"	110°	4°	.022" .024"
Hot Street/E.T. Brackets. Excellent mid-range and top end power in 289-302 CID engines with 11.5-12.5:1 compression. Modified aftermarket cylinder heads with headers and large diameter, free flowing exhaust. 4 speed top loader or C-4 automatic with 4000 RPM converter and 4.30 or lower gears. OK with nitrous!	3600-6800	**E210901** R-282-1B	IN 282° EX 292°	253° 263°	.640" .640"	106°	0°	.022" .024"
E.T. Brackets/Super Street. New competition lobe design offers more area under the curve for enhanced volumetric efficiency. Strong top end in 2600-3000 lb. door slammers using 302(+) CID engines with 12.5-13.5:1 compression. Good heads and intake recommended for best results. Automatic cars with 4500 RPM converters, advance camshaft4-6° for more bottom end.	3800-7200	**E210902** R-292-1	IN 282° EX 300°	266° 274°	.656" .656"	106°	0°	.022" .024"
Pro Brackets/Super Stock. 302-310CID engines with 13.5:1 or higher compression in 2200-2600 lb. door cars. Heavily ported cylinder heads with large valves, match ported open plenum single or 2x4 barrel tunnel ram-style intake manifolds with modified 750 CFM or larger carburetion on alcohol or gas. 4 speed or automatic with 5000 RPM converter and 5.38 or lower gears. Works well in 302 super stock automatic cars.	4200-7600	**E210903** R-298-4	IN 298° EX 304°	272° 278°	.720" .688"	104°	0°	.022" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850	507/508	203	RL960	1928-8	807-16	8982

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FORD Small Block V8

1969-91 351W cubic inch V8
1985-95 302 cubic inch HO V8 (Exc Roller Lifters)

Firing Order 1 3 7 2 6 5 4 8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street and Strip, these cams require modifications, stall converters, gears, headers, raised compression, larger carbs. Some applications are suited for nitrous and super charge use. Rough idle quality. Good mid to high rpm torque and horsepower. For use with manual transmission or high stall automatic. Will have lower vacuum than stock.	1000-4800	**E212018** TORQUEMASTER	IN 270° EX 280°	204° 214°	.448" .472"	112°	5°	.000" .000"
This range of camshafts offer great power increase over stock cams, engine modifications will further enhance performance. Fair idle quality. Good low to mid-range torque and HP. Will work with stock or modified engine.	1100-5200	**E212020** STREET FIGHTER	IN 280° EX 290°	214° 224°	.472" .496"	112°	5°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	1621-8 (302) 1908-8 (351W)	106-16	702 (2pc Ecc) 7982 (1pc ecc)

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HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1968-93 351W/5.8L V8

1982-84 302/5.0:L HO V8

Firing Order 1 3 7 2 6 5 4 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
The Commuter. More power through entire range. Stop and go traffic and expressway use. Good idle, throttle response and fuel efficiency.	2000-4500	**E212111** RV5H	IN 274° EX 280°	202° 208°	.437” .448”	110°	4°	.000” .000”
Broad power range. City and expressway driving or towing. Cars, wagons, pickups and heavier rigs. Good idle and throttle response, plus high fuel efficiency.	1200-4200	**E212101** RV10H	IN 280° EX 280°	208° 208°	.448” .448”	111°	4°	.000” .000”
Good idle and fuel efficiency. Excellent replacement camshaft for cars or trucks with campers, towing moderate loads. May be used with small displacement centrifugal, vane or roots-type superchargers. Computer compatible.	1250-4750	**E212011** M/P1	IN 280° EX 292°	208° 214°	.448” .478”	114°	6°	.000” .000”
Late model Broncos and pickups seeking improved low end and mid-range performance. Good on or off road driveability with stock or slightly modified engines. OK for towing light to moderate loads.	1000-5000	**E212112** RV12H	IN 280° EX 288°	208° 214°	.448” .458”	110°	4°	.000” .000”
Strong mid range power. City and freeway driving, towing. Cars, wagons and pick ups. Good idle.	1500-5200	**E212110** RV15H	IN 288° EX 288°	214° 214°	.460” .460”	110°	0°	.000” .000”
The Performer. Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel and headers recommended.	1500-4500	**E212121** TQ20H	IN 292° EX 292°	214° 214°	.478” .478”	110°	4°	.000” .000”
Good idle and throttle response in larger engines. Prefers 4 barrel, headers, 4 or 5 speed manual transmission and low gears for towing moderate toheavy loads. OK for small superchargers.	1500-4800	**E212021** M/P2	IN 292° EX 310°	214° 226°	.478” .493”	114°	4°	.000” .000”
Excellent choice for street rods or slightly modified street machines with up to 9.5:1 compression. Noticeable idle with reasonable fuel efficiency. Good low end and mid-range torque and horsepower in lighter chassis.	1800-5000	**E212321** HI-FLOW AH	IN 284° EX 284°	220° 220°	.504” .504”	108°	4°	.000” .000”
High lift, dual pattern. Needs 4 barrel, headers, lower gears and medium stall speed converter if used with automatic. Extremely strong mid-range camshaft.	2000-5200	**E212222** TQ40H	IN 284° EX 296°	220° 228°	.504” .504”	110°	0°	.000” .000”
recommended for centrifugal, vane or small B&M roots-type superchargers with low to moderate boost levels, 5-12 lbs. Fair idle with strong low and mid-range performance.	2200-5500	**E212422** HI-BOOST IH	IN 284° EX 296°	220° 228°	.504” .504”	112°	4°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	1621-8 (302) 1908-8 (351W)	106-16	702 (2pc Ecc) 7982 (1pc ecc)

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HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1968-93 351W/5.8L V8
1982-84 302/5.0:L HO V8

Firing Order 1 3 7 2 6 5 4 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Stock converter ok, but would like 2200 better 9.5-10.5 compression.	2000-5000	**E212510** ROAD RAGE	IN 284° EX 296°	220° 235°	.504” .504”	108°	5°	.000” .000”
General use street and strip cam for 302 or larger engine. Good idle. Easy on parts.	2000-6000	**E212061** VIKING 100	IN 290° EX 290°	224° 224°	.477” .477”	108°	0°	.000” .000”
Strong low and mid range power plus good high rpm performance. Use with up to 10 lbs of boost.	2000-6000	**E212202** TURBO II	IN 310° EX 292°	226° 214°	.493” .478”	112°	0°	.000” .000”
for 351W engines with 9.5-10.5:1 compression seeking increased mid-range performance. Works best with aftermarket dual plane style intake, 600-650 CFM carburetion, mild head work and headers with free flowing dual exhaust. 4 speed top loader and lower gears in 3200-3600 lb. cars is highly recommended.	2500-5800	**E212221** TQ30H	IN 310° EX 310°	226° 226°	.493” .493”	110°	0°	.000” .000”
Hot Street/E.T. Brackets. High lift, short duration. Delivers broad power range and strong top end. Fair idle. Needs 4 bbl, headers, compression and gears.	3000-6000	**E212421** HI-FLOW IH	IN 296° EX 296°	228° 228°	.504” .504”	108°	0°	.000” .000”
High lift, dual pattern. Needs 4 barrel, headers and lower gears. Works best with stick or high-stall automatic. Strong top end camshaft. Rough idle. Should have at least 9:1 compression.	3200-6300	**E212223** TQ50H	IN 296° EX 306°	228° 235°	.504” .504”	110°	0°	.000” .000”
Mid lift hydraulic, likes 10.0-1 + compression. Needs headers and gears.	2000-5500	**E212103** HL-294-355	IN 294° EX 302°	228° 236°	.568” .568”	108°	0°	.000” .000”
347 + cubic inches computer compatible with tuning. Good heads and exhaust a must.	2400-6200	**E212106** HL-294-355-1	IN 294° EX 302°	228° 236°	.568” .568”	112°	0°	.000” .000”
Needs good intake, 10.5 compression, Headers, Gear.	2600-5600	**E212515** ROAD RAGE	IN 296° EX 316°	228° 240°	.504” .504”	108°	5°	.000” .000”
Big power in naturally aspirated 351+, with good compression.	2500-6400	**E212109** HL-298-355	IN 298° EX 306°	232° 240°	.568” .568”	108°	0°	.000” .000”
Good mid range and top end. Can be used with EFI and proper tuning.	2700-6200	**E212113** HL-298-4	IN 298° EX 302°	232° 240°	.568” .568”	112°	0°	.000” .000”
Runs strong 3200 TO 6800 RPM. Stick or automatic, with gears. Needs good intake and headers, 9.5:1 or more compression. Lopey idle.	3200-6800	**E212521** HI-FLOW IIH	IN 306° EX 306°	235° 235°	.504” .504”	108°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	1621-8 (302) 1908-8 (351W)	106-16	702 (2pc Ecc) 7982 (1pc ecc)

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HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1968-93 351W/5.8L V8
1982-84 302/5.0:L HO V8

Firing Order 1 3 7 2 6 5 4 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Big Power and lots of noise! Needs compression, headers, good intake, gears.	2800-5500	**E212520** ROAD RAGE	IN 306° EX 316°	235° 240°	.504” .504”	108°	5°	.000” .000”
Mid range to top end. Needs good heads and intake.	2800-6200	**E212115** HL-302-4	IN 302° EX 310°	236° 244°	.568” .568”	108°	0°	.000” .000”
Delivers ground pounding torque in 400+ inch engine, can be used in smaller cid with supercharger.	3000-6400	**E212118** HL-302-4	IN 302° EX 310°	236° 244°	.568” .568”	112°	4°	.000” .000”
Mid range power and top end camshaft. Needs all the good stuff to work best. Bracket winner.	3200-7000	**E212731** HI-FLOW IIIH	IN 316° EX 316°	240° 240°	.504” .504”	108°	0°	.000” .000”
Big inch, big compression, good heads and exhaust.	3500-6600	**E212122** HL-306-355	IN 306° EX 314°	240° 248°	.568” .568”	108°	2°	.000” .000”
Big inch, big compression, good heads and exhaust good with 200 shot of nitrous.	3500-6600	**E212124** HL-306-355-1	IN 306° EX 314°	240° 248°	.568” .568”	110°	2°	.000” .000”
Competition cam pulls to 7000 RPM. Needs good heads, Lots of carburetor and open exhaust to work its best.	3500-6800	**E213121** 500HLH	IN 318° EX 318°	244° 244°	.538” .538”	108°	0°	.000” .000”
Top end runner. Needs compression and gears. 4500 stall.	3600-6600	**E212127** HL-310-355	IN 310° EX 318°	244° 252°	.568” .568”	108°	2°	.000” .000”
Must have light car, big cubic inches and compression. OK with nitrous.	3800-6800	**E212130** HL-314-355	IN 314° EX 320°	248° 256°	.568” .552”	110°	4°	.000” .000”
393 cid with 10.5-1 compression. Needs aftermarket heads, intake, headers and gears. pretty much the whole enchilada.	4000-7000	**E212535** ROAD RAGE	IN 314° EX 322°	248° 256°	.568” .568”	108°	5°	.000” .000”
Hot Street/E.T. Brackets. 302-351cubic inch engines with 10.5-11.5:1 compression using modified aftermarket cast iron or aluminum cylinder heads, 750 CFM 4 barrel and 2.5 - 3 inch exhaust will produce good upper RPM horsepower. Automatic cars use with 4000 RPM converter and low gears. OK with nitrous oxide!	3800-6800	**E212921** HI-FLOW IVH	IN 312° EX 320°	248° 256°	.536” .552”	110°	4°	.000” .000”
High rpm, needs limited travel lifters, compression gears and intake.	4000-7000	**E212133** HL-318-355	IN 318° EX 324°	252° 260°	.568” .552”	110°	4°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	1621-8 (302) 1908-8 (351W)	106-16	702 (2pc Ecc) 7982 (1pc ecc)

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1968-93 351W/5.8L V8
1982-84 302/5.0:L HO V8

Firing Order 1 3 7 2 6 5 4 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Mild Street/Slalom Racer. Street rods daily drivers seeking low end power from 302-351 engines with 9.5-10.0:1 compression. Works well in 3200-3600 lb. vehicles with 600-650 CFM 4 barrel, headers, free flowing exhaust and 4 or 5 speed manual transmission.	2500-6500	**E212030** TQ30M	IN 280° EX 280°	230° 230°	.496" .496"	110°	4°	.018" .018"
High lift and short duration delivers fantastic power range, strong from 2800 TO 6800 Ok for automatic. Good idle	2800-6800	**E212721** HI-FLOW IM	IN 286° EX 286°	242° 242°	.544" .544"	108°	0°	.022" .024"
Hot Street/E.T. Brackets. Strong mid-range performance in 10.0-11.0:1 compression engines. Vehicles using mildly-ported stock heads or aftermarket heads with larger valves, single 4 barrel or 2x4 barrel set ups. 4 speed manual or C-4 automatics with 3000-3500 RPM converter.	3200-6500	**E212322** HI-FLOW AM	IN 286° EX 294°	242° 246°	.544" .544"	108°	0°	.022" .022"
Perfect street and strip cam for a 4 speed or automatic with gears. Broad power range, needs 4 barrel and headers. Fair idle.	3000-7000	**E212821** HI-FLOW IIM	IN 294° EX 294°	246° 246°	.544" .544"	108°	0°	.022" .024"
Hot Street/E.T. Brackets/Oval Track. One of Erson's most popular camshafts. Good mid-range and upper mid-range performance in 3000-3400 lb. early Mustangs, Comets, Mavericks, etc. recommended for engines with no less than 10.5:1 compression. Oval track applications running fast 1/4-3/8 mile dirt or asphalt tracks.	3500-6800	**E212301** F-282-2	IN 282° EX 290°	246° 254°	.544" .544"	106°	0°	.024" .026"
Pro Street/E.T. Brackets. 302-351 cubic inch engines using ported and polished aftermarket cylinder heads large diameter, free flowing exhaust. 700-750 CFM 4 barrel and low gears. OK with 1.7:1 rockers and/or nitrous oxide. We recommend 10.5-11.5:1 compression.	3800-7200	**E212302** F-286-3	IN 286° EX 294°	250° 258°	.544" .544"	110°	4°	.024" .026"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	502S	201	MA914	1928-8 (302) 1908-8 (351W)	806-16	7605 (2pc ecc) 7982 (1pc ecc)

NOTE--
Due to the many different cylinder head options available from Ford as well as the aftermarket industry, it is important to measure the installed height of both the intake spring and exhaust spring as they may be different, requiring an entirely different spring from one side to the other. Call Erson's Technical Service Team at 800-641-7920 for more information regarding our selection of valve springs applying to your application.

TECH TIP--
Do like the pros do! When installing any aftermarket cam, particularly mechanical flat tappet cams, strict attention must be paid to the break-in procedure. In most cases, it is necessary to run the cam and lifters in on the outer spring only, when using double springs, for the first 30 minutes of operation. This procedure will often help to reduce the premature valvetrain to cam and lifter failure. The alternative, rebuilding your engine, is much more costly and time consuming.

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1968-93 351W/5.8L V8
1982-84 302/5.0:L HO V8

Firing Order 1 3 7 2 6 5 4 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Strong from 3000 rpm and up. Needs good breathing cylinder heads, headers and gears. Popular bracket cam.	3800-7200	**E212621** 320F	IN 312° EX 312°	256° 256°	.534" .534"	106°	0°	.026" .028"
E.T. Brackets/Oval Track. Excellent mid-range torque and horsepower from 351-358 CID engines with 11.5-12.5:1 compression using modified aftermarket Windsor or Cleveland style cylinder heads. Proven winner in late model sportsman cars on 3/8-1/2 mile tracks. OK with single 750 CFM 4 barrel on alcohol or gas!	4200-7400	**E212303** F296-1A	IN 296° EX 302°	258° 264°	.600" .600"	106°	4°	.024" .026"
E.T. Brackets/Oval Track. A favorite with Wednesday night E.T. Bracket racers or Oval Track racers on 1/2 mile dirt or asphalt tracks. Must have good heads and intake, free flowing, large diameter exhaust system. 4 speed manual or C-4 automatic with 4000 RPM converter to work best.	4500-7600	**E212304** F-298-4	IN 298° EX 306°	260° 268°	.600" .600"	108°	0°	.024" .026"
E.T. Brackets/Super Street. New lobe technology designed specifically for .875" diameter flat tappets, allows for a faster, yet more dynamically stable valve train. 2600-3000 lb. door slammers with 351-380 cubic inch engines sporting 12.5-13.5:1 compression, produces big, top end power. Use E915251 spring at 1.900" installed.	4800-8200	**E212305** F-304-1A	IN 304° EX 308°	266° 272°	.653" .653"	106°	4°	.024" .026"
Mid Range and top end power. Needs good breathing intake and exhaust. Good Bracket cam.	4500-8000	**E212631** 990SB	IN 318° EX 318°	278° 278°	.585" .585"	108°	0°	.026" .028"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	502S	201	MA914	1928-8 (302) 1908-8 (351W)	806-16	7605 (2pc ecc) 7982 (1pc ecc)

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HYDRAULIC ROLLER CAMSHAFTS

FORD Small Block V8

1985-Later 302/5.0:L HO V8
1994-Later 351W/5.8L V8

Firing Order 1 3 7 2 6 5 4 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Improved low end and mid-range power in 302-351 CID engines with 8.5-9.5:1 compression. Works well with stock 4 barrel carburetion or speed density style fuel injection. However, idle quality may improve with mass air flow style fuel injection. Compatible with stock transmissions, converters and gearing. Light duty trucks and Broncos, towing moderate loads.	1800-4800	**E212836** RH-282-1A	IN 282° EX 282°	214° 214°	.512" .512"	112°	4°	.000" .000"
Great low and mid range for very slightly modified 302-351 engines in cars and light trucks.	2200-5500	**E212835** RH-268-4A	IN 268° EX 276°	214° 222°	.512" .512"	110°	4°	.000" .000"
Great mid-range power in 302-347 CID carburated engines. Needs 9.0:1-9.5:1 compression, good intake and exhaust, 650 CFM carb. 2000 RPM converter and 3.27 or lower gears. Tight lobe center makes it aggressive out of the hole and also gives it a lopey idle.	2000-5000	**E212845** RH-268-320	IN 268° EX 276°	214° 222°	.512" .512"	106°	0°	.000" .000"
Dual pattern, high lift, short duration intake offers big mid-range torque, while longer exhaust duration lets your engine breathe. Will work with stock or slightly modified aftermarket cylinder heads and intake with up to 650 CFM carburetion or mass air flow fuel injection. Recommended for engines with no less than 9.5:1 compression, headers and free flowing dual exhaust. OK with nitrous!	2300-5800	**E212837** RH-286-1	IN 286° EX 294°	218° 226°	.544" .544"	112°	4°	.000" .000"
Improved mid-range performance in 302-351 CID engines with 9.0-9.5:1 compression ratios. Works well with aftermarket intake and 4 barrel carburetion or mass air flow fuel injection. Can be used with 1.7:1 rockers, clearance permitting. Prefers 5 speed manual, however, will work fine with automatic transmission.	2000-5200	**E212832** RH-288-1	IN 288° EX 288°	219° 219°	.512" .512"	110°	0°	.000" .000"
High lift/short duration single pattern camshaft pulls hard through the mid range without sacrificing top end.	2500-6500	**E212833** RH-290-1	IN 290° EX 290°	222° 222°	.544" .544"	112°	4°	.000" .000"
New computerized lobe design incorporates faster ramps for improved timing events. More mid-range and Upper mid-range power without compromising low speed driveability. 4 barrel carburetion or mass air flow fuel injection with 65-70 mm throttle body and heavier injectors, enhance performance. Recommended with 5 speed transmission. Can use 1.7 rockers!	2500-6500	**E212838** RH-282-4A	IN 286° EX 286°	222° 226°	.512" .512"	112°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA2205	1622-8 (302) 1934-8 (351W)	806-16	7605 (2pc ecc) 7982 (1pc ecc)

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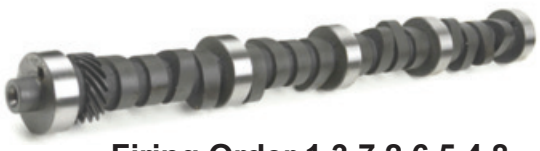
HYDRAULIC ROLLER CAMSHAFTS



FORD Small Block V8

1985-Later 302/5.0:L HO V8
1994-Later 351W/5.8L V8

Firing Order 1 3 7 2 6 5 4 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Good dual purpose cam for 302-351CID carburated engines. Needs at least 9.5:1 compression, good heads, intake and headers. 2500 RPM converter and 3.55 gears. Pulls strong to 6000 RPM.	2500-5500	**E212848** RH-276-320	IN 276° EX 284°	222° 230°	.512" .512"	106°	0°	.000" .000"
351-395 cid. O.E. heads ok, but it would prefer aftermarket heads, 9.0-10.5-1 compression and while you're doing it, step up to the plate and get a good intake and headers too.	2000-5500	**E212600** ROAD RAGE	IN 290° EX 302°	222° 234°	.544" .544"	108°	5°	.000" .000"
Hot Street. 302-351 CID engines with 9.5-10.0:1 compression. Aftermarket cast iron or aluminum cylinder heads (i.e.: GT-40, Dart, TFS, etc.) with minor modifications. Gasket matched Victor Jr. style intake or extrude honed GT-40 or Cobra style fuel injected manifolds with modified mass air flow fuel injection. Intended for 5 speed cars with low gears. Can be used with 1.7 rockers!	2800-6500	**E212839** RH-294-3	IN 294° EX 294°	226° 226°	.512" .512"	112°	4°	.000" .000"
302-351 engines. 10.5-11.5 compression. Must have good cylinder heads and intake, gears 5 speed transmission.	2800-6500	**E212842** RH-288-2A	IN 288° EX 296°	226° 230°	.568" .568"	110°	4°	.000" .000"
Non-computer controlled, naturally aspirated street machines with 9.5-10.5:1 compression in 302 CID engines, will find strong mid-range torque and top end horsepower with this camshaft. Popular with ported aftermarket aluminum cylinder heads, matched Victor Jr. style intake and 750 CFM carburetion. 4 or 5 speed manual or C-4 automatic with 3000RPM converter and low gears. Good choice for nitrous oxide.	3000-6700	**E212840** RH-294-2A	IN 294° EX 302°	226° 234°	.544" .544"	110°	4°	.000" .000"
This cam makes strong mid-range torque and top end horsepower in 351-408 CID carburated engines. Needs minimum of 10:1 compression, aftermarket heads, single plane intake, 750 CFM carb and headers for best performance. 2800-3500 converter and 3.73 gears. Pulls hard to 6500 RPM.	3000-6000	**E212851** RH-294-340	IN 294° EX 302°	226° 234°	.544" .544"	108°	0°	.000" .000"
For 351 and larger CID fuel injected street strip engines. Needs 10:1 compression, good flowing heads, mass air flow, 70mm throttle body, larger injectors and headers for best performance. 3000 RPM converter and 3.73 gears. Works great with nitrous!	3000-6000	**E212854** RH-294-340-1	IN 294° EX 302°	226° 234°	.544" .544"	112°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA2205	1622-8 (302) 1934-8 (351W)	806-16	7605 (2pc ecc) 7982 (1pc ecc)

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HYDRAULIC ROLLER CAMSHAFTS

FORD Small Block V8

1985-Later 302/5.0:L HO V8
1994-Later 351W/5.8L V8

Firing Order 1 3 7 2 6 5 4 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Higher lift version of E212851 camshaft, it uses our newest lobe designs to take advantage of high flowing aftermarket heads. Needs 10:1 compression, single plane intake, 750 CFM carb and headers. 3000 RPM or higher stall with 3.73 or lower gears.	3000-6000	**E212857** RH-286-365	IN 286° EX 296°	226° 234°	.584" .568"	108°	0°	.000" .000"
Compression and aftermarket heads are a must. Gearing and a 2800 stall would be a good idea.	2500-5500	**E212605** ROAD RAGE	IN 288° EX 298°	226° 238°	.568" .584"	108°	5°	.000" .000"
Hot Street/E.T. Brackets. Great for 351 CID or larger carburated engines. Needs 10.5-12.5:1 compression, aluminum heads, Victor intake, 750-850CFM carb and headers.	3500-6500	**E212860** RH-294-365	IN 294° EX 302°	234° 242°	.584" .584"	108°	0°	.000" .000"
Hot Street/E.T. Brackets. Great for 351 CID or larger fuel injected engines. Needs 10.5-12.5:1 compression, aluminum heads, good intake, mass airflow, 75mm throttle body, larger injectors and headers. 3500RPM stall and 4.10 gears. Up to 200HP shot of nitrous.	3500-6500	**E212863** RH-294-365-1	IN 294° EX 302°	234° 242°	.584" .584"	112°	0°	.000" .000"
10.5 compression, headers, intake, gears and aftermarket heads are a must. Big power in a properly set up combination.	3500-6500	**E212610** ROAD RAGE	IN 296° EX 306°	234° 246°	.568" .584"	108°	5°	.000" .000"
Pro Street/E.T. Brackets. Max effort in larger CID engines. Needs at least 11.0:1 compression, aftermarket heads, super Victor, 850 CFM carb with free flowing exhaust. 4000-4500 converter, 4.10-4.56 gears. Will pull to 7000 RPM.	3800-7000	**E212866** RH-302-365	IN 302° EX 310°	242° 250°	.584" .584"	108°	4°	.000" .000"
Needs cubic inches, compression, aftermarket heads, intake and exhaust.	3800-6800	**E212620** ROAD RAGE	IN 302° EX 314°	242° 254°	.584" .584"	108°	5°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA2205	1622-8 (302) 1934-8 (351W)	806-16	7605 (2pc ecc) 7982 (1pc ecc)

Roller Valve Springs - Cyloy Extreme

- Delivers consistent spring pressure beyond any normal spring
- Manufactured from high tech alloy with high metallurgical content
- CST process removes surface imperfections that create stress risers
- Reduced friction in inner & outer springs creates even transition within seat & max life pressure
- CST process improves the life of Cyloy springs with consistent spring pressures

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MECHANICAL/SOLID ROLLER CAMSHAFTS

FORD Small Block V8

1968-93 351W/5.8L V8
1982-84 302/5.0:L HO V8

Firing Order 1 3 7 2 6 5 4 8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E.T. Brackets/Hot Street. Street rods or street machines seeking strong low end and mid-range performance. 351-358 CID with 10.0-11.0:1 compression engines using aftermarket or mildly ported stock cylinder heads. OK with nitrous oxide or small displacement supercharger.	3000-6500	**E212991** R-278-2	IN 278° EX 286°	238° 246°	.592” .592”	112°	4°	.024” .024”
Oval Track. Designed for alcohol burning 358-430 CID engines in late model sportsman, modified or outlaw sprint cars on fast 1/2-5/8 mile tracks. Figures represent 1.7:1 intake and 1.6:1 exhaust rockers as suggested for best results.	3800-7600	**E212992** R-292-2	IN 292° EX 300°	266° 274°	.697” .688”	106°	4°	.024” .024”
Super Stock/Super Gas. Extremely powerful, pulls hard in 358-380 cubic inch super gas roadsters with 13.0-14.5:1 compression. Requires heavily ported aftermarket aluminum cylinder heads, match-ported, open plenum intake and 830 CFM annular discharge 4 barrel on alcohol or gas. Also works well in SS/GT automatic cars with 5000(+) RPM converter when advanced 4°.	4500-8000	**E212993** R-302-6	IN 302° EX 308°	276° 282°	.720” .688”	106°	0°	.024” .024”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850	507/508	203	RL960	1928-8 (302) 1908-8 (351W)	807-16	8605 (1pc ecc) 8982 (2pc ecc)

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NOTE--
The use of solid roller camshafts may not be possible in 1985-later 302s and 1994-later 351W hydraulic roller blocks. Due to the combination of tall lifter bore bosses in these engines and smaller base circle camshafts resulting from taller, more aggressive lobes, interference may occur at the roller lifter button, which attaches the cross bar to the lifter body, and the point in the block where the lifter slides into the lifter bore. This interference will prevent the lifter from making contact with the camshaft at the base circle. It is possible to run a hydraulic flat tappet camshaft or a mechanical flat tappet camshaft in hydraulic roller block providing matched components are used.

FORD Small Block V8

1970-82 351C/351M/400 cubic inch V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street and Strip, these cams require modifications, stall converters, gears, headers, raised compression, larger carbs. Some applications are suited for nitrous and super charge use. Rough idle quality. Good mid to high rpm torque and horsepower. For use with manual transmission or high stall automatic. Will have lower vacuum than stock.	1000-4800	**E220034** TORQUEMASTER	IN 270° EX 280°	204° 214°	.484" .510"	112°	5°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	N/A	N/A	7521

Not legal for sale or use on pollution controlled vehicles.

HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1970-82 BOSS 351C/351C/351M/400M V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Broad power range. City and expressway driving, towing. Cars, wagons, pick-ups, heavier rigs. Good idle and throttle response, plus high fuel efficiency.	1000-4000	**E220101** RV10H	IN 280° EX 280°	208° 208°	.484" .484"	112°	4°	.000" .000"
Good idle and fuel efficiency. Excellent replacement camshaft for passenger cars or light trucks with campers, towing moderate loads. May be used with small displacement centrifugal or vane type superchargers. Computer compatible!	1500-4500	**E220021** M/P1	IN 280° EX 292°	208° 214°	.484" .517"	114°	4°	.000" .000"
Light ford trucks and passenger cars seeking improved low end performance and driveability. May be used with stock components or in slightly modified engines. Recommended for towing light to moderate loads.	1250-4750	**E220112** RV12H	IN 280° EX 288°	208° 214°	.484" .495"	110°	4°	.000" .000"
Strong low and mid range power, plus good high RPM performance. Use with 5 lbs boost, good idle.	1500-5000	**E224041** TURBO1	IN 288° EX 290°	214° 208°	.495" .484"	112°	0°	.000" .000"
The Performer. Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel and headers recommended.	1800-5000	**E220121** TQ20H	IN 292° EX 292°	214° 214°	.517" .517"	110°	4°	.000" .000"
Strong mid range power. City and freeway driving, towing. Cars, wagons and pick ups. Good idle.	1800-5000	**E220201** RV15	IN 288° EX 288°	214° 214°	.495" .495"	110°	4°	.000" .000"
Good idle and throttle response in large engines. Prefers stock or aftermarket dual plane intake manifold, 4 barrel carburetion, headers and 4 or 5 speed manual transmission with low gears for towing moderate to heavy loads. OK with small superchargers!	1500-5000	**E221021** M/P2	IN 296° EX 310°	214° 226°	.517" .533"	114°	4°	.000" .000"
Excellent choice for street rods or slightly modified street machines with up to 9.5:1 compression. Noticeable idle with reasonable fuel efficiency. Good low end torque and mid-range horsepower in 3200-3600lb. vehicles.	2250-5500	**E220321** HI-FLOW AH	IN 284° EX 284°	220° 220°	.545" .545"	112°	4°	.000" .000"
High lift, dual pattern. Needs 4 barrel, headers, lower gears and medium speed converter if used with automatic. Extremely strong mid-range camshaft.	1800-5200	**E220222** TQ40H	IN 284° EX 296°	220° 228°	.545" .545"	110°	0°	.000" .000"
Low lift hot rod cam. Eases the pain of non-adjustable rocker arms.	1800-5200	**E220270** H300-1	IN 300° EX 300°	224° 224°	.467" .467"	110°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	N/A	N/A	7521

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HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1970-82 BOSS 351C/351C/351M/400M V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Top end power cam. Needs headers and gears to work. Rough idle.	1800-5400	**E222061** VIKING 100H	IN 290° EX 290°	224° 224°	.515” .515”	110°	0°	.000” .000”
Low lift hot rod cam. Eases the pain of non-adjustable rocker arms.	2000-6000	**E220275** H300-2	IN 300° EX 312°	224° 236°	.467” .467”	110°	4°	.000” .000”
For 351-400 cubic inch engines with 9.5-10.5:1 compression seeking increased mid-range performance. Works best with aftermarket dual plane style intake. 600-650 CFM carburetion, mild head work and headers with free flowing dual exhaust. Highly recommend 4 speed top loader or 3 speed automatic with mild converter and low gears.	2000-5600	**E220221** TQ30H	IN 310° EX 310°	226° 226°	.533” .533”	110°	4°	.000” .000”
Hot Street/E.T. Brackets. High lift, short duration. Delivers broad power range and strong top end. Fair idle. Needs 4 bbl, headers, compression and gears.	3000-6000	**E220421** HI-FLOW IH	IN 296° EX 296°	228° 228°	.545” .545”	108°	0°	.000” .000”
High lift, dual pattern. Needs 4 barrel, headers and lower gears. Works best with stick or high stall automatic. Strong top end camshaft. Rough idle. Should have at least 9:1 compression.	2000-5500	**E220223** TQ50H	IN 296° EX 306°	228° 235°	.545” .545”	110°	0°	.000” .000”
Runs strong 3500-7000 RPM. Stick or automatic with gears. Needs good intake and headers. 9.5:1 or more compression. Lopey idle.	3500-6500	**E220521** HI-FLOW IIH	IN 306° EX 306°	235° 235°	.545” .545”	108°	0°	.000” .000”
Low lift hot rod cam. Eases the pain of non-adjustable rocker arms.	2500-6400	**E220280** H300-3	IN 312° EX 312°	236° 236°	.467” .467”	110°	4°	.000” .000”
Runs strong 4000-7500 RPM. Needs lower gears, 4 barrel, headers and compression for maximum performance. Rough idle.	3800-6800	**E220621** HI-FLOW IIIH	IN 316° EX 316°	240° 240°	.545” .545”	108°	0°	.000” .000”
Hot Street/E.T. Brackets. 351 cubic inch Cleveland engines with 10.5-11.5:1 compression using modified 2V or 4V cylinder heads, large valves, Victor Jr. style intake, 750 CFM 4 barrel,and 3" diameter, free flowing exhaust produce good top end power. Automatic cars use 4000 RPM converter and low gears. OK with nitrous oxide!	4000-7000	**E220921** HI-FLOW IVH	IN 312° EX 320°	248° 256°	.579” .596”	110°	4°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	N/A	N/A	7521

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1970-82 BOSS 351C/351C/351M/400M V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Street rods or street machines seeking super low end and mid-range power. recommended for 351 cubic inch engines with 9.5-10.5:1 compression, 2V or 4V cylinder heads, single 4 barrel, headers and free flowing dual exhaust. Works fine with 4 speed top loader or automatic with mild converter.	2800-6000	**E220030** TQ30M	IN 280° EX 280°	230° 230°	.536" .536"	110°	0°	.018" .018"
Hot Street/E.T. Brackets. Strong mid-range performance in 10.0-11.0:1 compression engines using mildly ported 2V or 4V cylinder heads, single or 2x4 barrel carburetion, 4 speed manual or 3 speed automatic with 3000-3500 RPM converter and low gears. OK with small shot of nitrous oxide!	3500-6500	**E227242** HI-FLOW AM	IN 286° EX 294°	242° 246°	.588" .588"	110°	4°	.024" .024"
Strong mid range cam with good top end. Needs good breathing and low gears to work well.	3500-6800	**E227051** HI-FLOW IIM	IN 294° EX 294°	246° 246°	.588" .588"	110°	0°	.022" .024"
Hot Street/E.T. Brackets. More mid-range torque and horsepower can be Expected from 351-362 cubic inch engines with 10.5-11.5:1 compression using this camshaft. Needs dual plane or Victor Jr. style intake, 750 CFM 4 barrel, headers and 3" free flowing exhaust. 4 speed or automatic with 3500-4000 RPM converter, low gears and sticky D.O.T. tires.	3750-7200	**E220306** F-286-2	IN 286° EX 294°	250° 258°	.588" .588"	108°	0°	.022" .024"
Mid range and top end power. Needs good breathing , headers and gears to work best.	3800-7000	**E227061** HI -FLOW IIIM	IN 306° EX 306°	254° 254°	.588" .588"	110°	0°	.022" .024"
Strong mid range power, needs good carb. Pulls from 3500 to 6500 plus. Ok for heavy chassis with well set up engine.	3500-6400	**E220302** F-290-1	IN 290° EX 294°	254° 258°	.588" .588"	106°	0°	.022" .024"
Oval Track. Proven winner! Excellent choice for Thunderbird bodied, late model sportsman cars with no less than 12.5:1 compression. Works best with large valved, ported and polished 2V cylinder heads, in cars with no restrictions on fast 3/8-1/2 mile dirt or asphalt tracks.	3600-6800	**E220307** F-296-1A	IN 296° EX 302°	258° 264°	.648" .648"	106°	4°	.022" .024"
Mid range and top end power camshaft. Must have good breathing. Good for light car, longer tracks.	3800-6800	**E220303** F-298-1	IN 298° EX 302°	260° 264°	.648" .648"	106°	0°	.022" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	502S	201	MA914	N/A	N/A	7521

