



**Performer-Plus  
Camshaft/Lifters/Lube Kit  
CATALOG #3712  
MODEL: 307, 330, 350, & 403 c.i.d. Oldsmobile V8, 1967 to 1985  
Instructions**

- **PLEASE** study these instructions carefully before installing your new camshaft. If you have any questions or problems, do not hesitate to call our Technical Hotline at: **1-800-416-8628**.
- **CAMSHAFT:** Edelbrock Performer-Plus camshafts are ground specifically for use with the corresponding Performer manifold #3711 on engines operating from idle to 5500 rpm. The Performer Olds 350 manifold #3711 and Performer-Plus camshaft #3712 are designed to work as a team to give you better driveability and performance. They are dyno-matched and street-proven. For best results, use the Edelbrock manifold/camshaft package with the carburetor and headers we recommend.  
**NOTE:** Maximum performance is achieved when the Edelbrock Performer Olds 350 Power Package components are used with the following equipment:
  - Performer Olds 350 manifold/camshaft/timing set/valve springs
  - Original Equipment Quadrajets carburetor
  - 1-5/8" headers
  - aftermarket/re-curved distributors
  - any combination of the above
- **IMPORTANT:** This instruction sheet provides general installation guidelines which can affect your warranty. Read it carefully. It is not our intent to cover each detail of installation here; a step-by-step procedure manual would be far too lengthy. We want to caution you that installing a camshaft is a complicated procedure that requires a good general knowledge of automotive engines. If you are not confident that you can complete the camshaft installation successfully, we suggest you consider having it installed by an experienced mechanic.

**CAUTION:** Improper installation will result in **LOW MILEAGE, POOR PERFORMANCE, COSTLY REINSTALLATION, and ENGINE DAMAGE.**

**TO AVOID THESE PROBLEMS YOU MUST DO THE FOLLOWING:**

Carefully study and understand all instructions.

Examine the camshaft for possible shipping damage (if damaged contact your dealer immediately).

**PREPARATION CHECKLIST**

• **TOOLS AND EQUIPMENT**

- o Use the following checklist for items needed.
- o box and open-end wrenches
- o socket set
- o distributor wrench
- o pliers (channel locks & hose clamp)
- o screw drivers (regular and phillips)
- o torque wrench
- o hammer
- o gasket scraper or putty knife
- o timing light
- o vacuum gauge
- o rags
- o water bucket
- o harmonic balancer puller
- o crank gear puller

• **HARDWARE & PARTS TO BUY**

- o gaskets- OEM valley pan or equivalent
- o pipe plugs, if needed
- o Edelbrock Gasgacinch, #9300
- o RTV Silicone Gasket Sealant
- o chalk
- o paper and pencil
- o radiator coolant
- o teflon tape
- o Edelbrock Performer-Link True Rolling Timing Chain and Gear Set #7813
- o Edelbrock Sure Seat Valve Springs #5812
- o Manifold bolt kit #8514

## INSTRUCTIONS FOR ENGINE PARTS REMOVAL

### • BEFORE CAMSHAFT INSTALLATION

1. Disconnect battery.
2. For ease of installation, keep all parts in some sort of order.  
**WARNING:** Do not remove radiator cap or radiator hose if engine is hot.
3. Drain radiator coolant, move fan shroud back and remove fan and spacer from water pump. Remove radiator and air conditioning condenser if so equipped. In some cases, the front grille may have to be removed. Measure distance from front cover to grille or brackets that may interfere with camshaft against the length of the camshaft.
4. Remove gas cap to relieve pressure. Disconnect fuel line at fuel pump and plug. Replace gas cap.
5. Disconnect all linkage from carburetor such as throttle, throttle springs, transmission, cruise control and automatic choke.
6. Tag and remove coil wires, sensor wires and all vacuum lines.
7. Remove valve covers.
8. 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 to assist in getting the distributor properly located during re-installation.
9. Remove carburetor and intake manifold.
10. Remove rocker arms and pushrods. **CAUTION:** Rocker arms and rocker arm pivots must be re-installed in their original positions.
11. Remove old valve lifters.
12. Remove crankshaft pulley and, using a suitable puller, crankshaft dampener.
13. Loosen oil pan and remove water pump, fuel pump, and front cover.  
**NOTE:** The front cover oil seal should be replaced before the front cover is re-installed.
14. Rotate engine until timing marks are aligned as shown in Figure 2.
15. Remove cam sprocket bolts. Slide sprocket and timing chain forward to remove.
16. Remove camshaft. Using appropriate gear puller, remove crank sprocket.

