



**PERFORMER-PLUS
CAMSHAFT / LIFTERS / LUBE KIT
CATALOG # 2112**

MODEL: 90° V6 200/229 c.i.d. only will not fit (4.3L) 262 c.i.d.

- Please study these instructions carefully before you remove your stock camshaft. If you have any questions or problems, do not hesitate to contact our Technical Hotline at: 1-800-416-8628.
- These instructions are designed to give general installation guidelines. A complete step-by-step procedure manual would require many pages. If you are a novice or just learning to work on automotive engines, we recommend consulting either Chilton or Motors automotive manuals before you begin. You may also wish to contact an experienced mechanic. Be advised: improper installation may result in LOW MILEAGE, POOR PERFORMANCE, COSTLY REINSTALLATION AND EVEN ENGINE DAMAGE. Installing a camshaft is a complex procedure. Please follow these instructions carefully. Failure to do so may void your warranty.
- Before you begin the removal and installation process, please examine the kit for possible shipping damage. If the camshaft is damaged, contact your dealer immediately. Also, make sure you have all the recommended tools and parts as listed below. As you read through these instructions the first time, use the preparation checklist to check off the exact items you will need.
- Performer-Plus camshafts are ground specifically for use with the corresponding *Performer* manifold (#2111). Both are dyno-matched and street proven to work as a team; especially when matched with a 4-bbl. carburetor, an aftermarket or recurved distributor, and tubular exhaust system. However, the Performer camshaft package may be used by itself.

PREPARATION CHECKLIST-Tools & Equipment For Installation

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| •box and open end wrenches | •hammer | •harmonic balancer puller |
| •socket set | •gasket scraper or putty knife | •masking tape |
| •distributor wrench | •timing light | (for tagging hoses and electrical wires) |
| •pliers (channel locks & hose clamp) | •vacuum gauge | •engine oil & filter |
| •screw drivers (regular and Philips) | •rags | •crankshaft dampener puller |
| •torque wrench | •water bucket | |

Hardware & Parts To Buy

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|--|--------------------------------------|-------------------|
| •Edelbrock <i>Sure Seat Valve Springs</i> , #5813 or #5913 (for rotators) | •front cover oil seal, | •chalk |
| •Edelbrock <i>Performer-Link True Rolling Timing Chain</i> and Gear Set, #7800 | •OEM or equivalent gaskets | •paper and pencil |
| •teflon tape | •Edelbrock <i>Gasgacinch</i> (#9300) | •radiator coolant |
| | •RTV Silicone | |
| | •pipe plugs, if needed | |

REMOVAL OF ENGINE PARTS BEFORE CAMSHAFT INSTALLATION

Be sure to keep all parts in order

WARNING! DO NOT REMOVE RADIATOR CAP OR RADIATOR HOSES WHILE ENGINE IS HOT!

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| 1. Disconnect the battery. | 13. Remove hydraulic valve lifters. |
| 2. Drain radiator coolant. Drain plug will normally be located on lower right or left side of the radiator facing the engine. | 14. Remove crankshaft pulley, and using a suitable puller, crankshaft dampener. |
| 3. Disconnect radiator, bypass and heater hoses. | 15. Loosen oil pan and remove water pump and front cover. |
| 4. Remove radiator and air conditioning condenser if so equipped. In some cases, the front grill may have to be removed. Measure distance from front cover to grill or brackets that may interfere with camshaft against the length of the camshaft. | NOTE: The front cover oil seal should be replaced before the front cover is reinstalled. |
| 5. Remove the gas cap to relieve pressure. Disconnect fuel line and plug. Replace gas cap. | 16. Remove fuel pump and fuel pump push rod. Rotate engine until timing marks are aligned as in Figure 1. |
| 6. Disconnect all linkage from carburetor such as throttle, throttle springs, transmission, cruise control and automatic choke. | 17. Remove bolts retaining camshaft sprocket. Remove sprocket and chain. |
| 7. Tag and remove coil wires and sensor wires. | 18. Remove crank sprocket using a gear puller to remove sprocket. |
| 8. Tag and remove vacuum lines. | 19. Remove camshaft. |
| 9. Remove valve covers. | VALVE SPRINGS |
| 10. Remove distributor cap and wires, rotate engine until rotor points towards number 1 terminal in cap and pointer on front cover is on top dead center (TDC) and remove distributor. Note the approximate position of the vacuum advance canister in relation to the manifold assist getting the distributor properly located during reinstallation. | WARNING ABOUT YOUR WARRANTY: |
| 11. Remove carburetor and intake manifold. Remove and discard intake manifold gasket. | In order for this <i>Performer-Plus</i> cam and lifter kit to be covered under ANY WARRANTY you must use either the correct Edelbrock Sure Seat valve springs or the stock original equipment valve springs. Failure to do so could cause the cam lobes to wear excessively and could cause additional engine damage. |
| 12. Remove rocker arms and pushrods. | 1. This camshaft is designed to function either with the stock springs or with Edelbrock <i>Sure Seat</i> valve springs, #5813 (std. retainer set) or, for rotators, use #5913. |
| | 2. Check spring height and set to factory specifications for correct year and model. |

