General Motors V8 Engines

5.0 & 5.7 LITER V8

IDENTIFICATION CODING

ENGINE IDENTIFICATION

Engine identification number is stamped on a machined pad on front of cylinder block, immediately forward of right cylinder head. Engine types are identified by a letter code (VIN code), in eighth position of Vehicle Identification Number.

ENGINE IDENTIFICATION CODES

Engine	Code
5.0L (305") 4-Bbl.	
VIN Code F	TBU, TBW
VIN Code H	TBJ, TBK, TBL, TBM, TBR, TBS, TBT, TBV, TBY, TBZ, TCA, TCB, TCC, TCD, TCF, TCK, TCL, TCM, TCR, TCS, TCT, TCU, TCW, TCX, TCY, TCZ, TUA
5.7L (350") 4-Bbl.	
VIN Code L	TBL, TFA, TFB, TFC, TFD, TFF, TFJ, TFK, TFL, TFM, TFS, TFU, TSC, TSD, TSF, TSH, TSJ, TSK, TSL, T6H, T6J, T6K, T6M
VIN Code M	TFW, TFX, TFY, TFZ, THA, THB, THC, THD, THF, THH, THJ, THK, THL, THM, THR, THS, THT, TTA, TTB, TTC, TTD, TTF, TTH

ENGINE REMOVAL

See Engine Removal at end of ENGINE Section.

CYLINDER HEAD & MANIFOLD

INTAKE MANIFOLD

Removal

1) Drain radiator and remove air cleaner. Disconnect negative battery cable at battery. Disconnect upper radiator hose and heater hose at manifold. Disconnect fuel line and accelerator linkage at carburetor.

2) Label and disconnect all electrical connectors, vacuum hoses and crankcase ventilation hoses at carburetor and distributor. Remove distributor cap and mark position of rotor with chalk. Remove distributor.

3) If equipped, remove air compressor and bracket. Remove alternator upper mounting bracket. Remove accelerator return spring and bracket, and accelerator bellcrank.

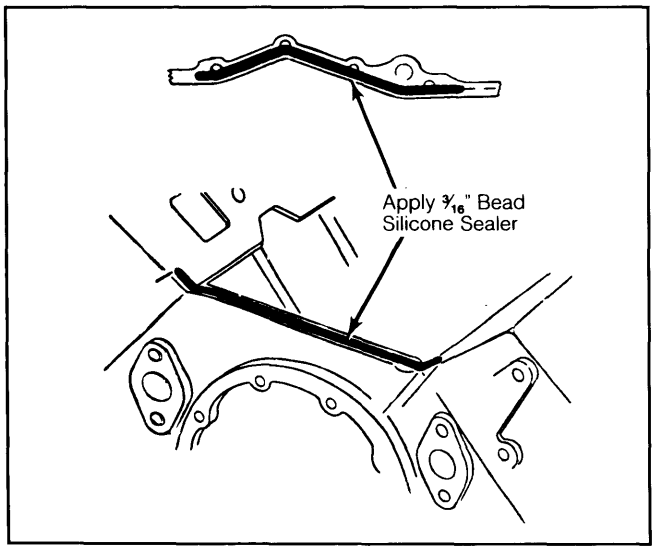
4) Remove crossover hose between air injection manifolds, at check valves. Remove intake manifold and carburetor as an assembly.

Installation

1) Clean all gasket mating surfaces. Apply 3/16" bead silicone sealer at front and rear intake manifold mounting surface of cylinder block. Extend bead of sealer 1/2" up each cylinder head. *See Fig. 1.*

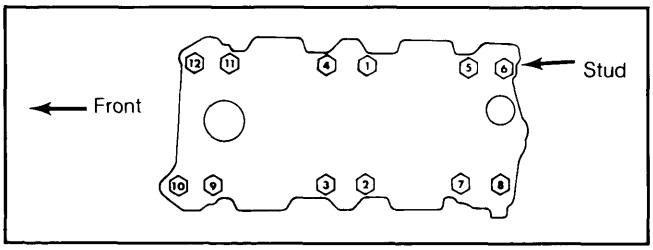
2) Install intake manifold gaskets on cylinder heads. Install manifold and tighten attaching bolts. *See Fig. 2.* Install distributor with rotor pointing to chalk mark. To complete installation, reverse removal procedure.

Fig. 1: Silicone Sealer Application Points



Install intake manifold before sealer sets up (10-15 minutes).

Fig. 2: Intake Manifold Tightening Sequence



Torque all bolts to 30 ft. lbs. (41 N.m).

