

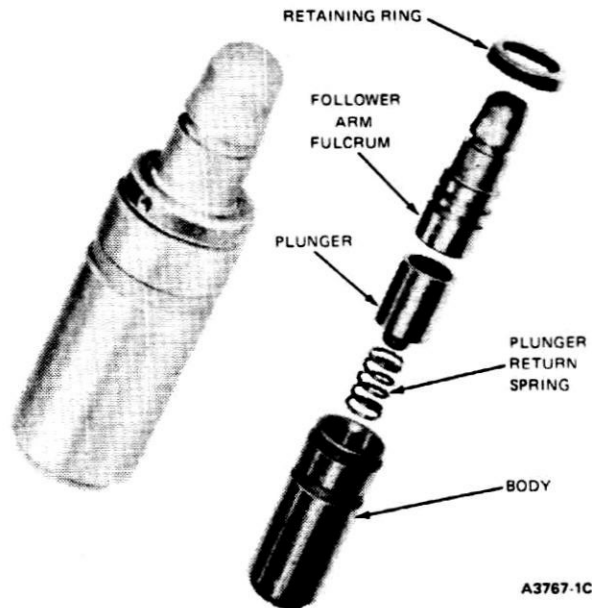


FIG. 48 Type I Lash Adjuster

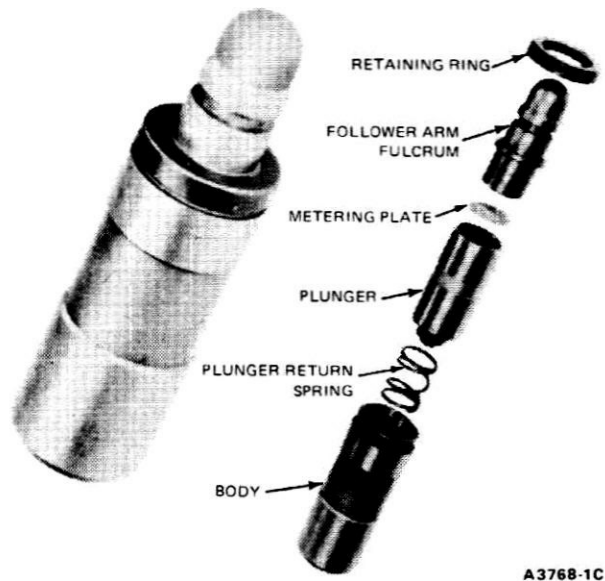


FIG. 49 Type II Lash Adjuster

SPECIAL TOOLS

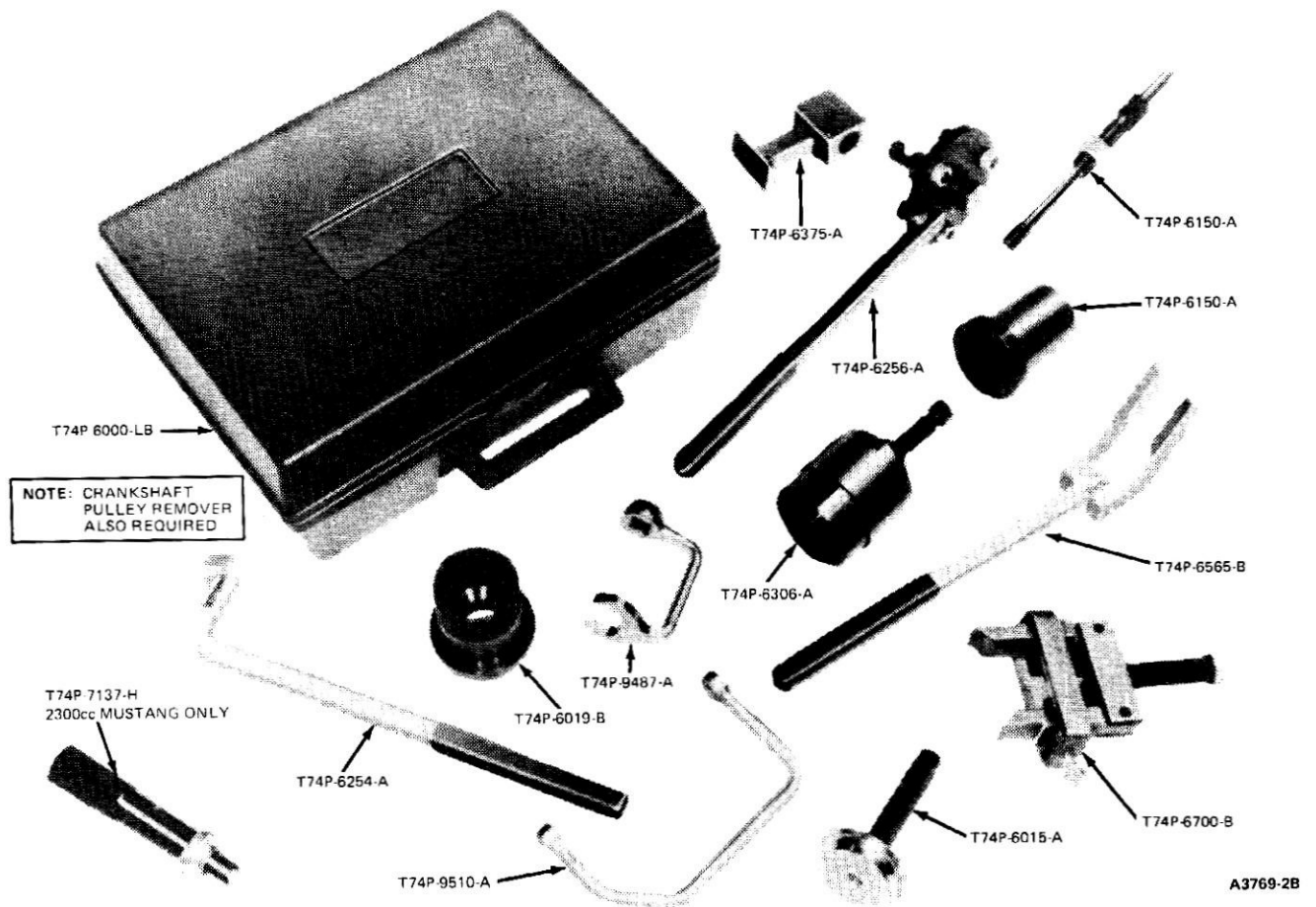


FIG. 50 Special Tool Kit 2.3L I-4 Engine

SPECIFICATIONS

GENERAL SPECIFICATIONS	
DISPLACEMENT	2.3L
NUMBER OF CYLINDERS	4
BORE AND STROKE	3.78 x 3.126
FIRING ORDER	1-3-4-2
OIL PRESSURE (Hot @ 2000 RPM)	40-60
DRIVE BELT TENSION	(1)
CYLINDER HEAD AND VALVE TRAIN	
COMBUSTION CHAMBER VOLUME (cc)	59.8-62.8
VALVE GUIDE BORE DIAMETER	0.3433-0.3443
VALVE SEATS	
Width - Intake	0.060-0.080
Width - Exhaust	0.070-0.090
Angle	45°
Runout Limit (T.I.R. Max.)	0.0016
VALVE ARRANGEMENT (Front to Rear)	E-I-E-I-E-I-E-I
VALVE LASH ADJUSTER BORE DIAMETER	0.8430-0.8449
VALVE STEM TO GUIDE CLEARANCE	
Intake	0.0010-0.0027
Exhaust	0.0015-0.0032
Service Clearance	0.0055
VALVE HEAD DIAMETER	
Intake	1.731-1.74
Exhaust	1.49-1.51
VALVE FACE RUNOUT LIMIT	0.002 Max.
VALVE FACE ANGLE	44°
VALVE STEM DIAMETER (Std.)	
Intake	0.3416-0.3423
Exhaust	0.3411-0.3418
0.003 Oversize	
Intake	0.3446-0.3453
Exhaust	0.3441-0.3448
0.015 Oversize	
Intake	0.3566-0.3573
Exhaust	0.3561-0.3568
0.030 Oversize	
Intake	0.3716-0.3723
Exhaust	0.3711-0.3718
VALVE SPRINGS	
Compression Pressure (Lbs. @ Spec. Length)	71-79 @ 1.56
	180-198 @ 1.16
Free Length (Approximate)	1.82
Assembled Height	1-17/32 1-19/32
Service Limit	10" Pressure Loss @ Spec. Length
Out-Of-Square Limit	5/64 (0.078)
ROCKER ARM/ICAM FOLLOWER:	
Ratio	1.64:1
VALVE TAPPET, LIFTER OR ADJUSTER	
Diameter (Std.)	0.8422-0.8427
Clearance To Bore	0.0007-0.0027
Service Limit	0.005
Hydraulic Leakdown Rate (2)	2-8 Seconds
Collapsed Tappet Gap - Allowable	0.035-0.055 @ Cam
Desired	0.040-0.050 @ Cam
CAMSHAFT	
LOBE LIFT	
Intake	0.2437
Exhaust	0.2437
Allowable Lobe Lift Loss	0.005 Max.
THEORETICAL VALVE LIFT @ ZERO LASH	
Intake	0.3997
Exhaust	0.3997
END PLAY	0.001-0.007
Service Limit	0.009
JOURNAL TO BEARING CLEARANCE	0.001-0.003