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD Small Block V8

1970-82 BOSS 351C/351C/351M/400M V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Upper mid range and top end performance on longer faster tracks. Needs good breathing heads.	4000-7000	**E220304** F-302-1	IN 302° EX 306°	264° 268°	.648" .648"	106°	0°	.022" .024"
Strictly top end power designed for super speedway. Will turn high RPM without damage to valve train.	4200-7200	**E220305** F-306-1	IN 306° EX 314°	268° 276°	.648" .648"	106°	0°	.022" .024"
E.T. Brackets. Super upper, mid-range and top end power from 2800-3200 lb. Mustangs, Comets, Mavericks, etc., with 351 or larger cubic inch engines. Suggest good heads and intake, 750 CFM 4 barrel carburetion, open headers or large diameter, free flowing exhaust. Automatic cars use 4000-4500 RPM converter, with no less than 12.0:1 compression.	4200-7200	**E220308** F-306-1A	IN 306° EX 314°	268° 276°	.648" .648"	108°	0°	.022" .024"
E.T. Brackets/Super Street. 2400-2800 lb. door cars using 351-390 cubic inch engines with 12.5-13.5:1 compression will produce excellent upper RPM range power. Needs heavily modified, 4V style cylinder heads, matched open plenum intake and 850 CFM blueprinted carburetion on alcohol or gas. Automatic cars use 4500-5000 RPM, 8" converter.	4400-7500	**E220309** F-310-1	IN 310° EX 310°	272° 272°	.648" .648"	106°	0°	.022" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	502S	201	MA914	N/A	N/A	7521

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HYDRAULIC ROLLER CAMSHAFTS

FORD Small Block V8

1970-82 BOSS 351C/351C/351M/400M V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Great low and mid range for very slightly modified engines in cars and light trucks	2200-5500	**E229835** RH-268-4A	IN 268° EX 276°	214° 222°	.554" .554"	110°	4°	.000" .000"
Dual pattern, high lift, short duration intake offers big mid-range torque, while longer exhaust duration lets your engine breathe. Stock or aftermarket heads and intake with up to 650 CFM carburetion.	2300-5800	**E229837** RH-286-1	IN 286° EX 294°	218° 226°	.588" .588"	112°	4°	.000" .000"
More mid-range and Upper mid-range power without compromising low speed driveability.	2500-6500	**E229838** RH-282-4A	IN 282° EX 286°	222° 226°	.554" .554"	112°	4°	.000" .000"
Good dual purpose cam for 351-400CID carburated engines. Needs at least 9.5:1 compression, good heads, intake and headers. 2500 RPM converter and 3.55 gears. Pulls strong to 6000 RPM.	2500-5500	**E229848** RH-276-320	IN 276° EX 284°	222° 230°	.554" .554"	106°	0°	.000" .000"
10.5-11.5 compression.Must have good cylinder heads and intake, gears 5 speed transmission.	2800-6500	**E229842** RH-288-2A	IN 288° EX 296°	226° 230°	.631" .631"	110°	4°	.000" .000"
Non-computer controlled, NA street machines. 9.5-10.5:1 351CID. Strong mid-range and top end. Ported aluminum heads, Victor Jr, 750 CFM carb. 4 or 5 speed or C-4 automatic, 3000RPM converter and gears. Good for nitrous oxide.	3000-6700	**E229840** RH-294-2A	IN 294° EX 302°	226° 234°	.588" .588"	110°	4°	.000" .000"
Strong mid-rangeand top end power in 351-408 CID carburated engines. Minimum 10:1 compression, aftermarket heads, single plane, 750 CFM carb and headers. 2800-3500 converter and 3.73 gears. Pulls hard to 6500 RPM.	3000-6000	**E229851** RH-294-340	IN 294° EX 302°	226° 234°	.588" .588"	108°	0°	.000" .000"
Needs10:1 compression, single plane intake, 750 CFM carb and headers. 3000 RPM or higher stall with 3.73 or lower gears.	3000-6000	**E229857** RH-286-365	IN 286° EX 296°	226° 234°	.631" .631"	108°	0°	.000" .000"
Hot Street/E.T. Brackets. Great for 351 CID or larger carburated engines. Needs 10.5-12.5:1 compression, aluminum heads, Victor intake, 750-850CFM carb and headers.	3500-6500	**E229860** RH-294-365	IN 294° EX 302°	234° 242°	.631" .631"	108°	0°	.000" .000"
Hot Street/E.T. Brackets. 351 CID+ fuel injected engines. 10.5-12.5:1, aluminum heads, mass airflow, 75mm throttle body, larger injectors and headers. 3500RPM stall and 4.10 gears. Up to 200HP shot of nitrous.	3500-6500	**E229863** RH-294-365-1	IN 294° EX 302°	234° 242°	.631" .631"	112°	0°	.000" .000"
Pro Street/E.T. Brackets. Max effort in large CID. Min 11.0:1 compression, aftermarket heads, Super Victor, 850 CFM carb. 4000-4500 converter, 4.10-4.56 gears. Will pull to 7000 RPM.	3800-7000	**E229866** RH-302-365	IN 302° EX 310°	242° 250°	.631" .631"	108°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	502S	201	SL962	N/A	N/A	7521

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MECHANICAL/SOLID ROLLER CAMSHAFTS

FORD Small Block V8

1970-82 BOSS 351C/351C/351M/400M V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets. High performance street machines need ing that extra edge. recommended for 10.5-11.5:1 351-362 cubic inch engines with slightly modified 2V or 4V cylinder heads, single 750 CFM 4 barrel, headers and 3" diameter, free flowing exhaust. Works best in 4 speed cars with small shot of nitrous oxide.	3000-6500	**E229618** R-278-2	IN 278° EX 286°	238° 246°	.640" .640"	112°	4°	.022" .022"
Saturday Night Special / E.T.Brackets. Good mid-range torque and top end horsepower from 351(+) cubic inch engines with 11.5-12.5:1 compression. Works best with modified cylinder heads, 3 angle valve job, gasket-matched intake, 750-850 CFM 4 barrel, 1.750" headers and 3" exhaust with 2 chamber Flow-Masters®. Automatic cars require 4000 RPM converter and low gearing.	4000-7000	**E229619** R-282-1B	IN 282° EX 292°	253° 263°	.692" .692"	106°	0°	.024" .024"
For bracket racing with single 4 barrel and auto trans. Can also be used in stick shift cars.	3600-7000	**E229614** R-288-1A	IN 288° EX 296°	260° 266°	.692" .692"	106°	0°	.024" .026"
For short track where maximum power is needed off the corners. Strong mid range performance yet still pulls past 7000.	3400-6800	**E229616** R-288-1	IN 288° EX 296°	260° 266°	.692" .692"	104°	0°	.024" .026"
Long tracks with high lap speeds. Must have big engine with no carb limits. Some low end torque has been sacrificed for all out top end performance.	4500-7600	**E229617** R-302-2	IN 302° EX 306°	274° 278°	.752" .752"	106°	0°	.024" .026"
Super Gas/Super Stock. Expect more power from 351-390 cubic inch super gassers and E.T. bracket cars with 13.0-14.5:1 compression in 2200-2600 lb. chassis. Requires large valved, heavily modified 4V cylinder heads single plane, open plenum style intake with 850-1050 CFM 4 barrel on alcohol or gas. 2 speed automatic cars use 5000 RPM converter. Also works well in SS/GT automatic cars.	4800-7800	**E229620** R-302-4A	IN 302° EX 310°	276° 284°	.744" .709"	104°	0°	.024" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850	507/508	203	R1964	N/A	N/A	7521

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HYDRAULIC ROLLER CAMSHAFTS

FORD Modular V8

1991-Later 4.6/5.4L SOHC 2 Valve V8

Erson Cams now offers a new line of performance camshafts for 1991 and newer Ford SOHC 4.6 and 5.4 V8 engines. These cams are designed to boost horsepower and torque, and range from mild profiles which provide a noticeable power increase with a stock engine, to very aggressive power producing designs which require correctly matched Erson valvetrain components. These camshafts require custom computer tuning and correctly matched Erson valve springs and retainers. Erson Cams also specializes in custom ground cams, so if you don't see the grind you need, our expert technicians can work with you to produce a profile to meet your needs.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent choice for passenger cars and light trucks seeking improved low and mid-range performance. Computer compatible.	1200-5200	**E213000** RH-262-280	IN 262° EX 270°	206° 214°	.504" .504"	112°	0°	.000" .000"
Great for performance street cars seeking improved mid-range power, while still maintaining good driveability. Requires programmer.	1500-5000	**E213003** RH-270-300	IN 270° EX 278°	214° 222°	.540" .540"	112°	2°	.000" .000"
Hot Street gives strong mid-range and top end performance. Minimum 2000 RPM converter and 3.55 gears. OK with up to 150 HP shot of nitrous, requires programmer.	2000-5500	**E213006** RH-262-310	IN 272° EX 280°	224° 232°	.540" .540"	112°	2°	.000" .000"
Great torque and fuel economy in stock or slightly modified engines. Will require computer tuning.	1500-5000	**E213010** RH-268-300	IN 268° EX 276°	220° 228°	.540" .540"	113°	4°	.000" .000"
Hot Street gives strong mid-range and top end performance. Minimum 2000 RPM converter and 3.55 gears. OK with up to 150 HP shot of nitrous, requires programmer.	2000-5500	**E213013** RH-276-300	IN 276° EX 280°	228° 232°	.540" .540"	113°	0°	.000" .000"
Hot street cam, needs compression and good intake and aftermarket heads. Will also work with 15-20 lb boost turbos.	2200-6000	**E213016** RH-276-320	IN 276° EX 276°	230° 230°	.576" .576"	114°	0°	.000" .000"
Hot street cam, but with lower lift for stock type heads. Good for lower boost applications.	2200-6000	**E213019** RH-280-300	IN 280° EX 280°	232° 232°	.540" .540"	114°	0°	.000" .000"
Hot Street/ET Brackets. Strong top end performance. 3000 RPM Converter and 4:10 gears. Requires programmer.	3000-6500	**E213021** RH-280-320	IN 280° EX 284°	234° 238°	.576" .576"	113°	0°	.000" .000"

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FORD FE V8

1963-76 352-360-390-406-410-427-428 CID V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street and Strip, these cams require modifications, stall converters, gears, headers, raised compression, larger carbs. Some applications are suited for nitrous and super charge use. Rough idle quality. Good mid to high rpm torque and horsepower. For use with manual transmission or high stall automatic. Will have lower vacuum than stock.	1000-4800	**E240032** TORQUEMASTER	IN 270° EX 280°	204° 214°	.484" .510"	112°	5°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	504S	206	HA2083	N/A	N/A	7611

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NOTES:
The valve lift of this camshaft may require special pushrods, rocker arms or springs to keep geometry correct or prevent binding and damage.

HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD FE V8

1963-76 352-360-390-406-410-427-428 CID V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
The commuter cam. More power through entire range. Stop and go traffic and expressway use. Good idle, throttle response and fuel efficiency.	800-4500	**E240111** RV5H	IN 274° EX 280°	202° 208°	.478" .490"	111°	5°	.000" .000"
Broad power range. City and expressway driving or towing. Cars, wagons, pickups, heavier rigs. Good idle and throttle response, high fuel efficiency.	1000-4800	**E240101** RV10H	IN 280° EX 280°	208° 208°	.490" .490"	111°	4°	.000" .000"
Ford pickups, up to F-250 series and heavy passenger cars seeking improved low end power and driveability. Good choice for stock or slightly modified 360-390 cubic inch engines, towing light to moderate loads.	1200-4500	**E240112** RV12H	IN 280° EX 288°	208° 214°	.490" .500"	110°	4°	.000" .000"
Strong mid-range power. City, fast expressway and towing. Delivers maximum mid-range torque. Good idle and throttle response, plus fuel efficiency.	1500-5000	**E240110** RV15H	IN 288° EX 288°	214° 214°	.500" .500"	111°	4°	.000" .000"
The Performer. Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel and headers recommended.	1800-4800	**E240121** TQ20H	IN 292° EX 292°	214° 214°	.523" .523"	110°	4°	.000" .000"
Good idle and throttle response from 390-428 cubic inch engines in 2 wheel drive or 4 wheel drive ford pickups, towing moderate to heavy loads. Prefers stock or aftermarket dual plane intake, 600-650 CFM 4 barrel carburetion, headers and 4 or 5 speed manual transmission with low gears.	1500-5000	**E241021** M/P2	IN 292° EX 310°	214° 226°	.523" .539"	114°	4°	.000" .000"
Expect a fair idle and reasonable fuel efficiency from slightly modified 390-428 CID engines with 8.75-9.5:1 compression. Produces good low end torque and mid-range horsepower in heavier chassis (i.e.: Galaxies, Fairlanes and early Thunderbirds).	1800-5600	**E240321** HI-FLOW AH	IN 284° EX 284°	220° 220°	.551" .551"	112°	4°	.000" .000"
High lift, dual pattern. Needs 4 barrel, headers, lower gears and medium stall speed converter if used with automatic. Extremely strong mid-range camshaft.	2000-5200	**E240222** TQ40H	IN 284° EX 296°	220° 228°	.551" .551"	110°	0°	.000" .000"
Stock converter ok, but would like 2200 better. 9.5-10.5 compression	1800-4800	**E240510** ROAD RAGE	IN 284° EX 296°	220° 235°	.551" .551"	108°	5°	.000" .000"
Low lift hot rod cam, eases installation with non adjustable rocker arms.	1800-5500	**E240270** H-300-1	IN 300° EX 300°	224° 224°	.472" .472"	110°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	504S	206	HA2083	N/A	N/A	7611

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HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD FE V8

1963-76 352-360-390-406-410-427-428 CID V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Mid range and top end cam for street and strip. OK for automatic with 3:90 or lower gears.	2000-6800	**E242061** VIKING100H	IN 290° EX 290°	224° 224°	.521” .521”	111°	4°	.000” .000”
Low lift hot rod cam, eases installation with non adjustable rocker arms.	2000-5600	**E240275** H-300-2	IN 300° EX 312°	224° 236°	.472” .472”	110°	4°	.000” .000”
For 352-428 cubic inch engines with 9.5-10.5:1 compression seeking improved mid-range performance. Works best with aftermarket aluminum dual plane style intake, 600-650 CFM 4 barrel, mild head work and headers with free flowing dual exhaust. Needs 4 speed top loader or 3 speed automatic with mild converter and low gears for best results.	2200-5600	**E240221** TQ30H	IN 310° EX 310°	226° 226°	.539” .539”	110°	4°	.000” .000”
Hot Street/E.T. Brackets. High lift, short duration, broad power range and strong top end. Fair idle. Needs 4 barrel, headers, compression and gears.	3000-6000	**E240421** HI-FLOW 1H	IN 296° EX 296°	228° 228°	.551” .551”	108°	0°	.000” .000”
Needs good intake, 10.5 compression, Headers, Gear.	2200-5250	**E240515** ROAD RAGE	IN 296° EX 316°	228° 240°	.551” .551”	108°	5°	.000” .000”
Runs strong 3500-7000 RPM. Stick or automatic, with gears. Needs good intake and headers, 9.5:1 or more compression. Lopey idle.	3500-6500	**E240521** HI-FLOW IIH	IN 306° EX 306°	235° 235°	.551” .551”	108°	0°	.000” .000”
Big Power and lots of noise! Needs compression, headers, good intake, gears.	2500-5000	**E240520** ROAD RAGE	IN 306° EX 316°	235° 240°	.551” .551”	108°	5°	.000” .000”
Low lift hot rod cam, eases installation with non adjustable rocker arms.	2400-6200	**E240280** H-312-1	IN 312° EX 312°	236° 236°	.472” .472”	110°	4°	.000” .000”
Needs lower gears, 4 barrel, headers and compression for maximum performance. Rough idle.	3800-6800	**E240621** HI-FLOW IIIH	IN 316° EX 316°	240° 240°	.551” .551”	108°	0°	.000” .000”
Needs aftermarket heads, intake, headers and gears. Pretty much the whole enchilada.	3000-6500	**E240535** ROAD RAGE	IN 314° EX 322°	248° 256°	.621” .621”	108°	5°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	504S	206	HA2083	N/A	N/A	7611

CAUTION--

1958-63 engines used a camshaft with a flanged front bearing and a spring loaded thrust button. The flanged camshaft billets are no longer available therefore 1963 1/2 and later camshafts will be supplied in all cases. If you have the early camshaft type engine, you must remove the soft plugs from the oil galleys on either side of the front camshaft bearing and tap the holes to 7/16 N.C. Purchase camshaft bolt 304815-S and 2 washers, 34808-S and 44730-S8, and pump eccentric C3AZ6287A. The timing chain, crank and camshaft sprockets must be changed to the later type. Some camshaft sprockets are manufactured with an integral spacer, purchase Ford spacer C3AZ6265A. Under no circumstances should you use a common hardware bolt to hold the sprocket on the camshaft. Use only the Ford part. Use Loctite on camshaft bolt and thrust plate bolts and torque to proper specs. When camshaft is properly installed, it will rotate freely and have approximately .010” end play. If any parts are omitted or substitutions made, the camshaft bolt may come loose or excessive end play may result, causing severe damage to the camshaft, tappets and engine.

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD FE V8

1963-76 352-360-390-406-410-427-428 CID V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Super low end torque and mid-range power from 352-428 cubic inch ford engines with 9.5-10.5:1 compression. Excellent choice for pickups or heavy passenger cars with slightly modified engines, 4 speed or automatic transmission and mid-3 series gearing.	2500-5500	**E240025** TQ25M	IN 270° EX 280°	220° 230°	.542” .542”	110°	4°	.018” .018”
Hot Street Machines. Strong low end and mid-range performance from Mustangs, Cobras, Fairlanes, etc. using 390-428 cubic inch engines with 10.5-11.5:1 compression. Works best with modified cylinder heads, aftermarket intake, 750 CFM 4 barrel and headers. Needs 4 speed top loader or 3 speed automatic with 3000 RPM converter and low gears. OK with Nitrous oxide!	2500-6000	**E240901** R-278-2	IN 278° EX 286°	238° 246°	.648” .648”	112°	4°	.024” .024”
Broad power range. High lift and short duration Runs hard from 2500 and up.	2500-6000	**E240721** HI-FLOW IM	IN 286° EX 286°	242° 242°	.595” .595”	108°	0°	.022” .024”
Hot Street/E.T. Brackets. Strong mid-range performance from 10.0-11.0:1 engines using mildly ported or aftermarket cylinder heads, single or low profile 2x4 barrel set-ups and headers with dual exhaust. Needs 4 speed toploader or 3 speed automatic with 3000-3500 RPM converter and 3.90 or lower gears.	3200-6200	**E240322** HI-FLOW AM	IN 286° EX 294°	242° 246°	.595” .595”	110°	4°	.024” .024”
Mid range and top end camshaft. Fair idle. Good all around street and strip cam for the built engine. Automatic with 3:90 or lower gears.	2800-6500	**E240821** HI -FLOW IIM	IN 294° EX 294°	246° 246°	.595” .595”	108°	0°	.022” .024”
Hot Street/E.T. Brackets. More mid-range torque and horsepower can be expected from 390-428 cubic inch engines with 10.5-11.5:1 compression. Needs large, dual plane or open plenum style intake with 750-850 CFM 4 barrel headers and 3" diameter, free flowing exhaust. Use 3500-4000 RPM converter with 3 speed automatics and low gears in 3200-3600 lb. vehicles.	2800-6400	**E240305** F-286-2	IN 286° EX 294°	250° 258°	.595” .595”	108°	0°	.024” .024”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504S	206	MA872	N/A	N/A	7611

MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD FE V8

1963-76 352-360-390-406-410-427-428 CID V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Pro Street Machines. 2800-3200 lb. Door-Cars, back halved, tubbed and caged will produce serious mid-range torque and upper mid-range horsepower from 390-428 cubic inch engines with 11.5-12.5:1 compression. Should have modified Cobra Jet heads, low riser 2x4 barrel, back-to back carburetion, headers and 3" diameter, free flowing exhaust for best results.	3500-6800	**E240902** R-294-1	IN 294° EX 302°	254° 260°	.648” .648”	108°	0°	.024” .024”
Super mid-range and top end power from 390-428 cubic inch engines with11.0-12.0:1 compression. Works best with large valves, modified aftermarket or Cobra Jet style cylinder heads single or 2x4 barrel carburetion and 4 speed top loader with low gears. OK with nitrous oxide!	3200-6600	**E240306** F-292-1	IN 292° EX 302°	254° 264°	.656” .656”	114°	4°	.024” .024”
E.T. Brackets/Super Gas. 2600-3000lb early Mustangs using 390-428 cubic inch engines with 12.5-14.0:1 compression. Requires modified cylinder heads, 850-1050 CFM carburetion, large tube headers, 3 speed automatic with 4500 RPM converter, 32" tire and 4.56 gear for best results.	3800-7000	**E240307** F-306-1	IN 306° EX 314°	268° 276°	.656” .656”	108°	0°	.024” .024”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504S	206	MA872	N/A	N/A	7611

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HYDRAULIC ROLLER CAMSHAFTS

FORD FE V8

1963-76 352-360-390-406-410-427-428 CID V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
2 and 4 wheel drive pick up trucks seeking improved low end performance for towing. Works with stock compression & torque converter. Free flowing exhaust enhances mileage and performance.	1200-4800	**E240202** RH-276-1	IN 276° EX 282°	208° 214°	.560” .560”	112°	4°	.000” .000”
Good idle and low end performance with increased mid range. Great for pick ups and towing.	1500-5000	**E240203** RH-282-7	IN 282° EX 294°	214° 226°	.560” .560”	114°	6°	.000” .000”
Increased mid range in heavier chassis. 9.0:1 compression, dual plane manifold, three speed automatic and 3:55 - 3:73 gears. Small shot of nitrous ok.	1800-5200	**E240204** RH-286-1	IN 286° EX 294°	218° 226°	.595” .595”	112°	4°	.000” .000”
New lobe design increases cylinder pressure and torque. Good low and mid range power 9.5:1 to 10.0:1 compression. 4 speed or auto. Easy on parts.	1800-5500	**E240205** RH282-4	IN 282° EX 286°	222° 226°	.560” .560”	110°	0°	.000” .000”
Bottom end power for heavy cars. Muscle car sound.	1800-5000	**E240600** ROAD RAGE	IN 290° EX 302°	222° 234°	.595” .595”	108°	5°	.000” .000”
Rough idle. 9.5:1 to 10.0:1 compression. Mild head work, Single plane manifold 750 cfm carb and 2500 converter.	2000-5600	**E240206** RH-294-2A	IN 294° EX 302°	226° 234°	.595” .595”	112°	4°	.000” .000”
Strong mid range power. Needs at least 9.5:1 compression, dual plane and headers. 2000 stall converter.	2000-5600	**E240230** RH-288-355	IN 288° EX 296°	226° 234°	.621” .621”	108°	0°	.000” .000”
Compression and aftermarket heads are a must. Gearing and a 2500 stall would be a good idea.	2200-5000	**E240605** ROAD RAGE	IN 288° EX 298°	226° 238°	.621” .638”	108°	5°	.000” .000”
Hot street. 10.0:1 to 11.0:1 compression, single or dual 4 barrel, 3000 stall converter.	2400-6200	**E240207** RH-302-2	IN 302° EX 310°	234° 242°	.595” .595”	112°	4°	.000” .000”
10.5 compression, headers, intake, gears and aftermarket heads are a must. Big power in a properly set up combination.	3000-6000	**E240610** ROAD RAGE	IN 296° EX 306°	234° 246°	.621” .638”	108°	5°	.000” .000”
428+ Cid engines. 11.0:1 + compression. Single plane manifold, headers, gears 3800 stall converter.	2600-6400	**E240208** RH-310-2	IN 310° EX 318°	242° 250°	.595” .595”	110°	2°	.000” .000”
Dont skimp on this bad boy, needs cubic inches, compression, aftermarket heads, intake and exhaust.	3200-6250	**E240620** ROAD RAGE	IN 302° EX 314°	242° 254°	.638” .638”	108°	5°	.000” .000”
Hot Street. Needs compression and cubic inches. Good heads and gearing.	3800-6800	**E240340** RH-314-365	IN 314° EX 322°	254° 262°	.639” .639”	114°	2°	.000” .000”
Max effort hydraulic roller. 10.5+ compression. Good heads. 3000 rpm converter.	4000-7200	**E240341** RH-322-365	IN 322° EX 350°	262° 270°	.639” .639”	112°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	504S	206	SL963	N/A	N/A	7611

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FORD Big Block V8

1968-95 370/429/460 cubic inch V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street and Strip, these cams require modifications, stall converters, gears, headers, raised compression, larger carbs. Some applications are suited for nitrous and super charge use. Rough idle quality. Good mid to high rpm torque and horsepower. For use with manual transmission or high stall automatic. Will have lower vacuum than stock.	1000-5000	**E260022** TORQUEMASTER	IN 270° EX 280°	204° 214°	.490" .516"	112°	5°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	N/A	N/A	7990

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NOTE--
Many 1968-72 Ford 429 CID engines came with positive stop rocker arm studs. 1973-95 Ford 429-460 engines came with pedestal-mount, non-adjustable valvetrains. It is important to realize that when changing to an aftermarket camshaft, changes in lobe design warrant the need for an adjustable valvetrain. Converting to an adjustable valvetrain will insure proper lifter pre-load and a smooth and quiet operating engine. It should also be noted that this is mandatory when converting from a hydraulic camshaft to a mechanical camshaft.

HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD Big Block V8

1968-95 370/429/460 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
The commuter cam. More power than stock. Smooth idle, good mileage.	800-4500	**E260111** RV5H	IN 274° EX 280°	202° 208°	.472" .490"	111°	5°	.000" .000"
Broad power range. City and expressway driving or towing. Cars, wagons, pickups, heavier rigs. Good idle and throttle response, plus fuel efficiency.	1000-4800	**E260101** RV10H	IN 280° EX 280°	208° 208°	.484" .490"	111°	4°	.000" .000"
The Performer . Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel and headers recommended.	1250-5000	**E260121** TQ20H	IN 292° EX 292°	214° 214°	.517" .517"	111°	4°	.000" .000"
Strong mid-range power. City, fast expressway and towing. Delivers maximum, mid-range torque. Good idle, throttle response, plus fuel efficiency.	1250-5000	**E260201** RV15H	IN 288° EX 288°	214° 214°	.495" .495"	111°	4°	.000" .000"
Good idle and throttle response from larger engines. Prefers stock or aftermarket dual plane intake manifold, 4 barrel carburetion, headers and 4 or 5 speed manual transmission with low gears for towing moderate to heavy loads. OK with small supercharger.	1500-4750	**E261021** MP/2	IN 292° EX 310°	214° 226°	.517" .533"	114°	4°	.000" .000"
Excellent for slightly modified street machines or muscle trucks. Improved low end and mid-range. 429-460 CID engines with 8.75-9.5:1 compression. Best with aftermarket intake, 600-650 CFM carb, headers, dual exhaust.	1800-4800	**E260321** HI-FLOW AH	IN 284° EX 284°	220° 220°	.545" .545"	112°	4°	.000" .000"
High lift, dual pattern. Needs 4 barrel, headers, lower gears and medium stall speed converter if used with automatic. Extremely strong mid-range camshaft.	2000-5000	**E260222** TQ40H	IN 284° EX 296°	220° 228°	.545" .545"	110°	0°	.000" .000"
Low lift hot rod cam. Eases the pain of non-adjustable rocker arms.	1800-5500	**E260270** H-300-1	IN 300° EX 300°	224° 224°	.467" .467"	110°	4°	.000" .000"
Low lift hot rod cam. Eases the pain of non-adjustable rocker arms.	2000-5600	**E260275** H-300-1A	IN 300° EX 312°	224° 236°	.467" .467"	110°	4°	.000" .000"
Noticeable idle and strong mid-range. 429-460 CID engines. 9.5-10.5:1 compression. Use gasket-matched cylinder heads and aftermarket dual plane intake with up to 750 CFM carburetion, headers, 3" exhaust system, 4 speed top loader or 3 speed auto with mild converter and low gears.	2250-5400	**E260221** TQ30H	IN 310° EX 310°	226° 226°	.533" .533"	111°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	N/A	N/A	7990

NOTE--
Many 1968-72 Ford 429 CID engines came with positive stop rocker arm studs. 1973-95 Ford 429-460 engines came with pedestal-mount, non-adjustable valvetrains. It is important to realize that when changing to an aftermarket camshaft, changes in lobe design warrant the need for an adjustable valvetrain. Converting to an adjustable valvetrain will insure proper lifter pre-load and a smooth and quiet operating engine. It should also be noted that this is mandatory when converting from a hydraulic camshaft to a mechanical camshaft.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

FORD Big Block V8

1968-95 370/429/460 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets. High lift, short duration, broad power range and strong top end. Fair idle. Needs 4 barrel, headers, compression and gears.	2500-5500	**E260421** HI-FLOW IH	IN 296° EX 296°	228° 228°	.545” .545”	108°	0°	.000” .000”
High lift, dual pattern. Needs 4 barrel, headers and lower gears. Works best with stick or high stall automatic. Strong top end camshaft. Rough idle. Should have at least 9:1 compression ratio.	2500-5800	**E260223** TQ50H	IN 296° EX 306°	228° 235°	.545” .545”	110°	0°	.000” .000”
Special design camshaft for jet boat use. Best in otherwise stock 460 engine with tight impeller. Good idle.\	2500-5750	**E260621** JB100	IN 296° EX 306°	228° 235°	.545” .545”	108°	0°	.000” .000”
Needs good intake, 10.5 compression, Headers, Gear.	2200-5250	**E260515** ROAD RAGE	IN 296° EX 316°	228° 240°	.545” .545”	108°	5°	.000” .000”
Runs strong 3500-7000 RPM. Stick or automatic with gears. Needs good intake and headers with 9.5:1 or more compression. Lopey idle.	3000-6000	**E260521** HI-FLOW IIH	IN 306° EX 306°	235° 235°	.545” .545”	108°	0°	.000” .000”
Big Power and Lots of noise! Needs compression, headers, good intake, gears.	2500-5000	**E260520** ROAD RAGE	IN 306° EX 316°	235° 240°	.545” .545”	108°	5°	.000” .000”
Designed for jet boats with a looser impeller and other engine modifications. Some lope at idle.	3400-6400	**E260721** JB200	IN 306° EX 316°	235° 240°	.545” .545”	108°	0°	.000” .000”
Low lift hot rod cam. Eases the pain of non-adjustable rocker arms.	2500-6200	**E260280** H-312-1	IN 312° EX 312°	236° 236°	.467” .467”	110°	4°	.000” .000”
Runs strong 4000-7500 RPM. Needs lower gears. 4 barrel, headers and compression for maximum performance. Rough idle.	3800-6800	**E260526** HI-FLOW IIIH	IN 316° EX 316°	240° 240°	.545” .545”	108°	0°	.000” .000”
Hot Street/E.T. Brackets. 429-460 CID engines with 10.5-11.5:1 compression . Modified stock or aftermarket aluminum Cobra Jet cylinder heads, Victor Jr. style single plane intake, 850 CFM 4 bbl with or without nitrous oxide. Good top end power, 3200-3600 lb. automatic cars use 3500-4000 RPM converter with 4.10 or lower gears.	4000-7000	**260527** HI-FLOW IVH	IN 312° EX 320°	248° 256°	.579” .597”	110°	4°	.000” .000”
Needs aftermarket heads, intake, headers and gears. Pretty much the whole enchilada.	3000-6500	**E260535** ROAD RAGE	IN 314° EX 322°	248° 256°	.614” .614”	108°	5°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3100	502S	205	HA900	N/A	N/A	7990

NOTE--
Many 1968-72 Ford 429 CID engines came with positive stop rocker arm studs. 1973-95 Ford 429-460 engines came with pedestal-mount, non-adjustable valvetrains. It is important to realize that when changing to an aftermarket camshaft, changes in lobe design warrant the need for an adjustable valvetrain. Converting to an adjustable valvetrain will insure proper lifter pre-load and a smooth and quiet operating engine. It should also be noted that this is mandatory when converting from a hydraulic camshaft to a mechanical camshaft.

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MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

FORD Big Block V8

1968-95 370/429/460 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
High lift, short duration. Delivers power over a brooad range. Recommended for ski boats, E.T. Bracket cars, Short Track.	2800-6500	**E267041** HI-FLOW IM	IN 286° EX 286°	242° 242°	.588" .588"	110°	4°	.022" .024"
Strong mid-range power plus good top end power for lighter body cars. Automatic transmission with low gears. Fair idle.	3000-6600	**E267051** HI-FLOW IIIM	IN 294° EX 294°	246° 246°	.588" .588"	110°	4°	.022" .024"
Super low and mid range power with 429-460 cid engines. Works best with open plenum style single 4 barrel and 10.5:1-11:0-1 compression.	3500-6500	**E260300** F-282-4	IN 282° EX 290°	246° 254°	.588" .588"	112°	4°	.024" .024"
Big mid-range torque. 11.5-12.1 compression. Must have good cylinder heads and big intake. Great choice for hot street and ET Brackets.	3600-6800	**E260325** F-298	IN 298° EX 302°	260° 264°	.648" .648"	110°	2°	.024" .024"
E.T. Brackets. Excellent choice for 2800-3200 lb. E.T. bracket racers in need of strong upper, mid-range and top end power without sacrificing reliability. 429-460 CID engines with11.5-12.45:1 compression using modified Cobra Jet style cylinder heads, Victor Jr. intake, blueprinted 850 CFM carburetor and open headers or large diameter, free flowing exhaust. Automatic cars use 4000-4500 RPM converter.	4000-7200	**E264031** 1500X	IN 306° EX 310°	266° 272°	.590" .615"	108°	0°	.024" .024"
E.T. Brackets/Super Gas. 460 cubic inch or larger engines with 12.5-13.5:1 compression in 2200-2600 lb. roadsters or altereds. Needs good heads and intake, single or multiple carburetion on alcohol or gas. Also works well in unblown gas flats or hydros. 2 speed automatic cars use 4500-5000 RPM 8" converter, 4.30 rear gear and 14" x 32" slick.	4500-7600	**E260301** F-314-2	IN 314° EX 322°	276° 284°	.648" .648"	108°	0°	.024" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3425	502S	201	MA914	N/A	N/A	8990

NOTE--
Many 1968-72 Ford 429 CID engines came with positive stop rocker arm studs. 1973-95 Ford 429-460 engines came with pedestal-mount, non-adjustable valvetrains. It is important to realize that when changing to an aftermarket camshaft, changes in lobe design warrant the need for an adjustable valvetrain. Converting to an adjustable valvetrain will insure proper lifter pre-load and a smooth and quiet operating engine. It should also be noted that this is mandatory when converting from a hydraulic camshaft to a mechanical camshaft.