CYLINDER HEAD

Removal

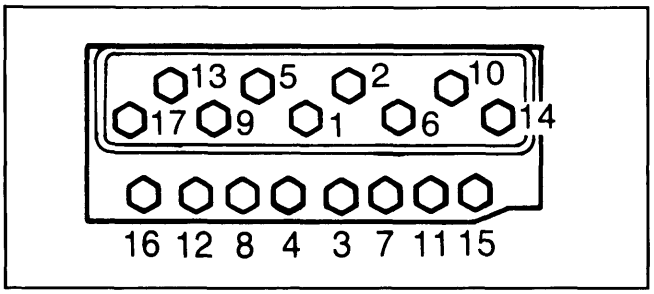
1) Remove intake manifold. Remove A/C compressor and bracket (if equipped). Remove alternator. Remove spark plug heat shields. Remove heat stove tube from exhaust manifold. Disconnect exhaust pipes at exhaust manifolds and remove manifolds.

2) Remove valve covers. Loosen rocker arm nuts and rotate rocker arms to side. Remove push rods in sequence for reinstallation in original locations. Drain coolant from cylinder block. Remove cylinder heads.

Installation

1) Clean all gasket surfaces. Use gasket sealer on steel head gaskets. Do not use sealer on asbestos head gaskets. Position gaskets on cylinder block and install heads.

Fig. 3: Cylinder Head Tightening Sequence



Tighten cylinder head bolts to 65 ft. lbs. (88 N.m).

5.0 & 5.7 LITER V8 (Cont.)

2) Coat threads of head bolts with thread sealer. Install and tighten head bolts. *See Fig. 3.* To complete installation, reverse removal procedure. Lubricate rocker arm parts with Molykote (or equivalent) prior to installation. Adjust valves.

VALVES

VALVE ARRANGEMENT

E-I-I-E-E-I-I-E (Both banks, front to rear)

VALVE GUIDE SERVICING

If valve stem to guide clearance is excessive, valves with oversize stems are available. Replacement valves are available with .003" (.08 mm), .015" (.38 mm) and .030" (.76 mm) oversize stems. Always use reamers in proper size sequence.

VALVE STEM OIL SEALS

"O" ring type seal is used. Coat seal with engine oil and install in second groove of valve stem. Make sure seal is not twisted on valve stem.

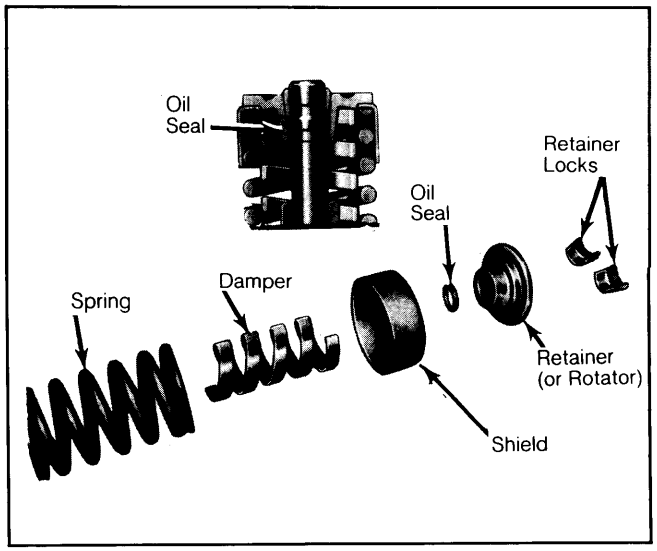
VALVE SPRINGS

Removal

1) With rocker arm cover removed, remove spark plug, rocker arm and push rod of cylinder to be serviced. Install air hose with adapter in spark plug hole, and turn on air supply. Do not remove air supply until all components are reinstalled.

2) Using valve spring compressor, compress valve spring and remove retainer locks. Release spring compressor and remove retainer, shield, spring, damper, and oil seal. *See Fig. 4.*

Fig. 4: Valve Spring Assembly



Rotators are used on exhaust valves.

Installation

Install damper, spring, shield and retainer. Using compressor tool, compress valve spring, and install new oil seal and retainer locks. Remove compressor tool. Remove air hose and adapter. Install remaining components in reverse order of removal.

VALVE SPRING INSTALLED HEIGHT

1) Measure installed spring height from spring seat (or top of shim), to top of spring shield. Installed height should be 1 1/16-1 3/4" (42.85-44.45 mm) for intake valves, and 1 9/16-1 5/8" (39.70-41.28 mm) for exhaust valves.

2) If installed height exceeds specifications, install a 1/16" (1.59 mm) thick shim between spring seat and spring. Installed height should never be more than specified height.

ROCKER ARM STUDS

Rocker arm studs that are loose in head or have damaged threads can be replaced with oversize studs. Use reamer (J-5715) for .003" (.08 mm) oversize replacement studs, and reamer (J-6036) for .013" (.33 mm) oversize replacement studs.

