



**PERFORMER-PLUS  
CAMSHAFT / LIFTERS / LUBE KIT  
CATALOG # 3790**

**MODEL: Chevrolet & AMC 2.8L 60° V6, (1982-1985)**

**(Non-computer; longitudinal-mount engines only)**

**GENERAL INSTRUCTIONS**

- **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 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 (#3785 plus #3787 or #3789). 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**

- Box and open end wrenches (SAE & Metric)
- Socket set (SAE & Metric)
- Distributor wrench
- Pliers (channel locks & hose clamp)
- Screw drivers (regular and phillips)
- Torque wrench
- Hammer
- Gasket scraper or putty knife
- Timing light
- Vacuum gauge
- Rags
- Water bucket
- Harmonic balancer puller
- Masking tape (for tagging hoses and electrical wires)
- Engine oil & filter
- Crankshaft dampener puller

**Hardware & Parts To Buy**

- Gaskets- OEM or equivalent
- Pipe plugs, if needed
- Edelbrock Gasgacinch #9300
- RTV Silicone sealer
- Chalk
- Paper and pencil
- Radiator coolant
- Teflon tape
- New timing chain and camshaft sprocket

**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!**

1. Disconnect the battery.
2. Drain radiator coolant. Drain plug will normally be located on lower right or left side of the radiator facing the engine.
3. Disconnect radiator, bypass and heater hoses.
4. Remove radiator, air conditioning condenser and A/C compressor (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.
5. Remove the gas cap to relieve pressure. Disconnect fuel line and plug. Replace gas cap.
6. Disconnect all linkage from carburetor such as throttle, throttle springs, transmission, cruise control and automatic choke.
7. Tag and remove coil wires and sensor wires.
8. Tag and remove vacuum lines.
9. Remove valve covers.
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 to assist in getting the distributor properly located during re-installation.

11. Remove carburetor and intake manifold. Remove and discard intake manifold gasket.
12. Remove rocker arms and pushrods in sequence to allow re-installation in original location.
13. Remove hydraulic valve lifters.
14. Remove crankshaft pulley and crankshaft dampener using a suitable puller.
15. Loosen oil pan and remove water pump and front cover.  
**NOTE:** The front cover oil seal should be replaced before the front cover is re-installed.
16. Remove fuel pump and fuel pump pushrod. Rotate engine until timing marks are aligned as in Figure 2.
17. Remove bolts retaining camshaft sprocket. Remove sprocket and chain.
18. Remove crank sprocket using a gear puller.
19. Inspect crank sprocket for wear and remove sprocket and chain.
20. Remove camshaft.

- **VALVE SPRINGS**

- **WARNING ABOUT YOUR WARRANTY:**

- In order for this *Performer-Plus* cam and lifter kit to be covered under ANY WARRANTY you must use the stock original equipment valve springs. Failure to do so could cause the cam lobes to wear excessively and could cause additional engine damage.

1. This camshaft is designed to function either with the stock springs and retainers.
2. Check spring height and set to factory specifications for correct year and model (1.58" for most models).

**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. ALSO, IT IS WISE TO CHECK FOR ADEQUATE CLEARANCE TO AVOID COIL-BINDING OF THE SPRINGS BEFORE ATTEMPTING TO START YOUR ENGINE THERE SHOULD BE 0.0030"-0.050 CLEARANCE BETWEEN COILS AT FULL LIFT.**

- **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**

1. Coat cam lobes and bottom of each lifter with cam/lifter 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 (15-20 ft./lbs).
4. Install camshaft with timing marks lined up as recommended by factory specifications. See figure 2. This will be Top Dead Center (TDC) of #4 cylinder on the compression stroke.

- **PUSHROD AND ROCKER ARM INSTALLATION**—After the cam is installed and timed correctly (see Figure 2), install pushrods, lifters and rocker arms.

- **VALVE ADJUSTMENT**

1. With the engine at TDC of #4 cylinder (compression stroke), adjust the following valves: intake- 2,3,4/exhaust- 4,5,6.
2. To adjust the valves, install adjusting nut on rocker stud and tighten just enough to achieve zero clearance between the rocker arm and the tip of the valve. This is referred to as "zero lash". From this point, turn adjusting nut down (clockwise) 1/2 turn more for final adjustment.
3. Rotate the engine one complete turn to bring the #1 piston to TDC (compression stroke), then adjust the remaining valves; intake- 1,5,6/exhaust- 1,2,3. The above procedure assures correct hydraulic lifter preload.
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 sealant 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 factory specifications.
7. Install fuel pump and pushrod.
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.