HYDRAULIC ROLLER CAMSHAFTS

FORD Big Block V8

1968-95 370/429/460 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Improved low end and mid-range power in engines with 8.5-9.5:1 compression. Works well with stock 4 barrel carburetion. Compatible with stock transmissions, converters and gearing. Light duty trucks and Broncos, towing moderate loads.	1500-5000	**E269836** RH-282-1A	IN 282° EX 282°	214° 214°	.554” .554”	112°	4°	.000” .000”
Great low and mid range for very slightly modified engines in cars and light trucks	1500-5100	**E269835** RH-268-4A	IN 268° EX 276°	214° 222°	.554” .554”	110°	4°	.000” .000”
Dual pattern, high lift, short duration intake offers big mid-range torque, while longer exhaust duration lets your engine breathe. Will work with stock or slightly modified aftermarket cylinder heads and intake with up to 650 CFM carburetion.	1800-5400	**E269837** RH-286-1	IN 286° EX 294°	218° 226°	.588” .588”	112°	4°	.000” .000”
Stock converter ok, but would like 2200 better 9.5-10.5 compression.	1800-4800	**E260510** ROAD RAGE	IN 284° EX 296°	220° 235°	.545” .545”	108°	5°	.000” .000”
More mid-range and Upper mid-range power without compromising low speed driveability.	2000-5600	**E269838** RH-282-4A	IN 282° EX 286°	222° 226°	.554” .554”	112°	4°	.000” .000”
Good dual purpose cam for 429-460CID carburated engines. Needs at least 9.5:1 compression, good heads, intake and headers. 2500 RPM converter and 3.55 gears. Pulls strong to 5200 RPM.	1800-5400	**E269848** RH-276-320	IN 276° EX 284°	222° 230°	.554” .554”	108°	0°	.000” .000”
O.E. heads ok, but it would prefer aftermarket heads, 9.0-10.5-1 compression, and while you're doing it, step up to the plate with a good intake and headers.	1800-5000	**E260600** ROAD RAGE	IN 290° EX 302°	222° 234°	.588” .588”	108°	5°	.000” .000”
Non-computer controlled, naturally aspirated street machines with 9.5-10.5:1 compression in 351 CID engines will find strong mid-range torque and top end horsepower with this camshaft. Popular with ported, aftermarket aluminum cylinder heads, matched Victor Jr. style intake and 750 CFM carburetion. 4 or 5 speed manual or C-4 automatic with 3000RPM converter and low gears. Good choice for nitrous oxide.	2200-5800	**E269840** RH-294-2A	IN 294° EX 302°	226° 234°	.588” .588”	110°	4°	.000” .000”
This cam makes strong mid-range torque good horsepower in 429-460 CID carburated engines. Needs minimum of 9:1 compression, aftermarket heads, single plane intake, 750 CFM carb and headers for best performance. 2800-3500 converter and 3.23 gears.	2000-5600	**E269851** RH-294-340	IN 294° EX 302°	226° 234°	.588” .588”	108°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3450	502S	201	SL958	N/A	N/A	7660

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HYDRAULIC ROLLER CAMSHAFTS

FORD Big Block V8

1968-95 370/429/460 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
For 429 and larger CID fuel injected street strip engines. Needs 9:1 compression, good flowing heads and headers for best performance. 2200 RPM converter and 3.23 gears. Works great with nitrous!	2200-5800	**E269854** RH-294-340-1	IN 294° EX 302°	226° 234°	.588" .588"	112°	0°	.000" .000"
Compression and aftermarket heads are a must. Gearing and a 2500 stall would be a good idea.	2200-5000	**E260605** ROAD RAGE	IN 288° EX 298°	226° 238°	.614" .631"	108°	5°	.000" .000"
Hot Street/E.T. Brackets. Great for 429 CID or larger, fuel injected engines. Needs 9.8-11.5:1 compression, aluminum heads, good intake, mass airflow, 75mm throttle body, larger injectors and headers. 2500RPM stall and 3.73 gears. Up to 200HP shot of nitrous.	2800-6400	**E269863** RH-294-365-1	IN 294° EX 302°	234° 242°	.631" .631"	112°	0°	.000" .000"
10.5 compression, headers, intake, gears and aftermarket heads are a must. Big power in a properly set up combination.	3000-6000	**E260610** ROAD RAGE	IN 296° EX 306°	234° 246°	.614" .631"	108°	5°	.000" .000"
Pro Street/E.T. Brackets. Needs at least 11.0:1 compression, aftermarket heads, single plane, 850 CFM carb with free flowing exhaust. 3500 converter, 4.10-4.56 gears. Will pull to 6600 RPM.	3000-6800	**E269866** RH-302-365	IN 302° EX 310°	242° 250°	.631" .631"	108°	4°	.000" .000"
Dont skimp on this bad boy, needs cubic inches, compression, aftermarket heads, intake and exhaust.	3200-6250	**E260620** ROAD RAGE	IN 302° EX 314°	242° 254°	.631" .631"	108°	5°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3450	502S	201	SL958	N/A	N/A	7660

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MECHANICAL/SOLID ROLLER CAMSHAFTS

FORD Big Block V8

1968-95 370/429/460 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets. Super low end and mid-range performance from 429-460 CID engines with 10.5-11.5:1 compression. Prefers mildly ported 4V or Cobra Jet-style cylinder heads, single 750-850 CFM 4 barrel and free flowing dual exhaust. 3200-3600 lb.vehicles, use 4 speed top loader or C-6 automatic with 3000 RPM converter and 3.90 or lower gears.	3500-6700	**E260901** R-286-1C	IN 286° EX 294°	246° 254°	.640” .640”	110°	4°	.024” .024”
Pro Street/E.T. Brackets. Excellent mid-range torque and upper mid-range power without sacrificing reliability from 429-472 CID engines with 11.0-12.5:1 compression. Works best with single or 2x4 barrel carburetion, modified cylinder heads and 2.0" diameter headers with large diameter, low restriction exhaust system. C-6 automatic cars use 4000 RPM converter and low gears.	4000-7200	**E260902** R-294-1	IN 294° EX 302°	254° 260°	.640” .640”	108°	0°	.024” .024”
E.T. Brackets. 2800-3200 lb. fully modified door-slammers with no less than 460 cubic inches and 12.0-13.5:1 compression will produce good mid-range and top end power from this camshaft. Needs good heads and intake with blueprinted 850 CFM carburetion, open headers and 8", 4500 RPM converter for best results.	4200-7500	**E260903** R-292-1A	IN 292° EX 300°	266° 274°	.709” .709”	108°	0°	.026” .026”
Super Pro/Super Gas/Marine and Pullers. Excellent choice for roadsters, altereds, flat bottoms, monster trucks and pullers seeking all around top end performance. recommended for 460-500 cubic inch, ford big blocks with 13.0-14.5:1 compression, heavily modified Super-Cobra Jet or aftermarket aluminum SVO-type cylinder heads, 1050 CFM carburetion or injected alcohol induction systems. Needs high stall, 2 speed automatic or power-glide with 2 speed Lenco and low gears in heavier chassis.	4500-7800	**E260904** R-302-4A	IN 302° EX 310°	276° 284°	.744” .744”	108°	0°	.026” .026”
Super Gas/Super Comp/Super Pro. Intended for 1800-2200 lb. dragsters, altereds and roadsters seeking bone jarring, upper RPM range torque and horsepower. 496-514 cubic inch ford big blocks with no less than 14.5:1 compression, should have heavily modified or hand-fabricated cylinder heads and intake with single or multiple carburetion on gas or injected alcohol type induction systems. Also works well in unblown gas hydros.	5000-8000	**E260905** R-312-2	IN 312° EX 318°	286° 292°	.778” .744”	110°	2°	.026” .026”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
4300	516	203	RL957	N/A	N/A	8990

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OLDSMOBILE V8

1967-85 260-307-350-400-403-425-455 cubic inch V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street and Strip, these cams require modifications, stall converters, gears, headers, raised compression, larger carbs. Some applications are suited for nitrous and super charge use. Rough idle quality. Good mid to high rpm torque and horsepower. For use with manual transmission or high stall automatic. Will have lower vacuum than stock.	1000-4800	**E540010** TORQUEMASTER	IN 270° EX 280°	204° 214°	.448" .472"	112°	5°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175	502S	205	HA951	N/A	N/A	7800

ENGINE IDENTIFICATION

YEAR	CUBIC INCH	MODEL	LIFTER DIAMETER	CAM BANK ANGLE
64	330	All	842	45°
65	330	All	842	45°
65	400	All	842	45°
65	425	All	842	45°
66	330	All	842	45°
66	400	All	921	39°
66	425	All except Toronado	842	45°
66	425	Toronado only	921	39°
67	330	All	842	45°
67	400	All	921	39°
67	425	All except Toronado	842	39°
67	425	Toronado only	921	39°
68-69	400	All	842	39°
68-80	350	All	842	39°
68-76	455	All	842	39°
75-82	260	All	842	39°
77-79	403	All	842	39°
80-84	307	All	842	39°

CAUTION--

Most production engines cannot accept more than .500" valve lift without modifying the valve guides for increased clearance. When installing a cam with more than .500" valve lift, it is essential to check the valve spring retainer-to-guide clearance. Do not attempt to operate an engine with less than .150" retainer-to-guide clearance. If you are using valve seals, check the clearance from the top of the seal rather than the top of the guide.

NOTE--

Be sure you know what engine you have before you order. Oldsmobile engines came with two different bore angles and lifter bore diameters. These camshafts are not interchangeable. Refer to our Oldsmobile engine identification chart for assistance.

TECH TIP--

Oldsmobile engines are equipped stock with light duty 5/16" diameter pushrods. We recommend changing to heavy duty 3/8" diameter pushrods in any application where RPM will exceed 5000 particularly marine engines.

TECH TIP--

When installing a hydraulic lifter racing cam in an engine that does not have adjustable rocker arms, care must be taken to ensure that the lifter is still able to adjust itself. If the cam has more than .500" valve lift or if the heads or block have been milled excessively, the engine must be converted to adjustable rockers or adjustable pushrods.

TECH TIP--

To assist in pushrod selection, Oldsmobile V8 engines displacing 260, 307, 330, 350 and 403 cubic inches are referred to as small blocks. Engines displacing 400, 425 and 455 cubic inches are referred to as big blocks.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

OLDSMOBILE V8

1967-85 260-307-350-400-403-425-455 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
The commuter cam. More power than stock. Smooth idle, good mileage.	1000-4000	**E540111** RV5H	IN 274° EX 280°	202° 208°	.437" .448"	110°	4°	.000" .000"
Broad power range. City and expressway driving. Towing. Good idle and throttle response.	1000-4800	**E540101** RV10H	IN 280° EX 280°	208° 208°	.448" .448"	111°	4°	.000" .000"
Excellent replacement camshaft for vehicles seeking improved low end performance and driveability. Compatible with stock compression, torque converter and gearing. Smooth idle.	800-4000	**E540011** M/P1	IN 280° EX 292°	208° 214°	.448" .478"	114°	4°	.000" .000"
Strong mid-range power. City, fast expressway and open road towing. Delivers max mid range torque. Good idle, throttle response plus fuel efficiency.	1200-5000	**E540110** RV15H	IN 288° EX 288°	214° 214°	.458" .458"	111°	4°	.000" .000"
The Performer. Offers increased low end torque and mid-range horsepower with minor modifications. Stock or performer-style intake, 4 barrel carburetion and free flowing dual exhaust system delivers respectable results. Good idle.	1200-4500	**E540121** TQ20H	IN 292° EX 292°	214° 214°	.478" .478"	111°	4°	.000" .000"
The M/P1 camshaft's big brother. Intended for 400-455 cubic inch engines with up to 9.5:1 compression. Builds good torque down low, popular for towing moderate loads. OK with stock converter and power brakes. Good idle.	1500-5000	**E541021** M/P2	IN 292° EX 310°	214° 226°	.478" .493"	114°	4°	.000" .000"
High lift, short duration dual pattern camshaft offers improved mid-range performance. Runs best with aftermarket aluminum intake, up to 750 CFM 4 barrel and headers with free flowing dual exhaust. Largest cam with stock converter mid-3 series gearing. Fair idle.	2000-5500	**E540222** TQ40H	IN 284° EX 296°	220° 280°	.504" .504"	110°	0°	.000" .000"
Mid range and top end. Needs 4 barrel, headers and low gears. OK with automatic with low gears. Fair idle and fuel efficiency.	2200-5800	**E540221** TQ30H	IN 310° EX 310°	226° 226°	.493" .493"	111°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3300	502S	205	HA951	N/A	N/A	7800

NOTE-- Be sure you know what engine you have before you order. See notes page 142

NOTE-- These cams are for 39 deg bank angle. Please call for 45 degree

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HYDRAULIC FLAT TAPPET CAMSHAFTS

OLDSMOBILE V8

1967-85 260-307-350-400-403-425-455 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
High lift, short duration design. Strong to 6000 RPM. Good for Turbo Hydro. Good idle.	2200-5800	**E540421** HI-FLOW IH	IN 296° EX 296°	228° 228°	.504” .504”	108°	0°	.000” .000”
Special dual pattern high lift cam designed for jet boat applications. Used with A impeller in heavier ski boats and cruisers.	2000-5800	**E545321** JB100	IN 296° EX 306°	228° 235°	.504” .504”	112°	4°	.000” .000”
Strong mid range power and top end. Hi lift, short duration designs pulls hard from 3000 rpm and up.	2500-6200	**E540521** HI FLOW IIH	IN 306° EX 306°	235° 235°	.504” .504”	108°	0°	.000” .000”
Designed for the lighter, faster 455 CID ski boats. Pulls hard from 2500 RPM. Lopey idle.	2200-6200	**E545421** JB200	IN 306° EX 316°	235° 240°	.504” .504”	112°	4°	.000” .000”
Strong mid rand and top end for the larger engine. Hi RPM potential.	2500-6200	**E540531** HI-FLOW IIIH	IN 316° EX 316°	240° 240°	.504” .504”	108°	0°	.000” .000”
Top end power for drags, hot boats etc. Must have headers and good carb.	3000-6800	**E545921** 5000HLH	IN 318° EX 318°	244° 244°	.538” .538”	108°	0°	.000” .000”
Hot Street/E.T. Brackets. 400-455 cubic inch muscle cars with 10.5-11.5:1 compression make great mid-range torque and top end horsepower. Good heads, intake and exhaust necessary for competitive results. 3 speed automatic cars use 3500 RPM converter, 4.56 gears and 28" tall tire.	3500-6500	**E540400** HI-FLOW IV H	IN 312° EX 320°	248° 256°	.536” .552”	110°	4°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3300	502S	205	HA951	N/A	N/A	7800

NOTE-- Be sure you know what engine you have before you order. See notes page 142

NOTE-- These cams are for 39 deg bank angle. Please call for 45 degree

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MECHANICAL/SOLID ROLLER CAMSHAFTS

OLDSMOBILE V8

1967-85 260-307-350-400-403-425-455 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E.T. Brackets/Marine. Strong mid-range torque and horsepower from 400-455 cubic inch engines with no less than 11.0:1 compression. Works well in 2800-3200 lb. door-slammers or lake racers equipped with tunnel ram style intake, blueprinted pump and B-impeller. OK with nitrous oxide.	3500-6800	**E540901** R-282-1C	IN 282° EX 292°	253° 263°	.640" .640"	110°	4°	.022" .024"
E.T. Bracket/Super Stock. Super mid-range and top end performance from 307-400 cubic inch engines. Bracket racers should have modified cylinder heads, reinforced block, good intake and exhaust system with no less than 12.5:1 compression. Super stock GT automatic cars should 1.8 rockers on intake side for best results.	4500-7500	**E540902** R-298-5	IN 298° EX 306°	272° 280°	.656" .688"	104°	2°	.022" .024"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3850	507/508	203	N/A	N/A	N/A	7800

NOTE-- Be sure you know what engine you have before you order. See notes page 142

NOTE-- These cams are for 39 deg bank angle. Please call for 45 degree

Erson Break-In & Oil Additive

Erson's Break-In and Oil Additive with ZDDP is the best insurance for your new performance engine or classic car with flat tappet lifters and camshaft.

- Safe, proven ZDDP EP agent takes the worry out of using new oil formulas in engine that have flat tappet camshafts and lifters.
- Turns modern SM quality oil into the ideal oil for superior break-in and everyday use for superior protection.
- Compatible with ALL high-quality oils, standard or synthetic.
- You choose your preferred oil.
- One 4 oz. bottle of Erson's ZDDPlus™ per oil change with SM oil is more economical than 5 quarts of exotic oil.
- Erson with ZDDP is economical and provides the protection required for high performance engines. Great for every oil change.

Part # E911000- Erson's Break-In Oil Additive 4 oz.
Part # E911002- Erson's Assembly Paste with ZDDP

WARNING: May Cause Cancer and Reproductive Harm
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Not legal for sale or use on pollution controlled vehicles.

PONTIAC V8

1955-81 265-287-301-316-326-350-370-389-400-421-428-455 cubic inch V8

ENERGY PLUS SERIES HYDRAULIC FLAT TAPPET

Erson's value line of camshafts. Produced in the USA, these hydraulic flat tappet cams are ideal for budget minded moderate performance engines.

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV	@.050	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street and Strip, these cams require modifications, stall converters, gears, headers, raised compression, larger carbs. Some applications are suited for nitrous and super charge use. Rough idle quality. Good mid to high rpm torque and horsepower. For use with manual transmission or high stall automatic. Will have lower vacuum than stock.	800-4800	**E310009** TORQUEMASTER	IN 270° EX 280°	204° 214°	.420" .443"	110°	5°	.000" .000"
This range of camshafts offer great power increase over stock cams, engine modifications will further enhance performance. Fair idle quality. Good low to mid-range torque and HP. Will work with stock or modified engine.	1000-5000	**E310014** STREET FIGHTER	IN 280° EX 290°	214° 224°	.443" .465"	112°	5°	.000" .000"
	1800-5800	**E310019** STREET FIGHTER	IN 301° EX 313°	224° 236°	.408" .408"	115°	3°	.000" .000"

MATCHED COMPONENTS

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175	502S	205	HA951	N/A	N/A	7700

Notes:
These cams may require conversion to an adjustable valve train.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

PONTIAC V8

1955-81 265-287-301-316-326-350-370-389-400-421-428-455 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Broad power range. City and Freeway driving, towing. Heavier cars. Good idle and fuel mileage.	1000-5000	**E310101** RV10H	IN 280° EX 280°	208° 208°	.420” .420”	111°	4°	.000” .000”
Excellent replacement camshaft for stock engines in heavier chassis seeking more low end performance. Compatible with stock compression, gearing, torque converter and power brakes. Good idle.	1000-4200	**E310011** MP1	IN 280° EX 292°	208° 214°	.420” .448”	114°	6°	.000” .000”
The Performer. Super low and mid-range power. Good idle, fuel efficiency and driveability. 4 barrel and headers recommended.	1200-5000	**E310121** TQ20H	IN 292° EX 292°	214° 214°	.449” .449”	110°	4°	.000” .000”
Strong mid range power. City, fast expressway and open road towing. Delivers max mid range torque. Good idle, throttle response plus fuel efficiency.	1200-5000	**E310201** RV15H	IN 288° EX 288°	214° 214°	.492” .492”	112°	4°	.000” .000”
Great low and mid-range performance from larger engines with no less than 9.0:1 compression. Aftermarket dual plane intake, 4 barrel carburetion and headers with free flowing dual exhaust system helpful.	1750-4800	**E310123** HI-FLOW AH	IN 284° EX 284°	220° 220°	.472” .472”	112°	4°	.000” .000”
High lift, short duration, dual pattern camshaft builds good torque down low and delivers strong mid-range performance when it counts. Largest camshaft with stock converter.	1800-5200	**E310222** TQ40H	IN 284° EX 296°	220° 228°	.472” .472”	110°	4°	.000” .000”
All around performance cam. Broad power range and good idle. Ok for automatic with low gears.	1800-5400	**E312061** VIKING 100H	IN 310° EX 310°	224° 224°	.447” .447”	108°	0°	.000” .000”
Broad power range. Good RPM potential. Designed for 4-8 lbs boost. Smooth idle, good throttle response and fuel efficiency.	2200-5600	**E310010** TURBO IIH	IN 310° EX 292°	226° 214°	.462” .449”	112°	0°	.000” .000”
Mid range and top end. Needs 4 barrel, headers and low gears. OK with automatic with low gears. Fair idle and fuel efficiency.	2200-5600	**E310221** TQ30H	IN 310° EX 310°	226° 226°	.530” .530”	110°	4°	.000” .000”
Hot Street cars wishing to improve mid-range performance this single pattern camshaft is for you. Should have 9.5:1 compression, single plane torker-style intake with up to 750 CFM 4 barrel and headers for best results.	2000-5500	**E310421** HI-FLOW 1H	IN 296° EX 296°	228° 228°	.472” .472”	108°	0°	.000” .000”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175	502S	205	HA951	N/A	N/A	7700

NOTE--
It is important to remember that Pontiac engines require a specific hydraulic tappet. Both the pushrod seat and the oil gallery groove in the main body are at different locations relative to other General Motors V8 engines such as Chevrolet, Oldsmobile and Buick. Therefore, they are not interchangeable.

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HYDRAULIC FLAT TAPPET CAMSHAFTS

PONTIAC V8

1955-81 265-287-301-316-326-350-370-389-400-421-428-455 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
High lift, dual pattern. Needs 4 barrel, headers and lower gears. Works best with stick or high stall automatic. Strong top end camshaft. Rough idle.Should have at least 9:1 compression.	2200-5800	**E310223** TQ50H	IN 296° EX 306°	228° 235°	.472" .472"	110°	4°	.000" .000"
Hot street with at least 9:5:1 compression. Aftermarket dual or single plane manifold. 650 or larger cfm carb. 3:42 or lower gears and 2500 stall.	2200-5800	**E310103** HL-294-355	IN 292° EX 304°	228° 236°	.532" .532"	108°	0°	.000" .000"
Excellent choice for street machines with roots or centrifical type super chargers. 6 to 8 lbs boost 2500 converter and good exhaust.	2200-5800	**E310106** HL-294-355-1	IN 294° EX 302°	228° 236°	.532" .532"	112°	0°	.000" .000"
Hot Street/ET brackets. No less that 10.0:1 compression. 750 cfm or larger carb. Needs good intake and exhaust.	2500-6200	**E310109** HL-298-355	IN 298° EX 306°	232° 240°	.532" .532"	108°	0°	.000" .000"
Excellent choice for street machines with roots or centrifical type super chargers. 7 to 12 lbs boost 2800 converter and good exhaust.	2500-6200	**E310112** HL-298-355	IN 298° EX 306°	232° 240°	.532" .532"	112°	0°	.000" .000"
Runs strong from 3500 to 7000 RPM. Stick or auto with gears. Needs good intake and headers. 9.5-1 compression or more. Lopey idle.	3500-6500	**E310521** HI-FLOW IIH	IN 316° EX 316°	235° 235°	.472" .472"	108°	0°	.000" .000"
Excellent substitute for Pontiac's RamAir IV camshaft. Can be used with1.65:1 rocker to give .520" gross valve lift enhancing mid-range and top end performance. OK with nitrous oxide.	3000-6000	**E310031** MP3	IN 306° EX 316°	235° 240°	.472" .472"	114°	6°	.000" .000"
Hot street/ET brackets. No less that 11.0:1 compression. 3000 stall. Needs good intake and exhaust.	2800-6400	**E310115** HL-302-355	IN 302° EX 310°	236° 244°	.532" .532"	108°	0°	.000" .000"
Serious street machines with roots or centrifical style super charger. Up to 15lbs of boost. 3000 stall converter.	2800-6400	**E310118** HL-302-355	IN 302° EX 310°	236° 244°	.532" .532"	112°	4°	.000" .000"
Strong mid and top end power. Retains enough low end for city driving 7+ lbs boost.	2500-6000	**E310020** TURBO III H	IN 316° EX 306°	240° 235°	.472" .472"	112°	0°	.000" .000"
High performance GTOs and Firebirds with 389 cubic inch or larger engines need no less than 10.25:1 compression to produce exceptional mid-range and top end results. Also works well with 1.65:1 rockers.	3000-6400	**E310321** HI-FLOW III H	IN 316° EX 316°	240° 240°	.472" .472"	108°	0°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175	502S	205	HA951	N/A	N/A	7700

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HYDRAULIC FLAT TAPPET CAMSHAFTS

PONTIAC V8

1955-81 265-287-301-316-326-350-370-389-400-421-428-455 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street 400 & 455 cid engines. 10.5-1 + compression. Aftermarket heads. Single plane and headers.	3000-6600	**E310122** HL-306-355	IN 306° EX 314°	240° 248°	.532" .532"	108°	2°	.000" .000"
Hot street. 10.0:1 to 11.0:1 compression, good intake and free flowing exhaust. At least 3000 rpm converter.	3000-6600	**E310124** HL-306-355-1	IN 306° EX 314°	240° 248°	.532" .532"	110°	2°	.000" .000"
Hot street/ET brackets. Bigger cubic inches, compression and good single plane intake.	3200-6600	**E310127** HL-310-355	IN 310° EX 318°	244° 252°	.532" .532"	108°	2°	.000" .000"
Dual pattern top end cam. Needs low gears, open exhaust and good breathing heads.	3800-6800	**E310621** 525H	IN 318° EX 324°	244° 252°	.504" .502"	108°	0°	.000" .000"
Hot street/Et brackets. Strong mid and top end. Needs good single plane and gears.	3400-6800	**E310130** HL-314-355	IN 314° EX 320°	248° 256°	.532" .532"	110°	4°	.000" .000"
Hot Street/E.T. Brackets. 400-455 cubic inch engines with no less than 10.5:1 compression need modified stock or aftermarket aluminum cylinder heads, single plane intake, up to 850 cfm 4 barrel and headers for best results. Automatic cars use 3500-4000 RPM converter and low gears. OK with nitrous oxide.	3400-6800	**E310444** HI-FLOW IV H	IN 312° EX 320°	248° 256°	.503" .517"	110°	4°	.000" .000"
Pro Street. Max effort. No less than 11.0:1 compression. Aftermarket heads, intake, large tube headers and 3500 to 4000 rpm converter.	3500-7000	**E310133** HL-318-355	IN 318° EX 324°	252° 260°	.532" .532"	110°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3175	502S	205	HA951	N/A	N/A	7700

NOTE--
It is important to remember that Pontiac engines require a specific hydraulic tappet. Both the pushrod seat and the oil gallery groove in the main body are at different locations relative to other General Motors V8 engines such as Chevrolet, Oldsmobile and Buick. Therefore, they are not interchangeable.

MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

PONTIAC V8

1955-81 265-287-301-316-326-350-370-389-400-421-428-455 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot Street/E.T. Brackets. Intended for 389-455 cubic inch engines with no less than 10.0:1 compression needing stronger mid-range performance. Should have lightly modified cylinder heads. 750 CFM 4 barrel and headers for best results. Prefers 4 speed transmission. 1.65:1 rockers and 75-150 horsepower shot of nitrous oxide.	3200-6500	**E310501** F-282-6	IN 282° EX 290°	246° 254°	.510” .510”	110°	4°	.020” .022”
Great mid-range and top end performance from heavier Pontiacs using 400-455 CID engines with 10.5-11.5:1 compression. Good flowing aluminum aftermarket cylinder heads with 1.65:1 rockers improve top end performance. Automatic cars use 3500-4000 RPM converter.	3500-6800	**E310502** F-286-2	IN 286° EX 294°	250° 258°	.510” .510”	108°	0°	.024” .024”
E.T. Brackets/Super Street. 2800-3200 lb. Pontiac door-slammers sporting 455-469 cubic inch engines should have no less than 11.5:1 compression. Automatic cars use 4500 RPM 8" converter, 30" tire and 4.88 gear for competitive results.	4200-7200	**E310503** F-306-1A	IN 306° EX 314°	268° 276°	.562” .562”	108°	0°	.024” .024”

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	502	201	MA992	N/A	N/A	8700

NOTE--
Most Pontiac heads have a stepped inner spring boss that is .775” diameter. This is larger than the inside diameter of many aftermarket valve springs. We recommend placing the inner spring on the head to check this area for interference.

HYDRAULIC ROLLER CAMSHAFTS

PONTIAC V8

1955-81 265-287-301-316-326-350-370-389-400-421-428-455 cubic inch V8

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Hot street machine with at least 10.0:1 compression. Aftermarket dual or single plane mainfold. 650 or larger cfm carb. 2500 converter.	2200-5600	**E310845** RH-286-365	IN 286° EX 294°	226° 234°	.548" .548"	108°	0°	.000" .000"
Hot street machine with at least 10.0:1 compression. Aftermarket dual or single plane mainfold. 650 or larger cfm carb. 2500 converter.	2500-5800	**E310848** RH-290-365	IN 290° EX 298°	230° 238°	.548" .548"	108°	0°	.000" .000"
Hot street machine with at least 10.5:1 compression. Aftermarket heads and good intake. 750 cfm carb and 3000 converter.	2800-6000	**E310849** RH-298-365	IN 298° EX 306°	238° 246°	.548" .548"	108°	0°	.000" .000"
Serious street machines with roots or centrifical style super charger. Up to 15lbs of boost. 3000 stall converter.	2800-6000	**E310851** RH-298-365-1	IN 298° EX 306°	238° 246°	.548" .548"	112°	0°	.000" .000"
Hot street. Strong mid range and top end power in bigger cid engines. Needs aftermarket heads and good exhaust. 3000 to 3500 converter.	3000-6400	**E310853** RH-302-365	IN 302° EX 310°	242° 250°	.548" .548"	108°	2°	.000" .000"
Pro street. Max effort. No less than 11.0:1 compression. Aftermarket heads, intake, large tube headers and 3500 to 4000 rpm converter.	3200-6600	**E310855** RH-310-365	IN 310° EX 318°	250° 258°	.548" .548"	108°	4°	.000" .000"

MATCHED COMPONENTS FOR CAMS ON THIS PAGE

VALVE SPRINGS	RETAINERS	VALVE LOCKS	LIFTERS	PUSH RODS	ROCKER ARMS	TIMING SET
3400	502	201	SL540	N/A	N/A	8700

MECHANICAL/SOLID FLAT TAPPET CAMSHAFTS

TOYOTA OHC 4 Cylinder

1974-92 134/2189cc 20R - 144/2367cc 22RE OHC 4 Cyl

CAM APPLICATIONS	BASIC RPM RANGE	PART NO. GRIND NO.	DURATION ADV @.050		GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
Excellent replacement camshaft for vehicles seeking more low end and mid range torque. Works with stock compression and gearing. Good for towing light to moderate loads.	1000-4000	**E722112** T268-A	IN 268° EX 268°	210° 210°	.436” .436”	109°	4°	.008” .008”
Increased low end torque and mid-range horsepower with minor engine modifications. Sport trucks and 4x4srun best with headers and free flowing exhaust system. 4 or 5 speed manual transmission and low gears.	2000-5000	**E722212** T276-A	IN 276° EX 276°	218° 218°	.447” .447”	109°	4°	.008” .008”
Toyota Celicas and sport trucks wishing to produce more mid-range torque and horsepower look no further. Large CFM 2 barrels lightly modified cylinder heads and free flowing exhaust systems enhance performance.	3000-6000	**E722312** T292-A	IN 292° EX 292°	232° 232°	.491” .491”	109°	4°	.008” .008”

NOTE--
We recommend the use of 22R or 22RE aluminum followers with insert-style contact pads for improved stability at high RPMs.

NOTE--
New cam followers should be used when installing a new camshaft. Contact your Toyota dealer for these components.

ENERGY SERIES HYDRAULIC FLAT TAPPET CAMSHAFT KITS

Erson Camshaft Kits are supplied with a performance camshaft, matched lifters and Erson assembly lube. It is recommended that you use the Erson assembly lube supplied in your Cam Kit along with **Erson E911000 ZDDP Additive** for extended protection against wear, and the additive should be used with every oil change.

Three performance categories of Cam Kits are offered.
- Torque Master Series- Intake Duration 184°-209°
- Street Fighter Series - Intake Duration 214°-230°
- Eliminator Series - Intake Duration 230°-244°

SMALL BLOCK CHEVROLET 1955-95 262-265-267-283-302-305-307-327-350-400 V8

PART NO.	ADV DURATION	.050 DURATION	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E110008K	IN 260°	194°	.398"	104°	0°	.000"
	EX 270°	204°	.420"			.000"
E110014K	IN 270°	204°	.420"	110°	0°	.000"
	EX 280°	214°	.443"			.000"
E110016K	IN 270°	204°	.420"	112°	5°	.000"
	EX 280°	214°	.443"			.000"
E110018K	IN 266°	209°	.414"	110°	2°	.000"
	EX 266°	209°	.414"			.000"
E110020K	IN 275°	209°	.435"	112°	5°	.000"
	EX 278°	216°	.455"			.000"
E110022K	IN 280°	214°	.443"	110°	5°	.000"
	EX 280°	214°	.443"			.000"
E110024K	IN 280°	214°	.443"	112°	5°	.000"
	EX 280°	214°	.443"			.000"
E110026K	IN 280°	214°	.443"	112°	12°	.000"
	EX 290°	224°	.465"			.000"
E110030K	IN 284°	218°	.458"	110°	5°	.000"
	EX 284°	218°	.458"			.000"
E110032K	IN 281°	225°	.480"	108°	4°	.000"
	EX 281°	225°	.480"			.000"
E110034K	IN 304°	222°	.447"	114°	4°	.000"
	EX 304°	222°	.447"			.000"
E110036K	IN 288°	224°	.450"	114°	2°	.000"
	EX 292°	224°	.460"			.000"
E110038K	IN 290°	224°	.465"	112°	5°	.000"
	EX 290°	224°	.465"			.000"
E110040K	IN 280°	224°	.465"	112°	5°	.000"
	EX 280°	234°	.488"			.000"
E110042K	IN 284°	230°	.453"	114°	1°	.000"
	EX 284°	230°	.453"			.000"
E110044K	IN 292°	230°	.480"	108°	2°	.000"
	EX 292°	230°	.480"			.000"
E110046K	IN 292°	232°	.488"	108°	5°	.000"
	EX 300°	234°	.488"			.000"
E110048K	IN 300°	234°	.488"	112°	2°	.000"
	EX 310°	244°	.510"			.000"
E110050K	IN 290°	222°	.468"	110°	4°	.000"
	EX 300°	231°	.480"			.000"
E110052K	IN 310°	244°	.510"	108°	1°	.000"
	EX 310°	244°	.510"			.000"
E110054K	IN 310°	244°	.510"	112°	5°	.000"
	EX 320°	254°	.533"			.000"

All applications are for Hydraulic Flat Face Lifters. Lifters have proper crown on bottom of lifter face. Proper preload of .030-.060 @ operating temperature. Initial start keep engine @ 2000-2500 rpms for 20-30 minutes.

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

ENERGY SERIES HYDRAULIC FLAT TAPPET CAMSHAFT KITS

Erson Camshaft Kits are supplied with a performance camshaft, matched lifters and Erson assembly lube. It is recommended that you use the Erson assembly lube supplied in your Cam Kit along with **Erson E911000 ZDDP Additive** for extended protection against wear, and the additive should be used with every oil change.

Three performance categories of Cam Kits are offered.
- Torque Master Series- Intake Duration 184°-209°
- Street Fighter Series - Intake Duration 214°-230°
- Eliminator Series - Intake Duration 230°-244°

BIG BLOCK CHEVROLET 1967-95 396-402-427-454 V8

1969-90 366 V* (Chain Drive)

PART NO.	ADV DURATION	.050 DURATION	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E120002K	IN 270° EX 280°	204° 214°	.476” .501”	112°	5°	.000” .000”
E120004K	IN 278° EX 278°	212° 212°	.476” .476”	110°	4°	.000” .000”
E120006K	IN 280° EX 280°	214° 214°	.501” .501”	114°	5°	.000” .000”
E120008K	IN 280° EX 290°	214° 224°	.501” .527”	112°	5°	.000” .000”
E120009K	IN 284° EX 284°	218° 218°	.519” .519”	110°	5°	.000” .000”
E120012K	IN 308° EX 328°	222° 235°	.500” .505”	115°	5°	.000” .000”
E120014K	IN 292° EX 292°	224° 224°	.510” .510”	115°	1°	.000” .000”
E120016K	IN 290° EX 292°	224° 232°	.527” .553”	114°	4°	.000” .000”
E120018K	IN 292° EX 292°	230° 230°	.544” .544”	109°	2°	.000” .000”
E120022K	IN 300° EX 310°	234° 244°	.553” .578”	112°	5°	.000” .000”
E120026K	IN 310° EX 320°	244° 254°	.578” .603”	110°	5°	.000” .000”

All applications are for Hydraulic Flat Face Lifters. Lifters have proper crown on bottom of lifter face. Proper preload of .030-.060 @ operating temperature. Initial start keep engine @ 2000-2500 rpms for 20-30 minutes.

ENERGY SERIES HYDRAULIC FLAT TAPPET CAMSHAFT KITS

Erson Camshaft Kits are supplied with a performance camshaft, matched lifters and Erson assembly lube. It is recommended that you use the Erson assembly lube supplied in your Cam Kit along with **Erson E911000 ZDDP Additive** for extended protection against wear, and the additive should be used with every oil change.

Three performance categories of Cam Kits are offered.
- Torque Master Series- Intake Duration 184°-209°
- Street Fighter Series - Intake Duration 214°-230°
- Eliminator Series - Intake Duration 230°-244°

CHRYSLER 1958-78 350-361-383-400-413-426-440 (exc Hemi) V8

PART NO.	ADV DURATION	.050 DURATION	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E410052K	IN 270° EX 280°	204° 214°	.420” .443”	112°	5°	.000” .000”
E410054K	IN 268° EX 284°	214° 225°	.449” .464”	115°	2°	.000” .000”
E410056K	IN 272° EX 272°	224° 224°	.455” .455”	112°	4°	.000” .000”
E410058K	IN 290° EX 300°	224° 234°	.465” .488”	112°	5°	.000” .000”
E410060K	IN 310° EX 310°	244° 244°	.510” .510”	108°	5°	.000” .000”

CHRYSLER 1964-89 273-340-360 V8 1967-89 318 V8

E420014K	IN 270° EX 280°	204° 214°	.420” .443”	112°	5°	.000” .000”
E420016K	IN 268° EX 276°	210° 220°	.429” .444”	114°	2°	.000” .000”
E420022K	IN 292° EX 292°	230° 230°	.480” .480”	109°	2°	.000” .000”

FORD 1962-91 221-255-260-289-302 V8

E210026K	IN 260° EX 270°	194° 204°	.424” .448”	110°	5°	.000” .000”
E210028K	IN 270° EX 280°	204° 214°	.448” .472”	112°	5°	.000” .000”
E210030K	IN 278° EX 278°	212° 212°	.448” .448”	110°	4°	.000” .000”
E210032K	IN 280° EX 290°	214° 224°	.472” .496”	112°	5°	.000” .000”
E210034K	IN 288° EX 288°	218° 218°	.460” .460”	112°	5°	.000” .000”
E210036K	IN 284° EX 284°	218° 218°	.488” .488”	110°	5°	.000” .000”
E210038K	IN 290° EX 300°	224° 234°	.496” .520”	112°	5°	.000” .000”
E210040K	IN 292° EX 292°	230° 230°	.512” .512”	109°	2°	.000” .000”
E210042K	IN 300° EX 310°	234° 244°	.520” .544”	112°	5°	.000” .000”

All applications are for Hydraulic Flat Face Lifters. Lifters have proper crown on bottom of lifter face. Proper preload of .030-.060 @ operating temperature. Initial start keep engine @ 2000-2500 rpms for 20-30 minutes.