Service Limit	0.006
JOURNAL DIAMETER	
# 1	1.7713-1.7720
# 2	1.7713-1.7720
# 3	1.7713-1.7720
# 4	1.7713-1.7720
Runout Limit	0.005 Max. T.I.R.
Out-Of-Round Limit	0.0005 Max. T.I.R.
FRONT BEARING LOCATION (3)	0.000-0.010
CYLINDER BLOCK	
HEAD GASKET SURFACE FLATNESS	0.003 in any 6" 0.006 overall.

CYLINDER BLOCK (Continued)

HEAD GASKET SURFACE FINISH (RMS)	60-150
CYLINDER BORE	
Diameter	3.7795-3.7831
Surface Finish (RMS)	18-38
Out-Of-Round Limit	0.0015
Out-Of-Round Service Limit	0.005
Taper Service Limit	0.010
MAIN BEARING BORE DIAMETER	2.5902-2.5910
DISTRIBUTOR SHAFT BEARING BORE DIAMETER	0.5155-0.5170

CRANKSHAFT AND FLYWHEEL

MAIN BEARING JOURNAL DIAMETER	2.3990-2.3982
Out-Of-Round Limit	0.0006 Max.
Taper Limit	0.0006 Per Inch
Journal Runout Limit	0.002 Max.
Surface Finish (RMS)	12 Max.
Runout Service Limit	0.005
THRUST BEARING JOURNAL	
Length	2.3990-2.3982
CONNECTING ROD JOURNAL	
Diameter	2.0464-2.0472
Out-Of-Round Limit	0.0006 Max.
Taper Limit	0.0006 Per Inch Max.
Surface Finish (RMS)	12 Max.
MAIN BEARING THRUST FACE	
Surface Finish (RMS)	35 Front/25 Rear (Max.)
Runout Limit	0.001 Max.
FLYWHEEL CLUTCH FACE	
Runout Limit (T.I.R.)	0.005
FLYWHEEL RING GEAR LATERAL RUNOUT (T.I.R.)	
Standard Transmission	0.025
Automatic Transmission	0.060
CRANKSHAFT FREE END PLAY	0.004-0.008
Service Limit	0.012
AUXILIARY SHAFT END PLAY	0.001-0.007
CONNECTING ROD BEARINGS	
Clearance To Crankshaft - Desired	0.0008-0.0015
- Allowable	0.0008-0.0026
Bearing Wall Thickness (Std.) (4)	0.0619-0.0624
MAIN BEARINGS	
Clearance To Crankshaft - Desired	0.0008-0.0015
- Allowable	0.0008-0.0026
Bearing Wall Thickness (Std.) (4)	0.0956-0.0951
AUXILIARY SHAFT BEARINGS	
Clearance To Shaft	0.0006-0.0026

Drive Belt Tension (Lbs.)			
Size	Newly Installed (A)	Used	
		Up to 10 Min.	Over 10 Min.
1/4"	50-80	40-80 (B)	40-60 (B)
Exc. 1/4"	120-160	90-160 (C)	75-120 (D)

(A) Read tension immediately after belt is installed, before it stretches or seats in pulley grooves.