- **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 is done improperly. Most cam damage is caused by the timing gear loosening due to improper torque on bolts. Bolts 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 a new gear or you may wear out your camshaft prematurely. Edelbrock camshafts are designed to use O.E.M. type gears only. **NOTE:** High volume or high pressure oil pumps are not recommended for use with this cam package.

- **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.

- **IGNITION TIMING**

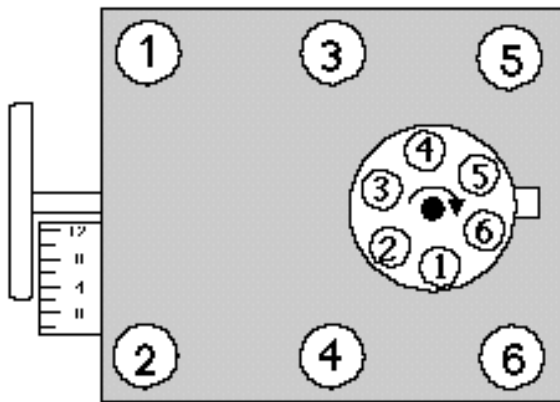
- Increase initial setting to 12° BTDC (Before Top Dead Center). Total of initial and centrifugal advance not to exceed 34° at 3800 RPM.

**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.

• **DISTRIBUTOR INSTALLATION & 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 5° before top dead center (BTDC). See Figure 1 for firing order.



**Firing Order: 1-2-3-4-5-6**

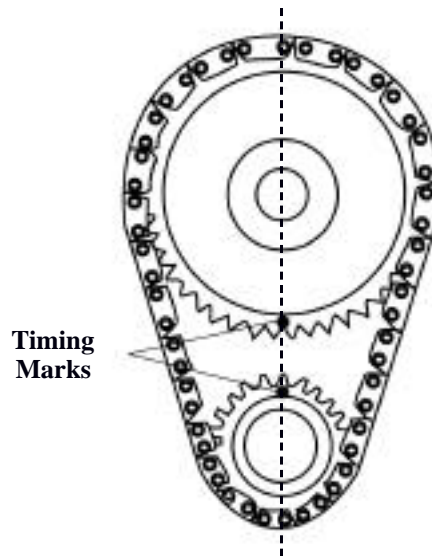
**Figure 1**

283-400 c.i.d Chevrolet V8

Firing Order and Timing Marks

Turn distributor counter clockwise to advance timing

2. Re-install the distributor with the rotor pointing towards No. 1 terminal in the cap and with 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. Tighten hold-down clamp securely.
4. Replace valve covers, carburetor linkage and remaining vacuum and electrical connections.
5. Engine oil & filter should be changed before start-up.



**Figure 2— Timing Chain Sprocket Alignment.**

- **PLEASE** complete and mail your warranty card. Be sure to write the model number of this product in the “Part # \_\_\_\_” space.

**THANK YOU.**

**CAMSHAFT: Performer-Plus**  
**CATALOG #: 2102**  
**ENGINE: 283-350 c.i.d. Chevrolet V8, 1967-1987**  
**RPM RANGE: Idle-5500**

**CAUTION:**

Use only Sure Seat Valve Springs, #5802 or 5902  
Use stock ratio rocker arms only

<b>Duration at 0.006" Lift:</b>	Intake 278°	Exhaust 288°
<b>Duration at 0.050" Lift:</b>	Intake 204°	Exhaust 214°
<b>Lift at Cam:</b>	Intake 0.280"	Exhaust 0.295"
<b>Lift at Valve:</b>	Intake 0.420"	Exhaust 0.442"
<b>Centerlines:</b>	Lobe Separation: 112°	Intake CL: 107°
<b>Timing at 0.050" Lift:</b>	<b>Open</b>	<b>Close</b>
	Intake: 5° ATDC	29° ABDC
	Exhaust: 44° BBDC	10° BTDC

**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 mark when installing Performer-Plus camshafts with Performer-Link Timing Sets.

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