DUE TO THE MANY POSSIBLE SETTINGS OVER THE YEARS, WE ADVISE CHECKING **MOTORS**, **CHILTON**, OR **FACTORY SERVICE MANUALS** FOR CORRECT SPRING HEIGHT FOR YOUR VEHICLE.

LIFTERS

1. New lifters must be used with a new camshaft. Use only the lifters supplied with your kit.
2. Check to make sure all lifters fit freely in lifter bores.
INSTALLATION—Coat cam lobes and bottoms of each lifter with MOS2 lube supplied with your kit.
THIS WILL PREVENT CAM LOBE AND LIFTER WEAR FROM OCCURRING DURING INITIAL ENGINE START UP.
2. Install new camshaft with new sprockets and timing chain.
3. Use locking compound material on bolt threads holding gear to cam. Torque to factory recommendations specified in motor repair manual.
4. Install camshaft with timing marks lined up as recommended by factory specifications. See Figure 1.

PUSHROD AND ROCKER ARM INSTALLATION—After the cam is installed and timed correctly (see Figure 1), install push rods, lifters and rocker arms.

VALVE ADJUSTMENT

1. Turn the engine over until the No. 1 cylinder exhaust lifter starts to move up. At this point install adjusting nut on intake rocker arm and valve. From this point turn adjusting nut down (clockwise) 1/2 turn more for final adjustment.
2. Turn the engine over again until the intake lifter just stops coming down. At this point install adjusting nut on exhaust rocker arm and adjust to zero clearance between rocker arm and valve. From this turn, adjust nut down (clockwise) 1/2 turn more for final adjustment.
3. The above procedure assures correct hydraulic lifter preload. Repeat this procedure for each of the other five cylinders.
4. Install front timing cover with new gasket.
NOTE: Install new seal to oil pan to front cover if old seal is damaged after removal. Use RTV silicone on seal to ensure proper seal to pan.
5. Torque front timing cover bolts to 6-7 ft. lbs.
6. Install front harmonic balancer and torque to 60 ft.-lbs.,.
7. Install fuel pump and push rod.
8. Install water pump using new gaskets and torque to 30 ft.-lbs.
9. Install intake manifold using new intake gasket set and torque bolts to 25 ft/lbs.

DISTRIBUTOR INSTALLATION AND ENGINE TIMING

1. Turn the engine over in direction of rotation until the No. 1 intake valve closes and continue until the pointer on the front cover is approximately five degrees before top dead center (BTDC). See Figure 2 for firing order.
2. Reinstall the distributor with the rotor pointing towards No. 1 terminal in the cap, and with the vacuum advance canister in its original position.
3. Lightly tighten the hold-down clamp so that the distributor can still be turned to determine final setting using a timing light with the engine running.
4. Replace valve covers, carburetor linkage and remaining vacuum and electrical connections.

5. Engine oil & filter should be changed before start-up.

CAMSHAFT & LIFTER RUN-IN

IMPORTANT: DO NOT ALLOW THE ENGINE TO RUN UNDER 2000 RPM FOR THE FIRST 1/2 HOUR. Slow idle speeds may result in severe cam and lifter wear.

START THE ENGINE AND BRING TO BREAK-IN RPM.