Removal

Remove stud using stud remover (J-5802-1). Install tool over stud. Tighten nut on tool to extract stud from cylinder head.

Installation

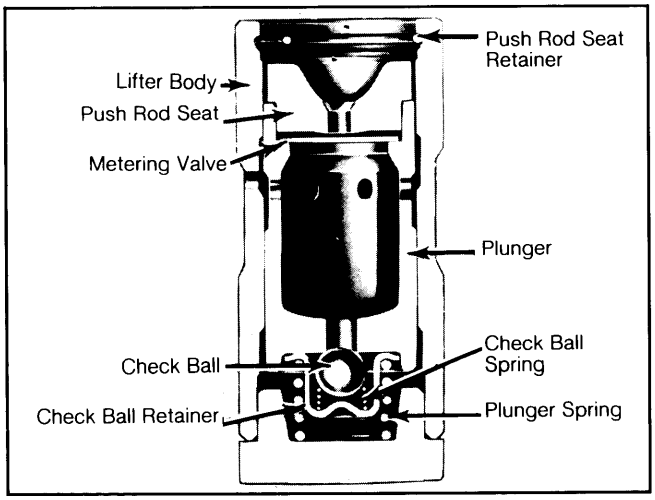
Ream hole for oversize stud. Coat press-fit area of stud with hypoid axle grease. Drive stud into place with stud driver (J-6880). When driver bottoms out on head, stud is at correct height.

HYDRAULIC VALVE LIFTER ASSEMBLY

1) Disassemble lifters and thoroughly clean. Inspect all components for wear and damage. If any components are worn or damaged, complete lifter assembly must be replaced.

2) If push rod seat or lifter body wear is noted, inspect mating engine components for wear. Prior to installing, lubricate bases of lifters with Molykote (or equivalent). *See Fig. 5.*

Fig. 5: Cutaway View of Valve Lifter Assembly



Replace lifters as complete assemblies; do not interchange parts between lifters.

VALVE ADJUSTMENT

1) Rotate engine until No. 1 piston is on TDC at end of compression stroke. With piston in this position, adjust valves listed in *Valve Adjustment* table, using the following procedure:

5.0 & 5.7 LITER V8 (Cont.)

2) Loosen rocker arm adjusting nut until play is felt in push rod. Tighten adjusting nut until play in push rod is removed. When play has been removed, tighten adjusting nut 1 full turn.

3) Rotate crankshaft 360° to bring No. 6 piston on TDC at end of compression stroke. Adjust remaining valves listed in table.

VALVE ADJUSTMENT

Piston on TDC	Adjust Int. Nos.	Adjust Exh. Nos.
1	1, 2, 5, 7	1, 3, 4, 8
6	3, 4, 6, 8	2, 5, 6, 7

PISTONS, PINS & RINGS

OIL PAN REMOVAL

See Oil Pan Removal at end of ENGINE Section.

PISTON & ROD ASSEMBLY

Removal

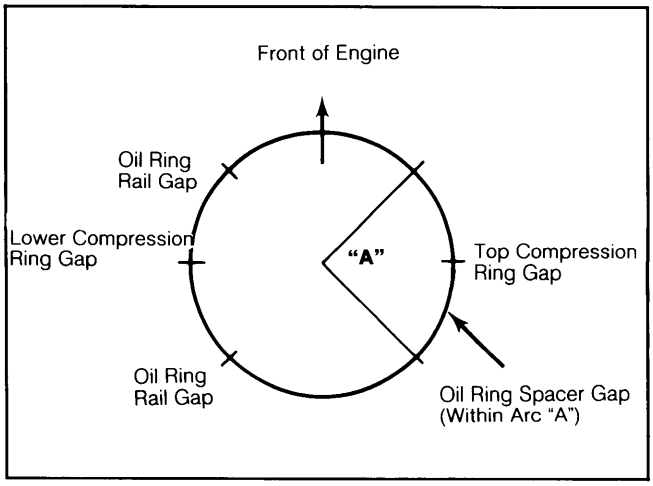
1) Remove oil pan, oil pump and cylinder heads. Position piston at bottom of stroke and cover with cloth to collect metal cuttings. Remove any ridge from top of cylinder bore with a ridge reamer.

2) If necessary, mark connecting rod and cap for cylinder identification. Remove connecting rod cap, and cover rod bolts with rubber hose. Push piston and rod assembly out top of cylinder bore.

Installation

1) Before installing piston and rod assembly, ensure ring gaps are properly spaced. *See Fig. 6.* Lightly coat pistons, rings and cylinder walls with engine oil. Install rod bearings in rod and cap, and lubricate with engine oil.