### • VALVE SPRINGS

#### **CAUTION: WARNINGS ABOUT YOUR WARRANTY**

In order for this Performer-Plus cam and lifter kit to be covered under ANY WARRANTY you MUST use the correct Edelbrock Sure Seat Valve Springs or original equipment equivalent. Failure to install new Edelbrock valve springs or OE equivalent with your new Performer-Plus cam could cause the cam lobes to wear excessively and could cause additional engine damage.

1. This camshaft is designed to function with Edelbrock Sure Seat valve springs #5812. Do not use dual valve springs with this camshaft. Recommended installed height for these springs is 1.670".
2. If using stock valve springs, check and set spring height to factory specifications for correct year and model  
**NOTE:** Due to various settings throughout the years, we advise checking Motors, Chilton, or Oldsmobile service manuals or correct spring height for your vehicle.

### • LIFTERS

1. New lifters must be used with a new camshaft. Use only the lifters supplied with this kit.
2. Check to be sure that all lifters fit freely in the lifter bores.

### • INSTALLATION INSTRUCTIONS

1. Coat cam lobes and bottoms of each lifter with MoS2 lube (supplied) to prevent cam lobe and lifter wear from occurring during initial start-up. Do not "pump up" lifters before installation!
2. Install new camshaft with new sprockets, timing chain and lifters.  
**CAUTION:** Use Edelbrock Performer-Plus True Rolling Timing Chain and Gear Set #7813. Do not use late model timing chain & gear sets that are designed in a retarded position and are not recommended for this camshaft installation. Edelbrock Timing Sets feature three keyways for specific timing selection. Use locking compound material on the bolt threads holding timing gear to cam. Torque to factory recommendations specified in motor repair manual. Install camshaft with timing marks lined up as recommended by factory specifications. See Figure 2.  
When using Performer-Plus Timing Chain and Gear Set #7813 with Edelbrock cam and lifter kits, straight up timing alignment is achieved. If any other timing gear set is used, it is necessary to check cam 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.

### • INSTALLING PUSHRODS AND ROCKER ARMS

After the cam is installed and timed correctly (see Figure 2), it will be necessary to check each pushrod for correct lifter pre-load. Before installation, be sure to coat friction surfaces of pushrods, rocker arms and pivots with a suitable lubricant such as motor oil or assembly lube.

### • VALVE ADJUSTMENT

1. Turn the engine over until the No. 1 cylinder is at Top Dead Center (TDC) on the compression stroke (both lifters will be at the bottom of their travel in the lifter bores). Install both intake and exhaust pushrods, rocker arms, rocker arm pivot, and rocker arm bolts. Carefully tighten bolts while feeling pushrods for vertical clearance. As soon as all vertical clearance is gone from pushrods, count number of turns until bolts bottom out. There should be 1/2 to 1 full turn of lifter pre-load. If vertical clearance exists after bolts bottom out, longer-than-stock pushrods are required. Use 5/16" diameter intake pushrods for big-block Chevrolets, which are approximately .050" longer than Oldsmobile pushrods. They are available from GM dealers (GM #14075629), TRW (#48099), or other pushrod suppliers. If excessive lifter pre-load exists, use shims under rocker arm pivots to achieve 1/2 to 1 turn pre-load.
2. The above procedure assures correct lifter pre-load. Repeat this procedure for each of the other seven cylinders by rotating the engine 90° and following the firing order (1-8-4-3-6-5-7-2).
3. Re-install front cover, fuel pump, water pump, and oil pan using new gaskets.
4. Install intake manifold using new intake gasket set and torque manifold bolts to 25 ft./lbs.
5. Install crankshaft dampener and torque to factory specs.

- **INSTALLING DISTRIBUTOR AND TIMING ENGINE**

**NOTE:** Before installing your distributor, 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. Edelbrock camshafts are designed to use OEM-type gears only.

1. Turn the engine over in the direction of rotation until the No. 1 intake valve closes and continue until the pointer on the front cover is approximately 5 degrees BTDC.
2. Re-install 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. Re-install air conditioner, if so equipped.
6. Refill radiator with coolant and re-connect battery.
7. Double check all connections, fuel lines, etc. before starting engine.

- **CAMSHAFT/LIFTER RUN-IN**

**CAUTION:** Change the engine oil and filter before start-up and again after initial break-in. Do not allow the engine to run under 2000 rpm for the first 1/2 hour. Vary engine speed between 2000 and 2500 rpm. Slow idle speeds may result in severe cam and lifter wear.

1. Start the engine and bring to break-in rpm.

**IMPORTANT INSTRUCTIONS**

**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 is done improperly. Most cam damage is caused by the timing gear coming loose due to improper torque on bolt. Bolts holding gear to camshaft should be torqued carefully and a locking compound applied to threads of bolts.

- **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.

