Performer-Plus Camshaft for Chevrolet LT-1 Engines Catalog # 2108

INSTALLATION INSTRUCTIONS

PLEASE study these instructions carefully before installing your new Performer-Plus Camshaft for Chevrolet LT-1 Engines. If you have any questions or problems, do not hesitate to contact our **Technical Hotline at: 1-800-416-8628**, from 7am-5pm Monday-Friday, Pacific Standard Time or via e-mail at: **Edelbrock@Edelbrock.com.** Please fill out and mail your warranty card.

Related Products: For maximum performance, Edelbrock also offers additional parts for the LT-1, such as Performer LT-1 Cylinder Head, Part no. 61909 (Sold Individually); 52mm Twin Throttle Body (94-97 LT-1), Part no. 3809, or 58mm Twin Throttle Body (94-97 LT-1), Part no. 3810. For more information about other Edelbrock products, or to request a catalog, visit the Edelbrock website at **www.Edelbrock.com**, or call **1-800-Fun-Team**.

Description: The Performer-Plus Camshaft for Chevrolet LT-1 engines is designed for optimum torque from the low-end to the mid-range. It has a smooth idle, and is ideal for daily driven vehicles operating within the factory RPM range. Due to the increased lift of this camshaft, you MUST change your valve springs on STOCK heads, to springs capable of handing the lift of this camshaft. Recommended springs are listed in the *"Parts Recommended for Installation"* section. It is also recommended to use a heavy duty timing set such as GM # 12370835 or Edelbrock # 7806 *(**Note:** If you have a 1993-1994 engine, these timing sets require converting your distributor to a 1995 and newer model, or pin drive distributor. See your factory service manual for details.)*

Kit Contents:

Qty.	Description
1	Camshaft
1	Camshaft Sprocket Pin (Installed at .620")

Camshaft Specifications:

	Intake	Exhaust
Advertised Duration	286°	286°
Duration @ .050"	218°	218°
Lift @ Valve	.525"	.525"
Timing @ .050"	Open: 3° ATDC Close: 41° ABDC	Open: 41° BBDC Close: 3° BTDC
Lobe Separation	112°	
Intake Centerline	112°	

Parts Recommended for Installation:

1. Crane # 10309 - Valvesprings (*Stock* Iron Heads Only)
2. Crane # 10308 - Valvesprings (*Stock* Aluminum Heads Only). (Edelbrock Part no. 61909 heads come equipped with high performance valve springs).
3. Replacement Lifter Set
4. Timing Cover Gasket Set
5. Intake Manifold Gasket Set
6. Water Pump Gasket Set
7. GM Performance # 12370839 - 1.6:1 Roller Rockers (Also, Crane # 10758-16. Performance is enhanced by the increased lift and decreased drag of 1.6:1 roller rockers.)

Recommended Tools:

(Use the Supplied GM part numbers or equivalent)

1. GM # J-39046 - Crankshaft Hub Remover/Installer
2. GM # J-39087 - Driven Gear Shaft Seal Protector.
3. GM # J-3049 - Hydraulic Lifter Remover (Plier Type)
4. GM # J-9290-01 - Hydraulic Lifter Remover (Slide Type)
5. Harmonic Balancer Puller

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* IMPORTANT INSTALLATION NOTES *

BEFORE BEGINNING: This installation can be accomplished using common tools and procedures. However, you should have a basic knowledge of automotive repair and modification and be familiar with and comfortable working on your vehicle. If you do not feel comfortable working on your vehicle, it is recommended to have the installation completed by a professional mechanic. Due to varying vehicle types, multiple steps in this instruction sheet will refer to the factory service manual. It is highly recommended to have a factory service manual for your vehicle, or a Chilton's manual on hand during this installation. The service manual covers certain steps in this instruction sheet in full detail, and also provides proper bolt torque values and sequences.

REMEMBER: When working on your engine, especially when oil or fuel is present, always work in a well ventilated area. Keep all sparks, open flames, or other sources of ignition away from the work area. Failure to do so could result in a fire or explosion causing vehicle or property damage, personal injury, and/or death.

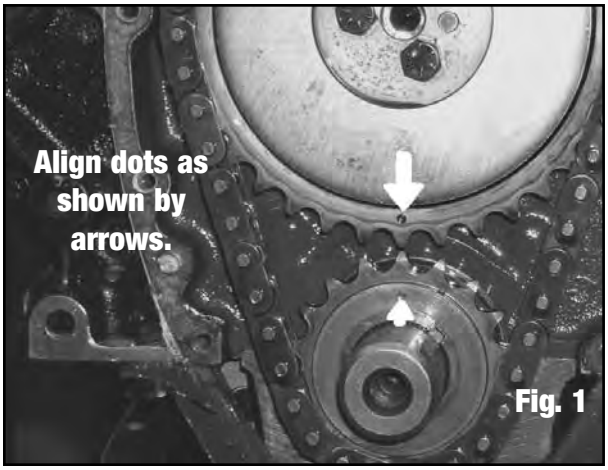
NOTE: Make sure your engine is in good running condition before installing the Edelbrock Performer-Plus Camshaft. If your engine is not in good working order, installation of a high performance camshaft could result in premature engine wear.