Fig. 6: Desired Ring Gap Spacing



Install oil ring spacer in groove, and insert anti-rotation tang in drilled hole.

2) Compress piston rings with ring compressor. Do not allow position of rings to change. Cover rod bolts with rubber hose. Install piston and rod assembly into cylinder bore, with bearing tang slots facing away from camshaft. Install and tighten rod cap.

FITTING PISTONS

1) Using telescope gauge and micrometer, measure cylinder bore diameter at a point 2½" from top of bore. Measure piston diameter across piston skirt, at centerline of piston pin. Difference between two measurements is piston-to-cylinder bore clearance.

2) Using cylinder bore gauge, measure cylinder bore taper by working gauge up and down in bore. Taper must not exceed .001" (.03 mm) To determine out-of-round, take measurements at different points in bore, by rotating bore gauge horizontally, around entire circumference of bore. Out-of-round must not exceed .002" (.05 mm).

3) If taper or out-of-round are not within limits, hone or bore cylinders for installation of new pistons.

FITTING RINGS

1) Position ring in cylinder bore at a point about ¼" above ring travel. Ring must be square in bore. Measure ring end gap with a feeler gauge.

2) Check side clearance of compression rings prior to installing. Also, check ring for binding in ring groove. To check for binding, insert outer edge of ring in its respective groove, and slide ring around entire curcumference of piston groove. If binding occurs, check piston groove for high steps, or check ring for distortion.

PISTON PINS

Removal

Using an arbor press and piston pin remover/installer tool, press piston pin from piston and connecting rod.

Installation

Check clearance of piston pin in piston. Replace piston and pin if not within limits. Lubricate piston pin holes in piston and connecting rod with engine oil. Using pin remover/installer tool and arbor press, press piston pin into piston and connecting rod. Check piston for freedom of movement on piston pin.

CRANKSHAFT & ROD BEARINGS

MAIN & CONNECTING ROD BEARINGS

NOTE: Following procedures are performed with oil pan and oil pump removed. Remove oil film from surfaces to be checked.

Connecting Rod Bearings

1) Ensure rod caps are marked for cylinder identifcation. Remove rod cap and bearings. Inspect bearings for wear or damage and replace as necessary.

2) Check crankshaft rod bearing journal for out-of-round or taper. Maximum crankshaft out-of-round or taper must not exceed .001" (.03 mm).

3) Check rod bearing clearance using the Plastigage method (as explained in Main Bearings). If clearance exceeds specifications, standard, .001" (.03 mm), or .002" (.05 mm) undersize bearings may be used in combination to produce correct clearance. If clearance is still excessive, crankshaft must be reconditioned.

4) Clean crankshaft journal and bearing surface in rod. Insert bearings in rod and cap, then lubricate bearing surfaces with oil. Pull piston and rod assembly down onto crankshaft. Install and tighten rod cap.

5.0 & 5.7 LITER V8 (Cont.)

Main Bearings

Some production crankshafts are ground to .009" (.23 mm) undersize at the assembly plant. They are identified as follows:

- Crankshaft counterweight of undersize journal, will be stamped on one side with the number "9," along with a large spot of light green paint.
- Main bearing cap will be painted light green on each side.

1) Measure main bearing clearances one at a time, while all other main caps are properly tightened. Mark or identify main bearing cap before removing. Support crankshaft weight, using a jack placed under counterweight next to the bearing being checked.

2) Start with rear main bearing (No. 7) and work forward. Also, remove drive belts from crankshaft pulley, prior to checking front (No. 1) bearing.

3) Remove main bearing cap and place a piece of Plastigage across full width of bearing, about ¼" off center, and away from oil holes. Install cap and tighten to specifications. Do not allow crankshaft to turn.

4) Remove cap and measure width of Plastigage with scale furnished. Standard, .001" (.03 mm) or .002" (.05 mm) undersize bearing halves may be used in combination to obtain correct clearance. Always replace both upper and lower bearing halves.

5) Main bearings are removed from cylinder block using remover/installer tool (J-8080 or equivalent). Insert tool in crankshaft oil hole and rotate crankshaft clockwise. If tool not available, a cotter pin may be bent, as necessary, to do the job.

6) Lubricate journal and bearings. Insert plain end of new bearing between crankshaft and notched side of block. Insert bearing remover/installer tool into crankshaft oil hole, and rotate bearing into place.

7) Install lower bearing half into cap. Install and tighten main bearing caps with arrows pointing toward front of engine. Check crankshaft end play after aligning thrust bearing. Check end play by prying crankshaft forward, and inserting feeler gauge between crankshaft counterweight and forward face of rear main bearing cap.