(B) If less than 40 pounds, readjust to 40-60 pounds.

(C) If less than 90 pounds, readjust to 90-120 pounds.

(D) If less than 75 pounds, readjust to 90-120 pounds.

2 Time required for plunger to leak down 1/8" of travel with 50 lb. load and leakdown fluid in lash adjuster.

3 Distance in inches that front bearing is installed below front face of bearing tower.

4 0.002 Undersize = Add 0.001 to Standard Thickness.

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CONNECTING ROD, PISTON AND RINGS

CONNECTING ROD	
Piston Pin Bore Diameter	0.9104-0.9112
Crankshaft Bearing Bore Diameter	2.1720-2.1728
Out-Of-Round Limit	0.0004
Taper Limit	0.0004
Length (Center-to-Center)	5.2031-5.2063
Alignment (Bore-to-Bore Max. Dif.)	0.024
Twist	0.012
Bend	0.012
Side Clearance (Assembled to Crank)	0.0035-0.0105
Standard	0.0035-0.0105
Service Limit	0.0150
PISTON	
Diameter (C)	3.7780-3.7786
Coded Red	3.7792-3.7798
Coded Blue	3.7804-3.7810
0.003 Oversize	0.0014-0.0022
Piston-To-Bore Clearance	0.0123-0.0126
Pin Bore Diameter	0.9123-0.9126
Ring Groove Width	0.080-0.081
Compression (Top)	0.080-0.081
Compression (Bottom)	1.1880-0.1890
Oil	Interference Fit
PISTON PIN	
Length	3.010-3.040
Diameter	0.9119-0.9124
Standard	0.001-0.0013
0.001 Oversize	0.0014-0.0013
0.002 Oversize	0.0014-0.0013
Pin-To-Piston Clearance	0.0002-0.0004
Pin-To-Rod Clearance	Interference Fit
PISTON RINGS	
Ring Width	0.077-0.078
Compression (Top)	0.077-0.078
Compression (Bottom)	0.077-0.078
Side Clearance	0.002-0.004
Compression (Top)	0.002-0.004
Compression (Bottom)	0.002-0.004
Oil Ring	Snug Fit
Service Limit	0.006
Ring Gap	0.010-0.020
Compression (Top)	0.010-0.020
Compression (Bottom)	0.010-0.020
Oil Ring (Steel Rail)	0.015-0.055

LUBRICATION SYSTEM

OIL PUMP	
Relief Valve Spring Tension (Lbs. @ Spec. Length)	15.2-17.2 @ 1.20
Drive Shaft-To-Housing Bearing Clearance	0.0015-0.0030
Relief Valve-To-Bore Clearance	0.0015-0.0030
Rotor Assembly End Clearance (Assembled)	0.004 Max.
Outer Race-To-Housing Clearance	0.001-0.013
OIL CAPACITY (Quarts U.S.)	4.7

FUEL PUMP

STATIC PRESSURE (P.S.I.)	50-70
MINIMUM VOLUME FLOW (gpm)	1 Pint in 25 Seconds
ECCENTRIC TOTAL LIFT (Inches)	0.304-0.326

TORQUE SPECIFICATIONS - Special Applications

ITEM	SIZE	TORQUE (FT.-LB.)
AUXILIARY SHAFT GEAR BOLT	M-10	28-40
AUXILIARY SHAFT THRUST PLATE BOLT	M-6	6-9
BELT TENSIONER (TIMING) PIVOT BOLT	M-10	28-40
BELT TENSIONER (TIMING) ADJUSTING BOLT	M-8	14-21
CAMSHAFT GEAR BOLT	M-12	80-90
CAMSHAFT THRUST PLATE BOLT	M-6	6-9
CARBURETOR TO SPACER STUD	M-8	7.5-15
CARBURETOR SPACER TO MANIFOLD BOLT	M-8	10-14
CONNECTING ROD NUT	M-9	30-36
CRANKSHAFT DAMPER BOLT	M-14	100-120
CYLINDER HEAD BOLT	M-12	80-90 (11)
DECEL VALVE NUT		10-15
DECEL VALVE TO INTAKE MANIFOLD ADAPTER		23-28
DISTRIBUTOR CLAMP BOLT	M-10	14-21
DISTRIBUTOR VACUUM TUBE TO MANIFOLD ADAPTER		5-8
EXHAUST MANIFOLD TO CYL. HEAD BOLT STUD NUT	M-10	16-23
FLYWHEEL TO CRANKSHAFT BOLT	M-10	54-64

TORQUE SPECIFICATIONS - Special Applications Continued

ITEM	SIZE	TORQUE (FT.-LB.)
FUEL PUMP TO CYLINDER BLOCK	M-8	14-21
INTAKE MANIFOLD TO CYL. HEAD BOLT OR NUT	M-8	14-21 (12)
MAIN BEARING CAP BOLT	M-12	80-90
OIL PRESSURE SENDING UNIT TO BLOCK		8-18
OIL PUMP PICKUP TUBE TO PUMP	M-8	14-21
OIL PUMP TO BLOCK	M-8	14-21
OIL PAN DRAIN PLUG TO PAN	M-14	15-25
OIL PAN TO BLOCK	M-6	6-8
	M-8	8-10
OIL FILTER INSERT TO BLOCK		20-25
OIL FILTER TO ENGINE		(2)
ROCKER ARM COVER TO CYLINDER HEAD	M-6	4-7
SPARK PLUG TO CYLINDER HEAD	M-14	5-10
TEMPERATURE SENDING UNIT TO BLOCK		8-18
WATER JACKET DRAIN PLUG TO BLOCK		23-28
WATER PUMP TO BLOCK BOLT	M-8	14-21
EGR VALVE TO SPACER BOLT	M-8	14-21
EGR TUBE TO EXHAUST MANIFOLD CONNECTOR		9-11
EGR TUBE NUT		9-11
AUXILIARY SHAFT COVER BOLT	M-6	6-9
WATER OUTLET CONNECTION BOLT	M-8	14-21
CYLINDER FRONT COVER BOLT	M-6	6-9
INNER TIMING BELT COVER STUD	M-8	14-21
OUTER TIMING BELT COVER BOLT	M-6	6-9
ROCKER ARM COVER SHIELD BOLT	M-10	28-40
THERMOSTAT CHECK VALVE TO MANIFOLD		17-20*
FUEL FILTER TO CARBURETOR		80-100 In.-Lb.