ENERGY SERIES HYDRAULIC FLAT TAPPET CAMSHAFT KITS

Erson Camshaft Kits are supplied with a performance camshaft, matched lifters and Erson assembly lube. It is recommended that you use the Erson assembly lube supplied in your Cam Kit along with **Erson E911000 ZDDP Additive** for extended protection against wear, and the additive should be used with every oil change.

Three performance categories of Cam Kits are offered.
- Torque Master Series- Intake Duration 184°-209°
- Street Fighter Series - Intake Duration 214°-230°
- Eliminator Series - Intake Duration 230°-244°

FORD 1969-91 351W 1985-95 302 H/O V8

PART NO.	ADV DURATION	.050 DURATION	GROSS LIFT	LOBE CENTER	ADV	VALVE LASH
E212016K	IN 260° EX 270°	194° 204°	.424” .448”	110°	5°	.000” .000”
E212018K	IN 270° EX 284°	204° 225°	.448” .464”	112°	5°	.000” .000”
E212020K	IN 280° EX 290°	214° 224°	.472” .496”	112°	5°	.000” .000”
E212024K	IN 284° EX 284°	218° 218°	.488” .488”	110°	5°	.000” .000”
E212028K	IN 290° EX 300°	224° 234°	.496” .520”	112°	5°	.000” .000”
E212029K	IN 300° EX 310°	234° 244°	.520” .544”	112°	5°	.000” .000”

FORD 1963-76 352-360-390-406-410-427-428 V8

E240030K	IN 260° EX 270°	194° 204°	.458” .484”	110°	5°	.000” .000”
E240032K	IN 270° EX 280°	204° 214°	.484” .510”	112°	5°	.000” .000”
E240034K	IN 280° EX 280°	214° 214°	.510” .510”	110°	5°	.000” .000”
E240036K	IN 280° EX 290°	214° 224°	.510” .536”	112°	5°	.000” .000”
E240040K	IN 300° EX 300°	223° 223°	.514” .514”	112°	2°	.000” .000”

FORD 1963-76 352-360-390-406-410-427-428 V8

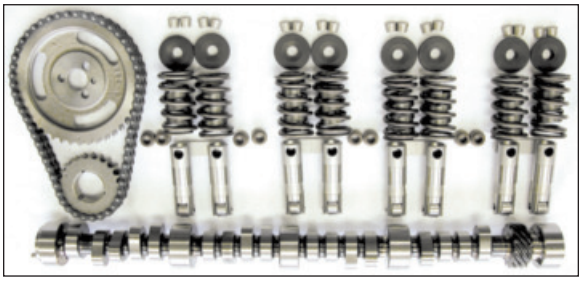
E260020K	IN 260° EX 270°	194° 204°	.464” .490”	110°	5°	.000” .000”
E260022K	IN 270° EX 280°	204° 214°	.490” .516”	112°	5°	.000” .000”
E260026K	IN 280° EX 290°	214° 224°	.516” .543”	112°	5°	.000” .000”
E260028K	IN 284° EX 284°	218° 218°	.534” .534”	110°	5°	.000” .000”

All applications are for Hydraulic Flat Face Lifters. Lifters have proper crown on bottom of lifter face. Proper preload of .030-.060 @ operating temperature. Initial start keep engine @ 2000-2500 rpms for 20-30 minutes.

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

RETRO-FIT HYDRAULIC ROLLER CAMSHAFT KITS

Up-date your engine with Erson's SL Series Hydraulic Roller Cam Kits. Awesome HP increase and Reliability eliminate camshaft and lifter wear associated with flat tappet cams and lifters. SL Series Kits are designed for Street Performance and RPM range of 6200 or below. *Call for cam profile information*



HRK-Kit includes:
- **HR Camshaft**
- **HR SL Lifters**
- **Valve Springs**
- **Retainers**
- **Valve Locks**
- **Valve Stem Seals**
- **Timing Set**
- **Assembly Lube**
- **Decals Erson**

Not all components are available for some kits

Small Block Chevrolet

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KITSBCHEVYHRK	E110996	SL930	3400	502S	201	PBM700

Big Block Chevrolet

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KITBBCHEVYHRK	E120996	SL931	3425	504S	202	PBM701

Chevrolet 348/409

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KIT348/409HRK	E140996-47	SL975	N/A	N/A	N/A	N/A

Small Block Chrysler

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KITSBCHRYHRK	E420996	SL967	3400	502S	N/A	PBM8985

Big Block Chrysler

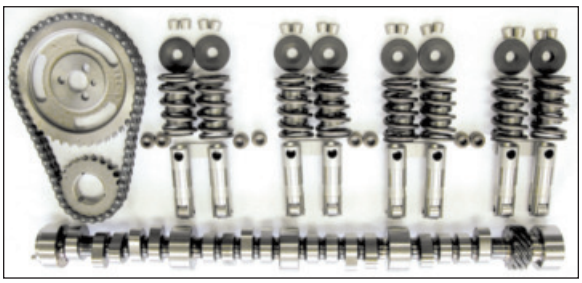
Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KITBBCHRYHRK	E410996	SL969	3450	504	N/A	PBM7606

Small Block Ford 351W

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KIT351WHRK	E212996	SL962	3400	502S	205	PBM7605

RETRO-FIT HYDRAULIC ROLLER CAMSHAFT KITS

Up-date your engine with Erson's SL Series Hydraulic Roller Cam Kits. Awesome HP increase and Reliability eliminate camshaft and lifter wear associated with flat tappet cams and lifters. SL Series Kits are designed for Street Performance and RPM range of 6200 or below. *Call for cam profile information*



HRK-Kit includes:
- **HR Camshaft**
- **HR SL Lifters**
- **Valve Springs**
- **Retainers**
- **Valve Locks**
- **Valve Stem Seals**
- **Timing Set**
- **Assembly Lube**
- **Decals Erson**

Not all components are available for some kits

Small Block Ford 351C

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KIT351CHRK	E220996	SL962	3400	502S	205	PBM7521

Big Block Ford

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KITBBFORDHRK	E260996	SL963	3425	502	201	PBM8990

FE Block Ford

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KITFEFORDHRK	E240996	SL963	3425	504S	206	PBM7611

Oldsmobile

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KITOLDSHRK	E540996	SL540	N/A	N/A	N/A	PBM7800R

Pontiac

Part No.	Cam	Lifters	Springs	Retainers	Locks	Timing Set
KITPONTIACHRK	E310996	SL540	N/A	N/A	N/A	PBM7700

CUSTOM CAMSHAFT GRINDING INFORMATION

Camshaft Recommendation Form: This form will provide vital information to assist our technical staff in recommending the best suited camshaft specifications for optimal performance in your specific vehicle application.

Name:_____
Address:_____
Phone:_____
E-mail address:_____

Vehicle:
Year:_____ Make:_____ Model:_____
Weight:_____ Use:_____
Street:_____ Street/Strip:_____ Show car:_____
1/8 mile drag:_____ 1/4 mile drag:_____ Puller:_____
Oval track:_____ Asphalt:_____ Dirt:_____
1/4 mile:_____ 3/8 mile:_____ 1/2 mile:_____
Marine:_____ Jet Drive:_____ Prop Drive:_____

Engine:
Year:_____ Make:_____ Number of cylinders:_____
Cubic inch:_____ Compression:_____ Bore:_____
Stroke:_____ Rod type:_____ Piston type:
Cast:_____ Forged:_____

Cylinder Heads:
Make:_____ Model:_____ Chamber CC's:_____
Stock:_____ Ported:_____ Port matched:_____
Valve size intake:_____ Valve size exhaust:_____
Rocker ratio intake:_____ Rocker ratio exhaust:_____

Induction:
Carb/s cfm:_____ Mechanical FI:_____ Electronic FI:_____
Manifold type:_____ Blown:_____ Turbo/s:_____
Type of Fuel:_____ Nitrous:_____ No. Stages:_____

Exhaust:
Manifold type:_____ Headers/diameter:_____ Mufflers:_____

Drivetrain:
Transmission type:_____ Converter stall speed:_____
Rear axle ratio:_____ Tire diameter:_____
D.O.T.:_____ Slick:_____ Other:_____

RPM range:_____ Idle speed:_____

Emissions standards required:_____

Computer controlled:
Stock:_____ Chip:_____ Large injectors:_____
Mass air sensor:_____ Speed density sensor:_____

Cam currently used:_____ Type:_____
Intake duration:_____ @.050:_____ Valve lift:_____
Exhaust duration:_____ @.050:_____ Valve lift:_____
Lobe separation:_____ Intake lobe centerline:_____

Cam type desired:
Hydraulic:_____ Mechanical/Solid:_____
Hydraulic roller:_____ Solid roller:_____

Desired change in performance:_____
_____

CUSTOM CAMSHAFTS ORDERING INFORMATION: Erson Cams will grind any of the applications listed below to your specifications. Please use the part number that identifies your engine and the cam profiles that are listed on our lobe profile sheet. With this information call or fax your information to Erson Technical Service Department (800)641-7920/Fax (775)246-7839.

APPLICATION	YEAR	ENGINE SIZE	CAMSHAFT/TAPPET	PAR NO.
American Motors L6	1965-91	99, 232, 258/4.2L	Flat tappet: Hydraulic or Mechanical	E720000
American Motors L6	1998-04	4.0L EFI	Flat tappet Hydraulic	E730000
American Motors V8	1965-93	290, 304, 343, 360, 390, 401	Flat tappet; Hydraulic or Mechanical	E710000
American Motors V8	1966-93	290, 304, 343, 360, 390, 401	Roller; Hydraulic	E710996
American Motors V8	1966-93	290, 304, 343, 360, 390, 401	Roller; Mechanical	E710999
Buick V6	1962-71	198, 225	Flat tappet; Hydraulic or Mechanical	E660000
Buick V6	1962-71	198, 225	Roller; Mechanical	E660999
Buick V6	1975-77	231	Flat tappet; Hydraulic or Mechanical	E690000
Buick V6	1978-85	196, 231, 252	Flat tappet; Hydraulic or Mechanical	E670000
Buick V6	1978-85	196, 231, 252	Roller; Mechanical	E670999
Buick V8	1961-67	215, 300, 340	Flat tappet; Hydraulic or Mechanical	E640000
Buick V8	1968-80	350	Flat tappet; Hydraulic or Mechanical	E650000
Buick V8	1967-76	400, 430, 455	Flat tappet; Hydraulic or Mechanical	E630000
Buick V8	1967-76	400, 430, 455	Retrofit Roller Hydraulic	E630996
Cadillac V8	1968-84	368, 425, 472, 500	Flat tappet; Hydraulic or Mechanical	E520000
Cadillac V8	1968-84	368, 425, 472, 500	Retrofit Roller Hydraulic	E540996
Chevrolet L4	1962-70	153 (Chevy II)	Flat tappet; Hydraulic or Mechanical	E180000
Chevrolet L6	1962-84	194, 230, 250	Flat tappet; Hydraulic or Mechanical	E160000
Chevrolet L6	1937-63	216, 235, 261	Flat tappet; Hydraulic or Mechanical	E150000
Chevrolet L6	1963-90	292	Flat tappet; Hydraulic or Mechanical	E170000
Chevrolet V6	1978-84	200/3.3L, 229/3.8L	Flat tappet; Hydraulic or Mechanical	E190000
Chevrolet V6	-	Odd-fire, 37° tappet bore	Roller; Mechanical	E190999
Chevrolet V6	1985-86	262/4.3L	Flat tappet; Hydraulic or Mechanical	E195000
Chevrolet V6	1987-91	262/4.3L	Roller; Hydraulic	E195999
Chevrolet V6	1981-94	(60°); 173/2.8L, 189/3.1L	Flat tappet; Hydraulic or Mechanical	E199000
Chevrolet V6	1981-94	(60°); 173/2.8L, 189/3.1L	Roller; Mechanical	E199999
Chevrolet V8 GEN III	1997-UP	LS1/LS2/LS6/4.8L,5.3L,5.7L,6.0L	Roller Hydraulic	E110993
Chevrolet V8 GEN III	2007-UP	LS2/4.8L,5.3L,5.7L,6.0L	Roller Hydraulic-Single Bolt	E117993
Motown LS (World) V8	Aftermarket		Roller; Hydraulic	E115996
Motown LS (World) V8	Aftermarket		Roller; Mechanical	E115999
Chevrolet V8 Small Block	1957-96	262-400	Flat tappet; Hydraulic or Mechanical	E110000
Chevrolet V8 Small Block	1957-96	262-400	Flat tappet; r 4-7 Swap Hyd or Mechanical	E110074
Chevrolet V8 Small Block	1957-86	262-400	Solid Roller 4-7 Swap	E110994
Chevrolet V8 Small Block	1957-86	262-400	Solid Roller 4-7 Swap, Small Base Circle	E110994S
Chevrolet V8 Small Block	1957-86	262-400	Solid Roller 4-7 Swap, 50mm	E110994-50
Chevrolet V8 Small Block	1957-86	262-400	Solid Roller 4x7-3x2 Firing Order Swap	E110994A
Chevrolet V8 Small Block	1987-96	305/5.0L, 350/5.7L/LT-1	Roller; Hydraulic Stepnose	E110995
Chevrolet V8 Small Block	1987-97	305/5.0L, 350/5.7L/LT-1	4-7 Swap Roller Hydraulic Stepnose	E110995-47
Chevrolet V8 Small Block	1957-86	262-400	Roller; *Retrofit* Hydraulic	E110996
Chevrolet V8 Small Block	1957-86	262-400	4-7 Swap Retro Fit Roller Hydraulic	E110996-47
Chevrolet V8 Small Block	1957-96	262-400	Roller; Mechanical, 2-piece iron gear 8620 billet	E110997
Chevrolet V8 Small Block	1957-96	262-400	Roller; Mechanical, small base circle	E110998
Chevrolet V8 Small Block	1957-96	262-400	Roller; Mechanical	E110999
Chevrolet V8 Small Block	1957-96	262-400	Roller; Mechanical, 50mm	E110999-50
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Flat tappet; Hydraulic or Mechanical	E120000
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Flat tappet; 4-7 Swap, Hyd or Mechanical	E120074
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Solid Roller 4-7 Swap	E120994
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Solid Roller 4x7-3x2 Firing Order Swap	E120994A
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Solid Roller 4-7 Swap, 55mm	E120994-55
Chevrolet V8 Big Block	1996-99	454, 502	Gen 6 Roller Hydraulic Stepnose	E120995
Chevrolet V8 Big Block	1996-99	454, 502	Gen 6 Stepnose Solid Roller	E120995SR
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Roller; Hydraulic	E120996
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Retro Fit 4-7 Swap Roller Hydraulic	E120996-47
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Roller; Mechanical, 2-piece iron gear 8620 billet	E120997
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Roller; Mechanical, small base circle	E120998
Chevrolet V8 Big Block	1967-95	396, 402, 427, 454/7.4L, 502/8.2L	Roller; Mechanical	E120999
Chevrolet V8 Big Block	1958-65	348, 409, 427(Z-11)	Flat Tappet; Hydraulic or Mechanical	E140000
Chevrolet V8 Big Block	1958-65	348, 409, 427(Z-11)	Retrofit Roller Hydraulic	E140996
Chevrolet V8 Big Block	1958-65	348, 409, 427(Z-11)	Solid Roller	E140999

APPLICATION	YEAR	ENGINE SIZE	CAMSHAFT/TAPPET	PART NO.
Chrysler L6	1960-80	170, 198, 225; Slant 6	Flat tappet; Mechanical	E470000
Chrysler L6	1960-87	170, 198, 225; Slant 6	Retrofit Flat tappet Hydraulic	E470001
Chrysler V8 LA	1965-95	273, 340, 360; 1967-95 318	Flat tappet; Hydraulic or Mechanical	E420000
Chrysler V8 LA	1965-89	273, 340, 360, 1967-95 318	Retro Fit Roller Hydraulic	E420996
Chrysler V8 LA	1965-95	273, 340, 360; 1967-95 318	Roller; Mechanical	E420999
Chrysler V8 B, RB	1958-79	361, 383, 400, 413, 426 Wedge, 440	Flat tappet; Hydraulic or Mechanical	E410000
Chrysler V8 B, RB	1958-79	361,383,400,413,426 Wedge, 440	Retro Fit Roller Hydraulic	E410996
Chrysler V8 B, RB	1958-79	361, 383, 400, 413, 426 Wedge, 440	Roller; Mechanical	E410999
Chrysler V8 Magnum	1992-98	318/360	Roller Hydraulic	E430996
Chrysler V8 Hemi	2003-UP	5.7/6.1L	Roller Hydraulic	E440996
Chrysler V8 Hemi	1966-71	426	Retro Fit Roller Hydraulic	E460996
Chrysler V8 Hemi	1957-58	392; Donovan 417	Roller; Mechanical	E480999
Chrysler V8 Hemi	1966-71	426	Flat tappet; Hydraulic or Mechanical	E460000
Chrysler V8 Hemi	1966-71	426	Retrofit Roller Mechanical	E490994
Chrysler V8 Hemi	1966-71	426	Roller; Mechanical	E460999
Chrysler V8 Aftermarket Hemi	-	Keith Black Stage 7, 48°	Roller; Mechanical	E466994
Chrysler V8 Aftermarket Hemi	-	Keith Black Stage 7 & TFX, 48°	Roller; Mechanical, 2.125 journal 9310 billet	E466999
Ford L4 1.6L	1971-80	O.H.V. 1600cc	Flat tappet; Mechanical	E250000
Ford L4 2.0L	1971-74	O.H.C. 2000cc	Mechanical tappet/follower	E259000
Ford L4 2.0L	1983-88	O.H.C. 2.0L Ranger	Hydraulic tappet/follower	E253000
Ford L4 2.3L	1974-90	2300cc/2.3L, Pinto, Ranger, Aerostar	Hydraulic tappet/follower	E253000
Ford L6	1960-83	144, 170, 200, 250	Flat tappet; Hydraulic or Mechanical	E280000
Ford L6	1965-92	240, 300	Flat tappet; Hydraulic or Mechanical	E270000
Ford V6	1972-79	2600cc, 2800cc	Flat tappet; Hydraulic or Mechanical	E252000
Ford V6	1983-86	2.8L Bronco II, Ranger, Aerostar	Flat tappet; Hydraulic or Mechanical	E254000
Ford V8	1955-62	272, 292, 312	Flat tappet; Hydraulic or Mechanical	E200000
Ford V8 Windsor	1962-95	221, 255, 260, 289, 302 Boss, 302/5.0L Except H.O.	Flat tappet; Hydraulic or Mechanical	E210000
Ford V8 Windsor	1962-95	221, 255, 260, 289, 302 Boss, 302/5.0L Except H.O.	Roller; Mechanical	E210999
Ford V8 Windsor	1969-95	351W/5.8L; 1982-84 302/5.0L H.O.	Flat tappet; Hydraulic or Mechanical	E212000
Ford V8 Windsor	1969-95	351W/5.8L; 1985-95 302/5.0: H.O.	Roller; Hydraulic	E212996
Ford V8 Windsor		260; 351W	Retrofit Roller Hydraulic Small Base Circle	E212996R
Ford V8 Windsor	1969-95	351W/5.8L; 1985-95 302/5.0L H.O.	Roller; Hydraulic, small base circle	E212998
Ford V8 Windsor	1969-95	351W/5.8L; 1985-95 302/5.0L H.O.	Roller; Mechanical	E212999
Ford V8 Modular	1991-UP	4.6/5/4 SOHC 2 valve	Roller Hydraulic	E213996
Ford V8 Modular	1996-03	4.6 DOHC 4 Valve	Roller Hydraulic	E214996
Ford V8 Cleveland	1970-82	351C, 351M, 351Boss, 400	Retro Fit Roller Hydraulic	E220996
Ford V8 Cleveland	1970-82	351C, 351M, 351 Boss, 400	Flat tappet; Hydraulic or Mechanical	E220000
Ford V8 Cleveland	1970-82	351C, 351M, 351 Boss, 400	Roller; Mechanical	E220999
Ford V8 FE	1963-76	352, 360, 390, 427, 428	Retro Fit Roller Hydraulic	E240996
Ford V8 FE	1963-76	352, 360, 390, 406, 410, 427, 428	Flat tappet; Hydraulic or Mechanical	E240000
Ford V8 FE	1963-76	352, 360, 390, 406, 410, 427, 428	Roller; Mechanical	E240999
Ford V8 Big Block	1968-95	429, 429CJ, 429SCJ, 460	Flat tappet; Hydraulic or Mechanical	E260000
Ford V8 Big Block	1968-95	429,429CJ,429SCJ, 460,406, 410	Retro Fit Roller Hydraulic	E260996
Ford V8 Big Block	1968-95	429, 429CJ, 429SCJ, 460	Roller; Mechanical	E260999
Ford V8 Flat Head	1949-53	239	Flat Tappet Mechanical	E290000
Ford V8 Flat Head	1932/49	239	Flat Tappet Mechanical	E291000
Oldsmobile V8 39°	1966-84	307, 350, 400, 403, 425, 455	Flat tappet; Hydraulic or Mechanical	E540000
Oldsmobile V8 39°	1966-84	307, 350, 400, 403, 425, 455	Retro Fit Roller Hydraulic	E540996
Oldsmobile V8 39°	1966-84	307, 350, 400, 403, 425, 455	Roller; Mechanical	E540999
Oldsmobile V8 45°	1964-67	330, 400, 425	Flat tappet; Hydraulic or Mechanical	E550000
Pontiac L4	1979-84	151 “Iron Duke”	Flat tappet; Hydraulic or Mechanical	E114000
Pontiac L4	1979-84	151 “Iron Duke”	Roller; Mechanical	E114999
Pontiac V8	1955-81	265/4.3L, 287, 301/4.9L, 326, 350 389,400/6.6L, 421, 428, 455	Flat tappet; Hydraulic or Mechanical	E300000
Pontiac V8	1955-81	265/4.3L,287,301/4.9L,326,350	Retro Fit Roller Hydraulic 389,400/6.6L,421,455	E310996
Pontiac V8	1955-81	265/4.3L, 287, 301/4.9L, 326, 350 389,400/6.6L, 421, 428, 455	Flat tappet; Hydraulic or Mechanical	E310999
Toyota L4	1975-91	2000cc/20R, 2400cc/22R/ 22RE/22REC/22RTEC	Mechanical tappet/follower	E722000

LOBE DESIGNS

HYDRAULIC FLAT TAPPET

Hydraulic Flat Tappet .842

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
H240/.276	160	240	0.276	0.000
H245/.271	165	245	0.271	0.000
H300/.270E	224	300	0.270	0.000
H312/.270E	236	312	0.270	0.000
H264/.271	232	264	0.271	0.000
RV5H	202	274	0.273	0.000
RV10H	208	280	0.280	0.000
BP260H	204	260	0.280	0.000
RV15H	214	288	0.288	0.000
H297/.279	246	297	0.279	0.000
H299/.279	250	299	0.279	0.000
BP270H	214	270	0.295	0.000
V100H	224	290	0.298	0.000
H295/.299	240	295	0.299	0.000
H308/.299	254	308	0.299	0.000
TQ20H	214	292	0.299	0.000
H302/.300	234	302	0.300	0.000
H294/300	241	294	0.300	0.000
H302/.300B	250	302	0.300	0.000
H279/.302	223	279	0.302	0.000
H289/.305	229	289	0.305	0.000
H268/.309	217	268	0.309	0.000
BP280H	224	280	0.310	0.000
TQ30H	226	310	0.310	0.000
H300/.311E	238	300	0.311	0.000
H308/.311E	243	308	0.311	0.000
H289/.314	222	289	0.314	0.000
H284/.315	224	284	0.315	0.000
HIFLOW AH	220	284	0.315	0.000

Hydraulic Flat Tappet .842

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
HIFLOW IH	228	296	0.315	0.000
HIFLOW IIH	235	306	0.315	0.000
HIFLOW IIIH	240	316	0.315	0.000
H284/.318	228	284	0.318	0.000
H288/.319	223	288	0.319	0.000
H290/.320	229	290	0.320	0.000
BP290H	234	290	0.325	0.000
H295/.327	235	295	0.327	0.000
H302/.335	242	302	0.335	0.000
H308/.335	244	308	0.335	0.000
H312/.335	248	312	0.335	0.000
H316/.335	252	316	0.335	0.000
525H	252	324	0.335	0.000
H278/.337	228	278	0.325	0.000
H288/.338	238	288	0.338	0.000
H305/.340	245	305	0.340	0.000
H316/.345	252	316	0.345	0.000
H320/.345	256	320	0.345	0.000
H324/.345	260	324	0.345	0.000
H325/.350	250	325	0.350	0.000
H294/.355	228	294	0.355	0.000
H298/.355	232	298	0.355	0.000
H302/.355	236	302	0.355	0.000
H306/.355	240	306	0.355	0.000
H310/.355	244	310	0.355	0.000
H314/.355	248	314	0.355	0.000
H318/.355	252	318	0.355	0.000
H320/.355	256	322	0.355	0.000

SOLID FLAT TAPPET - .842 TAPPET DIAMETER MINIMUM

Mechanical Flat Tappet .842

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
F202/276	159	202	0.276	0.008
F214/270	165	214	0.270	0.008
F193/280	193	254	0.280	0.008
F194/284	194	256	0.284	0.008
F290/250	190	290	0.250	0.008
RV10M	210	254	0.290	0.015
RV15M	218	266	0.290	0.015
F212/.295	212	260	0.295	0.015
F316/.302	242	316	0.302	0.015
F336/.302	242	336	0.302	0.015
F270/.303	230	270	0.303	0.010
F270/.283	230	270	0.283	0.010
F198/.305	198	248	0.305	0.015
TQ20M	220	270	0.310	0.015
TQ30M	230	280	0.310	0.015
F346/.323	254	346	0.323	0.020

Mechanical Flat Tappet .842

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
F270/.325	230	270	0.325	0.018
F292/.336E	240	292	0.336	0.016
HIFLOW IM	242	286	0.340	0.015
HIFLOW 11M	246	296	0.340	0.015
HIFLOW 111M	254	306	0.340	0.015
F312/.334	256	312	0.334	0.018
F270/.340	234	270	0.340	0.018
F274/.340	238	274	0.340	0.018
F278/.340	242	278	0.340	0.018
F280/.340	244	280	0.340	0.018
F282/.340	246	282	0.340	0.018
F286/.340	250	286	0.340	0.018
F290/.340	254	290	0.340	0.018
F294/.340	258	294	0.340	0.018
F296/.340	262	296	0.340	0.018
F300/.340	264	300	0.340	0.018

LOBE DESIGNS

SOLID FLAT TAPPET - .842 TAPPET DIAMETER MINIMUM

Mechanical Flat Tappet .842

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
F304/.340	268	304	0.340	0.018
F308/.340	272	308	0.340	0.018
F294/.345E	254	294	0.345	0.016
F279/.354	248	279	0.354	0.018
F310/.355	268	310	0.355	0.017
F320/.355	284	320	0.355	0.017
F324/.355	288	324	0.355	0.017
F287/.357E	254	287	0.357	0.016
F287/.358	256	287	0.358	0.018
F282/.361	251	282	0.361	0.018
F299/.365E	254	299	0.370	0.018
F318/.366	278	318	0.366	0.018
F295/.370E	263	295	0.370	0.016
F295/.372	264	295	0.372	0.018
F292/.339	247	292	0.339	0.018
F295/.337	248	295	0.337	0.018
F286/.355	250	286	0.355	0.018
F283/.365	252	283	0.365	0.018
F284/.362	254	284	0.362	0.018
F293/.360	257	293	0.360	0.018
F288/.373	257	288	0.373	0.018

Mechanical Flat Tappet .842

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
F290/.372	257	290	0.372	0.018
F286/.368	258	286	0.368	0.018
F293/.350	259	291	0.350	0.018
F292/.368	260	292	0.368	0.018
F302/.365	260	302	0.365	0.018
F296/.373	264	296	0.373	0.018
F298/.390	268	298	0.390	0.018
F288/.375	250	288	0.375	0.018
F292/.375	254	292	0.375	0.018
F296/.375	258	296	0.375	0.018
F298/.375	260	298	0.375	0.018
F302/.375	264	302	0.375	0.018
F306/.375	268	306	0.375	0.018
F310/.375	272	310	0.375	0.018
F314/.375	276	314	0.375	0.018
F318/.375	280	318	0.375	0.018
F322/.375	284	322	0.375	0.018
F326/.375	288	326	0.375	0.018
F330/.375	296	330	0.375	0.018
F320/.376	286	320	0.376	0.018

SOLID FLAT TAPPET - .875 TAPPET DIAMETER MINIMUM

Mechanical Flat Tappet .875

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
F234/.260	194	234	0.260	0.008
F306/.408	269	306	0.408	0.018
F310/.408	272	310	0.408	0.018
F314/.408	276	314	0.408	0.018
F320/.408	280	320	0.408	0.018
F328/.408	285	328	0.408	0.018

Mechanical Flat Tappet .875

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
F334/.408	289	334	0.408	0.018
F296/.408-A	258	296	0.408	0.018
F302/.408-A	264	302	0.408	0.018
F304/.408-A	286	304	0.408	0.018
F306/.408-A	269.5	306	0.408	0.018
F308/.408-A	272	308	0.408	0.018

SOLID FLAT TAPPET - .903 TAPPET DIAMETER MINIMUM

Mechanical Flat Tappet .903

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
F332/.360	291	332	0.360	0.017
F332/.400	291	332	0.400	0.017
F336/.400	295	336	0.400	0.017
F340/.420	298	340	0.420	0.017
F344/.420	302	344	0.420	0.017

LOBE DESIGNS

HYDRAULIC ROLLER

Hydraulic Roller

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
RH252/.280	196	252	0.280	0.000
RH256/.280	200	256	0.280	0.000
RH260/.280	204	260	0.280	0.000
RH264/.280	208	264	0.280	0.000
RH256/.300	200	256	0.300	0.000
RH260/.300	204	260	0.300	0.000
RH264/.300	208	264	0.300	0.000
RH268/.300	212	268	0.300	0.000
RH272/.300	216	272	0.300	0.000
RH276/.300	220	276	0.300	0.000
RH280/.300	224	280	0.300	0.000
RH301/.300	234	301	0.300	0.000
RH276/.320	208	276	0.320	0.000
RH282/.320	214	282	0.320	0.000
RH288/.320	219	288	0.320	0.000
RH294/.320	226	294	0.320	0.000
RH282/.320A	222	282	0.320	0.000
RH286/.320A	226	286	0.320	0.000
RH268/.320B	214	268	0.320	0.000
RH272/.320B	218	272	0.320	0.000
RH276/.320B	222	276	0.320	0.000
RH280/.320B	226	280	0.320	0.000
RH284/.320B	230	284	0.320	0.000
RH286/.340	218	286	0.340	0.000
RH290/.340	222	290	0.340	0.000
RH294/.340	226	294	0.340	0.000
RH296/.340	232	296	0.340	0.000
RH302/.340	234	302	0.340	0.000
RH310/.340	242	310	0.340	0.000
RH318/.340	250	318	0.340	0.000
RH288/.355	226	288	0.355	0.000
RH292/.355	230	292	0.355	0.000
RH296/.355	234	296	0.355	0.000
RH302/.362	240	302	0.362	0.000
RH286/.365	226	286	0.365	0.000
RH290/.365	230	286	0.365	0.000
RH294/.365	234	294	0.365	0.000
RH298/.365	238	298	0.365	0.000
RH302/.365	242	302	0.365	0.000
RH306/.365	246	306	0.365	0.000
RH310/.365	250	310	0.365	0.000
RH314/.365	254	314	0.365	0.000
RH318/.365	258	318	0.365	0.000
RH322/.365	262	322	0.365	0.000
RH326/.365	266	326	0.365	0.000
RH330/.365	270	330	0.365	0.000
RH310/.372	248	310	0.372	0.000

Hydraulic Roller

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
LSHR286/.365	226	286	0.365	0.000
LSHR290/.365	230	290	0.365	0.000
LSHR294/.365	234	294	0.365	0.000
LSHR298/.365	238	298	0.365	0.000
LSHR302/.365	242	302	0.365	0.000
LSHR306/.365	246	306	0.365	0.000
LSHR310/.365	250	310	0.365	0.000
LSHR314/.365	254	314	0.365	0.000
LSHR278/.308	219	278	0.308	0.000
LSHR288/.308	228	288	0.380	0.000
LSHR268/.322	204	268	0.322	0.000
LSHR286/.322	219	286	0.322	0.000
LSHR302/.350	250	302	0.350	0.000
LSHR280/.360	232	280	0.360	0.000
LSHR285/.362	235	285	0.362	0.000
LSHR285/.367	237	285	0.367	0.000
LSHR296/.352	244	296	0.352	0.000
LSHR306/.370	252	306	0.370	0.000
LSHR322/.370	265	322	0.370	0.000

ACCEL LOBES

RH290/.308	213	290	0.308	0.000
RH290/.314	219	290	0.314	0.000
RH270/.333	211	270	0.333	0.000
RH270/.333B	215	270	0.333	0.000
RH276/.340	220	276	0.340	0.000
RH282/.350	219	282	0.350	0.000

LOBE DESIGNS

SOLID ROLLER

Mechanical Roller

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
R270/.370	230	270	0.370	0.022
R278/.370	238	278	0.370	0.022
R286/.370	246	286	0.370	0.022
R294/.370	254	294	0.370	0.022
R302/.370	260	302	0.370	0.022
R308/.370	266	308	0.370	0.022
R312/.370	270	312	0.370	0.022
R316/.370	274	316	0.370	0.022
R320/.370	278	320	0.370	0.022
R276/.400	247	276	0.400	0.022
R282/.400	253	282	0.400	0.022
R288/.400	259	288	0.400	0.022
R292/.400	263	292	0.400	0.022
R296/.400	267	296	0.400	0.022
R302/.400	272	302	0.400	0.022
R308/.400	278	308	0.400	0.022
R314/.400	284	314	0.400	0.022
R274/.410	248	274	0.410	0.022
R278/.410	252	278	0.410	0.022
R282/.410	256	282	0.410	0.022
R286/.410	260	286	0.410	0.022
R290/.410	264	290	0.410	0.022
R292/.410	266	292	0.410	0.022
R294/.410	268	294	0.410	0.022
R298/.410	272	298	0.410	0.022
R300/.410	274	300	0.410	0.022
R302/.410	276	302	0.410	0.022
R304/.410	278	304	0.410	0.022
R306/.410	280	306	0.410	0.022
R308/.410	282	308	0.410	0.022
R310/.410	284	310	0.410	0.022
R314/.410	288	314	0.410	0.022
R338/.415S	308	338	0.415	0.022
R282/.422	248	282	0.422	0.013
R286/.422	252	286	0.422	0.013
R290/.422	256	290	0.422	0.013
R294/.422	260	294	0.422	0.013
R296/.422	262	296	0.422	0.013
R298/.422	264	298	0.422	0.013
R300/.422	266	300	0.422	0.013
R302/.422	268	302	0.422	0.013
R304/.422	270	304	0.422	0.013
R306/.422	272	306	0.422	0.013
R320/.430	288	320	0.430	0.022
R326/.430	292	326	0.430	0.022
R330/.430	298	330	0.430	0.022
R332/.430	301	332	0.430	0.022
R334/.430	302	334	0.430	0.022
R338/.430	306	338	0.430	0.022
R321/.430A1	290	321	0.430	0.022
R322/.430A2	290	322	0.430	0.022
R318/.430A3	286	318	0.430	0.022

Mechanical Roller

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
R274/.430B	248	274	0.430	0.022
R278/.430B	252	278	0.430	0.022
R282/.430B	256	282	0.430	0.022
R286/.430B	260	286	0.430	0.022
R290/.430B	264	290	0.430	0.022
R294/.430B	268	294	0.430	0.022
R298/.430B	272	298	0.430	0.022
R300/.430B	274	300	0.430	0.022
R302/.430B	276	302	0.430	0.022
R304/.430B	278	304	0.430	0.022
R306/.430B	280	306	0.430	0.022
R308/.430B	282	308	0.430	0.022
R310/.430B	284	310	0.430	0.022
R312/.430B	286	312	0.430	0.022
R314/.430B	288	314	0.430	0.022
R318/.430B	292	318	0.430	0.022
R322/.430B	296	322	0.430	0.022
R324/.430B	298	324	0.430	0.022
R308/.430C	279	308	0.430	0.022
R290/.435	262	290	0.435	0.022
R294/.435	266	294	0.435	0.022
R298/.435	270	298	0.435	0.022
R302/.435	274	302	0.435	0.022
R306/.435	278	306	0.435	0.022
R310/.435	284	310	0.435	0.022
R308/.435A	282	308	0.435	0.022
R324/.440B	296	324	0.440	0.022
R326/.440B	298	326	0.440	0.022
R328/.440B	300	328	0.440	0.022
R314/.445	283	314	0.445	0.022
R318/.445	285	318	0.445	0.022
R322/.445	288	322	0.445	0.022
R324/.445	291	324	0.445	0.022
R330/.445	298	330	0.445	0.022
R272/.450	248	272	0.450	0.022
R276/.450	252	276	0.450	0.022
R280/.450	254	280	0.450	0.022
R286/.450	260	286	0.450	0.022
R290/.450	264	290	0.450	0.022
R294/.450	268	294	0.450	0.022
R298/.450	272	298	0.450	0.022
R300/.450	274	300	0.450	0.022
R302/.450	276	302	0.450	0.022
R304/.450	278	304	0.450	0.022
R306/.450	280	306	0.450	0.022
R308/.450	282	308	0.450	0.022
R310/.450	284	310	0.450	0.022
R312/.450	286	312	0.450	0.022
R314/.450	288	314	0.450	0.022
R318/.450	292	318	0.450	0.022
R332/.450	294	332	0.450	0.022
R322/.450	296	322	0.450	0.022