NOTE: If your engine is in the vehicle, the removal of all vehicle pieces in order to provide access to the engine front cover and the removal of parts in order to provide clearance to remove and install the camshaft will not be covered. These items may include the cooling fans, radiator, emissions equipment bracketry, A/C brackets, etc. Depending on the model of your vehicle, if the engine is in the vehicle, temporarily raising the engine in the engine compartment may be required to gain enough clearance to remove and install the camshaft. Please refer to your factory service manual for these procedures. If the vehicle needs to be raised for any reason, always use the factory recommended lift points and methods of supporting the vehicle. **Failure to do so could result in vehicle damage, personal injury, and/or death.**

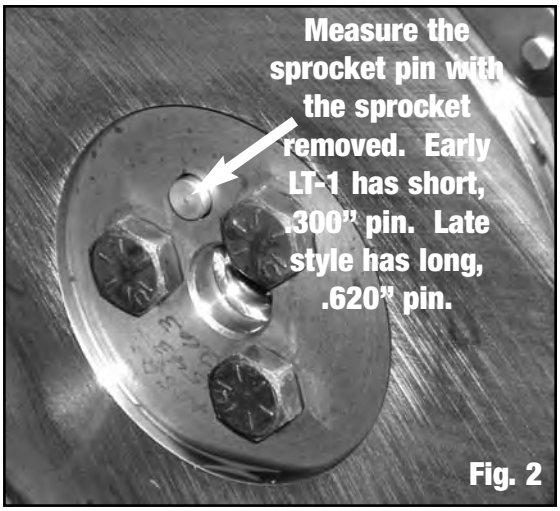
INSTALLATION PROCEDURE

1. Make sure the vehicle is on level ground and supported properly. Drain engine oil and coolant, storing them in appropriate containers or disposing of them properly. Refer to the factory service manual for proper draining procedure. Make sure the negative battery cable is disconnected.
2. After getting access to the front of the engine, remove the serpentine accessory drive belt. Follow the factory service manual procedure.
3. Remove the water pump. Remove the crankshaft balancer assembly and hub using the J-39046 puller *(See service manual). (**Note:** You may need to use a harmonic balancer puller to separate the balancer from the hub. Leave the crankshaft hub bolt installed while using the balancer puller).* If your vehicle is equipped with A.I.R. *(Air Injection)*, you will need to remove the pump and move it to the side, since its bracket is attached to the water pump *(See service manual)*.
4. Remove the distributor *(See service manual).*
5. Loosen the oil pan bolts enough to pull the oil pan away from the engine slightly to provide clearance for removing the timing cover. Remove the timing cover and gasket. Be careful not to damage the seals in the timing cover. Replace, if necessary. At this time, you should to inspect the oil pan gasket for damage. Remove the oil pan and replace the gasket, if necessary *(See service manual)*.
6. Remove the intake manifold and the oil pump drive shaft bolt and assembly *(See service manual)*.
7. Remove the valve covers. Remove the rocker arm nuts and pivot balls. Make sure to keep them in order, so they can be re-installed in their original locations. Remove the rocker arms and pushrods. Make sure they are also kept in order to be re-installed in their original locations.
8. Remove the lifter guide and lifters. *(**Note:** Occasionally, a few lifters may be stuck in the lifter bores due to oil deposits. You will need to use the GM # J-3049, or J-9290-01 Hydraulic Lifter Removers, to remove the stuck lifters.)* Inspect your old lifters for wear. If there are any signs of wear, they should be replaced. We always recommend replacing the lifters when installing a new camshaft.

9. Rotate the engine so that the timing marks on the timing chain are in line ***(See Fig. 1)***. Remove the three bolts holding the camshaft sprocket and carefully remove the cam sprocket. You can allow the timing chain to rest on the crankshaft sprocket. *(**Note:** Now is a good time to inspect the timing set. Replace if necessary, following the service manual procedure.)*



10. Remove the camshaft retaining plate and carefully remove the camshaft. Keep it straight as you remove it as to not damage the camshaft bearings. *(**Note:** Installing three 5/16"-18 x 4" bolts into the front of the camshaft can give you a "handle" to help hold the camshaft. Carefully rotating the cam while removing it eases the removal.)*
11. There is a pin that puts the distributor in proper time that is inserted into the camshaft. Measure how far it protrudes from the camshaft. It should be close to .300" or .620" ***(See Fig. 2)***. The new camshaft has this pin already installed at .620". If your stock pin measured at .300", then tap on the pin of your Edelbrock camshaftwith a plastic mallet or by using a block of wood and a hammer until it measures .300" from the sprocket surface. DO NOT tap on this pin after the cam is installed in the engine. The tapping force could result in knocking the rear cam plug out of the engine.