TORQUE SPECIFICATIONS - General Applications

U.S. THREAD SIZES	TORQUE
1/4-20	6-9
5/16-18	12-18
3/8-16	14-20
3/8-24	22-32
7/16-14	27-38
7/16-20	40-55
1/2-13	40-60
	55-80

METRIC THREAD SIZES	TORQUE
M-6	6-9
M-8	14-21
M-10	28-40
M-12	50-71
M-14	80-114

PIPE THREAD SIZES	TORQUE
1/8	5-8
1/4	12-18
3/8	22-33
1/2	25-35

- * All values are in ft.-lb. unless otherwise noted.
- * Oil threads with engine oil unless fasteners require sealers.

- Pin bore and crank bearing bore must be parallel and in the same vertical plane within the specified total difference when measured at the ends of an 8" bar - 4" on each side of rod centerline.
 - Measured at the piston pin bore centerline - 90° to the pin.
 - Add one quart with filter change.
 - On engine, temperature normal, curb idle, neutral.
 - Pump to tank return line pinched off, new fuel filter in line.
 - Smallest orifice - not less than 0.220" I.D.
 - Torque cylinder head bolts in sequence in two steps:
 - Step 1 50-60 ft.-lb.
 - Step 2 80-90 ft.-lb.
 - Torque manifold bolts in sequence in two steps:
 - Step 1 5-7 ft.-lb.
 - Step 2 14-21 ft.-lb.
- * And then rotate into position.

3.3L/4.1L (200/250 CID) I-6 Engines

PART 21-10

Fairmont/Zephyr/Granada/Monarch

SUBJECT	PAGE	SUBJECT	PAGE
DESCRIPTION		REMOVAL AND INSTALLATION (Cont'd.)	
Crankcase Ventilation System	10-2	Flywheel	10-13
Engine	10-2	Front Oil Seal	10-12
Exhaust Emission Control System	10-2	Hydraulic Tappets	10-9
ADJUSTMENTS		Main Bearings	10-16
Hydraulic Valve Clearance	10-2	Oil Filter	10-21
REMOVAL AND INSTALLATION		Oil Pan	10-14
Camshaft	10-12	Oil Pump	10-16
Camshaft Bearing	10-20	Pistons and Connecting Rods	10-18
Camshaft Rear Bearing Bore Plug	10-14	Valve Rocker Arm Cover and	
Clutch Pilot Bearing	10-14	Rocker Arm	10-6
Connecting Rod Bearings	10-17	Valve Spring, Retainer and Stem Seal	10-7
Crankcase Ventilation System	10-6	Water Pump	10-10
Crankshaft	10-19	DISASSEMBLY AND ASSEMBLY	
Crankshaft Rear Oil Seal	10-16	Cylinder Assembly	10-24
Cylinder Front Cover and		Cylinder Block	10-24
Timing Chain	10-11	Cylinder Head	10-22
Cylinder Head	10-8	Piston and Connecting Rod	10-23
Engine Assembly	10-3	Tappet—Hydraulic	10-22
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Engine Rear Support	10-5	SPECIFICATIONS	10-26
Exhaust Manifold	10-10		

CA4293-28

DESCRIPTION

ENGINE

The 3.3L (200 CID) and 4.1L (250 CID) I-6 engines are in-line, overhead valve design of lightweight cast iron construction. Adjustment and repair procedures for the two engines are basically the same.

A typical I-6 engine is shown in Fig. 1.

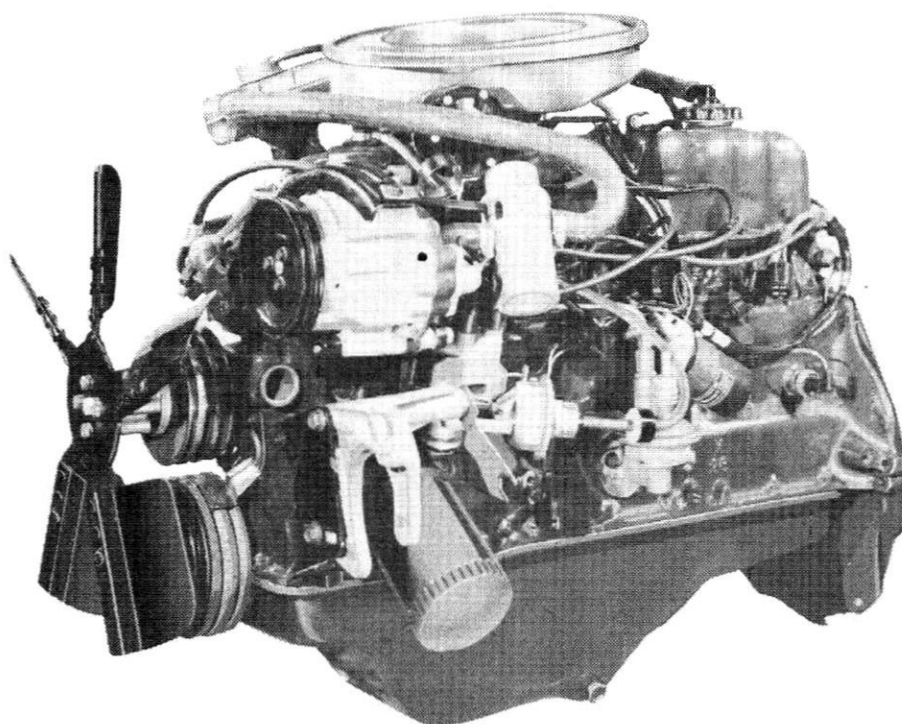
EMISSION CONTROL DEVICES

Operation, removal, installation and required maintenance of the exhaust emission control devices

used on these engines are covered in Group 29 and Group 50 of this Manual.