LOBE DESIGNS

SOLID ROLLER

Mechanical Roller

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
R324/.450	298	324	0.450	0.022
R340/.450	302	340	0.450	0.022
R310/.455S	282	310	0.455	0.022
R312/.455S	284	312	0.455	0.022
R338/.459F2	302	338	0.459	0.022
R340/.459F2	304	340	0.459	0.022
R346/.459F2	308	346	0.459	0.022
R348/.459F2	310	348	0.459	0.022
R350/.459F2	312	350	0.459	0.022
R354/.459F2	316	354	0.459	0.022
R312/.460B	284	312	0.460	0.022
R314/.460B	286	314	0.460	0.022
R316/.460B	288	316	0.460	0.022
R344/.460FI	308	339	0.460	0.022
R339/.460FI	312	344	0.460	0.022
R311/.462	278	311	0.462	0.022
R348/.462F3	312	348	0.462	0.022
R350/.465F4	313	350	0.465	0.022
R344/.465S1	313	344	0.465	0.022
R340/.465S2	308	340	0.465	0.022
R342/.465S2	310	342	0.465	0.022
R344/.465S2	312	344	0.465	0.022
R346/.465S2	314	346	0.465	0.022
R342/.465S2X	310	342	0.465	0.022
R344/.465S2X	312	344	0.465	0.022
R342/.465S4	310	342	0.465	0.022
R344/.465S4	312	344	0.465	0.022
R326/.472	294	326	0.472	0.022
R334/.472	302	334	0.472	0.022
R314/.475	283	314	0.475	0.022
R320/.475	288	320	0.475	0.022
R322/.475	290	322	0.475	0.022
R326/.475	293	326	0.475	0.022
R328/.475	296	328	0.475	0.022
R332/.475	299	332	0.475	0.022
R334/.475	302	334	0.475	0.022
R336/.475	304	336	0.475	0.022
R334/.475-A	306	334	0.475	0.022
R304/.475S	274	304	0.475	0.022
R306/.475S	276	306	0.475	0.022
R308/.475S	278	308	0.475	0.022
R310/.475S	280	310	0.475	0.022
R312/.475S	282	312	0.475	0.022
R314/.475S	284	314	0.475	0.022
R316/.475S	286	316	0.475	0.022
R318/.475S	288	318	0.475	0.022
R322/.475S	292	322	0.475	0.022
R326/.475S	296	326	0.475	0.022
R328/.475S	298	328	0.475	0.022
R332/.475S	302	332	0.475	0.022
R334/.475S	304	334	0.475	0.022
R336/.475S	306	336	0.475	0.022

Mechanical Roller

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
R338/.475S	308	338	0.475	0.022
R340/.475S	310	340	0.475	0.022
R342/.475S	312	342	0.475	0.022
R344/.475S	314	344	0.475	0.022
R346/.475S	316	346	0.475	0.022
R348.475S	318	348	0.475	0.022
R316/.475S4	286	316	0.475	0.022
R316/.475SX	286	316	0.475	0.022
R322/.479F2	286	322	0.479	0.022
R324/.479F2	288	324	0.479	0.022
R326/.479F2	290	326	0.479	0.022
R329/.479F2	292	329	0.479	0.022
R330/.479F2	294	330	0.479	0.022
R334/.479F2	298	334	0.479	0.022
R338/.479F2	302	338	0.479	0.022
R340/.479F2	304	340	0.479	0.022
R344/.479F2	308	344	0.479	0.022
R346/.479F2	310	346	0.479	0.022
R350/.479F2	312	350	0.479	0.022
R354/.479F2	316	354	0.479	0.022
R296/.480	265	296	0.480	0.022
R318/.480F1	288	318	0.480	0.022
R320/.480F1	290	320	0.480	0.022
R324/.480F1	292	324	0.480	0.022
R340/.480F1	310	340	0.480	0.022
R324/.481F4	289	324	0.481	0.022
R314/.484	281	314	0.484	0.022
R318/.485A	288	318	0.485	0.022
R320/.485A	290	320	0.485	0.022
R322/.485A	292	322	0.485	0.022
R312/.485E	284	312	0.485	0.022
R312/.485F	284	312	0.485	0.022
R310/.485J	285	310	0.485	0.022
R308/.485S	278	308	0.485	0.022
R310/.485S	280	310	0.485	0.022
R312/.485S	282	312	0.485	0.022
R314/.485S	284	314	0.485	0.022
R316/.485S	286	316	0.485	0.022
R318/.485S	288	318	0.485	0.022
R320/.485S	290	320	0.485	0.022
R322/.485S	292	322	0.485	0.022
R324/.485S	294	324	0.485	0.022
R326/.485S	296	326	0.485	0.022
R328/.485S	298	328	0.485	0.022
R317/.485S2	290	317	0.485	0.022
R314/.485S4	284	314	0.485	0.022
R314/.485SX	284	314	0.485	0.022
R340/.500F2	300	340	0.500	0.020
R316/.500S4	288	316	0.500	0.022
R318/.500S4	290	318	0.500	0.022
R320/.500S4	292	320	0.500	0.022
R322/.500S4	294	322	0.500	0.022

LOBE DESIGNS

SOLID ROLLER

Mechanical Roller

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
R324/.500S4	296	324	0.500	0.022
R326/.500S4	298	326	0.500	0.022
R328/.500S4	300	328	0.500	0.022
R330/.500S4	302	330	0.500	0.022
R332/.500S4	304	332	0.500	0.022
R302/.500S6	272	302	0.500	0.022
R304/.500S6	274	304	0.500	0.022
R306/.500S6	276	306	0.500	0.022
R308/.500S6	278	308	0.500	0.022
R322/.510	292	322	0.510	0.022
R324/.510	294	324	0.510	0.022
R326/.510	296	326	0.510	0.022
R330/.510	300	330	0.510	0.022
R334/.510	304	334	0.510	0.022
R338/.510	308	338	0.510	0.022
R340/.510	310	340	0.510	0.022
R342/.510	312	342	0.510	0.022
R355/.510	316	355	0.510	0.022
R300/.510A	276	300	0.510	0.022
R302/.510A	278	302	0.510	0.022
R304/.510A	280	304	0.510	0.022
R306/.510A	282	306	0.510	0.022
R308/.510A	284	308	0.510	0.022
R310/.510A	286	310	0.510	0.022
R312/.510A	288	312	0.510	0.022
R304/.510B	280	304	0.510	0.022
R306/.510B	282	306	0.510	0.022
R308/.510B	284	308	0.510	0.022
R310/.510B	286	310	0.510	0.022
R312/.510B	288	312	0.510	0.022
R330/.510B	306	330	0.510	0.022
R312/.510S	284	312	0.510	0.020
R314/.510S	286	314	0.510	0.020
R316/.510S	288	316	0.510	0.020
R318/.510S	290	318	0.510	0.020
R330/.510S	300	330	0.510	0.020
R307/.525A	270	307	0.525	0.022
R309/.525A	272	309	0.525	0.022
R311/.525A	274	311	0.525	0.022
R313/.525A	276	313	0.525	0.022
R315/.525A	278	315	0.525	0.022
R317/.525A	280	317	0.525	0.022
R319/.525A	282	319	0.525	0.022
R322/.525A	284	322	0.525	0.022
R324/.525A	286	324	0.525	0.022
R326/.525A	288	326	0.525	0.022
R328/.525A	290	328	0.525	0.022
R330/.525A	292	330	0.525	0.022
R332/.525A	294	332	0.525	0.022

Mechanical Roller

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
R334/.525A	296	334	0.525	0.022
R336/.525A	298	336	0.525	0.022
R316/.540	285	316	0.540	0.022
R332/.550	299	332	0.550	0.022
R300/.555	270	300	0.555	0.022

Mechanical Roller

.920 ROLLER

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
R316/.450L	288	316	0.450	0.022
R320/.450L	292	320	0.450	0.022
R320/.475SL	292	320	0.475	0.022
R322/.475SL	294	322	0.475	0.022
R324/.475SL	296	324	0.475	0.022
R326/.475SL	298	326	0.475	0.022

LOBE DESIGNS

SOLID ROLLER 2.125 JOURNAL .920 FOLLOWER

Mechanical Flat Tappet .920

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
R316/.450L	288	316	0.450	0.026
R320/.450L	292	320	0.450	0.026
R320/.475SL	292	320	0.475	0.026

Mechanical Flat Tappet .920

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
R322/.475SL	294	322	0.475	0.026
R324/.475SL	296	324	0.475	0.026
R326/.475SL	298	326	0.475	0.026

OVERHEAD CAM

PINTO Hydraulic

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
276P	218	276	0.477	0.000
280P	222	280	0.477	0.000
284P	226	284	0.477	0.000
H288/286	230	288	0.474	0.000
H303/300	240	303	0.498	0.000

PINTO Mechanical

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
P-260-M	206	260	0.440	0.010
P-270-M	212	270	0.470	0.010
P-280-M	228	280	0.511	0.010
P-286-LT	250	286	0.546	0.010
P-296-LT	260	296	0.567	0.010
P-310-M	260	310	0.550	0.010
F264/268	264	296	0.268	0.010

TOYOTA 20R - 22R

LOBE I.D.	.050 DUR.	LASH DUR.	LOBE LIFT	LASH
T-268-A	210	268	0.420	0.008
T276-A	218	276	0.438	0.008
T292-A	232	292	0.473	0.008
T297/393	232	297	0.393	0.008
T288/385	228	288	0.385	0.008

BEARING JOURNAL SPECIFICATIONS

DESCRIPTION	FINISHED SIZE	TYPE	USAGE
SB CHEVY STD	1.8682-1.8692	BUSHING	ALL
SM CHEVY ROLLER STD	1.8745-1.8755	ROLLER	ALL
BB & ROCKET BLOCK	1.9487-1.9497	BUSHING	ALL
50MM SERIES 8	1.9679-1.9686	ROLLER	ALL
55MM SERIES 8	2.1649-2.1656	ROLLER	ALL
60MM SERIES 8	2.3616-2.3623	ROLLER/BUSHING	ALL
65MM SERIES 8	2.5584-2.5591	ROLLER/BUSHING	ALL
70MM SERIES 8	2.7553-2.7560	ROLLER/BUSHING	ALL
LS1-6 55 MM SERIES 6 & 7	2.1650-2.1660	BUSHING	ALL
LS1-6 55 MM SERIES 8	2.1649-2.1656	BUSHING/ROLLER	ALL
LS1-6 55 MM GM SPEC	2.1649-2.1669	BUSHING	STOCK

7000 Series Timing Sets - 3 Keyway

The timing chain is one of the leading causes of failure with aftermarket timing kits. Failure results in severe engine damage and expensive engine repairs. There are many inferior grade inverted tooth timing chains sold in the market. Our quality and testing far exceeds the competition.

Timing Sets

Part#	Description
AMC	
7600	V8 290 304 360 390 401
BUICK	
7500	V6 181 196 231 with integral dist drive gear
CHEVROLET	
7981	SBC V8, V6-200 229 262
7981T	377 383 400 w/torrington
7975	V6 262; V8 305 350 with roller cam
7991	V8 396 400 402
7991T	427 454 w/torrington
CHRYSLER	
7985	V8 273 318 340 360
7607	V8 383 400 413 426 440 with single bolt cam
7606	V8 383 400 413 426 440 with three bolt cam
FORD	
7605	V8 255 302 351W (Late 1972-2002)
7982	V8 289 302 Boss 351W (Late 1965-early 1972)
7611	V8 330 352 390 427 428
7521	V8 351C M 400
7990	V8 429 460
OLDSMOBILE	
7800	V8 260F 307Y 330 350R 400 403 425 455
PONTIAC	
7700	V8 287 316 326 347 350 370 389 400 421 428 455

- **.250 Double Roller Timing Chains**
- **Cast Iron Cam Gears**
- **3 Keyway Crank Gears**
- **Available with torrington bearings**

Performance Options

T = Press fit thrust bearing
LB5 = Reduced by .005 CD
LB10 = Reduced by .010 CD

Line Bore Kits

Part#	Description
7981LB5	V8 283 302 305 -.005
7981LB10	307 327 350 -.010
7981TLB5	377 383 400 w/torrington -.005
7991LB5	427 454 -.005
7991LB10	427 454 -.010
7991TLB5	427 454 w/torrington -.005

Performance Parts Kits

Part#	Description
780T	Thrust Bearing SB & BB Chevy
780W	Bronze Washer SB & BB Chevy
782T	Thrust Bearing SB Ford
782W	Bronze Washer SB Ford
782TPK	SB Ford Camshaft Thrust Plate w/counter sunk holes and screws

Cam Lock Plate

Part#	Description
007-3	SBC/BBC cam lock plate w/ bolts

Cam Buttons

Part#	Description
320	SBC/BBC early model, short, billet aluminum length .825”
321	SBC/BBC late model, long billet aluminum length .930”
325	SBC with roller bearing length .800”
326	BBC with roller bearing length .925”

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Billet Timing Sets - 9 Keyway

- Billet crank and cam gear
- 9 keyway crankshaft gear
- CNC machined billet gears
- Induction hardened crankgear
- Adjustability + or - 2, 4, 6, 8°
- Available with torrington bearings
- .250 diameter high tensile rollers

Billet Timing Sets

Part#	Description
BUICK	
8540	455-430-400 (3 keyway)
CHRYSLER	
8606	BB 383-440 three bolt
8607	BB 383-440 billet single bolt 9 keyway
8985	SB 318-360 V-8
FORD	
8521T	V8-351C M 400 w/torrington
8522T	351C, 351M, 400 Windsor crank snout with torrington bearing
8605	SBF 302-351-W EFI, 89 up w/torrington
8982	SBF 302-351 early 72-88 w/torrington
8611	FE 352-428 Ford w/torrington
8990	BBF 429-460 V-8 w/thrust washer
GM	
8975T	V6-262 V8-305 350 w/roller cam -with torrington bearing
8978T	SBC LS2, LR4, LSR with torrington bearing
8980	LS1 w/torrington oil pump drive
8981	SBC 283-400 with thrust washer
8981TRC	SBC World Raised cam Block
8981T	SBC 283-400 w/torrington
8983T	SBC with BBC crank snout with torrington bearing
8900T	SBC rocket block/Dart with torrington bearing
8991	BBC 396-454 w/thrust washer
8991T	BBC 396-454 w/torrington
8999T	BBC 454 Gen VI 96-2000 w/torrington
SRS3100BRC-2	Raised Cam crank gear BBC Snout
PONTIAC	
8700	V8-287 316 326 347 350 370 389 400 421 428 455

Line Bore Kits

Part#	Description
SMALL BLOCK CHEVY	
8975TLB5	V6-262 V8-305 350 w/roller cam -.005
8975TLB10	V6-262 V8-305 350 w/roller cam -.010
8981LB5	SBC -.005
8981TLB5	SBC -.005 w/torrington
8981LB10	SBC -.010
8981TLB10	SBC -.010 w/torrington
BIG BLOCK CHEVY	
8991LB5	BBC -.005
8991TLB5	BBC -.005 w/torrington
8991LB10	BBC -.010
8991TLB10	BBC -.010 w/torrington
FORD	
8982LB5	351W-Late 1965-early 1972 -.005
8982LB10	351W-Late 1965-early 1972 -.010

Replacement Chains

Part#	Description
8900C	Fits all 8900,8900TA sets
8981C	Fits all 7981,8981,8981TA sets
8981CRC	Fits all 8981RC,8981TARC sets
8981C	Fits all 7982,8982,8982TA sets
8991C	Fits all 7991,8991,8991TA sets

Tech Notes:

Check for clearance between timing chain and oil gallery boss. Some late model blocks may require material removal of boss for chain clearance.

PBM Timing Sets 8605, 8982, 8611, and 8990 requires camshaft thrust plate modification to clear roller thrust bearing or bronze washer. Thrust plate holes must be countersunk so the screws supplied with timing set are slightly below the surface of the thrust plate.

Fast Adjust Timing Sets

The ultimate adjustable timing set. PBM has made camshaft timing quick and easy. PBM Fast Adjust is easy to use; install cam gear to “0” for straight-up cam position or advance/retard your camshaft by adjusting the cam sprocket + or - 12° total. Then tighten the 6 lock bolts and you are READY TO RACE.

Fast Adjust Timing Sets

SMALL BLOCK CHEVY	
Part#	**Description**
8900TA*	V8-350 400 Dart Raised cam block
8900TA005*	V8-350 400 Dart Raised Cam .005 short
8900TA010*	V8-350 400 Dart Raised cam .010 short
8981TA*	SBC
8981TARC	SBC World Raised cam block
8981TA005*	For line bored blocks .005 short
8981TA010*	For line bored blocks .010 short
8983TA*	SBC w/BBC crank snout
8900C	Replacement chain for 8900TA
8981C	Replacement chain for 8981TA-8983TA
8981CRC	Replacement chain for 8981TARC
BIG BLOCK CHEVY	
8991TA*	V8 396, 400, 402, 427, 454
8991C	Replacement chain for 8981TA
FORD	
8982TA*	V8-255 302 351W (Late 1972-2002)
8981C	Replacement chain for 8982TA

***With torrington bearing**

Torrington Bearings

Part#	Description
780T	**Fits the following PBM Timing Sets** 900, 901, 8900TA, 8981T, 8981TLB5, 8900T, 7991T, 7991TLB5, 8981TLB10, 8981TA, 8981TA005, 8900TA005, 8900TA010,8981TA010, 8991T, 8991TLB5, 8991TLB10, 8983T, 8983TA, 8991TA, 7981T, 7981TLB5, 7991T
782T	8605, 8611, 8975T 8975TLB5, 8975TLB10, 8982LB10, 8982LB5, 8982, 8982TA, 8985, 8521T, 8978TA, 8980

Thrust Washers

Part#	Description
780W	8606, 8981, 8981LB10, 8981LB5, 8991, 8991LB5, 8991LB10
782W	8990

Degree Bushings

Part#	Description
8010	Cam bushing set 2 each 0, 2, 4, 6, 8
8001	Black 0 degree qty 10
8002	Silver 2 degree qty 10
8004	Orange 4 degree qty 10
8006	Gold 6 degree qty 10
8008	Gray 8 degree qty 10

- **Allows accurate cam timing**
- **2 degree increments**
- **Color coded for identification**
- **Requires a 11/32 drill bit**

WARNING: May Cause Cancer and Reproductive Harm
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Timing Sets - Gear & Belt Drive Systems

700 Series Timing Sets

- Ideal for high performance, street and mild race
- Double-row chain design is pre stretched, heat- treated and enlarged pin chain
- Features 3 keyway crank gear for precise timing adjustments
- Very reliable and affordable
- Clamshell packaging

CHEVROLET	
Part#	**Description**
700	V6-200 229 262, SBC V8
701	V8-396 400 402
CHRYSLER	
703	V8-273 318 340 360
FORD	
702	V8-SBF 2 pc FP eccentric
705	V8-SBF 1 pc FP eccentric

Gen V & VI BBC Timing Sets

- 9 keyway lower gear
- Steel crank gear
- .334 Single Roller

GM	
Part#	**Description**
8976	Big Block 454 Gen VI 96-2002
8994	Big Block 454 Gen VI (1996-early 1999)
8995	Big Block 454 Gen VI (late 1999-2000)
8997	Big Block 454 Gen VI V8 8.1L (2001)
8998	Big Block 454 Gen VI V8 8.1L (2002-05)

Latest in cam timing systems with the most accurate valve train components. Belt drive systems absorb significant amounts of crankshaft harmonics.

Belt Drive Systems

CHEVROLET	
Part#	**Description**
800B	V6-200 229 262, SBC V8

Gear drives come complete with cam bolt and lock plate. Precision machined for accuracy. Designed to keep perfect timing. Ideal for high performance street and all out racing.

Gear Drive Systems

CHEVROLET	
Part#	**Description**
900	V6-200 229 262, SBC V8
906	V6-262 V8-305 350 w/roller cam
901	V8-396 400 402 427 454
908	BBC 1996-early 1999/ late 1999-2000
CHRYSLER	
905	V8-383 400 413 426 440 w/three bolt cam
FORD	
902	V8-255 302 351W Late 1972-2002/ V8-289 302 Boss
903	V8-351C M 400
904	V8-429 460
PONTIAC	
907	V8-287 316 326 347 350 370 389 400 421 428 455

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Guideplates - Rocker Studs - Lash Caps

Erson Cams Guideplates are made from high quality heat-treated steel. We offer two types of SBC guideplates, flat and stepped. The stepped series stabilizes the pushrod, reduces the flexing of the pushrod and decreases rocker arm side-to-side movement. Erson has redesigned our 601 flat SBC guideplate. Its elongated rocker stud openings allow for perfect adjustment and alignment of rocker arms to the tip of the valve. We have incorporated a harder material and our surface is much smoother for better pushrod alignment and reduced wear. All guideplates are black oxide finish.

Guideplates

Part#	Description
600	SBC stepped
601	SBC flat
602	BBC
603	SB Ford

Lash Caps

Part#	Description
8251	3/8 lash caps
8252	11/32 lash caps
8253	5/16 lash caps

Rocker Studs

Part#	Description
5180	Screw-in rocker stud, 3/8", 190,000 psi
5182	Screw-in rocker stud, 7/16", 190,000 psi
5183	Screw-in rocker stud w/girdle, 7/16", 190,000 psi

Erson Break-In & Oil Additive

Erson's Break-In and Oil Additive with ZDDP is the best insurance for your new performance engine or classic car with flat tappet lifters and camshaft.

- Safe, proven ZDDP EP agent takes the worry out of using new oil formulas in engine that have flat tappet camshafts and lifters.
- Turns modern SM quality oil into the ideal oil for superior break-in and everyday use for superior protection.
- Compatible with ALL high-quality oils, standard or synthetic.
- You choose your preferred oil.
- One 4 oz. bottle of Erson's ZDDPlus™ per oil change with SM oil is more economical than 5 quarts of exotic oil.
- Erson with ZDDP is economical and provides the protection required for high performance engines. Great for every oil change.

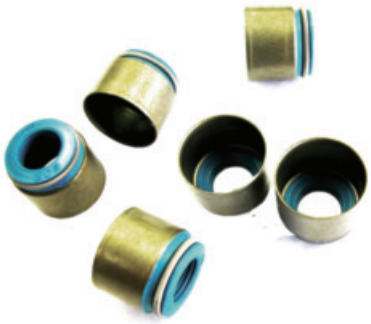
Part # E911000- Erson's Break-In Oil Additive 4 oz.
Part # E911002- Erson's Assembly Paste with ZDDP

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Valve Seals - Stud Girdles - Polylocks

High Temperature Seals

Our high temperature Viton seals offer superior oil control via a spring wiper. Seals will not get brittle and lose their ability to control oil. All seals are metal cased for positive fitment on valve guides. RS Series have a reduced outside diameter ideally suited for triple and double spring applications where clearance is a problem.



Part#	Description
530380	.530” guide OD 3/8” valve
560380	.560” guide OD 3/8” valve
5001132	.500” guide OD 11/32” valve
5301132	.530” guide OD 11/32” valve
530516	.530” guide OD 5/16” valve
5621132	.562” guide OD 11/32” valve
5001132RS	.500” guide OD 11/32” valve, reduced OD .540”
5301132RS	.530” guide OD 11/32” valve, reduced OD .570”

Stud Girdles

Stud girdles help eliminate stud movement that changes valve actuation, due to flex and angle changes. PBM Stud Girdles are manufactured from 6061-T6 aluminum for maximum durability.

Part#	Description
400	Brodix, AFR, Chevy w/ 60-40 stud spacing 1 pc design 7/16” stud
401F	SBF w/ 3/8 stud 1 pc design - Stock Ford - UltraLite
402F	SBF w/ 7/16 stud 1 pc design - Stock Ford - UltraLite
403	BBC O.E. Iron heads 1 pc design 7/16 stud
404F	SBF AFR 7/16 stud - Dart/World
405	SBF Canfield 195 1 pc design 7/16 stud
409	SBC UltraLite 1pc 7/16 stud & Vortec - center bolt valve covers
410	SBC w/ 3/8 stud, 1 pc design - Ultralite, Vortec - center bolt vc
411	SBC Pro Series 7/16 stud
412	SBF Pro Series 7/16 stud - Fits World Windsor Sr.
413	SBC Motown iron - 7/16 stud - Pro style
415	SBC Profiler 7/16 stud - Pro Series
416	BBC Profiler 7/16 stud - Pro Series
418	BBC Pro Series Merlin iron 7/16 stud
419	BBC Pro Series Merlin iron w/long valves 7/16 stud
422	BBC Pro1 / Merlin Aluminum - 7/16 stud - Pro style

Polylocks

Our Polylocks are made from 4130 Chrome moly(not zinc alloy) and are precision ground for minimum run-out. This design ensures that our polylocks will hold under the stress of high rpm engines. They are available in 3/8 and 7/16.

Part#	Description
0038-8	Roller Rocker 3/8”
0716-8	Roller Rocker 7/16”
407-8	Rocker/Girdle 7/16”
408-8	Rocker/Girdle 3/8”
409-8	BBC Intake 7/16”

Race Series Valves

Compare quality, design features and value
Best Performance Valve comparable to Competition's Best

Race Series Valves

Small Block Chevrolet

Part#	Type	Head Dia	Stem Dia	Installed Height	O/A Length	Tip Length
2001	Exh	1.500	.3415	stock	4.925	.250
2002	Exh	1.500	.3415	+100	5.025	.250
2003	Exh	1.600	.3415	stock	4.925	.250
2004	Exh	1.600	.3415	+100	5.025	.250
2006	Exh	1.625	.3415	stock	4.925	.250
2007	Exh	1.625	.3415	+100	5.025	.250
2103	Int	1.940	.3415	stock	4.925	.250
2104	Int	1.940	.3415	+100	5.025	.250
2105	Int	2.020	.3415	stock	4.925	.250
2106	Int	2.020	.3415	+100	5.025	.250
2107	Int	2.055	.3415	stock	4.925	.250
2108	Int	2.055	.3415	+100	5.025	.250
2109	Int	2.080	.3415	stock	4.925	.250
2110	Int	2.080	.3415	+100	5.025	.250
2112	Int	2.125	.3415	+100	5.025	.250

Big Block Chevrolet

Part#	Type	Head Dia	Stem Dia	Installed Height	O/A Length	Tip Length
2200	Exh	1.725	.3715	stock	5.420	.250
2202	Exh	1.880	.3715	stock	5.420	.250
2203	Exh	1.880	.3715	+100	5.520	.250
2204	Exh	1.880	.3415	+100	5.520	.250
2207	Exh	1.940	.3415	+100	5.520	.250
2208	Int	2.065	.3715	stock	5.220	.250
2209	Int	2.190	.3715	+100	5.350	.250
2210	Int	2.190	.3715	stock	5.220	.250
2211	Int	2.190	.3415	+100	5.350	.250
2212	Int	2.250	.3715	stock	5.220	.250
2213	Int	2.250	.3415	+100	5.350	.250
2214	Int	2.300	.3715	+100	5.350	.250

- ***One-piece forging EV-8 stainless alloy***
- ***Hard chrome-plated stems***
- ***Improved flow***
- ***Undercut stem powerflow design***
- ***Fully machined and swirl polished stem***
- ***Hardened tips no lash cap required***

Competition Series Valves

Advanced design features:

- Reduced valve weight by 10% improved valve control
- Backcut for improved airflow
- Hardened keeper groove
- Undercut stem & swirl polished head
- High strength PS824 forged stainless steel alloy
- Precision machined for consistent volume

Competition Series Valves have second backcut angles for improved airflow(except 1125, 1130)

Small Block Chevrolet

Part#	Type	Head Dia	Stem Dia	Installed Height	O/A Length	Tip Length	Underhead Angle/Radius	Power Flow Dia Stem Dia/Length
1001	Exh	1.500	.3415	stock	4.925	.250	15 x .525	.300 x 1.350
1002	Exh	1.500	.3415	+.100	5.025	.250	15 x .525	.300 x 1.350
1003	Exh	1.600	.3415	stock	4.925	.250	15 x .525	.300 x 1.350
1004	Exh	1.600	.3415	+.100	5.025	.250	15 x .525	.300 x 1.350
1005	Exh	1.600	.3415	+.200	5.125	.250	15 x .525	.300 x 1.350
1006	Exh	1.625	.3415	stock	4.925	.250	15 x .525	.300 x 1.350
1007	Exh	1.625	.3415	+.100	5.005	.250	15 x .525	.300 x 1.350
1008	Exh	1.625	.3415	+.200	5.125	.250	15 x .525	.300 x 1.350
1127	Exh	1.600	.3415	+.250	5.160	.250	15 x .525	.300 x 1.350
1130*	Exh	1.600	.3415	+.600	5.510	.250	12 x .375	.300 x 1.350
1103	Int	1.940	.3415	stock	4.925	.250	12 x .400	.300 x 1.350
1104	Int	1.940	.3415	+.100	5.025	.250	12 x .400	.300 x 1.350
1105	Int	2.020	.3415	stock	4.925	.250	12 x .400	.300 x 1.350
1106	Int	2.020	.3415	+.100	5.025	.250	12 x .400	.300 x 1.350
1114	Int	2.020	.3415	+.200	5.125	.250	12 x .400	.300 x 1.350
1107	Int	2.055	.3415	stock	4.925	.250	12 x .400	.300 x 1.350
1108	Int	2.055	.3415	+.100	5.025	.250	12 x .400	.300 x 1.350
1116	Int	2.055	.3415	+.200	5.125	.250	12 x .400	.300 x 1.350
1109	Int	2.080	.3415	stock	4.925	.250	12 x .400	.300 x 1.350
1110	Int	2.080	.3415	+.100	5.025	.250	12 x .400	.300 x 1.350
1115	Int	2.080	.3415	+.200	5.125	.250	12 x .400	.300 x 1.350
1111	Int	2.100	.3415	stock	4.925	.250	12 x .400	.300 x 1.350
1112	Int	2.100	.3415	+.100	5.025	.250	12 x .400	.300 x 1.350
1113	Int	2.125	.3415	+.100	5.025	.250	12 x .400	.300 x 1.350
1119	Int	2.125	.3415	+.250	5.160	.250	12 x .400	.300 x 1.350
1125*	Int	2.150"	.3415	+.600	5.510	.250	12 x .375	.300 x 1.350

*Recommended for 18° Heads

LS1

ALL HAVE RADIUS GROOVE (BEAD-LOCK)

Part#	Type	Head Dia	Stem Dia	O/A Length	Tip Length
1117	Int	2.020	8mm	4.900	.160
1118	Int	2.055	8mm	4.900	.160
1120	Int	2.165	8mm	4.920	.170
1009	Exh	1.600	8mm	4.915	.160

WARNING: May Cause Cancer and Reproductive Harm
www.P65Warnings.ca.gov

Competition Series Valves

Big Block Chevrolet

Part#	Type	Head Dia	Stem Dia	Installed Height	O/A Length	Tip Length	Underhead Angle/Radius	Power Flow Dia Stem Dia/Length
1200	Exh	1.720	.3715	stock	5.420	.250	10 x .400	.320 x 1.250
12441	Exh	1.720	.3415	stock	5.450	.250	10 x .400	.320 x 1.250
1235*	Exh	1.850	.3415	+.150	5.540	.250	10 x .400	.320 x 1.250
1236*	Exh	1.850	.3415	+.250	5.640	.250	10 x .400	.320 x 1.250
1201	Exh	1.880	.3415	stock	5.420	.250	10 x .400	.320 x 1.250
12451	Exh	1.880	.3415	stock	5.450	.250	10 x .400	.320 x 1.250
12461	Exh	1.880	.3415	+.100	5.540	.250	10 x .400	.320 x 1.250
1202	Exh	1.880	.3715	stock	5.420	.250	10 x .400	.320 x 1.250
1203	Exh	1.880	.3715	+.100	5.520	.250	10 x .400	.320 x 1.250
1204	Exh	1.880	.3415	+.100	5.520	.250	10 x .400	.320 x 1.250
1210	Int	2.190	.3715	stock	5.220	.220	12 x .400	.320 x 1.100
1209	Int	2.190	.3715	+.100	5.320	.220	12 x .400	.320 x 1.100
1211	Int	2.190	.3415	+.100	5.350	.220	12 x .400	.320 x 1.100
1212	Int	2.250	.3715	stock	5.220	.220	12 x .400	.320 x 1.100
1213	Int	2.250	.3415	+.100	5.350	.220	12 x .400	.320 x 1.100
1215	Int	2.250	.3415	+.250	5.494	.250	12 x .400	.320 1.100
1214	Int	2.300	.3715	stock	5.220	.220	12 x .400	.320 x 1.100
1216	Int	2.300	.3415	+.250	5.494	.250	12 x .400	.320 x 1.100
1217	Int	2.300	.3415	+.350	5.620	.250	12 x .400	.320 x 1.100
1222	Int	2.300	.3415	stock	5.250	.250	12 x .400	.320 x 1.100
1223	Int	2.300	.3415	+.100	5.350	.250	12 x .400	.320 x 1.100
1218*	Int	2.350	.3415	+.300	5.525	.250	12 x .400	.320 x 1.100
1219	Int	2.350	.3415	+.350	5.620	.250	12 x .400	.320 x 1.100
1220*	Int	2.350	.3415	+.400	5.675	.250	12 x .400	.320 x 1.100

*indcates 50 deg. valve seat note 1 indicates Inconnel material

Small Block Chrysler

1300	Int	2.020	.3725	stock	4.990	.224	12° x .375	.320 x 1.250
1302	Exh	1.600	.3725	stock	4.998	.224	12° x .375	.320 x 1.250

Big Block Chrysler

1308	Exh	1.740	.3720	stock	4.883	.289	12° x .375	.320 x 1.250
1310	Exh	1.810	.3720	stock	4.883	.289	12° x .375	.320 x 1.250
1312	Exh	1.880	.3720	stock	4.883	.289	12° x .375	.320 x 1.250
1313	Int	2.080	.3725	stock	4.873	.289	12° x .375	.320 x 1.250
1314	Int	2.140	.3725	stock	4.873	.289	12° x .375	.320 x 1.250

Small Block Ford

1003	Exh	1.600	.3415	stock	4.905	.250	15° x .525	.300 x 1.350
1400	Exh	1.600	.3415	stock	5.075	.393	15° x .525	.300 x 1.350
1403	Exh	1.710	.3415	stock	5.046	.252	15° x .525	.300 x 1.350
1103	Int	1.940	.3415	stock	4.925	.250	12° x .400	.300 x 1.350
1404	Int	1.940	.3415	stock	5.070	.393	12° x .400	.300 x 1.350
1105	Int	2.020	.3415	stock	4.925	.250	12° x .400	.300 x 1.350
1410	Int	2.190	.3415	stock	5.236	.268	12° x .400	.300 x 1.350
1412	Int	2.250	.3415	stock	5.236	.268	12° x .400	.300 x 1.350

Big Block Ford

1418	Exh	1.650	.3414	stock	5.064	.400	12° x .375	.300 x 1.350
1420	Exh	1.750	.3414	stock	5.064	.400	12° x .375	.300 x 1.350
1422	Int	2.080	.3415	stock	5.286	.340	12° x .375	.300 x 1.350
1424	Int	2.190	.3415	stock	5.286	.340	12° x .375	.300 x 1.350
1426	Int	2.244	.3415	stock	5.286	.340	12° x .375	.300 x 1.350

COMPETITION SERIES POWER FLOW

- **High strength PS824 forged stainless steel alloy**
- **Precision machine face for consistent volume**
- **Precision ground keeper grooves eliminates stress risers**
- **Spiral polished fillet increase flow**
- **High flow underhead relief and lightweight design**
- **Hard chrome stems with oil retention surface**
- **Hard tips require no lash caps**

Performance Valve Springs

- Made from the highest quality alloys
- ”Custom Wound” springs are engineered to endure stresses of high performance engines
- Each set is matched for load consistency
- Thousands of Engine Builders have come to rely on Erson Valve Springs

Hydraulic Cam Springs

Part#	Description	Pressure	Pressure	Bind	Lift	Retainer
3000	Single w/damper 1.250	120#@1.700	300#@1.250	1.160	.500 lift	501/501S
3050	Dual w/damper 1.510	130#@1.880	330#@1.280	1.200	.600 lift	502/504S/507/511*
3100	Single w/damper 1.460	110#@1.800 100#@1.850	275#@1.250	1.150	.550 lift	502/502S/504S 506/511*
3150	Single w/damper 1.440	110#@1.530	250#@1.030	.925	.500 lift	502/502S/504S 506/511*
3175	Single w/damper 1.440	110#@1.680	280#@1.180	1.125	.510 lift	502/502s/504s
3200	Single w/damper 1.260	115#@1.800 135#@1.750	360#@1.200	1.160	.600 lift	501/501S
3300	Single w/damper 1.440	110#@1.750	215#@1.250	1.086	.600 lift	502/502S/504S 506/511*
3325	Single w/damper 1.480	110#@1.800	310#@1.250	1.160	.550 lift	502/502S/504S 506/511*

Mechanical & Roller Springs

3200	Single w/damper 1.260	135#@1.750	360#@1.200	1.160	.550 lift	501/501S
3275	Dual (LS) 1.295	135#@1.810	365#@1.210	1.020	.650 lift	501/518/514
3400	Dual w/damper 1.440	140#@1.800	330#@1.200	1.125	.600 lift	502/502S/504S/ 506/511*
3051	Dual w/damper 1.510	140#@1.800	320#@1.250	1.200	.550 lift	502/504S/507/511*
3425	Dual w/damper 1.460	175#@1.850 150#@1.900	380#@1.250	1.150	.650 lift	502/502S/504S/ 506/511*
3450	Dual w/damper 1.460	125#@1.900 140#@1.850	415#@1.250	1.150	.650 lift	502/502S/504S/ 506/511*
3500	Single w/damper 1.540	155#@1.900	340#@1.300	1.200	.600 lift	502/502S/504S/507
3600	Dual w/damper 1.540	207#@1.900	500#@1.300	1.200	.660	502/502S/504S/507

Conical Oval Wire Springs

Absolute BEST valve spring for the LS1 or SBC engine

- Conical design oval wire valve spring will fit factory retainer
- Design delivers superior dampening
- Oval wire design allows higher valve lift and increased seat and nose pressures
- Ideal for hydraulic roller cam applications

LS1 Springs

Part#	Description	Installed Pressure	Open Pressure	Coil Bind	Max Lift	Retainer
3250	Conical wire beehive	110#@1.750	270#@1.200	1.050	.600	512/513

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Roller Valve Springs - Cyloy Extreme

- Delivers consistent spring pressure beyond any normal spring Chrome Silicone Valve Springs
- Manufactured from high tech alloy with high metallurgical content
- CST process removes surface imperfections that create stress risers
- Reduced friction in inner & outer springs creates even transition within seat & max life pressure
- CST process improves the life of Cyloy springs with consistent spring pressures

Race Proven
Time Tested

Part#	Description		Seat Pressure	Open Pressure	Coil Bind	Max Lift	Retainer
3840	Dual w/damper	1.550	200#@1.900	580#@1.200	1.080	.670	502/502S/504S/507/507S/508*/VTR741*
3850	Dual w/damper	1.550	230#@1.950	580#@1.300	1.250	.650	502/502S/504S/507/507S/508*/VTR741*
3860	Dual w/damper	1.560	240#@2.000	650#@1.250	1.190	.750	502/502S/504S/507/507S/508*/VTR741*
3870	Dual w/damper	1.625	235#@2.000	680#@1.250	1.150	.780	504S/507/507S/510*/VTR741*
3875	Dual w/damper	1.550	240#@2.100	670#@1.400	1.350	.700	507/507S/508*/VTR741*

OD Spring Locators

Part#	I.D	O.D.	Spring O.D.
2601	0.687”	1.550”	1.440”
2602	0.640”	1.570”	1.475”
2603	0.630”	1.630”	1.510”
2604	0.640”	1.670”	1.565”
2605	0.640”	1.730”	1.650”
2610	0.630	1.740	1.540 .125 Thk

ID Spring Locators

Part#	I.D.	O.D.	Spring I.D.
2651	0.525”	1.290”	0.875”
2652	0.640”	1.540”	0.730”
2653	0.640”	1.620”	0.740”
2654	0.570”	1.500”	0.735”
2655	0.570”	1.625”	0.765”
2659	0.570”	1.550”	0.790”
2660	0.570”	1.570”	0.825”
2675	0.570”	1.300”	0.875”
2677	0.570”	1.300”	0.675”
2679	0.570”	1.550”	0.690”
2681	0.570”	1.500”	0.850”
2682	0.570”	1.550”	0.810”
2685	0.570”	1.655”	0.630”
2686	0.520”	1.270”	0.680”
2687	0.520”	1.270”	0.600”

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FSP Professional Racing Valve Springs

Designed for the professional and sportsman racer - oval track,endurance and drag racing. Specially formed structural process provides the highest levels of performance and durability to date by any steel spring. FSP Springs use super-clean, ultra-strong, specially blended steel alloy of the highest quality to provide longer life for maximum value.

