



Application: Corvette 1957, 1963-1982, 1984-1986

Part Includes

1 - Component

Camshaft, Performet RPM



Tools Needed



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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 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.

INSTRUCTIONS FOR ENGINE PARTS REMOVAL BEFORE CAMSHAFT INSTALLATION

STEP 1.

Disconnect battery.

STEP 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.**

STEP 3.

Drain radiator coolant, move fan shroud back and remove fan and spacer from water pump. On air conditioned vehicles, remove bolt, lower idler pulley and compressor-to-water pump mount. Disconnect hoses and brackets. Most vehicles will require radiator removal prior to cam removal. Remove water pump.

STEP 4.

Disconnect all linkage from carburetor such as throttle, throttle springs, transmission, cruise control and automatic choke.



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Description (cont.)

STEP 5.

Tag and remove vacuum lines.

STEP 6.

Remove valve covers.

STEP 7.

Remove distributor cap and wires, rotate engine until rotor points towards number 1 terminal in cap and pointer on front cover is 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.

STEP 8.

Remove carburetor and intake manifold. Remove fuel pump.

STEP 9.

Remove rocker arms and push rods. **CAUTION: IF YOUR ENGINE HAS NON-ADJUSTABLE ROCKER ARMS (1969-1/2 OR LATER), CARE MUST BE TAKEN TO KEEP THE PUSH RODS AND ROCKER ARMS IN PROPER ORDER, AS THEY MAY BE DIFFERENT LENGTHS.**

STEP 10.

Remove hydraulic valve lifters.

STEP 11.

Remove crankshaft pulley and, using a suitable puller, crankshaft dampener.

STEP 12.

Loosen oil pan and remove front cover. **NOTE: THE FRONT COVER OIL SEAL SHOULD BE REPLACED BEFORE THE FRONT COVER IS RE-INSTALLED.**

STEP 13.

Rotate engine until timing marks are aligned.

STEP 14.

Remove cam sprocket bolts. Slide sprocket and timing chain forward to remove.

STEP 15.

Remove cam shaft. Using appropriate gear puller, remove crank sprocket.

LIFTERS

STEP 1.

New lifters must be used with new camshaft. Use only the high rev lifters supplied with this kit.



Description (cont.)

STEP 2.

Check to be sure that all lifters fit freely in the lifter bores.

INSTALLATION INSTRUCTIONS

STEP 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.

STEP 2.

Install new camshaft with new sprockets, timing chain and lifters. **NOTE: DRIVE PIN IN FRONT OF CAM SHOULD BE PRESSED INTO THE TIMING GEAR FROM THE REAR OF THE GEAR (CAMSHAFT SIDE) UNTIL THE PIN PROTRUDES FROM THE FRONT OF THE GEAR BY .060". THIS WILL ALLOW THE PIN TO ENGAGE A DRIVE HOLE IN THE ONE-PIECE FUEL PUMP ECCENTRIC.**

CAUTION: DO NOT USE LATE MODEL TIMING CHAIN AND GEAR SETS THAT ARE DESIGNED IN A RETARDED POSITION AND ARE NOT RECOMMENDED FOR THIS CAMSHAFT INSTALLATION. 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.

INSTALLING PUSH RODS AND ROCKER ARMS

High performance push rods and rocker arms and studs are recommended for this installation. After the cam is installed and timed correctly, it will be necessary to check each push rod for correct lifter preload.

VALVE ADJUSTMENT

STEP 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 adjust to zero clearance between rocker arm and valve tip. From this point, turn adjusting nut down (clockwise) 1/4 turn more for final adjustment.

STEP 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 tip. From this point turn adjusting nut down (clockwise) 1/4 turn more for final adjustment.

STEP 3.

The above procedure assures correct hydraulic lifter preload. Repeat this procedure for each of the other seven cylinders.

STEP 4.

Re-install front cover, fuel pump, water pump, and oil pan using new gaskets.



Description (cont.)

STEP 5.

Install intake manifold using new intake gasket set and torque manifold bolts to 25 ft./lbs.

STEP 6.

Install crankshaft dampener and torque to 60 ft./lbs.

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 WARN, 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.

Step 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.

STEP 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.

STEP 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.

STEP 4.

Replace valve covers, carburetor linkage, and remaining vacuum and electrical connections.

STEP 5.

Re-install air conditioner, if so equipped.

STEP 6.

Refill radiator with coolant and re-connect battery.

STEP 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. SLOW IDLE SPEEDS MAY RESULT IN SEVERE CAM AND LIFTER WEAR. START THE ENGINE AND BRING TO BREAK-IN RPM.



Description (cont.)

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 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 clipped. 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

CAUTION: SOME MODELS OF EARLY VEHICLES USE A SHORT PIN IN THE CAMSHAFT. FOR THESE VEHICLES, WE SUGGEST GRINDING THE LONG PIN IN THE CAM TO THE SAME LENGTH AS THE SHORT PIN, OR REMOVE THE STOCK PIN AND INSTALL IT WITH THE CAM. WITH THE 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.

VACUUM ADVANCE

For best cruise and light throttle response, a vacuum advance curve was used with 16 to 20 degrees maximum advance at 14-16 inches of vacuum and 4 to 10 degrees advance at 10-12 inches of vacuum.

HEADERS

For best performance, headers are recommended. For this application, they should be 1-3/4" 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.

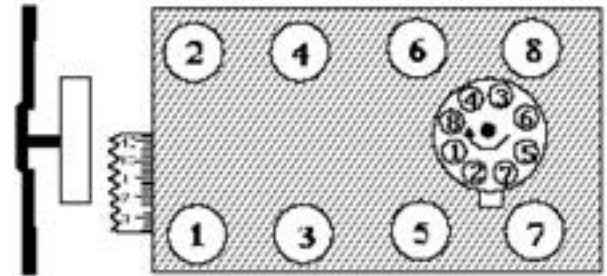


Figure 1- Chevrolet 262-400 c.i.d. V8
Firing Order 1-8-4-3-6-5-7-2
Turn distributor counter-clockwise to advance timing.

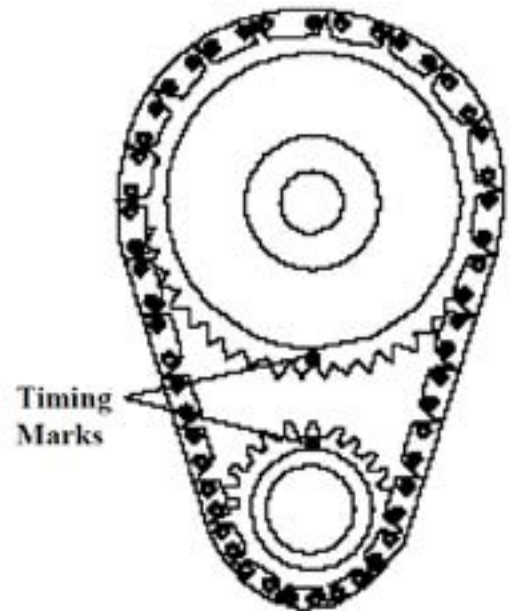


Figure 2- Timing Chain Sprocket Alignment