CRANKCASE VENTILATION SYSTEM

These engines are equipped with a positive, closed-type ventilation system re-cycling the crankcase vapors to the intake manifold.



A2748-2G

FIG. 1 Typical I-6 Engine

ADJUSTMENTS

CAUTION: Do not operate the engine with the hood open until the fan has been first examined for possible cracks and separation.

HYDRAULIC VALVE CLEARANCE

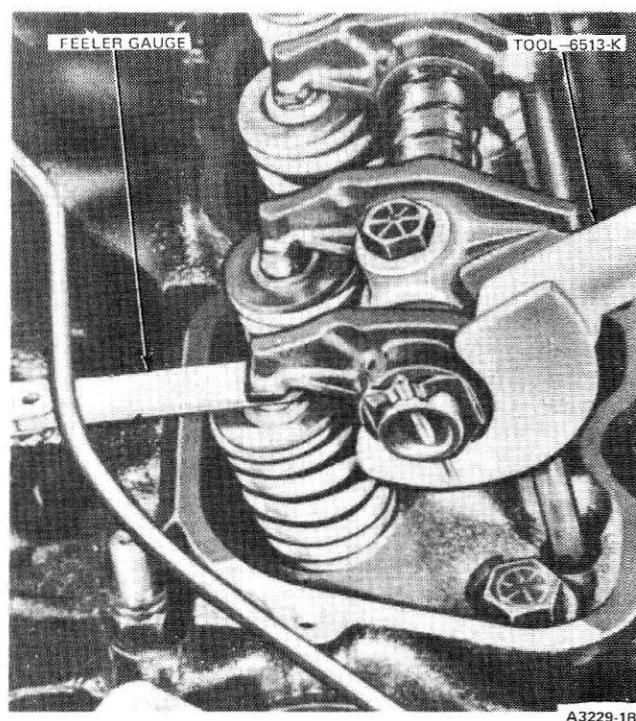
A shorter than standard push rod and a longer than standard push rod are available for service to provide a means of compensating for dimensional changes in the valve mechanism. Refer to the master parts list or the specifications for the pertinent color code.

Valve stem to valve rocker arm clearance should be within specifications with the hydraulic tappet completely collapsed. Repeated valve reconditioning operations (valve and/or valve seat refacing) will decrease the clearance to the point that, if not compensated for, the hydraulic tappet will cease to function and the valve will be held open.

To determine whether a shorter or a longer push rod is necessary, make the following check:

1. Connect an auxiliary starter switch in the starting circuit. **Crank the engine with the ignition switch OFF until the No. 1 piston is on TDC after the compression stroke.**
2. With the crankshaft in the position designated in Steps 3 and 4, position the hydraulic lifter compressor tool on the rocker arm. Slowly apply pressure to bleed down the hydraulic tappet until the plunger is completely bottomed (Fig. 2). **Take**

care to avoid excessive pressure that might bend the push rod. Hold the tappet in this position



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FIG. 2 Check Valve Clearance

and check the available clearance between the rocker arm and the valve stem tip with a feeler gauge.

If the clearance is less than specified, install an under-size push rod. If the clearance is greater than specified, install an oversize push rod.

3. With the No. 1 piston on TDC after the compression stroke, use the procedure in Step 2 and check the following valves:

No. 1 Intake
No. 1 Exhaust
No. 2 Intake
No. 3 Exhaust
No. 4 Intake
No. 5 Exhaust

4. Now rotate the crankshaft until the No. 6 piston is on TDC after the compression stroke (1 revolution of the crankshaft). By using the procedure in Step 2, check the following valves:

No. 2 Exhaust
No. 3 Intake
No. 4 Exhaust
No. 5 Intake
No. 6 Intake
No. 6 Exhaust

5. When compressing the valve spring to remove the push rods, be sure the piston in the individual cylinder is below TDC to avoid contact between the valve and the piston. To replace a push rod, it will be necessary to remove the valve rocker arm shaft assembly. Upon replacement of a valve push rod, valve rocker arm shaft assembly or hydraulic valve tappet, the engine should not be cranked or rotated until the tappets have had an opportunity to leak down to their normal operating position. The leak down rate can be accelerated by using the tool shown in Fig. 2 on the valve rocker arm and applying pressure in a direction to collapse the lifter.

REMOVAL AND INSTALLATION

NOTE: Do not operate the engine with the hood open until the fan has been first examined for cracks and separation.

When installing nuts or bolts that must be torqued (refer to the Specifications at the end of this Part). Oil the threads with light-weight engine oil. **Do not oil threads that require oil-resistant or water-resistant sealer.** Refer to Part 21-01 for cleaning and inspection and engine test procedures.

ENGINE ASSEMBLY

Remove or disconnect Thermactor system parts that will interfere with removal or installation of the engine.

Removal

1. Remove the hood.
2. Drain the cooling system and the crankcase.
3. Disconnect the closed crankcase ventilation hose. Remove the air cleaner. Disconnect the canister purge hose from the P.C.V. valve. Disconnect the battery ground cable at the cylinder head and at the battery. Disconnect the radiator upper hose at the water outlet housing and the radiator lower hose at the water pump. On a vehicle with automatic transmission disconnect the transmission oil cooler lines from the radiator.
4. Remove the radiator. Remove the fan, spacer, belt and pulley.
5. Disconnect the heater hoses from the water pump and cylinder block. Disconnect the alternator wires from the alternator, the starter cable from the starter and the accelerator control cable from the carburetor. On a vehicle with air conditioning, remove the compressor from the mounting bracket, and position it out of the way, **leaving the refrigerant lines attached.**
6. Disconnect the fuel tank to fuel pump line at the fuel pump and plug the fuel line.

7. Disconnect the coil wires from the coil. Disconnect the oil pressure and water temperature sending unit wires from the sending units.