IMPORTANT NOTES AFFECTING YOUR WARRANTY

CAM LOBE WEAR—Cam lobe wear is almost non-existent unless mismatched parts are used or installation of the cam and lifters are done improperly. Most cam damage is caused by the timing gear loosening due to improper torque on bolt. Bolt holding gear to

camshaft should be torqued carefully and a locking compound applied to threads of bolts. Before installing your new Performer-Plus camshaft, check the gear drive on the distributor and oil pump for any signs of wear. If worn, be sure to replace with new or you may wear out your camshaft prematurely. This is especially true when rebuilding your engine and a high-performance oil system is used, which generates a heavier load on the camshaft gear system. Edelbrock camshafts are designed to use O.E.M. type gears only.

CAM GEARS AND CAMSHAFT END PLAY—If cam gear becomes loose, the cam will slide back in the block, causing the lifters to hit the lobes next to them and also the cam bearing journals. If the engine is run after this happens, the bottom of the lifters and the sides of the lobes will become chipped.

SPECIAL INSTRUCTIONS

IGNITION TIMING—Increased initial setting to 12-14 BTDC. Total of initial and centrifugal advance not to exceed 340.

PLEASE NOTE: The best combination for any particular vehicle or application must be determined by trial and error using the above information as a guideline.

TUBULAR EXHAUST SYSTEM—For best performance, a tubular exhaust system is recommended with the *Performer* package to provide the most low-end torque.

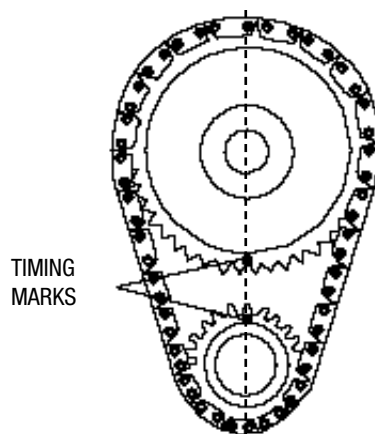


Figure 1—Timing Chain Sprocket Alignment

IMPORTANT NOTE:

When using *Performer-Link True Rolling* timing chain and gear set (Cat. #7800) with an Edelbrock cam and lifter kit, straight up timing alignment is achieved. If any other timing gear set is used, it is necessary to check camshaft position for correct timing alignment. This requires indexing the camshaft with a degree wheel to verify timing alignment. O.E.M. or non-Edelbrock timing gear sets are not recommended for use with Edelbrock camshafts.

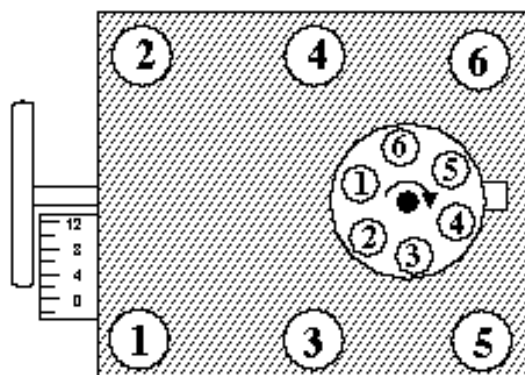


Figure 2—Firing Order—1-6-5-4-3-2

CAMSHAFT: Performer-Plus
CATALOG #: 2112
ENGINE: 200-229 c.i.d. Chevrolet 90° V6
RPM RANGE: 1500-5500

CAUTION:

Use only stock or Edelbrock Sure Seat Valve Springs, #5813 or 5913 (for rotators).

Use stock ratio rocker arms only.

Duration at 0.006" Lift:	Intake	270°	Exhaust	280°
Duration at 0.050" Lift:	Intake	204°	Exhaust	214°

Lift at Cam:	Intake	0.280"	Exhaust	0.295"
Lift at Valve:	Intake	0.420"	Exhaust	0.442"

Timing at 0.050" Lift:	Open	Close
Intake	5° ATDC 29° ABDC	
Exhaust	44° BBDC	10° BTDC
Intake Centerline:	107°	Lobe Separation: 112°

CAUTION: Use Performer-Link Timing Chain and Gear Set, #7800. Do not use late model timing sets. They are machined in a retarded position and are not recommended for this camshaft installation. Edelbrock Performer-Link True Rolling Timing Sets feature three keyways for specific timing selection. Always use the "0" or straight-up timing marks when installing Performer-Plus camshafts with Performer-Link Timing Sets.

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