THRUST BEARING ALIGNMENT

Ensure all other main bearing caps have been properly tightened. Tighten rear main bearing cap to 10-12 ft. lbs. (14-16 N.m). Tap crankshaft rearward, then forward, using a lead hammer. Tighten rear main bearing cap. Retighten all main bearing caps.

REAR MAIN BEARING OIL SEAL

Removal

Remove rear main bearing cap and pry out old seal. Remove upper half of seal by tapping end with brass punch until seal protrudes enough to be removed with pliers.

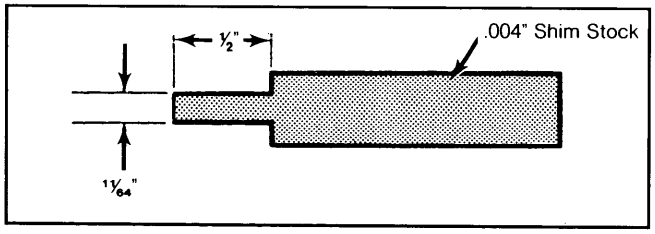
Installation

1) Fabricate an oil seal installation tool. *See Fig. 7.* Coat seal lips with engine oil. Keep oil off of seal ends.

2) Position tool between crankshaft and seal groove in cylinder block. Position seal between tip of tool and crankshaft, with oil seal lip toward front of engine. *See Fig. 8.*

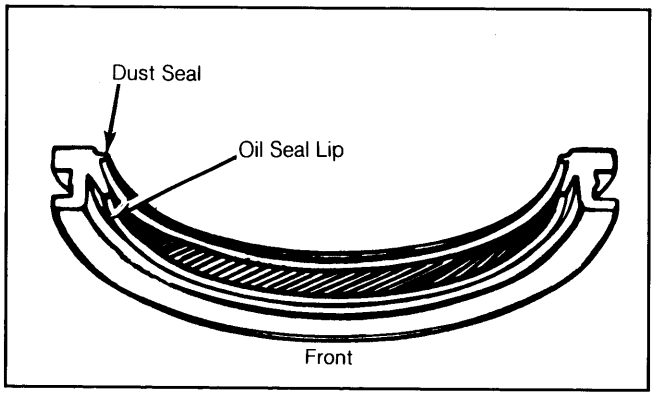
3) Roll seal around crankshaft, using tool as a "shoehorn" to protect seal from sharp corner of seal groove in cylinder block. Leave tool in position, until both ends of seal are flush with block.

Fig. 7: Rear Main Oil Seal Installation Tool



This tool is sometimes supplied with replacement oil seal.

Fig. 8: Rear Main Bearing Oil Seal Identification



Install oil seal lip towards front of engine.

4) Install lower seal into bearing cap, using tool as a "shoehorn". Feed seal into cap using light pressure with thumb and finger. Apply sealer to cap-to-block mating surface of cylinder block, being careful to keep sealer off the seal split line. Install and tighten rear main bearing cap.

CAMSHAFT

ENGINE FRONT COVER

Removal

1) Disconnect negative battery cable at battery. Drain cooling system. If necessary, remove radiator shroud and position rearward, towards engine. Remove all accesory drive belts, fan and pulley.

2) Remove vibration damper. Remove all mounting brackets and coolant hoses attached to water pump. Remove water pump. Remove front cover and gasket.

Installation

1) Clean all gasket mating surfaces. Remove any excess oil pan gasket material extending beyond cylinder block. Apply a ⅛" bead silicone sealer to joint formed at oil pan and cylinder block.

2) Coat front cover gasket with gasket sealer and position on cover. Install cover-to-pan seal. Position cover on cylinder block. Loosely install cover-to-block upper attaching bolts. Tighten bolts alternately and evenly while pressing downward on cover, to allow dowels in block to enter holes in cover.

3) Install remaining cover bolts. Tighten all front cover bolts. Reverse removal procedure to install remaining components.

5.0 & 5.7 LITER V8 (Cont.)

FRONT COVER OIL SEAL

Removal (Front Cover Installed)

Remove vibration damper. Pry seal out of cover with screwdriver, using care not to damage cover seal surface.

Installation

Install new seal with open end toward inside of cover. Drive seal into place using seal driver (J-23042).

Removal (Cover Removed)

Pry seal out of cover with screwdriver, using care not to damage cover seal surface.

Installation

Install new seal with open end of seal toward inside of cover. Support cover at seal recess area. Using a seal installing tool, drive seal into position.