Oval Track - Endurance Racing - Drag Racing

Part#	O.D.	I.D.	Seat Pressure	Open Pressure	Coil Bind	Spring Rate	Max Lift
E915042-Ideal for small block Chevy high-lift, high RPM oval track/drag race applications.							
E915042-DUAL	1.580	.828	249#@2.050	650#@1.270	1.200	514	.800
E915043-Designed for use in the demanding oval track market using roller tappet camshafts or where the increased spring pressure is required for maximum performance.							
E915043-DUAL	1.580	.832	235#@1.950	640#@1.250	1.170	536	.730
E915044-Similar to the E915043 as shown above, this spring is designed for use where a slightly taller assembled height is available and a slightly higher spring rate.							
E915044-DUAL	1.610	.842	245#@2.050	660#@1.300	1.220	547	.780
E915047-Drag race high-lift, high-load application with shorter installed height							
E915047-TRIPLE	1.675	.874	320#@2.050	925#@1.270	1.200	753	.780
E915046-Targeted primarily for classes that require stock size and configuration valve springs, the 1.750" installed height allows for .600" + lift with a hydraulic or mechanical flat tappet camshaft.							
E915046-SINGLE	1.255	.830	115#@1.750	350#@1.175	1.100	409	.600
E915045-LS1 high-lift Hydraulic Roller							
E915045-DUAL	1.290	.945	150#@1.810	400#@1.150	1.100	378	.660
E915041-LS1 factory diameter Solid Roller							
E915041-DUAL	1.274	.630	250#@1.800	700#@1.050	.985	600	.750

Professional Drag Racing

Part#	O.D.	I.D.	Seat Pressure	Open Pressure	Coil Bind	Spring Rate	Max Lift
E915160-Designed for use in serious bracket class applications using normally aspirated engines, these springs will allow the racer to have the consistency required to win round after round.							
E915160-DUAL	1.640	.860	240#@2.000	825#@1.150	1.070	650	.880
E915170-Similar to the 915160, except with a slightly taller installed height and increased seat pressure, yet nearly identical open pressure.							
E915170-DUAL	1.640	.860	280#@2.100	794#@1.250	1.150	605	.900
E915048-Primarily for supercharged alcohol and fuel use, these springs deliver the open pressures required to maintain valve train stability, RPM and long spring life. The springs are also an excellent choice for Pro Stock Truck, Competition Eliminator and Pro Mod engine applications.							
E915048-TRIPLE	1.677	.635	346#@2.100	1014#@1.200	1.142	742	.900
E915049-TRIPLE	1.677	.632	350#@2.200	1073#@1.200	1.142	728	1.005
E915050-Use for supercharged alcohol and fuel use like the E915048 as shown above, also great for Blown Alcohol applications. This is the ultra-version heat-treated valve spring.							
E915050-TRIPLE	1.667	.632	375#@2.200	1145#@1.200	1.142	770	1.005
E915055-Similar to the E915049 as shown above, designed for 1/4 mile Drag Race applications where longer valves are used.							
E915055-TRIPLE	1.667	.635	415#@2.300	1215#@1.250	1.180	765	1.070

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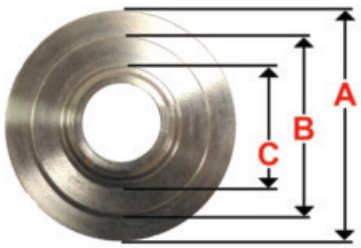
Chrome Moly Retainers

These retainers are machined from aircraft-quality, chrome-moly, alloy-steel that far exceeds the industry standards for steel retainers. All retainers are heat-treated to 46-50 “Rockwell-C”, then tumbled and finished with black-oxide to prevent rust. Erson Chrome-Moly Retainers, deliver incredible strength, with just slightly more weight than more expensive titanium retainers. Chrome-moly retainers are designed for Street, Off-Road and all but the most severe racing applications. They are ideal for Oval-Track racing.



Part#	A	B	C
501	1.260	.880	.685
501s	1.210	.750	.610
502	1.440	1.060	.710
502s	1.440	1.060	.710
504s	1.445	1.060	.710
505	1.415	1.135	.750
505p	1.494	1.136	.635
506	1.450	1.060	.710
507	1.510	1.130	.710
507s	1.486	1.137	.735
513	.936	.645	N/A
518	1.300	.940	.680
519	1.245	.824	.739

Chrome -Moly 7° Retainers

Part#	Description	Spring Type	Stem Size	Install Height	Lock Degree	Fits PBM/ Erson Spring
501S	Steel 1.250 OD (stamped)	Single	11/32	Std	7 degree	3000-3200
501	Chrome moly 1.250 OD	Single	11/32	Std	7 degree	3000-3200-E915045
502	Chrome moly 1.43-1.550 OD	Single/Dual	11/32	+.100	7 degree	3050-3100-3150-3200-3300-3325-3400-3425-3450-3500-3600-3800-3840-3850-3860
502S	Chrome moly 1.43-1.550 OD	Single/Dual	11/32	Std	7 degree	3050-3100-3150-3200-3325-3400-3425 3450-3500-3600-3800 3840-3850-3860
504S	Chrome moly 1.43-1.550 OD	Dual	3/8	Std	7 degree	3050-3100-3150-3300 3325-3400-3425-3450 3500-3600-3800-3840 3850-3860-3870
505P	Chrome moly 1.54-1.630 OD	Dual/Triple	3/8	+.150	7 degree	3500-3600-3800-3840 3850-3860-3870-3875
513*	Steel .935 OD	Single	5/16 or 8mm	Std	7 degree	3250
*LS1 (Use PBM200 locks with these part numbers)						
518	Steel	Dual	5/16 or 8mm	Std	7 degree	E915045

Chrome -Moly 10° Retainers

Part#	Description	Spring Type	Stem Size	Install Height	Lock Degree	Fits PBM/ Erson Spring
506	Chrome moly 1.437-1.55 OD	Dual	Any	+.050	10 degree	3100-3150-3300 3325-3400-3425-3450
507	Chrome moly 1.55-1.630 OD	Dual	Any stem size	+.100	10 degree	3050-3500-3600-3800 3840-3850-3860-3870 3875
507S	Chrome moly 1.55-1.630 OD	Dual	Any	Std	10 degree	3500-3600-3800-3840 3850-3860-3870-3875
519	Chrome moly 1.240 OD	Single	Any stem size	+.050	10 degree	E915046

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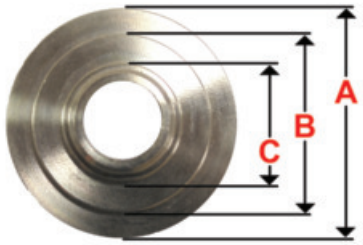
Titanium Retainers

Designed for all out Professional Drag Racing and other severe duty applications, Erson Titanium Retainers are made from aircraft-certified, 6AL-V4 grade, bar stock. The tremendous high-temperature strength and ductility of this material makes it ideal for these types of applications. Erson's Titanium Retainers will lower effective retainer mass approximately 40% compared to steel retainers- with no loss of dependability.

NOTE: Titanium retainers are designed for exclusive use with our 10° valve locks. They are not compatible with standard locks.

Part#	A	B	C
500	1.165	.880	.635
508	1.510	1.120	.720
509	1.515	1.150	.650
510	1.510	1.170	.755
511	1.460	1.065	.715
512	.935	.641	N/A
514	1.300	.940	.630
515	1.200	.890	.600
516	1.495	1.175	.850
517	1.590	1.150	.825
520	1.152	.825	.620
741	1.500	1.120	.740
743	1.500	1.180	.815
747	1.500	1.165	.835



Titanium 7° Retainers

Part#	Description	Spring Type	Stem Size	Install Height	Lock Degree	Fits PBM/ Erson Spring
500	Titanium 1.250 OD	Single	11/32	+.070	7 degree	3000-3200
512*	Titanium .935 OD	Single	5/16 or 8MM	Std	7 degree	3250
514*	Titanium	Dual	5/16 or 8MM	Std	7 degree	E915045
515**	Titanium	Dual	5/16 or 8MM	Std	Mini 8 degree	E915041
520	Titanium	Dual	11/32	+.070	7 degree	E915046

*LS1 (Use PBM200 locks with these part numbers)
** Use PBMVL7004

Titanium 10° Retainers

Part#	Description	Spring Type	Stem Size	Install Height	Lock Degree	Fits PBM/ Erson Spring
508	Titanium 1.55-1.630 OD	Dual	Any stem size	+.080	10 degree	3500, 3600, 3800, 3840, 3850, 3860, 3875
509	Titanium 1.55-1.630 OD	Triple	Any	+.080	10 degree	3900, E915048, E915049, E915050, E915055
510	Titanium 1.55-1.630 OD	Dual	Any	+.080	10 degree	3870
511	Titanium 1.430-1.500 OD	Dual/Triple	Any	+.110	10 degree	3050, 3100, 3150,3300, 3325, 3400, 3425, 3450
516	Titanium 1.500"-1.640"x.850"	Dual	Any	+.080	10 degree	E915160, E915170
517	Titanium 1.500"-1.610"x.825"	Dual	Any	+.080	10 degree	E915043, E915044, E915042

Titanium Super 7° Retainers

Part#	Description	Spring Type	Stem Size	Install Height	Lock Degree	Fits PBM/ Erson Spring
VTR741	Super 7° Titanium Pro Series 1.500"x1.120"x.730"	Dual	11/32	+.020	Super 7 degree	3840, 3850, 3860, 3870, 3875, 3600, 3500, 3800
VTR743	Super 7° Titanium Pro Series 1.500"x1.140"x.815"	Dual	11/32	+.020	Super 7 degree	E915043
VTR747	Super 7° Titanium Pro Series 1.500"x1.160"x.835"	Dual	11/32	+.020	Super 7 degree	E915043, E915044 E915160, E915042, E915170

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Steel & Titanium Valve Locks

Erson Machined Valve Locks are formed from alloy-steel and heat-treated for maximum strength and durability, these locks are 3-times stronger than Original-Equipment Valve Locks. Our machined locks are economical and are recommended for moderate competition applications without ultra-high spring pressures and minimal valve float.

Our high-strength, 4130 Valve Locks are designed for serious competition, high-spring loads, and applications where valve-float cannot be avoided. These valve locks are precision machined from chrome-moly bar stock and heat-treated to 38-42 “Rockwell-C”, then plated for identification. Use these locks with steel or titanium retainers only.

7° Valve Locks

Part#	Description	Stem Size	Bead Location
200	Machined	5/16 Radius groove	stock
201	Machined	11/32	stock
202	Machined	3/8	stock
205	Stamped	11/32	stock
205+50	Stamped	11/32	+.050
205-30	Stamped	11/32	-.030
205-60	Stamped	11/32	-.060
206	Stamped	3/8	stock
206+50	Stamped	3/8	+.050
206-30	Stamped	3/8	-.030
206-60	Stamped	3/8	-.060

10° Valve Locks

Part#	Dscrptn	Stem Size	Bead Location
203	Machined	11/32 Conventional groove	stock
203+50	Machined	11/32 Conventional groove	+.050
203-50	Machined	11/32 Square groove	-.050
204	Machined	3/8 Conventional groove	stock
VL7013	Machined	5/16 Radius groove	stock
VL7013-8	Machined	5/16 Radius groove 1/2 set	stock
VL7014	Machined	5/16 Radius groove	+.050
VL7014-8	Machined	5/16 Radius groove 1/2 set	+.050
VL7015	Machined	11/32 Radius groove	stock
VL7015-8	Machined	11/32 Radius groove 1/2 set	stock
VL7016	Machined	11/32 Radius groove	+.050
VL7016-8	Machined	11/32 Radius groove 1/2 set	+.050

Valve Locks Bulk - 100 pairs

Part#	Dscrptn	Stem Size	Bead Location
205-100	Stamped	11/32	stock
205-30-100	Stamped	11/32	-.030
205-60-100	Stamped	11/32	-.060
206-30-100	Stamped	3/8	-.030
206-60-100	Stamped	3/8	-.060

Super 7° Valve Locks

- **Bead lock groove design offers superior strength over square lock**
- **Outside angle provides precision locking that is identical from side- to-side**
- **Heat-treated and black-oxided 4130 Chrome-Moly bar stock**
- **Available in Lightweight Titanium**

Steel Super 7° Valve Locks

Part#	Description
VL7005-8	5/16 - Radius groove- +.050 1/2 set
VL7006-8	5/16 - Radius groove - 1/2 set
VL7007-8	5/16 - Conventional groove - 1/2 set
VL7008	11/32 - Radius groove
VL7008-8	11/32 - Radius groove - 1/2 set
VL7009	11/32 - Radius groove - +.050
VL7009-8	11/32 - Radius groove - +.050 1/2 set
VL7010	11/32 - Conventional groove
VL7010-8	11/32 - Conventional groove - 1/2 set
VL7011	11/32 - Conventional groove - +.050

Titanium Super 7° Valve Locks

Part#	Description
VL7000-8	5/16 - Radius groove- +.050 1/2 set
VL7001-8	5/16 - Radius groove - 1/2 set
VL7002	11/32 - Radius groove
VL7002-8	11/32 - Radius groove - 1/2 set
VL7003	11/32 - Radius groove - +.050
VL7003-8	11/32 - Radius groove - +.050 - 1/2 set

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Valve Train Kits

All components are carefully selected & matched for every kit combination. Valves are one piece stainless with HD chrome plating not flash plating. 2000 Series are EV8 & 1000 Series are PS824 forged stainless. Custom kits are built to your requirements.

Kit Contents include:

- **8 intake valves**
- **8 exhaust valves**
- **Valve spring set**
- **Valve locks**
- **Guideplates**
- **Chrome moly retainers**
- **Rocker studs**
- **Premium valve seals**

Options: Titanium retainers, titanium valves, shaft systems & CNC heads.

Big Block Chevrolet

3050VT Hydraulic Kit 11/32

16 - 3050 valve springs 120#@1.880 .600 lift
8 - 1215 2.250 11/32 intake valves
8 - 1201 1.880 11/32 exhaust valves
1 set - 502 retainers 7 degree
1 set - 201 machined 7 degree 11/32 locks
1 set - 5183 rocker studs
1 set - 602 guideplates
1 set - 5301132 .530 guide OD 11/32" valve seals

3425VT Mechanical Kit 11/32

16 - 3425 valve springs 125#@1.900 .650 lift
8 - 1215 2.250 11/32 intake valves
8 - 1201 1.880 11/32 exhaust valves
1 set - 502 retainers 7 degree
1 set - 201 machined 7 degree 11/32 locks
1 set - 5183 rocker studs
1 set - 602 guideplates
1 set - 5301132 .530 guide OD 11/32" valve seals

3870VT Roller Kit 11/32

16 - 3870 valve springs 235#@2.000 .780 lift
8 - 1216 2.300 .250L 11/32 intake valves
8 - 1204 1.880 11/32 +100 exhaust valves
1 set - 510 titanium retainers
1 set - 203 10 degree locks
1 set - 5183 rocker studs
1 set - 602 guideplates
1 set - 5301132 .530 guide OD 11/32" valve seals

LS1 Chevrolet

K325 LS1 Kit

16 - 3250 valve springs 110#@1.750 .600 lift
8 - 1009 1.600 exhaust valves
8 - 1117 2.020 intake valves
optional: 1118 2.055 intake valves
1 set - 513 Steel Retainers
1 set - 200 7° locks
1 set - 2675 Spring cups
1 set - valve seals OS964

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Small Block Chevrolet

K30 3000 Hydraulic Kit

16 - 3000 valve springs 1.250 OD 110# @1.700 .500 lift
8 - 2.02 - 2.055 2.080 Std - +100 +200 int valve
8 - 1.600 Std +100 +200 exh valve
1 set - 501s retainers 7 deg chrome moly
1 set - 205 HD 7 deg valve keepers
1 set - 5180 3/8 screw-in rocker studs
1 set - 601 guideplates
1 set - 5301132 .530 guide OD 11/32" valve seals

K31 3100 Hydraulic Kit

16 - 3100 valve springs 1.460 OD 110# @1.800 .550 lift
8 - 2.02 - 2.055 2.080 Std - +100 +200 int valve
8 - 1.600 Std +100 +200 exh valve
1 set - 502s retainers 7 deg chrome moly
1 set - 205 HD 7 deg valve keepers
1 set - 5180 3/8 screw-in rocker studs
1 set - 601 guideplates
1 set - 5301132 .530 guide OD 11/32" valve seals

K34 3400 Mechanical Flat Tappet Kit

16 - 3400 valve springs 1.460 OD dualw/damper 135# @1.800 320#@1.200 .600 lift
8 - 2.02 - 2.055 2.080 Std - +100 +200 int valve
8 - 1.600 Std +100 +200 exh valve
1 set - 502s retainers 7 deg chrome moly
1 set - 201 machined 7 degree 11/32 locks
1 set - 5182 7/16 190,000 psi screw-in rocker studs
1 set - 601 guideplates
1 set - 5301132 .530 guide OD 11/32" valve seals

K36 3600 Mechanical Roller Kit

16 - 3600 valve springs 1.540 OD dual w/damper 190# @1.900 480#@1.250 .660 lift
8 - 2.02 - 2.055 2.080 Std - +100 +200 int valve
8 - 1.600 Std +100 +200 exh valve
1 set - 506 retainers 10 deg chrome moly
1 set - 203 10 deg valve keepers
1 set - 5182 7/16 190,000 psi screw-in rocker studs
1 set - 601 guideplates
1 set - 5301132 .530 guide OD 11/32" valve seals

K385 Extreme Duty 3850 Kit Cyloy Extended Roller Kit

16 - 3850 valve springs 1.550 OD dualw/damper 220# @1.950 580#@1.230 .720 lift
8 - 2.02 - 2.055 2.080 Std - +100 +200 int valve
8 - 1.600 Std +100 +200 exh valve
1 set - 507 retainers 10 deg chrome moly
1 set - 203 10 deg valve keepers
1 set - 5182 7/16 190,000 psi screw-in rocker studs
1 set - 601 guideplates
1 set - 5301132 .530 guide OD 11/32" valve seals

CUSTOM KITS ARE OUR SPECIALTY
Call With Your Specs

Stock Replacement Lifters

PART#	APPLICATION	CYL	CID	YEAR	TYPE
HA817	GM	4	153	70-62	HYD
		6	140-145-164-200-215-229-260-262-268	86-60	HYD
		8	ALL EXC DIESEL & '80 4.9L	86-55	HYD
		8	267-305-307-348-350-366-409-427-454 EXC ROLLER & DIESEL	95-60	HYD
HA900	FORD	4	140-153-HSC	94-79	HYD
		6	182-231-240-300	84-65	HYD
		8	221-255-260-289-302-351-370-400-429-460	94-62	HYD
HA951	GM	4	195	63-61	HYD
		8	260-307-316-326-330-336-347-348-350-389-400-403-421-455	84-55	HYD
HA969	AMC	4	151	83-80	HYD
		8	350	71-70	HYD
	GM	4	112-121-140-151-153	94-62	HYD
		6	184-194-196-230-231-250-252-292-BRAZIL 4.6L	90-62	HYD
		8	249-265-301-350-366-368-400-409-425-427-429-430-454-455-472-500	96-66	HYD
HA2011	AMC	4	150	88-83	HYD
		6	196-199-232-258	88-61	HYD
		8	350	ALL	HYD
	CHRYSLER	4	150-151	00-82	HYD
		6	232-242-258	00-65	HYD
		8	239-273-304-318-327-340-360-401	89-65	HYD
	NAVISTAR/I.H.C.	6	232-258	75-70	HYD
		8	404-446	82-72	HYD
HA2012	FORD	4	122-140	94-74	HYD
	MAZDA	4	2.3L	96-94	HYD
HA2079	GM	4	151-ROLLER	93-85	ROLLER
		6	204-231-262	00-86	ROLLER
		8	249-265-275-300-305-350	00-87	ROLLER
HA2083	FORD	6	144-170-179-200-250	92-63	HYD
		6	GREAT BRITAN	87	HYD
		8	330-332-341-352-359-360-361-389-390-391-410-427-428-429-430-462	78-55	HYD
HA2095	AMC	6	173	87-84	HYD
	GM	6	173-189	93-80	HYD
HA2205	FORD	6	182-231	00-89	ROLLER
		8	302-351	00-85	ROLLER
	MAZDA	8	3.0L	96-94	ROLLER
MA872	FORD	6	144-159-170-171	92-60	MECH
		8	279-302-317-332-352-390-401-406-427-428-475-477-534	81-52	MECH
MA914	FORD	8	260-289-302-351C-400-429 HI-PERF	94-62	MECH
MA992	GM	4	153	70-62	MECH
		6	140-145-164-194-200-229-230-250-292	84-60	MECH
		8	283-301-302-305-307-326-327-348-350-370-389-400-402-421-427-454-455	88-55	MECH
MA2084	CHRYSLER	6	170-198-225	87-60	MECH
		8	250-273-318-340-360-361-383-400-413-426-440	89-57	MECH

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Hydraulic Roller & Solid Flat Tappet Lifters

Morel Street Performance
Hydraulic & Solid Roller Lifters

- Ideal for Street Performance
- Affordable
- Precision formed bodies
- Bodies are carbon-nitrided and tempered
- Roller wheel hardened steel alloy
- Roller pins posi-locked in place
- Tie-Bars heat-treated stainless steel
- Tie-bar button High strength alloy steel

Part#	Description	Wheel Diameter	Body Diameter
5393 /SL539	Buick V-6 Turbo	.700	.842
5337 /SL540	Pontiac Retro-Fit 400-421-428-455	.700	.842
5335 /SL541	Oldsmobile 400-403-425-455	.700	.842
5313 /SL929	SBC Non-Retro-Fit Fits blocks 87-93 with Hyd Roller	.700	.842
5372 /SL930	SBC Retro-Fit 265-400	.700	.842
5374 /SL931	BBC Retro-Fit Early Blocks	.700	.842
5517 /SL960	SBF Mechanical Roller Street Series	.700	.875
5323 /SL962	Ford Retro-Fit Windsor/Cleveland 260-302-351-400 cid	.700	.875
5325 /SL963	Ford Retro-fit BB 429-460 and FE engines	.700	.875
5321 /SL967	SB Mopar Magnum engine or early LA w/Magnum heads	.700	.903
5319 /SL969	Chrysler “B”383-440	.700	.903
5290 /SL973	LS1 Hydraulic with Tie-bars	.700	.842
5339 /SL975	409 Chevy retro fit	.700	.842

2RA finish

Solid Flat Tappet Lifters

HIGHEST QUALITY SLIPPER CROWN

FLAT TAPPET LIFTERS ON THE MARKET

- All new design for racing applications requiring solid flat tappet lifters
- Forged lifter body manufactured to much tighter tolerances for consistent diameter and proper radius on lifter crown
- Body and lifter face have a superior finish for optimum lifter performance
- Hard face bottom with precision crown with .012 oil hole for additional oil supply

Part#	Description
ML535	V8 with .842 dia w/.012 oil hole in tappet face
ML995	V8 with .842 dia w/.015 oil hole in tappet face

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Morel Performance Standard Mechanical Roller Lifters

- Lifter body manufactured from billet alloy steel
- Machined to exact tolerances heat-treated for unparalleled wear resistance
- Roller wheel manufactured high strength alloy .750” diameter for correct cam geometry
- Full .360° wide contact area on camshaft
- Axle through heat-treated steel *the strongest in the business*
- Tie-bar heat-treated stainless steel
- Pushrod seat counterbored for min weight & max contact area
- Steel buttons with precision formed alloy steel for permanent attachment
- Hydraulic roller Eaton-style oil metering design for precision oil control
- Horizontal tie-bar designed to make camshaft change w/out manifold removal

Part#	Description	Wheel Diameter	Body Diameter
SB CHEVROLET-Solid Roller			
4601 /RL940	Horizontal tie-bar	.750	.842
4604 /RL955	.300 tall bowtie vertical tie-bar	.750	.842
SB CHEVROLET-Solid Roller			
4602 /RL930	Vertical tie-bar	.750	.842
5044 /RL934	Vertical tie-bar High RPM	.750	.842
LS1-Roller Lifters			
4708 /RL970	High lift Hydraulic roller	.750	.842
4737 /RL971	Solid roller std & high lift Fits stock rocker boxes	.750	.842
5452 /RL972	Solid roller vertical tie-bar std & high lift	.750	.842
5206 /RL973	Hydraulic roller vertical tie-bar	.750	.842
5276 /RL974	Hyd roller Hi-RPM Warhawk	.750	.842
5294 /RL975	Hydraulic roller vertical HI-RPM	.750	.842
BB CHEVROLET-Solid Roller			
4677 /RL941	Horizontal tie-bar	.750	.842
4606 /RL925	.300 tall vertical tie-bar	.750	.842
BB CHEVROLET-Hydraulic			
4603 /RL931	Vertical tie-bar	.750	.842
5045 /RL932	Hydraulic on center **HI RPM**	.750	.842
SB FORD WINDSOR -260-302-351-400			
4713 /RL960	Solid roller vertical tie-bar	.750	.875
5327 /RL962	Hydraulic roller vertical tie-bar Limited travel	.700	.875
5879 /RL966	Hydraulic roller tie-bar PRO	.750	.875
FORD FE-352-390-410-428 CID			
4726 /RL958	Solid roller vertical tie-bar	.750	.875
FORD BIG BLOCK-429-460 CID			
4719 /RL957	Solid roller vertical tie-bar	.750	.875
5329 /RL963	Hydraulic roller vertical tie-bar	.750	.875
CHRYSLER-318-340-360 CID			
4723 /RL965	Solid roller vertical tie-bar	.750	.903
CHRYSLER-B ENGINE and HEMI			
4730 /RL968	Solid roller vertical tie-bar	.750	.903

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MOREL BLACK MAMBA Roller Lifters

MOREL Black Mamba extreme load roller lifters utilize full-time pressurized oiling to the lifter wheel, which creates an oil wedge between the axle and wheel for dramatically improved load bearing capability. A special .470" diameter axle made from advanced, high strength B624L matrix material is employed with the pressurized oiling. This design results in an .842" lifter which has the load bearing capacity of a much larger 1.00" roller lifter. The Lifter body is treated with DLC (Diamond Like Coating) for reduced friction and increased wear durability.

Morel Professional Series ES Ultra Pro Roller Lifters

- Pressurized Oil Circuit Lubricates Roller, Axle & Bearings
- Body Diameters available .842, .875, .903, .936
- Hardened Pushrod Seat
- Optional Nose Roller sizes available .750, .810, .850
- Precision machined from exotic alloys
- Delivers over twice the cycle life of conventional lifters
- Superior finish on all bodies
- All Erson Ultra Series Roller Lifters are rebuildable

ULTRA PRO SERIES Roller Lifters

Part#	Description	Wheel Diameter	Body Diameter
SB CHEVROLET			
4843 /RL981	+.300 on center	.750	.842
4838 /RL956	+.300 .180 offset	.750	.842
4872 /RL983	+.300 .200 offset	.810	.903
4867 /RL989	+.300 on center	.810	.903
BB CHEVROLET			
4845 /RL982	+.300 on center	.750	.842
4841 /RL985	+.300 .180 offset	.750	.842
4869 /RL987	+.300 on center	.810	.903
4875 /RL988	+.300 - .200 offset	.810	.903
LS CHEVROLET			
5428 /RL976	On center	.810	.903
5425 /RL980	On center	.750	.842
SB FORD			
5436 /RL992	STD on center	.750	.875
5557 /RL993	180 right int.	.750	.875
5490 /RL994	STD on center	.810	.903

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BLACK MAMBA Roller Lifters

Part#	Description	Body Diameter
SB CHEVROLET		
6475 /RL995	+.300 Tall On Center	.842”
6478 /RL996	+.300 Tall .180 L&R Offset	.842”
BB CHEVROLET		
6489 /RL997	+.300 Tall On Center	.842”
6492 /RL998	+.300 Tall .180 L&R Offset	.842”
LS CHEVROLET		
6483 /RL999	+.300 Tall On Center, Fits 5&6 Head Bolt Pattern	.842”

Black Mamba Lite Roller Lifters

Part#	Description	Wheel Diameter	Body Diameter
SB CHEVROLET			
6690/RL801	+.300 on center	.750	.842
6693/RL802	+.300 .180 offset	.750	.842
6711/RL803	+.300 .200 offset	.810	.903
BB CHEVROLET			
6727/RL806	+.300 on center	.750	.842
6734/RL807	+.300 on center	.810	.903
6737/RL891	+.300 .180 offset	.810	.903

BUSHING UFRS
Bushed Wheel Roller Lifters *No Oil Restrictors

Part#	Description	Wheel Diameter	Body Diameter
SB FORD			
6152 /RL908	STD on center	.750	.875
BB FORD			
6162 /RL909	STD on center	.750	.875
6168 /RL913	.180 int offset	.810	.903

Keyway Roller Lifters

BUSCH/NASCAR Keyway Roller Lifters

- Busch/NASCAR Truck Series
- .936 Body .850 Nose Roller

Part#	Description
RL910	NASCAR Keyway Lifter .936 Body .850 Solid Nose Roller
RB910	Bushing with keyway slot to be used with RL910

Rocker Arms

Extreme Duty Rocker Arms

SMALL BLOCK CHEVROLET	
Part#	**Description**
800-16	1.5 3/8
800-8	1.5 3/8 1/2 set
801-16	1.5 7/16
801-8	1.5 7/16 1/2 set
802-16	1.6 3/8
802-8	1.6 3/8 1/2 set
803-16	1.6 7/16
803-8	1.6 7/16 1/2 set
808-16	1.5 7/16 .150 offset
809-16	1.6 7/16 .150 offset
811-16	1.5 3/8 narrow body
811-8	1.5 3/8 narrow body 1/2 set
812-16	1.6 3/8 narrow body
812-8	1.6 3/8 narrow body 1/2 set
814-16	1.5 3/8 tip aligning narrow body
814-8	1.5 3/8 tip aligning narrow body 1/2
815-16	1.6 3/8 tip aligning narrow body
815-8	1.6 3/8 tip aligning narrow body 1/2 set
BIG BLOCK CHEVROLET	
805-16	1.7 7/16
805-8	1.7 7/16 1/2 set
SMALL BLOCK FORD	
806-16	1.6 3/8
806-8	1.6 3/8 1/2 set
807-16	1.6 7/16
807-8	1.6 7/16 1/2 set

Extreme Duty Rockers
- Recommended for Mechanical & Roller Cams
- Designed to clear most large OD Valve Springs
- Heavy Duty Nose Roller & Axle
- Designed for High Spring Loads
- Aircraft quality alloy

Erson Street Series Rocker Arms are recommended for Street/Hydraulic Cams, mild street performance. Great with lower spring loads. Extruded aluminum, precision clearances with tolerance of ± .001. Oversized nose roller for superior load distribution. Roller trunion, roller tip. Red anodize finish. Each set includes polylocks.

LS Aluminum Rocker Arms

LS1/LS2/LS6	
Part#	**Description**
821-16	1.7:1
822-16	1.8:1
823-16	1.8x1.7:1
L92/LS9/LS3/LQ9	
825-16	1.7:1
826-16	1.8:1
827-16	1.8x1.7:1

Street Series Rocker Arms

SMALL BLOCK CHEVROLET	
Part#	**Description**
100-16	1.5:1, 3/8”
101-16	1.5:1, 7/16”
102-16	1.6:1, 3/8”
103-16	1.6:1, 7/16”
BIG BLOCK CHEVROLET	
105-16	1.7:1, 7/16”
SMALL BLOCK FORD	
106-16	1.6:1, 3/8”
107-16	1.6:1, 7/16”

Rocker Arms - Steel

High strength cast steel alloy heat-treated to resist rocker arm flex. Hardened roller tip reduces friction and increases HP potential over OEM stock rocker arms. SBC rocker arms feature long slot design for added clearance and increased oil metering which improves oil flow to the pivot area. Limited hydraulic or mild mechanical lift cams.