When installing a camshaft, it is always important to check for proper operating clearances, especially when high performance components are used. Things to look for that can cause failure and damaged parts are as follows:

1. Improper valve-to-piston clearance (this should be no less than 0.080").
2. Rocker arm stud slot clearance (both ends; valve closed and open).
3. Proper spring settings (see dimensions with spring instruction sheet; correct dimensions mean maximum performance and longer engine life).

- **SPECIAL INSTRUCTIONS**

With the Edelbrock manifold and camshaft package plus a header installation, a carburetor jet change may be required for best performance. Due to the varied applications of year and model of vehicles, no one combination could suffice for all installations. The following procedure is only a guideline and in many cases, the manufacturing specifications for recommended carburetors or timing may be best.

- **IGNITION TIMING**

Ignition timing for this package may vary with each application. A good starting figure would be between 10 degrees to 14 degrees initial timing at idle with vacuum advance disconnected. Total advance should not exceed 32 degrees to 34 degrees with initial and centrifugal weights combined and should be at full advance at 3000-3500 rpm. After timing is adjusted, re-connect the vacuum advance line. **NOTE:** The best combination for any particular vehicle or application must be determined by trial and error using the above information as a guideline.

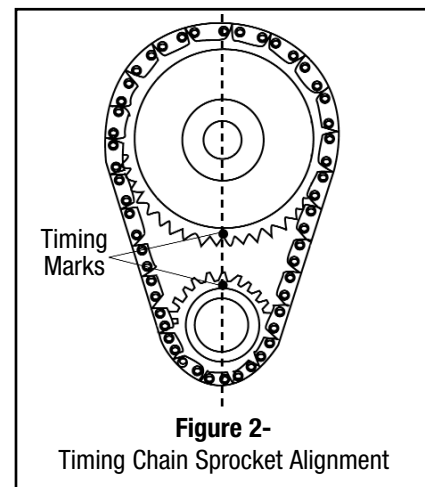
- **HEADERS**

For best performance, headers are recommended. For this application, they should be 1-5/8" diameter, approximately 31" long and terminating into a 3" collector. The remainder of the exhaust system should consist of dual exhaust and tail pipes, at least 2" diameter with low back-pressure mufflers.

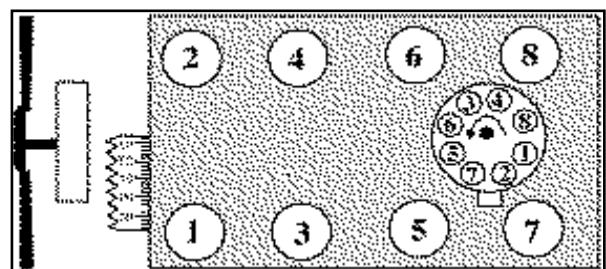
- **WARNING**

In order for this Performer-Plus cam and lifter kit to be covered under ANY WARRANTY you MUST use the correct Edelbrock Sure Seat Valve Springs or original equipment equivalent. The end flap or label from your Sure Seat Valve Spring box must be sent in with your camshaft warranty card.

Failure to install new Edelbrock Sure Seat Valve Springs or Performer-Plus cam and lifter kit could cause the cam lobes to wear excessively and could cause additional engine damage. **IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT OUR TECHNICAL DEPARTMENT IMMEDIATELY.**



**Figure 2-**  
Timing Chain Sprocket Alignment



**Figure 1-**  
Oldsmobile 350/403 c.i.d. V8  
Firing Order 1-8-4-3-6-5-7-2  
Turn distributor clockwise to advance timing.

- CAMSHAFT: Performer-Plus Olds 350
- CATALOG #3712
- ENGINE: Oldsmobile 307/330/350/403 c.i.d. V8
- RPM RANGE: idle-5500
- CAUTION: Use only recommended Edelbrock Sure Seat Valve Springs #5812 or original equipment equivalent.



Duration at .006" Lift: Intake 280° Exhaust 290°  
 Duration at .050" Lift: Intake 204° Exhaust 214°

Lift at cam: Intake .280" Exhaust .295"  
 Lift at valve: Intake .448" Exhaust .472"

Timing at .050 Lift:

	Open	Close
Intake	4° ATDC	28° ABDC
Exhaust	49° BBDC	15° BTDC

• CENTERLINES

Lobe Separation angle: 114°  
 Intake Centerline: 106°

- CAUTION: Use Edelbrock Performer-Link Timing Chain and Gear Set #7813. Do not use late model timing chain and gear sets that are designed for emission-controlled engines. These timing sets are machined in a retarded position and are not recommended for this camshaft installation. Edelbrock Timing Sets feature three keyways for specified timing selection. Use "0" position for most applications.

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