TIMING CHAIN

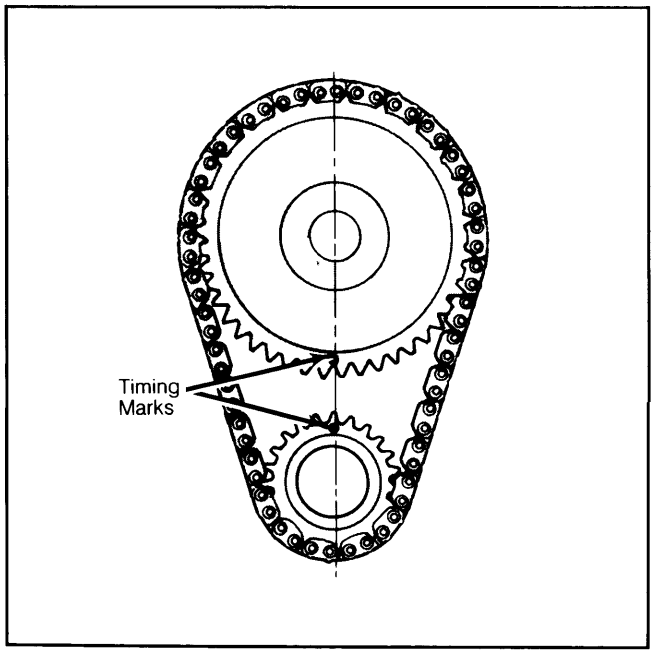
Removal

Remove engine front cover. Crank engine over until timing marks on camshaft and crankshaft sprockets are aligned. Remove camshaft sprocket and timing chain. If crankshaft sprocket replacement is necessary, use a gear puller to remove sprocket.

Installation

Use a hammer and hollow driver to install crankshaft sprocket onto crankshaft. Install camshaft sprocket and timing chain. Ensure timing marks on sprockets are aligned. Install and tighten sprocket bolts. *See Fig. 9.*

Fig. 9: Aligning Timing Sprocket Marks



Tighten camshaft sprocket bolts to 20 ft. lbs. (27 N.m).

CAMSHAFT

Removal

Remove intake manifold, engine front cover and timing chain. Remove valve covers. Loosen all rocker arms nuts and rotate rockers to one side. Remove push rods and lifters in sequence, for reinstallation in original locations. Remove radiator and grille. Remove fuel pump and push rod. Remove camshaft.

Installation

1) Coat camshaft lobes with Molykote (or equivalent), and coat journals with engine oil. Install camshaft. Temporarily place camshaft sprocket on camshaft and align timing marks. Install camshaft sprocket and chain. Tighten camshaft sprocket attaching bolts.

2) Lubricate timing chain with engine oil. When a new camshaft is installed, always install new lifters, and change oil and replace filter. Install remaining components. Adjust valves.

CAMSHAFT BEARINGS

Removal

Remove engine from vehicle. Remove oil pan, oil pump, crankshaft and camshaft. Push pistons to top of cylinder bores. Remove rear bore plug. Using camshaft bearing remover/installer tool, remove camshaft bearings.

Installation

1) Bearings are installed using bearing remover/installer tool. Install front and rear camshaft bearings first, to act as guides for remover/installer tool pilot. Note the following prior to installing camshaft bearings:

- Position No. 1 bearing so that oil holes are equal distance from 6 o'clock position.
- Position oil holes of No. 2, 3 and 4 bearings at 5 o'clock position. Oil holes will be toward left side of engine and even with bottom of cylinder bores.
- Position No. 5 bearing oil hole at 12 o'clock position.

2) Coat camshaft rear bore plug with sealer, and install flush to $\frac{1}{32}$" (.79 mm) deep.

CAM LOBE LIFT

1) With valve cover removed, remove rocker arm assemblies. Mount dial indicator on rocker arm stud. Position dial indicator and ball socket adapter on push rod.

2) Slowly rotate engine in direction of rotation until lifter is on base circle of camshaft. Zero dial indicator. Rotate engine until push rod is fully raised. Record lobe lift reading and compare with specifications. If not within limits, replace camshaft and lifters.

ENGINE OILING

Crankcase Capacity

Capacity is 4 quarts (3.8L). Add 1 quart (.95L) when replacing oil filter.

Oil Filter

Replace oil filter at every other oil change, or more often under dusty or severe conditions.

Oil Pressure

With engine at normal operating temperature, oil pressure should be 30-40 psi (2.1-2.8 kg/cm²) at speeds of 35-40 MPH.

Pressure Regulator Vavle

In pump body, not adjustable.