Roller Tip & Stamped Rockers

SMALL BLOCK CHEVROLET		
Part#	**Description**	
120-16	1.5:1, 3/8”	Cast
121-16	1.6:1, 3/8”	Cast
135-16*	1.5:1 long slot	Stamped
136-16*	1.5:1 long slot (rail type)	Stamped
137-16*	1.6:1 long slot (rail type)	Stamped
***Not Roller Tip**		
BIG BLOCK CHEVROLET		
122-16	1.7:1, 7/16”	Cast
LS1/LS2/LS6		
128-16	1.7:1	Cast
L92/LS9/LS3/LQ9		
129-16	1.7:1	Cast

Professional Series Pushrods

- 5/16 .120” wall pushrods
- 7/16 .165” wall pushrods
- Optimum stiffness to provide adequate clearance to the head, lifter and lifter bore
- One piece construction with die formed ends
- Seamless SAE 4340 chrome moly
- 210° clearance radius ends for increased load bearing surface
- Superior strength reduced deflection and valve bounce
- Laser etched lengths for easy identification
- Pushrods are available in .050 length increments

7/16 .165” Wall Pushrods

Part#	Description
1979-8	8.400” 7/16 .165 wall
1980-8	8.450” 7/16 .165 wall
1981-8	8.500” 7/16 .165 wall
1982-8	8.550” 7/16 .165 wall
1983-8	8.600” 7/16 .165 wall
1984-8	8.650” 7/16 .165 wall
1985-8	8.700” 7/16 .165 wall
1986-8	8.750” 7/16 .165 wall
1850-8	8.800” 7/16 .165 wall
1851-8	8.850” 7/16 .165 wall
1852-8	8.900” 7/16 .165 wall
1858-8	9.200” 7/16 .165 wall
1859-8	9.250” 7/16 .165 wall
1860-8	9.300” 7/16 .165 wall
1861-8	9.350” 7/16 .165 wall
1862-8	9.400” 7/16 .165 wall
1864-8	9.500” 7/16 .165 wall
1867-8	9.700” 7/16 .165 wall
1868-8	9.750” 7/16 .165 wall
1869-8	9.800” 7/16 .165 wall
1871-8	9.900” 7/16 .165 wall

5/16 .120” Wall Pushrods

Part#	Description
28350-8	8.350” 5/16 .120 wall
28400-8	8.400” 5/16 .120 wall
28450-8	8.450” 5/16 .120 wall
27800-8	7.800” 5/16 .120 wall
27850-8	7.850” 5/16 .120 wall
27900-8	7.900” 5/16 .120 wall
28050-8	8.050” 5/16 .120 wall

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1900 & 1600 Series Pushrods

1900 SERIES - 5/16 .080 Wall

Length	Part#	Length	Part#
6.000”	**1913-8**	7.100”	**1930-8**
6.050”	**1914-8**	7.200”	**1931-8**
6.100”	**1915-8**	7.300”	**1932-8**
6.150”	**1916-8**	7.350”	**1932.50-8**
6.200”	**1917-8**	7.400”	**1933-8**
6.250”	**1918-8**	7.450”	**1933.50-8**
6.300”	**1919-8**	7.500”	**1934-8**
6.350”	**1987-8**	7.600”	**1935-8**
6.400”	**1988-8**	7.700”	**1900-8**
6.450”	**1989-8**	7.750”	**1902-8**
6.500”	**1990-8**	7.800”	**1901-8**
6.550”	**1991-8**	7.850”	**1901.50-8**
6.600”	**1992-8**	7.900”	**1903-8**
6.650”	**1993-8**	7.950”	**1904-8**
6.700”	**1994-8**	8.000”	**1905-8**
6.750”	**1995-8**	8.050”	**1906-8**
6.800”	**1996-8**	8.100”	**1907-8**
6.850”	**1997-8**	8.150”	**1908-8**
6.900”	**1998-8**	8.200”	**1909-8**
6.950”	**1999-8**	8.250”	**1910-8**
7.000”	**1928-8**	8.350”	**1912-8**
7.050”	**1929-8**		

Recommended for mild street performance. 1010 steel pushrods are guideplate compatible. Black oxided .065” wall.

1600 SERIES - .065 Wall

5/16” Diameter		3/8” Diameter	
Length	Part#	Length	Part#
6.250”	**1622-8**	7.701”	**1610-8**
6.804”	**1620-8**	8.280”	**1603-8**
6.876”	**1621-8**	8.682”	**1611-8**
7.205”	**1631-8**	9.250”	**1604-8**
7.266”	**1632-8**		
7.500”	**1640-8** (Solid)		
7.800”	**1601-8**		
7.900”	**1602-8**		

Preferred choice of custom engine builders. Available in custom lengths.

- 3/8 Pushrods with 5/16 ends
- .080 Seamless 4340 one piece
- Reduced Deflection
- Custom Lengths Available

1900 SERIES - 3/8 .080 Wall

Length	Part#	Length	Part#
7.400”	**1942-8**	8.680”	**1924-8**
7.500”	**1945-8**	8.700”	**1968-8**
7.550”	**1946-8**	8.750”	**1969-8**
7.600”	**1947-8**	8.780”	**1926-8**
7.650”	**1948-8**	8.800”	**1970-8**
7.700”	**1949-8**	8.850”	**1971-8**
7.750”	**1950-8**	8.900”	**1973-8**
7.800”	**1951-8**	8.950”	**1974-8**
7.850”	**1944-8**	9.000”	**1975-8**
7.900”	**1952-8**	9.050”	**1976-8**
7.950”	**1953-8**	9.100”	**1977-8**
8.000”	**1954-8**	9.150”	**1978-8**
8.050”	**1955-8**	9.200”	**1911-8**
8.100”	**1956-8**	9.250”	**1921-8**
8.150”	**1957-8**	9.300”	**1939-8**
8.200”	**1958-8**	9.350”	**1923-8**
8.250”	**1959-8**	9.400”	**1936-8**
8.280”	**1920-8**	9.450”	**1937-8**
8.300”	**1960-8**	9.500”	**1938-8**
8.350”	**1961-8**	9.550”	**1938.50-8**
8.380”	**1922-8**	9.600”	**1941-8**
8.400”	**1962-8**	9.650”	**1925-8**
8.450”	**1963-8**	9.700”	**1943-8**
8.500”	**1964-8**	9.750”	**1927-8**
8.550”	**1965-8**	9.800”	**1972-8**
8.600”	**1966-8**	9.850”	**1972.50-8**
8.650”	**1967-8**	9.900”	**1940-8**

A COMMON SENSE APPROACH TO CAM SELECTION AND APPLICATION

Installing the wrong camshaft is both frustrating and costly. When in the market for a new camshaft, we recommend talking to your local dealer first. Working with customers in the area, he is aware of the equipment that is performing best and can usually suggest the best cam for the application.

If the dealer cannot answer satisfactorily, we advise contacting our Technical Department for a recommendation. There is no charge for this service and a wealth of current knowledge is available for the asking. In addition, we are able make a special cam for any application if we feel it is required for top performance.

The most important reason for working closely with the dealer and the factory when purchasing a camshaft is to ensure maximum performance and the right cam the first time. Many factors affect camshaft selection: engine size, induction system, type of transmission, gear ratios, type and weight of chassis, operating conditions and, most important, the needs of the customer.

Cars equipped with a torque converter type automatic transmission are particularly sensitive to certain camshaft characteristics and will require special consideration when selecting a cam for maximum performance (as torque in the low and mid-range must be maintained if satisfactory performance is to be expected). Cams with relatively short duration, high lift and high rates of valve acceleration are normally used and special lobe center spacing is common.

TYPES OF CAMS

There are basically four types of camshafts available for today's engine builder: Hydraulic Flat Tappet, Hydraulic Roller, Mechanical Flat Tappet and Mechanical/Solid Roller type camshafts. In the next section we will briefly try to explain the advantages and disadvantages of each type.

HYDRAULIC FLAT TAPPET CAMS

Previously the most common type of cam used as original equipment in nearly all production engines and in most modified engines was the flat tappet hydraulic. The only exceptions to this are serious race applications.

The hydraulic cams offered in this catalog are manufactured from new proferal iron castings of equal or superior quality to those supplied as original equipment. These heat-treated cast iron (proferal) billet cams must use hardenable iron tappets and motor oil meeting S.A.E. and A.P.I. classifications of S.D. or S.E.

When installed correctly using the recommended component kit, the proper oil, and broken-in correctly, these cams will have a life expectancy equal to that of the engine.

There are many advantages to the hydraulic camshaft. Properly designed hydraulic cams have no valve or tappet noise, periodic valve adjustments are not required and these cams and kits can usually be switched on a one-for-one basis with the stock parts. No machine work is required and no costly adjustment devices are necessary. The installation of a hydraulic high performance or specialty cam and kit may be carried out by the average amateur mechanic with ordinary hand tools in a relatively short time.

For the average installation, hydraulic tappets have no drawbacks. They are a self-adjusting mechanism designed to take up any slack of clearance in the valve train and will function with no problems under nearly all conditions, as long as the engine is not operated above the maximum designed RPM.

If the engine is operated above the maximum designed RPM of the camshaft and valve float occurs, the tappet will attempt to adjust out of the lash caused by valve float and will overfill (pump up). Since the tappet is now over-length, the valves will be held off the seat and performance will suffer until the tappet returns to the correct length. Although a well-designed hydraulic cam and properly engineered parts kits have extremely high RPM potential, valve float is possible.

We also recommend frequent oil and filter changes to prevent varnish or gum build up in the tappets, as they are manufactured to extremely close tolerance.

HYDRAULIC ROLLER CAMS

From the mid-1980s onward, Hydraulic Roller Cams have become increasingly popular with not only the original equipment manufacturers, but the automotive enthusiast as well. The Hydraulic Roller Valve Train combines the performance characteristics of a Solid Roller Cam and the reliability of a Hydraulic Flat Tappet Cam, enhancing the performance of today's engines.

Much like the Hydraulic Flat Tappet Camshaft, the Hydraulic Roller Camshaft uses a follower which resembles a solid roller lifter, yet has the valving of a Hydraulic Flat Tappet. This allows for a quiet and virtually friction-free valve train which requires little to do maintenance. The other and most beneficial advantage would be the use of more aggressive camshaft lobe profiles, offering more area under the curve for better cylinder filling capability and increased mid-range performance.

Another important advantage is that Hydraulic Roller Camshafts require no break-in period. This eliminates any possibility of premature camshaft and/or lifter failure due to improper break-in.

The only real disadvantages to using a Hydraulic Roller Valve Train are: 1) the initial cost is noticeably higher due to the types of materials needed to withstand the higher loads, and 2) Roller Hydraulic Lifters are heavier than Hydraulic Flat Tappet Lifters and they are accelerated at much higher rates due to lobe design. This usually requires the use of a slightly stronger valve spring. Failure to do so will result in early valve train harmonics; i.e.; separation or float.

MECHANICAL/SOLID FLAT TAPPET CAMS

Mechanical tappet cams were at one time used in all high performance applications and in many production engines. These cams are made from the same billets as the hydraulic tappet cams and have the same lubrication requirements. Mechanical tappets are made from the same grade hardenable iron as the hydraulics, but do not contain the self-adjusting mechanism.

The primary advantage of a mechanical tappet cam is higher RPM potential. Although equivalent mechanical and hydraulic cams would float the valves at the same RPM, the mechanical cam would not have a pump up condition from this valve float, therefore, the engine would not stumble or misfire and would continue to run. As soon as the RPM is reduced below the float point, the engine performance would return to normal. One other advantage of the mechanical cam is a smoother idle and higher manifold vacuum when compared to a hydraulic cam of equal horsepower.

The primary disadvantages of a mechanical cam are the necessary periodic valve adjustments and in many applications, slightly more valve train noise, particularly at idle. Another problem is that many engines have no provision for valve train adjustment since they are designed to use hydraulic tappets exclusively. Converting some of these engines to use mechanical tappets can be costly and time consuming.

MECHANICAL/SOLID ROLLER CAMS

Roller cams and tappets have been available to racing enthusiasts since the days of the Model T and are now more popular than ever. Most OE

The principal advantage of a roller tappet setup is its ability to survive in an environment that would quickly destroy a flat tappet camshaft. It also produces tappet velocities far in excess of a flat tappet. High stress levels created by blowers, fuel, heavy springs and valve float are tolerated by the roller tappet assembly due to its basic strength and high load carrying capacity.

Since the rollers used in racing applications are equipped with anti-friction (needle) bearings, they have the added advantage of being able to survive with marginal lubrication. Roller tappets will operate in oil so diluted with nitro that it would cause complete failure of a flat tappet cam.

Due to recent advances in valve spring design techniques and metallurgy, springs that will accommodate ultra-high lifts are now available. Computer designed cam profiles that can take full advantage of these springs without valve float or damage to valve train components are also available. In many cases, these designs cannot be used with the stock diameter flat tappet, as the velocity is too high and a roller must be used.

From a design standpoint, the roller tappet has an infinite base diameter. Valve lifts and acceleration rates impossible within the diametrical limits of the average flat tappet are possible without danger of premature cam failure.

The primary disadvantage of the roller tappet is the high initial cost. Roller tappets are expensive to manufacture. All component parts must be of first quality and many stock parts that are adequate with flat tappet assemblies must be replaced to ensure proper functioning of the roller tappet installation.

DUAL PATTERN CAMS

The term dual pattern cam refers to the difference in the profile of the intake lobe and the exhaust lobe on a given camshaft. Dual pattern cams are produced for hydraulic, flat tappet mechanical, and roller tappet applications.

Dual pattern cams are designed for a number of reasons. Our turbo cams are also dual pattern, but with shorter duration exhaust lobes. Some of our highly competitive, all-out drag race cams are also dual pattern.

ASYMMETRIC CAMS

The term asymmetric cam refers to a profile that is different on the opening side as opposed to the closing side, and can be produced for all three basic cam types (hydraulic flat tappet, mechanical and roller).

Cam lobe profiles for engines such as the Pinto 2000 and 2300, the Honda car, and any other engine using a cam with a lever type cam follower, have visibly asymmetric profiles. These designs, although dramatically different on the opening side compared to the closing side, actually deliver symmetric motion at the valve. The unusual shape is dictated by the geometry of the valve train.

The other common type of asymmetric cam is used with a normal valve train. The difference between the opening side and the closing side of the lobe is not apparent to the eye, but can be picked up by plotting the cam lobe. The most common practice is to use maximum acceptable velocity on the opening side, possibly with a shallow ramp, and use less velocity on the closing side with a higher, longer ramp. The theory is the valve train will operate at higher RPM without false motion (float) and more power will be produced over a broader range.

CHOOSING THE RIGHT CAMSHAFT

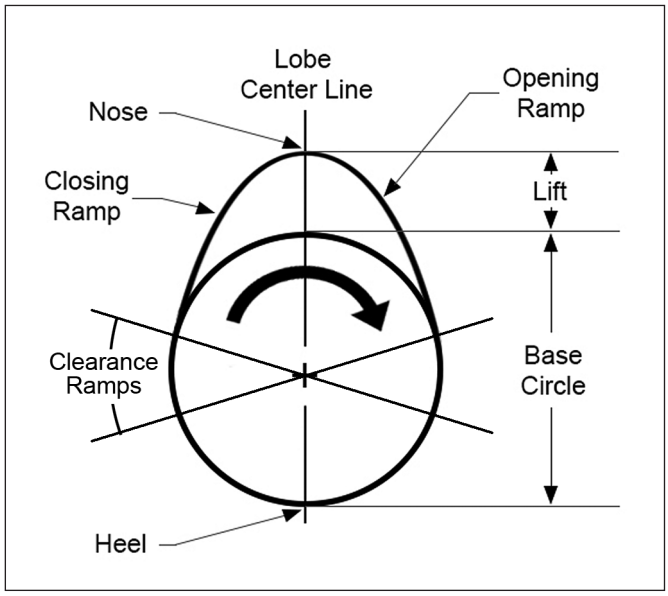
Right from the start you must decide what your ultimate goal is when modifying your engine and vehicle. There are very few situations in which a cam change is practical without other alterations on the vehicle. The extent of these modifications and the owner's ultimate performance goals, to a large degree, will determine the camshaft choice.

PARTS OF A CAMSHAFT

A camshaft may be described as a shaft with one cam lobe for each tappet in the engine. Lobes are positioned radically on the shaft in such a manner as to ensure proper valve timing and firing order. The shaft is also equipped with a number of bearing journals for support during operation. The camshaft is usually manufactured from an alloy iron casting but may be machined from a steel forging or from a solid steel bar, depending on the application.

THE CAM LOBE

A number of special technical terms are used when dicussing a cam lobe and will be presented here to make it easier for the reader to understand the text. When more than one term is in common usage, both will be given to prevent confusion.



The base circle is a circle in theory only and is used in the design and manufacture of cams as a reference point. The base circle is concentric with the axis of the camshaft. A portion of the base circle is the area on which the tappet rides when the valve is closed. On modern long duration racing cams, the concentric portion of the base circle may be as little as 100° of camshaft rotation. The balance of the 360° being devoted to the clearance ramps and the lobe proper. The concentric portion of the base circle is commonly called the heel.

The clearance ramps of a cam are designed to gradually take up the clearance (lash) in the valve train, begin the acceleration of the tappet and the balance of the valve train on the opening side, slow the valve and the valve train and lower the valve gently to the seat on the closing side. Properly designed ramps are necessary, not only to provide quiet operation, but also to ensure long life of valve train components by minimizing opening and closing shock and high cam loading that may occur if acceleration is not carefully controlled. The flank of the cam is the position that actually opens and closes the valve. Working on the principle of a lever, the flank of the cam bears against the tappet as the cam rotates. The rotary motion of the cam is converted into linear motion of the tappet. The shape of the flank is responsible for the rate of lift and to a large degree, the dynamic stability and durability of the valve train. The nose or toe of the cam connects the two flanks and is the portion of the lobe that bears against the camface of the tappet at full lift.

CAM DOCUMENTATION

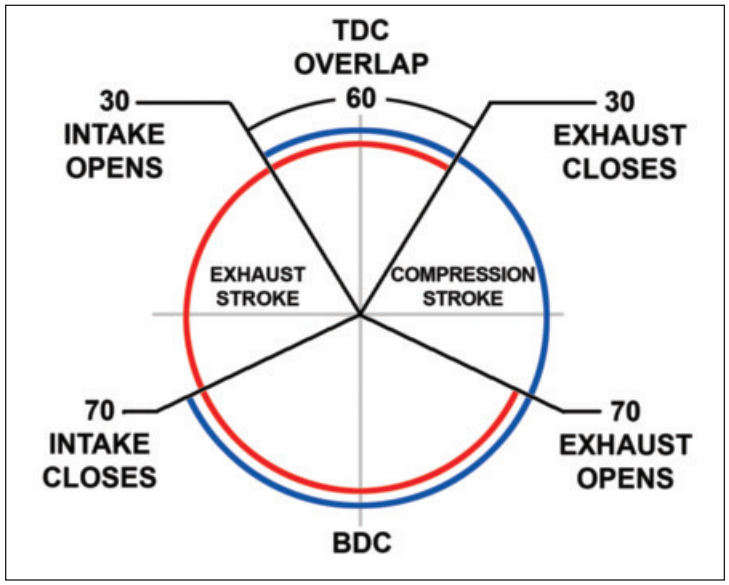
All racing cams from reputable manufacturers include documents with figures relating to the camshaft, These figures are necessary if the engine builder wishes to get the most from his engine. Although, we have found that many people do not understand the timing tag and are unable to use the information to full advantage.

All Erson racing cams are supplied with documentation which gives the following information:

1. The recommended valve clearance.
2. The gross lift at the valve.
3. The timing diagram which represents one complete cycle, two complete revolutions (720°) of the crankshaft.

The timing diagram graphically illustrates the relationship between the valve opening and closing points and the piston travel, measured in degrees of crankshaft rotation. The valve opening and closing points are always given in relation to TDC (top dead center) of piston or BDC (bottom dead center). Intake valves open before TDC and close after BDC. The exhaust valves open before BDC and close after TDC. The heavy black line on the outside of the timing diagram indicates the open period of the intake valve, and the gray line on the inside indicates the open period of the exhaust valve. To determine the intake duration from the sample timing tag, use the following procedure: Start at the upper left hand corner of the diagram marked “intake opens”. (NOTE: The figure 30 means that the intake valve opens 30° before TDC).

Now simply follow the black line in a clockwise direction past TDC and BDC to the point in the lower left hand corner of the diagram marked “Intake closes.” (NOTE: The figure 70 means that the intake valve closed 70° past BDC). Now by adding the total distance traveled in degrees, we can tell what the total duration of the intake opening is as follows, 30°+180° (the number of degrees between TDC and BDC is always 180°) + 70° = 280° duration. To determine the exhaust duration, you simply follow the same procedure beginning in the lower right hand corner marked “exhaust opens” and following around to the upper right hand corner marked “exhaust closes”. If you add these figures (70°+180°+30°) you will find the exhaust duration to be 280°. How about overlap? Add the intake opening before TDC (30°) to the exhaust closing after TDC (30°) and you have the overlap of 60°.



If you wish to determine if the cam is ground “advanced”, “retarded” or “split overlap”, use the following procedure: If the intake duration and the exhaust duration are the same (as in the diagram 280°), then the amount of advance or retard that has been ground into the cam can be determined from the intake opening and exhaust closing figures. If the intake opening figure is greater, then the cam is advanced. If they are the same (as the diagram 30° and 30°), the cam has a split overlap.

To determine the amount of advance or retard that the cam has, just subtract the smaller number from the larger and divide the remainder by two and you have your answer in crankshaft degrees. Now, to check the advance or retard of the cam with unequal intake and exhaust durations, reduce the valve duration of the “longer” to that of the “shorter” by subtracting an equal amount of degrees from both the opening and closing figures of the “longer” valve. With this done, proceed as before.

The following data is for use in checking the cam only and gives the following information:

1. The gross valve lift measures at the cam.
2. The timing diagram with timing points checked at .050 rise off base circle.

On short duration cams the intake opening and exhaust closing number at .050” lift will be shown with a minus sign (-5). This indicates that the opening or closing point is on the other side of TDC.

INSTALLING A CAM

The installation of a cam is not extremely difficult and may be undertaken by anyone with a reasonable understanding of auto mechanics, a representative selection of mechanics’ tools, a manual covering disassembly and assembly of the engine in question and sufficient patience to follow instructions.

The first factor to consider is the condition of the engine. Since the installation of a cam may increase horsepower by as much as 20 percent and allow up to 2000 more RPM before valve float, it stands to reason that the engine must be in first class condition before making any modifications that will increase stress on the engine components.

Once the old camshaft is out of the engine, it is an ideal time to inspect the various components of the valve train. Check the timing sprockets and chain for wear or damage. If the engine has accumulated fairly high mileage, it would be good insurance to replace the chain and sprockets at this time with a heavy duty setup to ensure proper valve timing and long chain life.

Give the bearing journals on the camshaft you removed a thorough visual inspection. The condition of the journals is a good indicator of the condition of the bearing inserts in the block which are almost impossible to check with the engine assembled.

Check the distributor drive gear on the old camshaft and the gear on the distributor. If they show any sign of wear, it is wise to replace the gear on the distributor before installing the new cam, as running against a worn gear will destroy the gear on the camshaft.

Also, check the condition of the valves and valve guides. Since the cam may have more lift, higher spring pressure and an increased rate of lift compared to the stock cam just removed, the valves and guides must be in perfect shape before installing a cam.

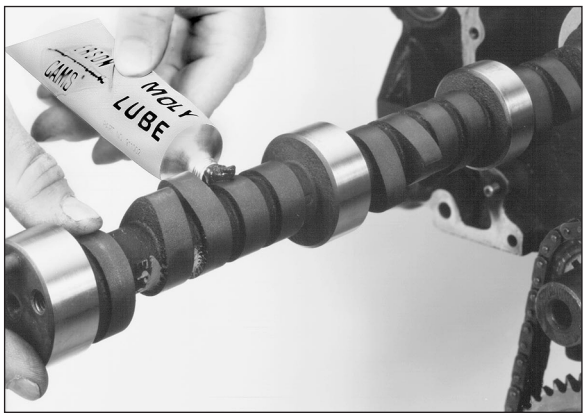
It is important to use the complete component part kit recommended for the installation. Using parts that are not designed for the installation will greatly increase the chances of damaging the cam and engine. Component parts supplied by the cam manufacturer are mechanically and metallurgically compatible and will mate in, guaranteeing long and trouble-free service.

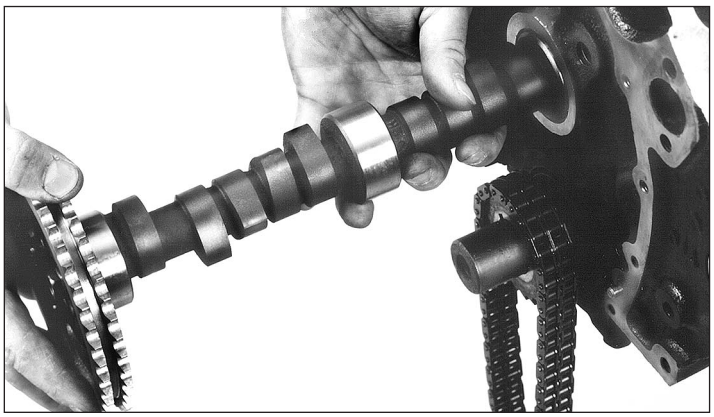
The information and suggestions contained in this article are generalized due to the great variety of engines currently produced and are not intended to cover all aspects of camshaft installation. We recommend following a detailed manual which covers the operations to be performed. Care must be exercised when installing a new cam and valve train components, or severe damage to the cam and the engine may result.

Assuming all the components mentioned earlier have been found satisfactory or replaced with new parts, we can proceed with the actual camshaft installation.

First, install the camshaft sprocket on the cam, including any thrust plate if used on the engine. Check the thrust plate for proper end clearance. Although the sprocket will have to be removed after the camshaft has been installted to facilitate fitting the chain, it is necessary to have the sprocket on the camshaft when checking the cam in the engine. The sprocket also serves as a convenient handle during installation, Coat the lobes and distributor drive gear with the special break-in compound supplied with the cam and coat the bearing journals with motor oil.

Install the camshaft in the engine, taking care not to damage the soft surface of the cam bearings in the block. When the camshaft is fully installed, make sure that the thrust surface of the sprocket touches the block. If the engine is equipped with a thrust plate, bolt the plate to the block.





Rotate the cam several turns by hand. It should turn easily and no binding should be felt when rotating. Next, coat the camface of each tappet with break-in compound and insert the tappets in their bores. Apply pressure against the cam sprocket to be sure that the thrust faces are in contact and rotate the cam again. There should be no hard spots or interference to rotation. If interference can be felt at this time, check for contact between the sides of cam lobes and the tappets.

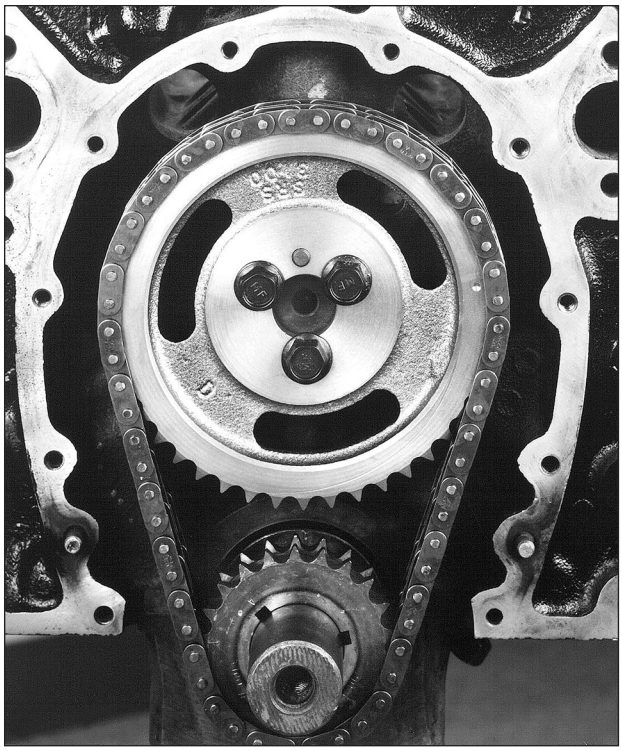
The cam drive sprocket may now be removed to facilitate installing the timing chain. Consult your manual for proper procedure when timing the camshaft.

If the camshaft is to be degreed, now is the time to proceed with this phase of the work. Complete instruction for degreeing the camshaft is given in a later section of this article.

If valve springs are being installed with the heads on the engine, care must be exercised to ensure the proper spring height is arrived at. Do not shim springs tighter than the recommended dimension. Complete instructions for installing and checking valve springs, seals, etc., are given in the section on valve springs.

The balance of the engine may now be assembled following the information given in the manual. When the engine is completely assembled, read the section on valve adjustment in this article and perform whatever adjustments are necessary for the installation.

Break in the camshaft according to the data given in the camshaft break in section.



VALVE LASH

All engines using mechanical (solid) tappets must be fitted with some form of adjustment in the valve train to allow the specified lash to be set. Most contemporary American automotive engines modified for racing use rocker arms with adjusting screws, rocker arms with moveable pivots, or adjustable pushrods as the adjustment medium. Of the three types in common use today, the moveable pivot type, as introduced in 1955 on the 265 Chevrolet V8, is the most common and the simplest.

The reason we must provide lash in the valve train when using mechanical tappets, is to accommodate changes in length of the many components as they expand and contract due to changes in temperature. The lash required for satisfactory operation in a particular application is arrived at by the cam designer when the profile is designed. All that is required to change the operating clearance of a cam profile is to change the ramp length. Hydraulic cams have ramps designed to operate at .000” clearance while mechanical cams may have ramps designed to operate at up to .025” measured at the cam.

The trend in recent years has been toward greater operating clearance for high performance camshafts. This trend was initiated by Chrysler Corp. on their factory high performance engines in 1960 and has since been adopted by all camshaft manufacturers for applications that require sustained high power output.

Manufacturers adopted wide operating clearance because tests performed on engines during operation found that little change in clearance occurs between cold and hot in the modern OHV engine. Starting the engine from cold, the valve lash will vary considerably during the warm-up period, but when the engine is fully warmed up and temperature stabilized, the clearance will be within .002” to .003” of the cold setting. Although all of the valve train components such as tappets, pushrods and valve stems expand, reducing the operating clearance, other components such as the block, head and rocker arm mounting devices also expand, increasing the clearance. In most engines these changes nearly cancel each other out.

For many years, cam designers were aware of these minor changes that could be easily measured on the hot or cold engine and most camshafts used clearances of .012” to .014”, which were assumed to be sufficient to accommodate all variations that take place in the valve train of the OHV engine. Designs utilizing these small clearances performed adequately for passenger car use, but consistently burned exhaust valves when used for extended full-throttle operation. To determine the cause, dynamometer tests were conducted utilizing a specially designed machine that could measure valve lash with the engine running at high RPM, at full throttle, and under load. These tests indicated that the exhaust valve stem would expand sufficiently to eliminate all of the valve lash and hold the valve off the heat. Since the greater portion of the heat picked up by the exhaust valve during operation is transferred to the head by way of the seat, with only a small portion going from the stem through the guide, it follows that as soon as the exhaust valve fails to seat properly, heat buildup increases at an accelerated rate. This in turn aggravates the valve stem growth, causes pre-ignition, valve burning and can contribute to ultimate engine failure.

We have found that a valve lash of .030” to .032” is sufficient to prevent the exhaust valve from being held off the seat in the most severe competition applications, barring engine malfunctions that would cause severe localized overheating.

VALVE ADJUSTMENT

The most common question we hear regarding the valve adjustment is whether the valves should be adjusted with the engine hot or cold. As mentioned earlier, we find very little difference between cold (60°F) and hot and fully normalized (180°) on OHV engines. You should be able to adjust either way with no problem. Air-cooled engines, such as the VW and Porsche, have completely different expansion characteristics than a water-cooled engine and should be adjusted cold, since the cylinders and heads are subject to extreme expansion and will give false readings if adjusted hot.

Another common question is whether the valves should be adjusted with the engine running or stopped. Although there may be some advantages to adjusting the valves with the engine running, we feel that they are more offset by the inconvenience. Adjusting the valves running on a modified engine is impractical for a number of reasons: Idle speed is too high to get a proper feel of the gauge. The high idle also tends to throw hot oil on the mechanic, the engine and the surrounding area. To properly adjust the valves, we recommend the exhaust opening, intake closing adjustment method. We have used this method for years and find it to be easy to remember, accurate and suitable for all types of engines.

With the long duration, long ramp cams now in use, it is difficult to adjust valves using conventional techniques while making sure the tappet is not on the ramp of the cam. If the valve is adjusted with the tappet on the ramp of the cam, the clearance will be greater than called for and performance will suffer.

With valves in approximate adjustment (plus or minus .010”), rotate the engine in the normal direction as you roll the exhaust pushrod between your thumb and forefinger. As soon as the pushrod becomes tight and can no longer be rotated, the exhaust valve is just starting to open. At this point, the tappet is near the center of the heel of the intake lobe for this cylinder and ready for adjustment. After adjusting the intake, continue to rotate the engine in the normal direction while attempting to rotate the intake pushrod between your thumb and forefinger as the intake valve is closing. As soon as you can rotate the intake pushrod, the exhaust tappet will be near the center of the heel of the exhaust lobe and ready for adjustment.

ADJUSTING HYDRAULIC TAPPETS

We recommend adjusting hydraulic tappets to the factory recommended specs in most applications. There is no advantage to installing a hydraulic cam if it is going to be necessary to constantly readjust the tappets.

On engines with the fixed pivot-type rocker arms and no adjustment mechanism, we recommend the valve train be assembled in its stock condition. Most hydraulic tappets have sufficient range of plunger travel to accommodate the smaller base circle of a cam with higher lift than stock with no problems. In the rare case when plunger travel is not adequate, longer pushrods must be installed.

Most engines with moveable pivot arms, such as the Chevrolet, must be adjusted after the camshaft is installed. The factory recommends turning the adjusting screw three-quarters of a turn after all lash has been removed from the valve train. We find this setting to be sufficient for all applications. Although it is messy, we feel this adjustment is best made with the engine running, although this can be done with the engine not running. The important thing is to be sure the tappet is on the heel of the cam when making the adjustment.

The method we recommend is removing one rocker arm cover and starting the engine. All tappets must be adjusted to the point where there is no valve noise. With the engine idling, back-off the first rocker stud nut until it starts to click. Tighten the nut slowly until the click just disappears, then turn the nut three-quarters of a turn. This will cause the engine to stumble, since the valve is being held off the seat, but idle will smooth up as soon as the tappet accommodates to the new setting. Repeat this procedure on the balance of the rockers. This adjustment is all that is required and no further adjustments should be necessary unless the engine is disassembled.

Many people running hydraulic cams in highly competitive applications feel it necessary to run with the valves adjusted to .000” to .003” lash with the hydraulic plunger against the snap ring. This technique has the advantage of guaranteeing no pump-up if the valves should be floated inadvertently at the line or during a shift, while still retaining the advantages of hydraulic tappets. The only drawback to this technique is when this is done with the moveable pivot-type rocker arms, it will upset the rocker arm geometry and can cause damage to the valve train and cam. To operate a moveable pivot-type rocker arm at zero lash with plunger against the snap ring without damaging the valve train or cam, special short pushrods must be used to bring the rocker arm geometry back to normal.

WHY CHECK YOUR CAMSHAFT?

Of the thousands of racing cams installed each year, only a very small percentage are actually checked in the engine to verify valve timing. Many top cars in all classes of racing run cams that have been installed “out of the box” and are able to consistently win against the most formidable competition.

Since it is possible to operate a race car successfully without any special attention to the camshaft installation, some people tend to overlook the many advantages that can be had from checking the cam at the time of installation.

The primary reason for checking the cam in the engine is to be sure that the valves open and close at the proper time in relation to piston travel. Although the chances of the cam timing being within tolerance as installed are quite good due to modern manufacturing and inspection methods used by most manufacturers, the engine builder cannot be sure of the cam timing if it isn’t checked.

Another advantage of knowing the actual timing is that it gives an accurate starting point if subsequent testing shows cam phasing must be changed to alter the engine characteristics.

In addition, it is invaluable to have this date, should the engine be damaged. If the engine builder has all the figures available, it is easy to duplicate the original setup and performance. Knowing the actual valve timing gives a valuable reference point for tuning and maintaining the engine.

PREPARING TO CHECK YOUR CAMSHAFT

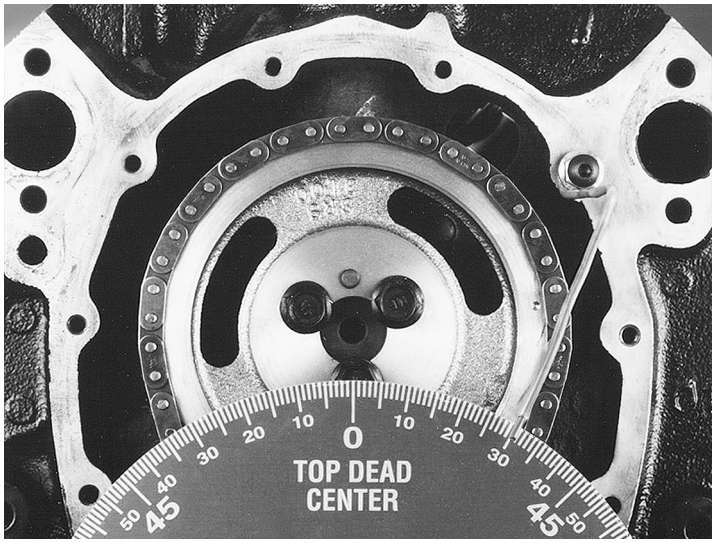
To check the camshaft in the engine, you will need the following tools: one dial indicator with a minimum of .500” travel and a rigid mount for the dial indicator; one degree wheel, calibrated in one degree increments no smaller than six inches in diameter; one pointer, to be attached to the block to read the degree wheel; some method of rotating the engine smoothly in either direction. In addition, a piston stop is handy, but not necessary.