12. Liberally coat the new Performer-Plus camshaft journals and lobes with clean engine oil. Use the 4" long bolts to create a "handle" and carefully insert the cam into the engine.
13. Replace the camshaft retaining plate and tighten the bolts to the factory specification.
14. Replace the timing chain and camshaft sprocket. Make sure to align the timing marks on the cam and crankshaft sprockets ***(See Fig. 1)***. Tighten bolts to factory specifications *(See service manual)*.
15. Coat the lifters with clean engine oil. Install the lifters and lifter guide *(See factory service manual for torque specs)*.
16. Install the pushrods and rocker arms. Make sure each pushrod, rocker arm, rocker ball, and adjusting nut went into the location it was removed from. Only hand tighten the adjusting nuts at this point, to hold the rockers in place. You will need to adjust the valve clearance. See the *"Valve Adjustment Procedure"* at the end of this instruction sheet or see your service manual before moving on to Step 16.
17. Install the valve covers. Use new gaskets, if necessary.
18. Install the oil pump driveshaft and bolt *(See service manual for torque specs)*.
19. Install the intake manifold and related components *(See service manual).*
20. Install the timing cover using a new gasket. Be careful not to damage the seals in the cover. Use GM # J-39087 tool to prevent damage to the water pump driveshaft seal. Tighten the oil pan bolts.
21. Install the distributor. Make sure the cam sprocket pin is aligned with the slot on the back of the distributor assembly and that the distributor seats fully before attempting to install the bolts *(See factory service manual)*. Tighten bolts to factory specifications.
22. Install the crankshaft hub and balancer *(See service manual).* Install the water pump according to the service manual procedure. Re-install the A.I.R. pump and bracket if it was removed earlier.
23. Install the serpentine accessory drive belt and adjust the tension *(See service manual).*
24. Install all components that were removed in order to gain access to the front of the engine *(See service manual).*

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- **Valve Adjustment Procedure**

1. Rotate engine clockwise until the number 1 cylinder is at top dead center of the compression stroke. This is indicated when both timing marks are at the 12 o'clock position ***(See Fig. 3).*** The lifters for cylinder no. 1 should be at the bottom of their travel in the lifter bores.

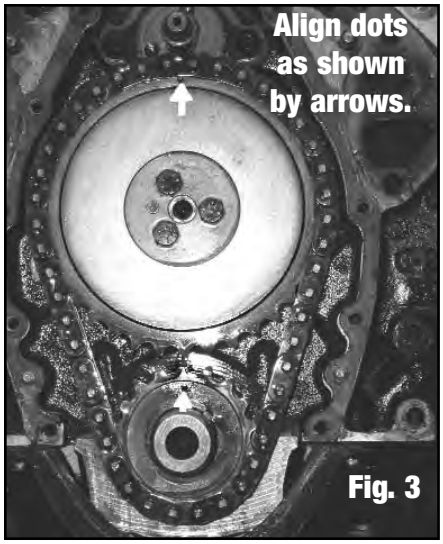


Fig. 3

2. You may now tighten the intake rocker adjusting nuts on cylinder no. 1, 2, 5, and 7. Tighten the exhaust rocker adjusting nuts on cylinder no. 1, 3, 4, and 8. As you are tightening the adjusting nut, spin the corresponding pushrod between your thumb and forefinger. When you begin to feel some drag on the pushrod, you are at zero clearance, or "zero lash". Continue turning the adjusting nut one full turn after reaching "zero lash".
3. Rotate the engine clockwise one full revolution. The number 6 piston should be at top dead center and both lifters should be at the bottom of the lifter bore. Repeat Step 2 on the intake rockers of cylinder no. 3, 4, 6, 8, and also on the exhaust rockers of cylinder no. 2, 5, 6, and 7.
4. You should check the lash one more time after the motor has been run for a few miles.

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CAMSHAFT: Edelbrock Performer-Plus

CATALOG #: 2108

ENGINE: Chevrolet, LT-1 5.7 liter

RPM RANGE: Idle - 5500

Advertised Duration:	Int. 286°	Exh. 286°
Duration at .050" Lift:	Int. 218°	Exh. 218°
Lift at Cam:	Int. .350"	Exh. .350"
Lift at Valve:	Int. .525"	Exh. .525"
Intake Centerline:	112°	
Lobe Separation:	112°	
Timing at .050" Lift:	**Open**	**Close**
Intake:	3° ATDC	41° ABDC
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