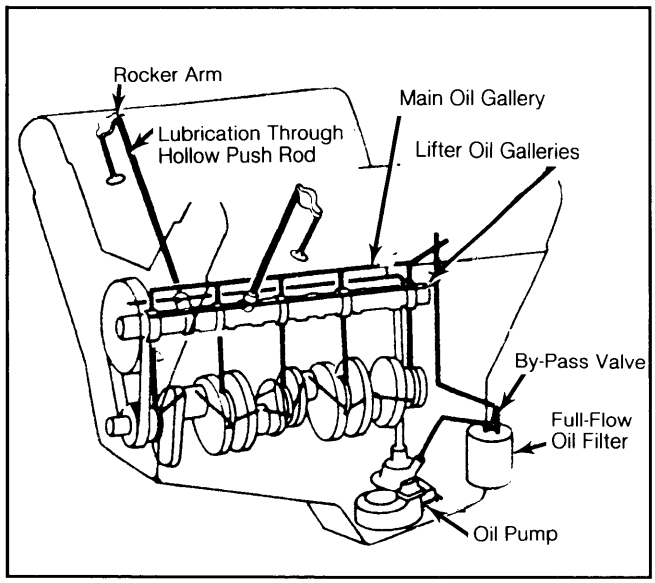
ENGINE OILING SYSTEM

Gear-type oil pump delivers full pressure lubrication to main oil gallery, through full-flow oil filter. Through drilled passages in block, main oil gallery feeds oil to all crankshaft and camshaft bearings.

Valve lifter oil gallery feeds lifters. From lifters, oil is routed through hollow push rods to upper valve train components. Timing chain and sprockets are lubricated by oil drainage from No. 1 camshaft bearing. *See Fig. 10.*

5.0 & 5.7 LITER V8 (Cont.)

Fig. 10: Engine Oiling System



Timing chain and sprockets are lubricated by oil drainage from No. 1 camshaft bearing.

OIL PUMP

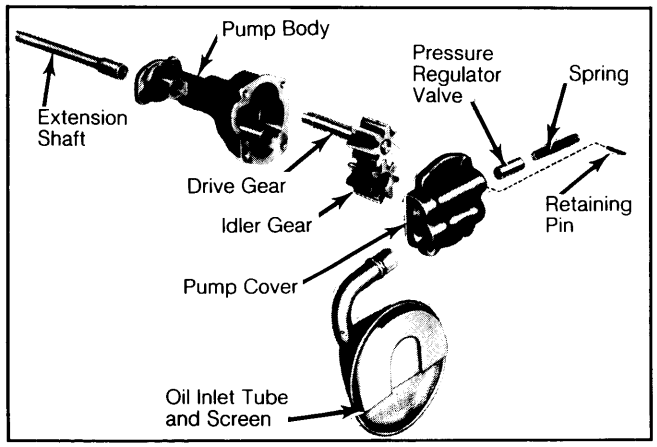
Removal

Remove oil pan. Remove pump-to-rear main bearing cap bolt, and remove pump and extension shaft.

Disassembly

Remove pump cover. If necessary, remove inlet tube and screen assembly. Mark gears at a meshing point, so they may be reassembled with same gear teeth indexing. Remove gears. *See Fig. 11.*

Fig. 11: Oil Pump Assembly



Be sure to mark gears at a meshing point, prior to disassembly of pump.

Inspection

1) Wash all parts and dry with compressed air. Inspect pump body and cover for cracks or excessive wear. Inspect pump gears for damage or excessive wear. If pump gears or body are damaged or worn, replace entire pump assembly.

2) Check drive gear shaft for looseness in pump body. Inspect oil inlet tube and screen assembly for damage. Check pressure regulator valve for fit in bore.

Reassembly

If removed, install oil inlet tube and screen assembly. Apply sealer to end of tube, and tap tube into place, using plastic hammer. Install pump gears into pump body, with marked gear teeth indexing. Idler gear must be installed with smooth side of gear toward cover opening. Reassemble remaining components in reverse order of disassembly.

Installation

Prime oil pump with engine oil. Assemble pump and extension shaft to engine. Ensure slot on top of extension shaft engages with drive tang on end of distributor shaft. Install and tighten attaching bolt. Install oil pan.

ENGINE COOLING

WATER PUMP

Removal

Disconnect negative battery cable at battery. Drain cooling system. Remove all drive belts, coolant hoses and mounting brackets attached to water pump. If necessary, remove fan shroud and position rearward toward engine. Remove fan and pulley. Remove water pump and gaskets.

Installation

Clean all gasket surfaces. Apply ⅛" bead silicone sealer to water pump gasket surfaces. Using new gaskets, install and tighten water pump. Install remaining components in reverse order of removal.