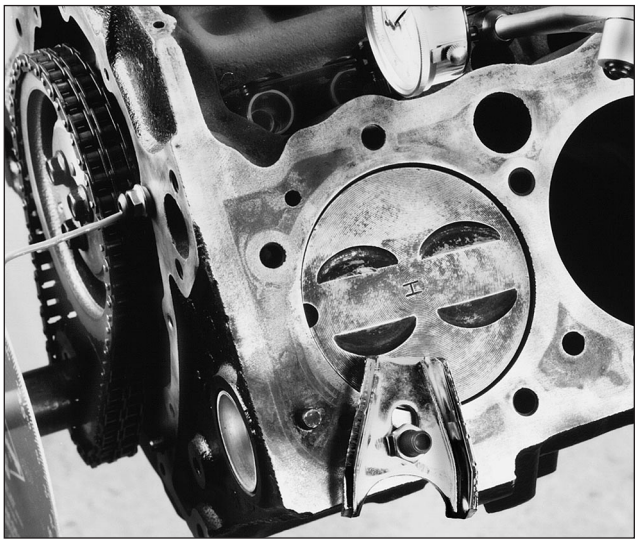
To check the cam, the engine must be torn down to expose the tappets and, if possible, number one piston. All pushrods must be removed from the engine to eliminate valve spring pressure against the cam. To ensure accuracy, the cam must be checked at the tappet. Although it is possible to check the timing at the valve, it is not practical, and not recommended. Because the entire valve train is flexible to some degree, the pressure of the valve springs against the cam will deflect the cam sufficiently to cause errors in readings. By eliminating as many of the valve train components as possible, errors will be reduced. The rocker arms, and in some cases, the rocker arm mounting stud locations, are not consistent and can cause variations in readings.

FINDING EXACT TOP DEAD CENTER

The first step in degreeing the camshaft is to mount the degree wheel securely to the engine’s crankshaft. Although the degree wheel may be mounted to either end of the crankshaft, it is common practice to mount the wheel on the front. The degree wheel can be mounted to the crank snout with one bolt, but it is better to fit the degree wheel to the harmonic damper with several bolts. Next, mount the pointer to a convenient bolt hole on the engine block in such a manner as to make it easy to read the degree wheel. When mounting the wheel, the engine should be rotated to place number one piston as close to TDC as possible and align the TDC mark of the wheel with the pointer before securing the wheel. This eliminates the necessity of excessive adjustment after finding exact TDC.

It is not practical to attempt to find TDC by feel or by eye as piston travel per degree of crankshaft rotation near the top and bottom of the stroke is very small. There are two methods for finding TDC in common use: the piston stop method and the dial indicator method. Both employ two readings taken at a point in which piston travel per degree of crankshaft rotation is high and eliminate any chance of error caused by piston dwell at TDC.





The easiest and most practical method of finding TDC, if the cylinder heads are not on the engine, is with a piston stop. The stop is best made from 1/2 x 1 inch steel, should bridge the bore and be bolted on either side. If the engine is equipped with deflector type pistons, this is all that is required as the piston deflector will contact the steel strap and stop rotation satisfactorily. Should the engine be equipped with flat top pistons, the steel trap should be equipped with a stop locator in its center that will contact the piston between 1/4 and 1/2 inch down the bore. This is easily accomplished by drilling a third hole in the center of the strap, placing a bolt through the hold and securing it with a nut. The end of the bolt should face the piston and will act as the stop.

If the heads must be left on the engine, it will be necessary to purchase or make a stop that will screw into the spark plug hole. This type of stop is easily fabricated from an old spark plug shell and a piece of steel rod. To fabricate a stop, screw the spark plug shell into the head, rotate the crankshaft until the piston is approximately 1/2” below the block surface. Push the rod through the plug shell until it contacts the piston, mark the rod then remove the rod and the plug shell. Braze the rod into the shell and radius any sharp corners of the rod that contact the piston, to prevent marking the piston. This stop should be retained and used in the future when checking the engine. Always remove the pushrods before installing a plug hole piston stop, as the valves may hit the stop, causing severe damage.

Rotate the engine until number one piston is as close to TDC as possible by eye. Line up the TDC mark on the degree wheel with the pointer on the block and secure the degree wheel against rotation. Rotate the crankshaft enough to make room for the piston top on number one cylinder.

With the piston stop in place on number one cylinder, rotate the engine until the piston is firmly against the stop, them make a temporary mark on the degree wheel in line with the pointer. Now, rotate the engine in the opposite direction until the piston again contacts the stop. Make another temporary mark on the degree wheel in line with the pointer. Exact TDC is halfway between the two temporary marks on the degree wheel.

Count the number of degrees from TDC in a clockwise direction to the mark. Now count the number of degrees in a counterclockwise direction from TDC to the other mark. If there are the same number of degrees on each side of TDC, the degree wheel is located perfectly. If there is an unequal number, the wheel will have to be relocated. As an example, if there are 44° on one side of the TDC and 40° on the other side of TDC the wheel will have to be moved 2° to be exactly on TDC (42° on either side). After moving the degree wheel, repeat the entire procedure to double check for accuracy.

When the number of degrees check out exactly the same on either side of the TDC, the degree wheel is properly located and the piston stop may be removed.

It is also possible to find TDC by using the dial indicator. With the cylinder head removed from the engine, mount the indicator firmly to the head surface. The stem of the indicator should be aligned with the axis of the cylinder bore and positioned so the indicator stem will make contact with the piston about halfway before TDC.

Rotate the engine until the piston makes contact with the indicator stem. Continue turning the crank a few degrees more until the indicator is into its operating range. Make a note of the indicator reading and mark the degree wheel in line with the pointer. Now, rotate the crankshaft in the opposite direction until the piston returns to the same reading on the indicator as before. Mark the degree wheel in line with the pointer. TDC is exactly between the two marks. Adjust the degree wheel, as explained with the piston stop method.

MOUNTING DIAL INDICATOR

Care must be exercised when mounting the dial indicator on the engine to ensure accurate and repeatable readings. A flexible indication mounting will make accurate checking impossible. Although the magnetic-type indicator mounts can be used, it is well worth the time to fabricate a rigid mount that will bolt to the cylinder head surface if future camshaft checking is contemplated.

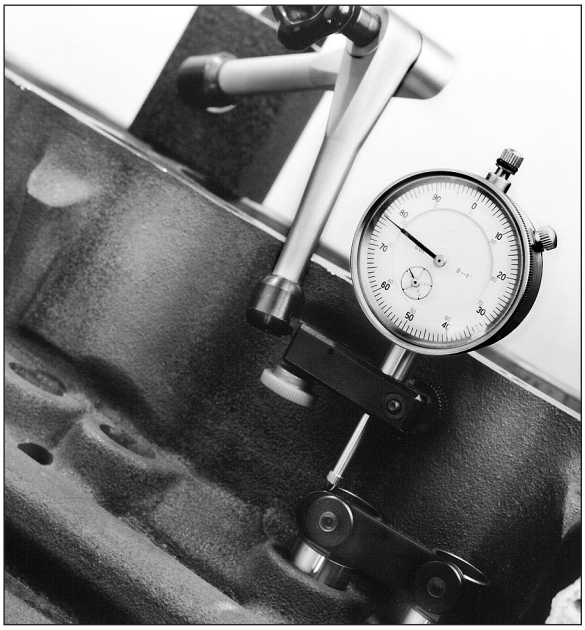
The indicator stem must be aligned with the axis of the tappet bore as accurately as possible. Misalignment will affect the readings.

The tappet used for checking the cam must be the same type that will be used when running the engine.

If the roller tappets used in your engine are linked together in pairs to prevent rotation, be sure to install them this way when checking the cam. A mechanical tappet is normally substituted when checking a hydraulic cam.

Since most indicator stems are not long enough to reach the tappet, some form of extension must be used between the tappet and the dial indicator stem. A pushrod of suitable length can be made, or an extension that presses into the tappet may be used.

With the tappet on the heel of the cam, the dial indicator must be adjusted so that the stem is depressed at least .020”/.030” into the operating range. Set the dial to zero and rotate the engine slowly for several complete revolutions in the normal direction of rotation to check out the installation. Watch for any flexing in the indicator mount. The indicator hand should return to zero each time the tappet is on the heel of the cam, and the same gross lift reading should be noted each time the tappet in on the nose of the cam. The operation of the indicator and the rotation of the engine should be smooth and easy to ensure accurate results.



If the dial indicator does not return to zero when the tappet is on the base circle, the tappet is probably sticking in the boss. This must be corrected before proceeding. Always rotate the engine in the normal direction of rotation to prevent backlash in the cam drive from affecting the figures obtained.

CHECKING BASE CIRCLE

The base circle or heel of the cam should be concentric with the axis of the camshaft. To check the base circle of a cam for runout, rotate the engine slowly with the tappet on the heel of the cam, watching the dial indicator needle for movement. Runout of .001”, or .0015”, is acceptable. If the cam has more than .0015” runout, the cam is either bent or it was ground incorrectly.

If some lobes have excessive base circle runout while others are within tolerance, the cam was probably bent during shipment. If all lobes have the same runout, the master cam or the cam grinding machine is at fault. In either case, the cam should be returned to the factory for correction.

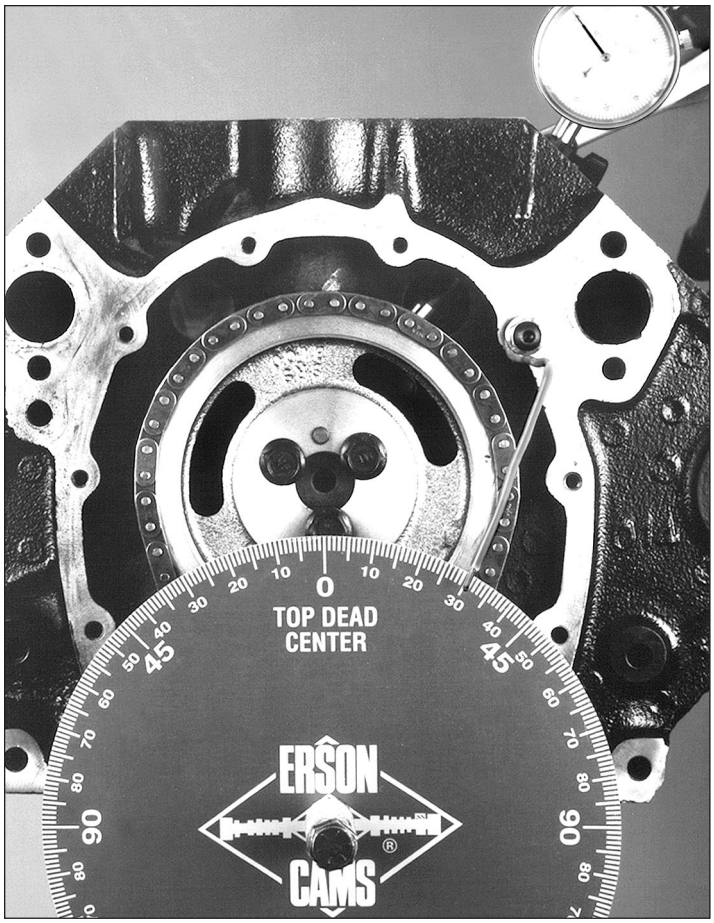
CHECKING GROSS CAM LIFT

The gross lift at the cam is easily measured by rotating the crank two full turns. Starting with the needle on zero and the tappet on the heel of the cam, the indicator will read the gross lift directly. Compare this figure with that given on the cam documents. The tolerance on gross lift is plus or minus .002”. Small variations in gross lift between lobes are usually caused by the cam not being perfectly straight.

CHECK VALVE TIMING

Assuming the base circle and gross lift checks have been completed, the actual valve timing may now be checked against the figures given on the cam documents.

Starting with an intake lobe, the engine should be rotated slowly until the tappet is on the heel of the cam and the dial indicator checked for zero. Continue rotating the engine in the normal direction until the indicator hand starts to move.



Carefully continue to rotate the engine in the normal direction until the indicator reads .050", the specified checking point. Should the crank be turned too far and the indicator runs past the .050" checking point, don't back up. Continue rotating in the normal direction and try again.

When the indicator is on .050" exactly, read the degree wheel. Since intakes open before TDC, count from the pointer in a counterclockwise direction to TDC. This is the intake opening point in degrees. Continue rotating the engine in the normal direction. Watch the indicator as the tappet travels over the nose of the cam and note the gross lift. Continue to rotate the engine and stop when the indicator again shows .050" off the heel. Read the degree wheel. Since intakes close after BDC, count in a clockwise direction to the BDC mark on the degree wheel. This figure is the intake closing point in degrees.

The dial indicator may now be transferred to the exhaust lobe for the same cylinder, taking care to guarantee proper installation as outlined earlier. Do not move the degree wheel in relation to the crankshaft! Rotate the engine several turns to check out the installation and proceed to check the exhaust in the same manner as described for the intake. Since the exhaust lobe opens before BDC, count the degrees in a counterclockwise direction from the pointer to BDC, mark on the degree wheel, the exhaust closes after TDC; count in a clockwise direction. When checking the cam, all data obtained should be written down immediately. Don't trust anything to memory and don't use the corner of an old envelope for your figures. On a clean sheet of paper, make a simplified timing diagram using the diagram on the timing tag as a model. Enter the figures on this diagram as they are obtained and a great deal of confusion will be eliminated.

When degreeing the cam, try to understand what is actually taking place as the engine is being rotated. By observing the components in motion, you will have a better understanding of how the engine functions and how timing affects performance.

ANALYZING THE TIMING DATA

After completing the checking procedure just described, cam data for one cylinder will be available. To be any value to the engine builder, this information must be carefully studied and evaluated.

The cam data obtained can be broken down into four categories: the amount of base circle runout, if any, measured in thousandths of an inch; the gross at the cam, measured in thousandths of an inch; the duration in fifty-thousandths lift off the base circle measured in crank degrees and the opening and closing points of the valves as related to TDC and BDC of piston travel measured in crank degrees.

Of these four sets of figures, the first three are determined during manufacture of the cam and the engine builder can do nothing to change them. Their value is a check of the accuracy of the camshaft only and should be compared against the data given on the cam document.

The fourth set of figures indicates the relationship between the piston and the valves and can be changed to advantage by the engine builder to extract maximum power from the engine, and to tailor the power curve to best suit the application.

Tolerance for base circle runout is .0015" total indicator reading maximum. Since each Erson cam is checked for base circle runout during manufacture, any excessive runout found when checking in the engine is caused by the camshaft being bent. Unfortunately, camshafts bend rather easily in transit and when being handled. Although it is relatively easy to straighten a camshaft, it does require special tools and knowledge and is best left to the experts.

The gross lift figure is read directly off the indicator and should be accurate within plus or minus .002" of the figure given on the timing tag.

If gross lift figures vary between lobes on the same shaft, it indicates the camshaft is bent. A variation between lobes within the tolerance is acceptable.

The duration of the camshaft is arrived at by adding the opening and closing figures plus 180. The duration figures should be the same as that given on page three of the timing tag, plus or minus two degrees. As an example, if the card called for .260°, any figure between 258° and 262° would be acceptable. The duration figure is affected by the lift at which the readings are taken. If a large variation in duration is found, check the indicator mounting, etc., to be sure readings are being made at exactly the designated lift.

The opening and closing points of the cam can be altered by moving the camshaft in relation to the crankshaft. Cam timing may be set straight up, advanced or retarded to suit the application. When the camshaft is moved in relation to the crankshaft, all the timing points, intake opening and closing, and exhaust opening and closing will be changed a like amount.

We feel that checking one cylinder is all that is necessary, but it is relatively easy to check the entire camshaft once the procedure and tools have been mastered.

The degree wheel should not be moved when checking other cylinders. Instead, remark the wheel temporarily with new TDC and BDC marks. On a V8 engine, two cylinders can be checked on each position.

CHECKING BY THE SPLIT OVERLAY METHOD

Since the tools necessary to check the camshaft by the method just outlined represent a sizable investment and may be out of the financial reach of the novice or casual engine builder, we will outline a simple method by which the cam-to-crank relationship can be checked quickly and accurately using simple hand tools. The only applications in which this system will not work are with dual pattern cams and 396/454 Chevrolet engines, which have different tappet boss angles for intake and exhaust.

When checking by this method, the engine must be disassembled to expose the tappets and number one piston. The stock timing chain cover with the timing tab or pointer in place should be installed and the stock crank pulley or harmonic damper should be in place.

Although we have found most stock timing marks to be accurate from the factory, the accuracy should be verified at this time. Install a piston stop as outlined earlier and rotate the engine until the piston is against the stop. Mark the crank pulley accurately in line with the zero mark on the timing tab, rotate the engine in the opposite direction until the piston is against the stop and again mark the crank pulley to the permanent timing mark. Both measurements should be the same. TDC is exactly between the two marks. If there is a variation, a new timing mark will have to be made on the crank pulley or the tab will have to be relocated.

Rotate the engine in the normal direction, stopping when the timing marks line up and the cam is in overlap position (both tappets on the flanks of the cam) on number one cylinder. Place a straight edge across the two tappets for number one cylinder and check any difference in height with feeler gauges. If both tappets are the same height or within .005”, the cam can be considered to have split overlap.

If the intake tappet is higher than the exhaust tappet, the cam is advanced. If the exhaust is higher, the cam is retarded. Although no rule can be given for the number of thousandths per degree due to the constantly varying lift rate of the cam, it is safe to use .006” per degree in most cases. As an example, if an engine was found to have .024” difference between the intake and exhaust tappets and the intake tappet was the higher of the two, it would be safe to assume that the camshaft was approximately four degrees advanced.

ALTERING CAMSHAFT-TO-CRANKSHAFT RELATIONSHIP

There are two reasons a mechanic might want to change the relationship between the camshaft and the crankshaft in an engine; to correct an error in cam timing found when checking the camshaft or to alter the performance characteristics of the engine.

Although a great deal has been written about the consequences of advancing and retarding camshafts, it can be stated very simply that advancing the camshaft raises the cylinder pressure due to the earlier closing of the valves and consequently increases the mid-range power at the expense of top end. Retarding the cam has the reverse effect and within limits, will help the top end power while hurting mid-range.

It has been found over many years of experimenting with all types of engines, that most engines perform best with the camshaft in an advanced position. Usually between 2 and 6 crank degrees advance provides the best overall performance and has been found in many applications to also help power at peak RPM and above.

Seldom is an engine found to respond satisfactorily when the camshaft is retarded. The only exception to this being certain applications where it is beneficial to lose mid-range power or when using a cam design that is not adequate for the intended application. It is relatively easy to alter the camshaft to crankshaft relationship to suit the application by using offset keys and bushings available for this purpose.

When advancing or retarding the camshaft in an effort to improve performance or to alter performance characteristics, it is important to know the actual valve timing of the engine before making the changes. To move the camshaft indiscriminately, with no knowledge of the starting point, is a waste of time and can cause serious damage to the engine.

When advancing or retarding the cam, make a significant change, enough to definitely affect performance. The initial change should be at least four crankshaft degrees. Small changes can be made later to put the cam timing right on.

An important thing to remember when altering the cam- to-crank relationship is that this also changes the piston- to-valve relationship. Whenever valve-to-piston timing is changed in an overhead valve engine, one valve or the other is moved closer to the piston and the clearance would be checked before running the engine. Also, remember that any time the camshaft timing is changed, the ignition timing is changed a like amount. The ignition timing must be reset whenever the camshaft is moved.

ALTERING VALVE LASH

Altering the valve lash to change engine performance characteristics is a favorite trick of many old time tuners.

By increasing the clearance, valve opening is later and closing is earlier. Since duration (valve open time) is reduced, power in the low and mid-range is increased, although top end power may suffer (particularly if clearance is increased to the point where the valve is opening and closing off the ramp area of the cam). Increasing the clearance over that specified by the camshaft manufacturer should be approached with caution, particularly in high RPM applications and should be considered only as a stop-gap method of changing performance. If it is found that an engine runs much better with looser clearance, it may be possible to achieve the same results by advancing the camshaft, or it may be necessary to contact the manufacturer for a milder grind or a change in lobe center placement. The maximum amount clearance that should be increased over that specified is .004" to prevent damage to valve train.

Running with less that specified valve clearance increases the duration and in most cases, will increase top end power of the engine. In addition to the increase in duration, there may be an increase in RPM potential of the engine since the valves are opening and closing further down the ramps and valve action will be smoother. Since tightening the valve clearance cannot damage the valve train from a mechanical standpoint, it is acceptable to reduce clearance by as much as .012" on cams that have a specified running clearance of .028" or more. Of course, this might cause the exhaust valve to run off the seat on a blown or fuel burning engine which could cause damage if run for a long period of time.

LOBE CENTER LINE

Lobe center line, or lobe centers, is the number of degrees between the theoretical center line of the exhaust and intake lobe for a given cylinder, measured in camshaft degrees. On automotive applications the average lobe center is 110°, but will vary between 118° and 100° depending on the application.

The lobe center line of the American automotive camshaft is determined at the time the camshaft is ground and cannot be changed except by regrinding the camshaft.

Contrary to what some cam manufacturers say, very minor changes in lobe centers can alter the power range of an engine sufficiently to make a winner out of an also ran. Subtle changes in lobe centers are one of the top secrets of the successful cam designer.

To decrease the lobe centers of a given camshaft, the exhaust lobe would be retarded and the intake lobe advanced. This would cause the exhaust to open later and close later and the intake to open earlier and close earlier.

A camshaft with closer lobe centers will have more overlap (valves open more at TDC at start of intake stroke) and higher cylinder pressure due primarily to the earlier closing. The camshaft with the closer lobe centers will always produce more power in the mid-range than a cam using the same profile and wide lobe center, and in many applications will produce more power all throughout the range depending on many variables such as the induction system, rod angularity and flow capacity of the ports.

The full potential of lobe center changes can only be appreciated by someone who has had the opportunity to work with an engine that is equipped with a separate cam for intake and exhaust such as the Offy, Jag, four cam Ford, etc. Until a person has been able to change lobe centers at will, he cannot fully appreciate the affects on performance.

CHECKING FOR INTERFERENCE

Probably the most common cause of damage to the racing engine is interference. Although interference can be caused by a number of factors, we will concentrate on interference in the valve train that could be caused by the installation of a racing cam.

Automotive Enthusiasts have found many ways to increase the power of the Internal Combustion Engine. One very common way of increasing torque is to increase the cubic inch displacement of an engine (like they say, there is no substitute for cubic inches). This can be achieved three ways: 1) increasing the bore, 2) increasing the stroke, or 3) increasing both. With regards to having to check clearances, one often overlooked area is that of the camshaft and its proximity to the connecting rods.

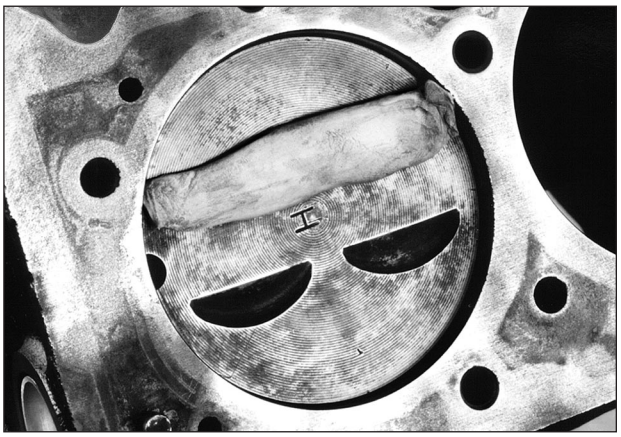
When an engine is stroked, the engine builder is effectively increasing the throw of the crankshaft. This longer throw increases power, but at the same time it also increases the loads imposed on the cylinder walls. To decrease these loads, engine builders use longer than stock length connecting rods. The combination of longer than stock rods and a longer than stock stroke moves the big end of the connecting rod dangerously close, if not in contact with the camshaft - mostly rollers.

There are several ways to approach this problem. One way would be to clearance the camshaft side of the connecting rods during the balancing process. The other would be to use tapered or clearanced rod bolts-usually offered by companies such as ARP, SPX or Pioneer. However, nothing seems to work as well as having your camshaft ground with what is known as a small base circle. This takes planning and should be considered during the preliminary assembly stage. The minimum clearance between any rotating part and another is .060".

For information regarding small base circle cams, contact your camshaft manufacturer.

However, the most common area in which interference encountered when installing a hot cam is between the valves and pistons during the overlap period. This clearance should be checked after the camshaft timing has been checked and set, and should be rechecked if the cam is subsequently advanced or retarded, or if a cam with different lobe centers or duration is installed.

The best method for checking valve-to-piston clearance is with modeling clay. Stick a 1/4 inch thick strip of clay to the piston in the valve pocket area. Cover the clay with cellophane or oil the valve to prevent sticking when the valve contacts the clay. Install the cylinder head with the gasket and secure with several bolts around the cylinder being checked. Install the pushrods for this cylinder and adjust to the clearance specified on the timing tag.



Rotate the engine carefully for two full revolutions. If any resistance to rotation is felt, check to be sure the valve is not touching the piston as this could damage the valve or the valve train.

Remove the head and section the clay with a sharp knife or razor blade in the area where the valves touched the clay. Measure the clay to determine the clearance. The minimum clearance should be .090" intake and .110" exhaust for a competition application. Clearance of .070" intake and .090" exhaust are satisfactory for the average dual purpose engine. If the clearance is less than specified, the pistons must be machined to provide increased clearance. Under no circumstances sink the valve to increase clearance as this could ruin the flow characteristics of the heads.

When checking the valve-to-piston clearance, it is also wise to check for valve-to-block interference. This can occur on some engines when valve lift is increased over stock!

Another source of interference that is sometimes encountered in Hemi or semi-Hemi engines is valve-to-valve interference, where the intake and exhaust valve collide during the overlap period. This is usually not a problem, but can occur when oversized valves are installed or camshafts with close lobe center spacing and long duration are used.

The only way to check for the condition is to install light springs on the valves for one cylinder and install the head on the block. Set valves at normal operating clearance and slowly rotate the engine. About 30° before TDC on the exhaust stroke, press the intake valve down by hand until it contacts the exhaust valve and measure the travel. Repeat every 10° until the intake valve no longer contacts the exhaust valve or about 30° after TDC. If clearance is less than .060" at any point, the valves will have to be reduced in size or the camshaft changed.

The second most common area for interference is between the valve spring retainer and the valve seals or the valve guide. Since the average valve seal is nearly 3/16" (.1875") thick, the valve guide height must be reduced by this much in most cases to provide clearance between the retainer and the seal at full lift. This is easily checked by installing the retainer that is to be used on the valve, without the springs. Depress the valve by hand to the valve lift figure given on the timing tag. At this point, there should be at least .150" clearance between the bottom of the retainer and the top of the seal. If there is not enough clearance, the seals will have to be removed and the guides machined for more clearance.

Another common cause of interference and consequent cam and valve train damage is valve spring coil bind. Coil bind is when the coils of the spring stack solid at or before full lift. The spring becomes solid and will not allow the valve to move any further. The shock and load on the valve train when coil bind occurs will demolish the cam. Coil bind cannot occur when our component parts kit is used with our cam and the springs are installed at the recommended height. Coil bind usually occurs when people attempt to assemble hybrid kits or use stock springs with high lift cams.

The best way to avoid coil bind is to use the proper springs set at the recommended height. Should it be found necessary to check for coil bind, the best method is to set the operating clearance on the valve to be checked, rotate the engine until full lift is reached and check for clearance between the coils with a feeler gauge. Be sure to check around the entire diameter of the spring, as springs usually coil bind on one side only. It may be necessary to use considerable pressure to get the gauge between the coils, since some of the coils are actually being compressed. There should be at least .050" clearance at full lift.

The only other point in the valve train liable to cause interference is the rocker arm assembly. The rocker arm and its potential problems are covered in the next section.

ROCKER ARM GEOMETRY

Rocker arm geometry on an engine must be right! If the rocker arm geometry is incorrect, the engine will be subject to constant valve train problems. Incorrect rocker arm geometry can cause premature valve guide wear, damage to the valve stem end and rocker arm, and in severe cases, failure of the cam due to loads in excess of the stress limits of the cam and tappets.

There are two types of rocker arm assemblies in common use on current American production engines: the fixed pivot (shaft type) and the moveable pivot (stud type).

Both types of rocker arm assemblies have redeeming features and potential problems and each type will be discussed individually.

The moveable pivot or ball and socket type rocker assembly is now found on the greater percentage of engines and is gaining popularity each year as new engine designs are released.

The primary advantage of the ball and socket type rocker assembly is that its geometry is self-compensating for changes in cam lift.

When the lift at the cam is increased, the base circle radius of the cam is reduced by the like amount. This reduced base circle radius lowers the tappet height when on the heel of the cam and the pushrod end of the rocker arm is lowered by a like amount. Since the pivot point of the rocker arm is not fixed and is free to move up and down the stud, the change in base circle radius is automatically compensated for in the rocker arm geometry and will keep the loading of the valve train within specified limits.

Since the geometry of the entire valve train is carefully calculated by the factory engineers at the time the engine is designed, care must be exercised that this balance is not upset when the engine is modified for high performance.

The dimension of each component in the valve train is critical to the overall geometry. Check all dimensions starting at the base circle of the cam and including the length of the tappet, the pushrod and the valve stem height dimension. If the valves are changed or modified, it is important to retain the stock stem dimension measured from the spring seat to the tip of the valve. If a longer stem valve must be used, this must be compensated for by installing longer pushrods. In addition, any material milled off the block or head surface will tend to upset the geometry and excessive milling must be compensated for by installing shorter pushrods.

The clearance between the elongated slot in the rocker and stud must be checked on the pushrod side, with the valve closed and on the valve side with the valve fully open, whenever a cam with greater than stock lift is installed.

Interference at either end of the slot will hurt performance and can damage the camshaft and valve train. Rocker arm-to-stud clearance can be increased by grinding the ends of the slot or special accessory type rocker arms may be installed.

If lubrication is marginal or loading severe, the ball and socket type rocker arm may gall and burn. Should this happen, the rocker and ball assembly must be replaced immediately as the excessive loading on the cam may cause severe damage. Normally, the exhaust rockers are more heavily loaded than the intakes and are the first to fail. We recommend replacing a galled exhaust rocker and ball with an intake rocker and ball that is well broken in. Replace the intake rocker and ball with all new parts.

The fixed pivot or shaft type rocker arm assembly is trouble-free in most applications. Although the geometry will not be correct when large increases in lift are made, the rocker assembly is seldom so far out that any changes need be made.

Should excessive valve guide wear be experienced, it may be necessary to mill the bottom of the rocker shaft stands to correct the geometry. The amount to mill must be calculated for each application as this is determined by the change in lift over stock, the rocker arm dimensions, and the rocker arm ratio.

Care must be taken when shaft type rocker arms with adjusting screws are used with high lift cams. Any increase in lift must be compensated for by the adjustment screw and in extreme cases, the screw can become extended far beyond the original design limits. This situation not only weakens the screw but will upset the rocker arm geometry and change the rocker ratio. This condition is easily corrected by installing longer pushrods.

VALVE SPRINGS

The valve springs on a modified engine are subjected to extreme stress from high RPM operation, high valve lifts and excessive heat. Springs for this type application must be manufactured from special alloy wires such as chrome-vanadium, chrome-silicon and in extreme applications, Vasco Jet 1000 or titanium. In addition, racing valve springs must receive special treatments to prolong life, prevent breakage and loss of tension due to set. These special treatments include heat setting, shot peening, deburring and coating.

Springs for racing applications must be carefully designed to ensure that the maximum stress limits of the wire is not exceeded during operation. Springs must be designed with the highest possible natural harmonic frequency consistent with the stress limits of the wire and the dimensional limits imposed by the particular application. Since it is seldom possible to raise the natural harmonic frequency of the spring high enough to eliminate harmonics during operation without overstressing the wire, flat counter wound dampers or inner and outer springs with an interference fit are used to reduce the amplitude and duration of spring harmonics that may occur.

There are two basic types of valve springs in common use for racing applications: the constant rate spring, which has symmetrical coil spacing and will increase in pressure at a given rate throughout its entire travel; and the variable rate spring that has progressively closer spaced coils at one end and will increase in pressure progressively (the rate increasing as the spring is compressed). Both designs are sound and can be adapted to most applications.

CHECKING VALVE SPRINGS

If a spring checker is available, the valve springs can be checked against our specifications before installation. Springs should be checked at the installed (valve seated) dimension and at compressed(valve open) dimension. When dual springs are used, the pressure of the inner and outer should be added together at the seated and open dimension to get the actual spring pressure at the valve. Remember the dimension of the inner spring is normally 1/8” (.125”) less than the outer, due to the ledge on most retainers.

The manufacturing tolerance on valve springs is plus or minus 7% of the load. Assuming a designed seated pressure of 100 pounds, a spring could vary between 92 to 107 pounds at the same dimension, and be within tolerance. The variation in open pressure, of course, could be much greater. When a dual spring combination is used the tolerance of the outer and inner must be added together and the total variation could be significant. It is recommended that when using dual springs, low limit inners be mated with high limit outers and vice versa to make the pressures as uniform as possible.

If a set of new springs all read high or low, the problem may be the spring checker. First, make sure that the dial is calibrated to zero. If this checks OK, a laboratory standard spring will have to be used to calibrate the machine.

Since valve spring pressure, particularly the valve open pressure, has a definite effect on the RPM potential of an engine, spring pressure should be rechecked periodically as all valve springs take a certain amount of set as they are used. The amount of set a spring takes, and how quickly it takes the set, is determined by a number of factors, including the type of wire, the spring design, RPM during use, heat encountered by the spring during operation and whether or not the valves are floated during operation. Springs that have lost twenty-five pounds or more should be shimmed back to standard if this can be done without getting dangerously close to coil bind. If shimming to standard would require more than .060” of shims, the spring is used up and should be replaced.

INSTALLING SPRINGS WITH HEADS INSTALLED

About eighty percent of the springs we sell can be installed on the head without any special machine work and will accommodate the standard valve seal. On these applications, racing springs can be installed with the heads on the engine.

Although some time may be saved by installing the springs without removing the heads, it should be determined before proceeding that the valve seats and guides are in satisfactory condition. If the heads are in need of a valve job, now is the time to do it.

There are a number of satisfactory tools on the market that will allow the springs to be removed while the heads are on the engine. Fittings that screw into the spark plug hole and accept a high pressure air line are available and should be used to prevent valves from dropping into the cylinder.

When working the heads on the engine, it is best to do one cylinder at a time. Rotate the engine until the piston is at TDC install the air fitting in the plug hole and attach to shop air supply. With the special tool, remove stock intake and exhaust springs and retainers. Check the condition of the valve seals and replace if necessary. Install one of the new retainers on the valve and pull up firmly, measure from the bottom of the retainer to the valve spring seat on the head with a machinist scale. This is the valve spring installed height. If the dimension is greater than what is called for, figure how many shims are required to correct the dimension. When the dimension is correct, install the spring and proceed with the other valve on this cylinder. Follow the same procedure for all cylinders.

INSTALLING SPRINGS WITH HEADS REMOVED

When installing valve springs with the heads removed from the engine, it should first be determined if work needs to be done to the valve seats or guides. We feel it is desirable to do a competition valve job at this time and strongly recommend knurling the valve guides at the same time. We have found knurled guides hold up better and longer than standard and have better oil control.

If the installation requires machining for large diameter, dual springs, or special valve seals, this should be done before other work.

When all machine work on the heads is complete, the valves may be installed. If valve stem seals have been installed, check to be sure they will not hit the retainers at full lift, as outlined in the section on interference. Install the retainer to be used on the first valve and pull up firmly to simulate an installed condition. Measure from the underside of retainers (area where outer spring will seat) to spring seat on cylinder head. Compute the number of shims required, if any, to correct the spring dimension. Install shims against the head and recheck the dimension.

We strongly recommend our heat-treated heavy duty valve locks for all racing applications.These locks are the strongest available, are moderately priced and will prevent costly damage to the engine by eliminating any chance of valve locks pulling off the stem at high RPM.

IN CONCLUSION

The foregoing should answer most questions regarding cam selection, installation and checking procedure. Should any questions arise that are not covered by this text, feel free to call or write our technical department at any time. It is our continuing policy to keep current on the hot tips and to pass this information on to our customers when requested. Erson Technical Department 800-641-7920.

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