8. Remove the starter.

On a vehicle with a manual-shift transmission, disconnect the clutch retracting spring. Disconnect the clutch equalizer shaft and arm bracket at the underbody rail and remove the arm bracket and equalizer shaft.

9. Raise the vehicle. Remove the flywheel or converter housing upper attaching bolts.
10. Disconnect the muffler inlet pipe at the exhaust manifold. Loosen the inlet pipe clamp and slide it off the support bracket on the engine. Disconnect the engine right and left mounts at the underbody bracket. Remove the flywheel or converter housing cover.

On a vehicle with a manual-shift transmission, remove the flywheel housing lower attaching bolts.

On a vehicle with automatic transmission, disconnect the converter from the flywheel. Remove the converter housing lower attaching bolts.

11. Lower the vehicle. Support the transmission and flywheel or converter housing with a jack.
12. Attach the engine lifting hook (Fig. 3). Carefully lift the engine out of the engine compartment. Place the engine on a work stand (Fig. 4).

Installation

1. If the clutch was removed, install as detailed in Group 16. Install guide pins in the flywheel or converter housing bolt holes in the rear of the engine.
2. Carefully lower the engine into the engine compartment.
3. Make sure the guide pins in the block engage the holes in the flywheel housing.

On a vehicle with automatic transmission, start the converter pilot into the crankshaft.

On a vehicle with a manual-shift transmission, start the transmission main drive gear into the clutch disc. It may be necessary to adjust the position of the transmission in relation to the engine if the input shaft will not enter the clutch disc. **If the engine hangs up after the shaft enters, turn the crankshaft slowly (transmission in gear) until the shaft splines mesh with the clutch disc splines.**

4. Remove the engine lifting hook. Install the flywheel or converter housing upper attaching bolts.
5. Remove the jack from the transmission. Raise the vehicle.
6. Remove the guide pin and install the flywheel or converter housing lower attaching bolts.

On a vehicle with automatic transmission, attach the converter to the flywheel and torque the attaching nuts to specifications.

7. Install the flywheel or converter housing dust cover.

On a vehicle with a manual-shift transmission, install the clutch equalizer shaft and arm bracket. Connect the clutch retracting spring.

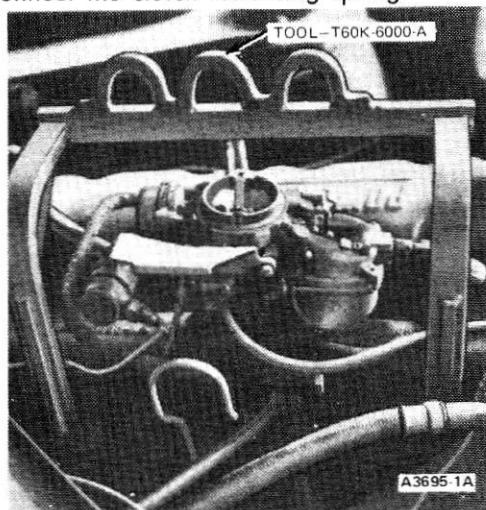


FIG. 3 Engine Lifting Hook

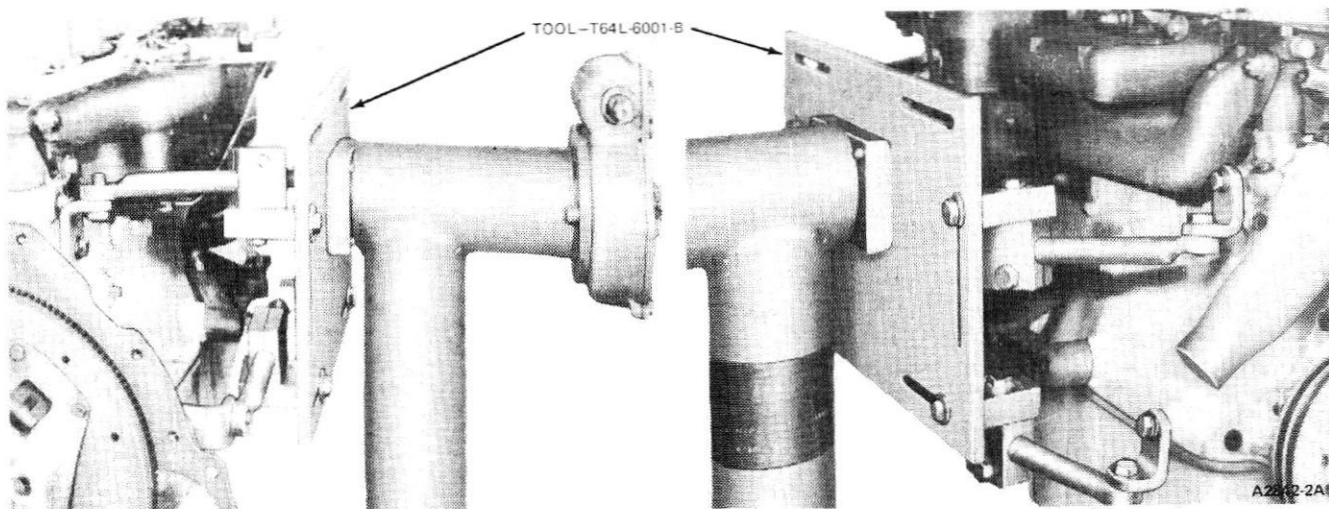


FIG. 4 Engine Mounted on Work Stand—Typical

8. Install the engine left and right mount to the underbody bracket.
 9. Remove the plug from the fuel pump line and connect the flexible fuel line to the fuel pump line. Using a new gasket, install the exhaust manifold to muffler inlet pipe with lockwashers and nuts. Torque the nuts to specifications. Position the inlet pipe clamp on the support bracket on the engine and tighten the clamp.
 10. Lower the vehicle. Connect the oil pressure and the engine temperature sending unit wires. Connect the coil wires. Connect the accelerator control cable. Connect the fuel line to the fuel pump. Connect the canister purge line to the P.C.V. valve.
 11. Install the starter motor. Connect the starter cable. Connect the alternator wires. Connect the heater hose at the water pump and cylinder block. Connect the battery ground cable.
 12. Install the pulley, fan, and drive belt. Adjust the drive belt tension. On a vehicle with air conditioning, install the compressor on the mounting bracket, and adjust the belt tension to specifications. Install the radiator. Connect the radiator upper and lower hoses. Fill and bleed the cooling system. Fill the crankcase with the proper grade and quantity of engine oil.
 13. Install and adjust the hood.
 14. Operate the engine at fast idle and check all gaskets and hose connections for leaks.
- On a vehicle with automatic transmission, perform a transmission kickdown linkage adjustment (Part 24-60).
15. Install the air cleaner and connect the positive closed-type crankcase ventilation hose.