NOTE: For further information on cooling system capacities and other cooling system components, see appropriate article in "Engine Cooling Systems" at end of ENGINE Section.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (N.m)
Camshaft Sprocket Bolts	20 (27)
Connecting Rod Nuts	45 (61)
Cylinder Head Bolts	65 (88)
Exhaust Manifold Bolts	[1] 20 (27)
Flywheel-to-Crankshaft Bolts	60 (81)
Intake Manifold Bolts	30 (41)
Main Bearing Cap Bolts	[2] 80 (108)
Oil Pump Bolt	65 (88)
Vibration Damper Bolt	60 (81)
Water Pump Bolts	30 (41)

[1] — Tighten 2 center bolts on 5.7L engines to 30 ft. lbs. (41 N.m).

[2] — Tighten outer bolts (4-bolt main caps) to 70 ft. lbs. (95 N.m).

General Motors V8 Engines

5.0 & 5.7 LITER V8 (Cont.)

ENGINE SPECIFICATIONS

GENERAL SPECIFICATIONS

Year	Displ. cu. ins.	Displ. liters	Carburetor	HP at RPM	Torque Ft. Lbs.@RPM	Compr. Ratio	Bore in.	Bore mm	Stoke in.	Stoke mm
1982										
VIN Code F	305	5.0	4-Bbl.	.....	.....	8.6:1	3.74	95.0	3.48	88.4
VIN Code H	305	5.0	4-Bbl.	.....	.....	9.2:1	3.74	95.0	3.48	88.4
VIN Code L	350	5.7	4-Bbl.	.....	.....	8.2:1	4.00	101.6	3.48	88.4
VIN Code M	350	5.7	4-Bbl.	.....	.....	8.3:1	4.00	101.6	3.48	88.4

VALVES

Engine & Valve	Head Diam. In. (mm)	Face Angle	Seat Angle	Seat Width In. (mm)	Stem Diameter In. (mm)	Stem Clearance In. (mm)	Valve Lift In. (mm)
5.0L & 5.7L							
Int.	.....	45°	46°	.031-.063 (.79-1.58)	.....	.0010-.0027 (.025-.069)	.....
Exh.	.....	45°	46°	.063-.094 (1.58-2.38)	.....	.0010-.0027 (.025-.069)	.....

PISTONS, PINS, RINGS

Engine	PISTONS Clearance In. (mm)	PINS Piston Fit In. (mm)	PINS Rod Fit In. (mm)	RINGS Rings	RINGS End Gap In. (mm)	RINGS Side Clearance In. (mm)
5.0L & 5.7L	.0007-.0017 (.018-.043)	.00025-.00035 (.0064-.0089)	.0008-.0016 (.020-.041)	1	.010-.020 (.25-.51)	.0012-.0032 (.031-.081)
				2	.010-.025 (.25-.64)	.0012-.0032 (.031-.081)
				3	.015-.055 (.38-1.40)	.002-.007 (.05-.18)

CRANKSHAFT MAIN & CONNECTING ROD BEARINGS

Engine	MAIN BEARINGS Journal Diam. In. (mm)	MAIN BEARINGS Clearance In. (mm)	MAIN BEARINGS Thrust Bearing	MAIN BEARINGS Crankshaft End Play In. (mm)	CONNECTING ROD BEARINGS Journal Diam. In. (mm)	CONNECTING ROD BEARINGS Clearance In. (mm)	CONNECTING ROD BEARINGS Side Play In. (mm)
5.0L & 5.7L							
No. 1	2.4484-2.4493 (62.189-62.212)	.002-.008 (.05-.20)	No. 5	.002-.006 (.05-.15)	2.0988-2.0998 (53.310-53.335)	.0013-.0035 (.033-.089)	.008-.014 (.20-.36)
Nos. 2,3,4	2.4481-2.4490 (62.182-62.205)	.001-.002 (.03-.05)					
No. 5	2.4479-2.4488 (62.177-62.200)	.002-.003 (.05-.08)					

CAMSHAFT

Engine	Journal In. (mm)	Clearance In. (mm)	Lobe Lift In. (mm)
5.0L [1]	1.8682-1.8692 (47.452-47.478)	.....	[2] .2484 (6.309) [3] .2667 (6.774)
5.7L [1]	1.8682-1.8692 (47.452-47.478)	.....	[2] .2600 (6.604) [3] .2733 (6.942)

[1] — End play is .004-.012 (.10-.31 mm).

[2] — Intake.

[3] — Exhaust.

VALVE SPRINGS

Engine	Free. Length In. (mm)	PRESSURE Lbs. @ In. (kg @ mm) Valve Closed	PRESSURE Lbs. @ In. (kg @ mm) Valve Open
5.0L & 5.7L			
Int.	1.86 (47.24)	76-84@1.70 (34-38@43.2)	194-206@1.25 (88-93@31.8)
Exh.	1.86 (47.24)	76-84@1.61 (34-38@40.9)	194-206@1.16 (88-93@29.5)