ENGINE FRONT SUPPORTS

The procedures given apply to either a right or left installation.

The engine front supports (Figs. 5 and 6) are located on each side of the cylinder block. **Whenever self-locking mounting bolts and nuts are removed, they must be replaced with new self-locking bolts and nuts.**

Removal

1. Remove the insulator to support bracket nuts and washers from both insulators.
2. Raise the engine with a jack and wood block placed under the oil pan.
3. Remove the insulator-to-engine bolts and washers and remove the insulator.

Installation

1. Position the insulator assembly on the engine and install the insulator-to-engine bolts and washers finger-tight.
2. Lower the engine carefully to make sure the insulator stud engages the hole in the support bracket.
3. Install the insulator to support bracket washer and nut on bolt engine front mounts. Tighten the insulator bolts and nuts to specification.

ENGINE REAR SUPPORT

The rear support is located at the transmission extension housing (Figs. 5 and 6). **Whenever self-locking mounting bolts and nuts are removed, they must be replaced with new self-locking bolts and nuts.**

Removal

1. On automatic transmission models, support the engine with a jack and wood block under the oil pan and remove the rear insulator to crossmember attaching nuts.
2. Remove the rear insulator to transmission extension housing bolts and lock washers.
3. On all models except those with floor shift manual transmissions, raise the transmission and remove the rear insulator.
4. On floor shift manual transmission models, support the transmission with a floor jack and remove the frame crossmember from the frame and from the rear insulator; then remove the rear insulator from the transmission. **Do not apply upward pressure on the transmission with the jack as damage to the transmission shift lever console or mounting plate will result.**

Installation

1. Position the rear insulator on the transmission extension housing.
2. On all models except those with floor shift, install the rear insulator to transmission extension housing bolts and lock-washers. Torque the bolts to specification. Lower the transmission.
3. Install the two insulator to crossmember attaching nuts and torque to specification.

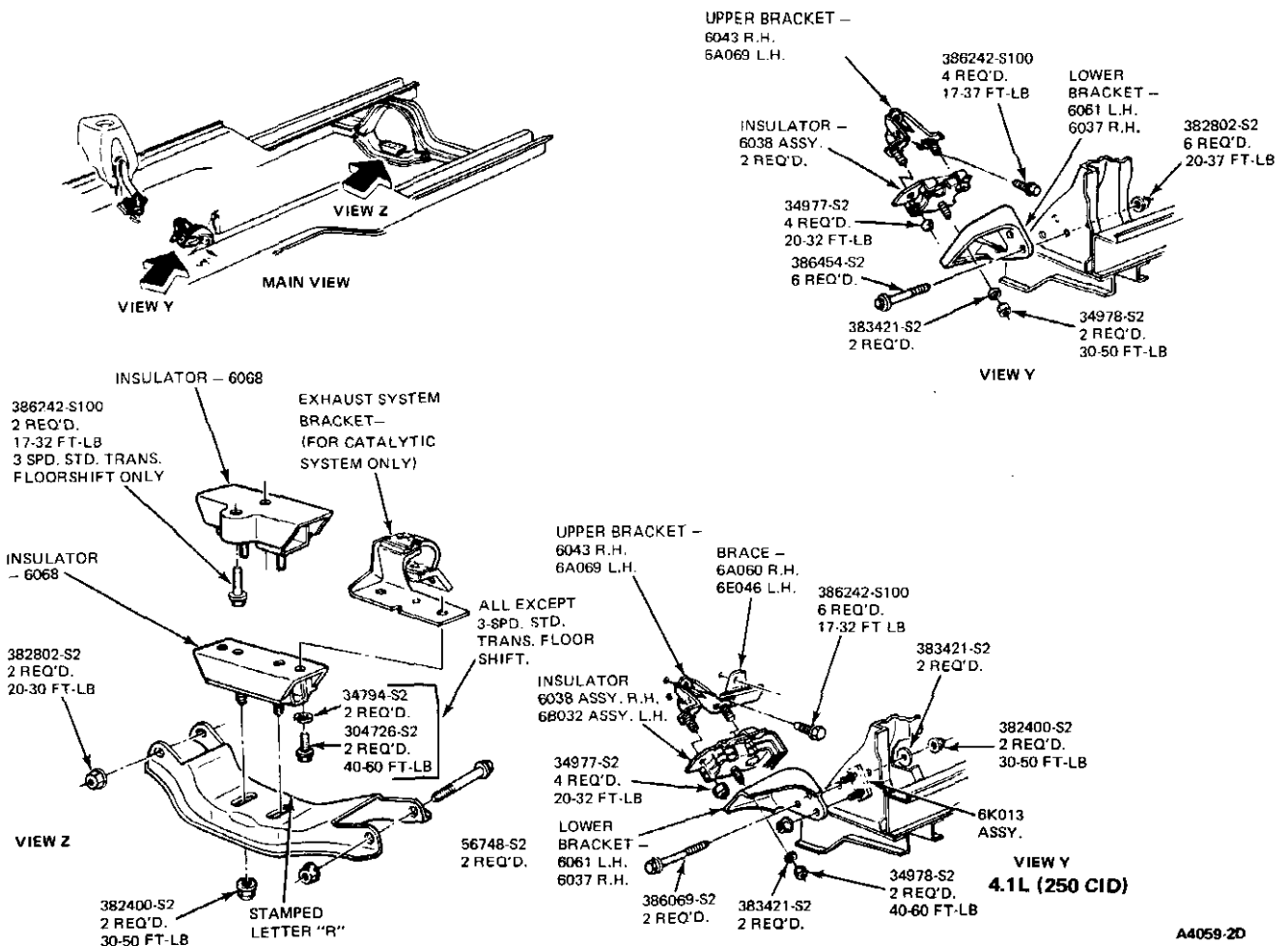


FIG. 5 Engine Supports—Granada and Monarch With 4.1L (250 CID) I-6

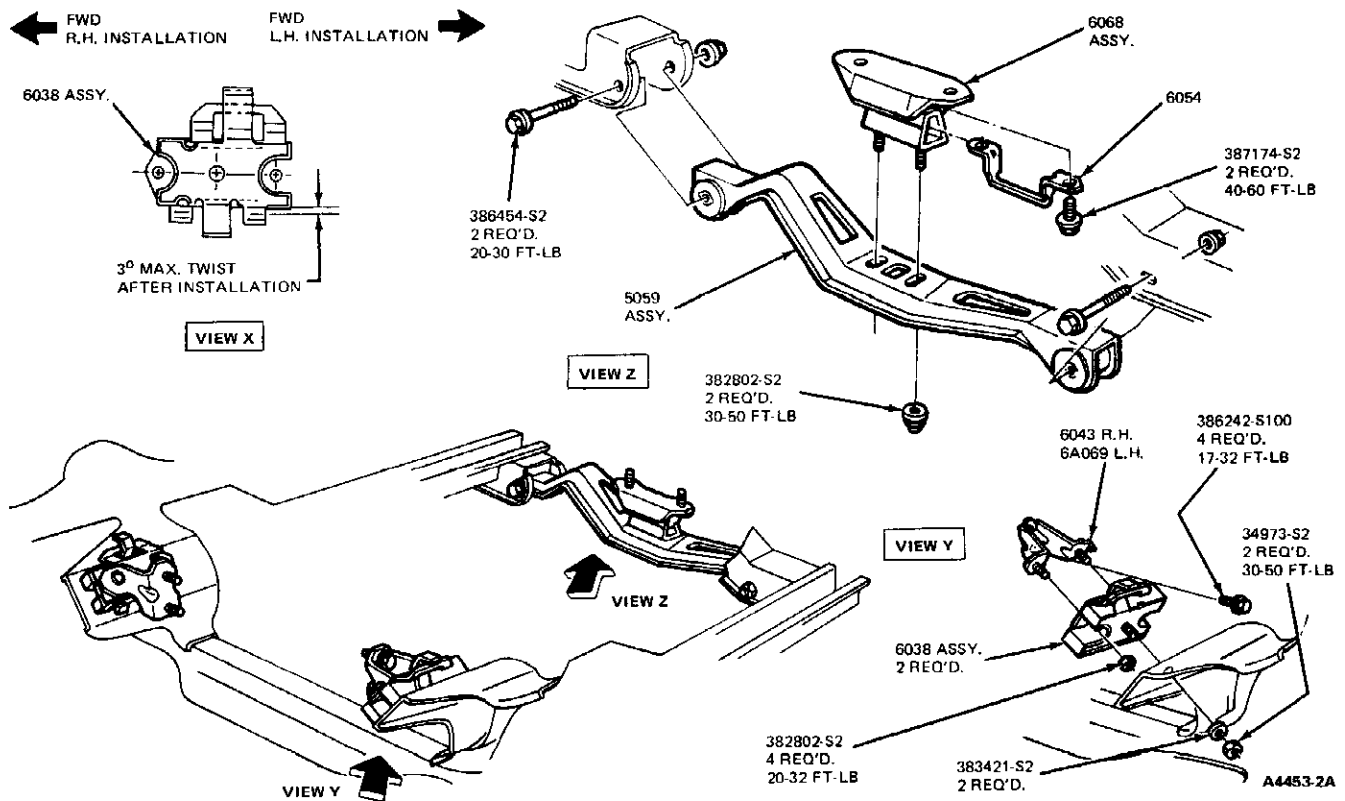


FIG. 6 Engine Supports—Fairmont and Zephyr W/3.3L (200 CID) I-6

- On models with floor shift manual transmission, position the rear insulator to the transmission and install and torque the attaching bolts.
- Position the removable crossmember to the frame and install the through bolts. Remove the supporting jack, install the nuts and washers attaching the support to the crossmember and torque the nuts to specification.

- Insert the PCV valve into the rocker arm cover mounting grommet.
- Install the air cleaner.
- Connect the inlet hose to the air cleaner elbow and the oil filler cap elbow. Connect the fresh air intake tube and the heat shroud tube.
- Operate the engine and check for leaks.

CRANKCASE VENTILATION SYSTEM

The closed crankcase ventilation system components are shown in Fig. 7.

Removal

- Remove the inlet hose from the air cleaner elbow and the oil filler cap elbow. Remove the fresh air intake tube and the heat shroud tube.
- Remove the air cleaner.
- Grasp the PCV valve assembly near the rocker arm cover grommet and pull the regulator valve from the rocker arm cover.
- Remove the evaporative canister purge hose from the PCV valve upper fitting and remove the vent hose from the hose fitting in the carburetor spacer and the lower fitting on the PCV valve.

Installation

- Install the vent hose on the fitting in the carburetor spacer and on the lower fitting on the PCV valve. Connect the evaporative canister purge hose to the upper PCV valve fitting.

VALVE ROCKER ARM COVER AND ROCKER ARM

Removal

- Remove the air cleaner assembly and the crankcase ventilation system. Remove the accelerator control cable bracket.
- Remove the valve rocker arm cover and discard the gasket.
- Remove the rocker arm shaft support bolts by loosening the bolts two turns at a time in sequence. Remove the rocker arm shaft assembly (Fig. 8) **Make sure the push rods are identified before removal so they can be returned to the same location when they are installed.** Remove the valve push rods.

Installation

- Apply Lubriplate or equivalent to both ends of the push rods and to the valve stem tip.
- Install the valve push rods. Position the valve rocker arm shaft assembly on the cylinder head.
- Install and tighten all valve rocker arm support bolts, two turns at a time in sequence, until the