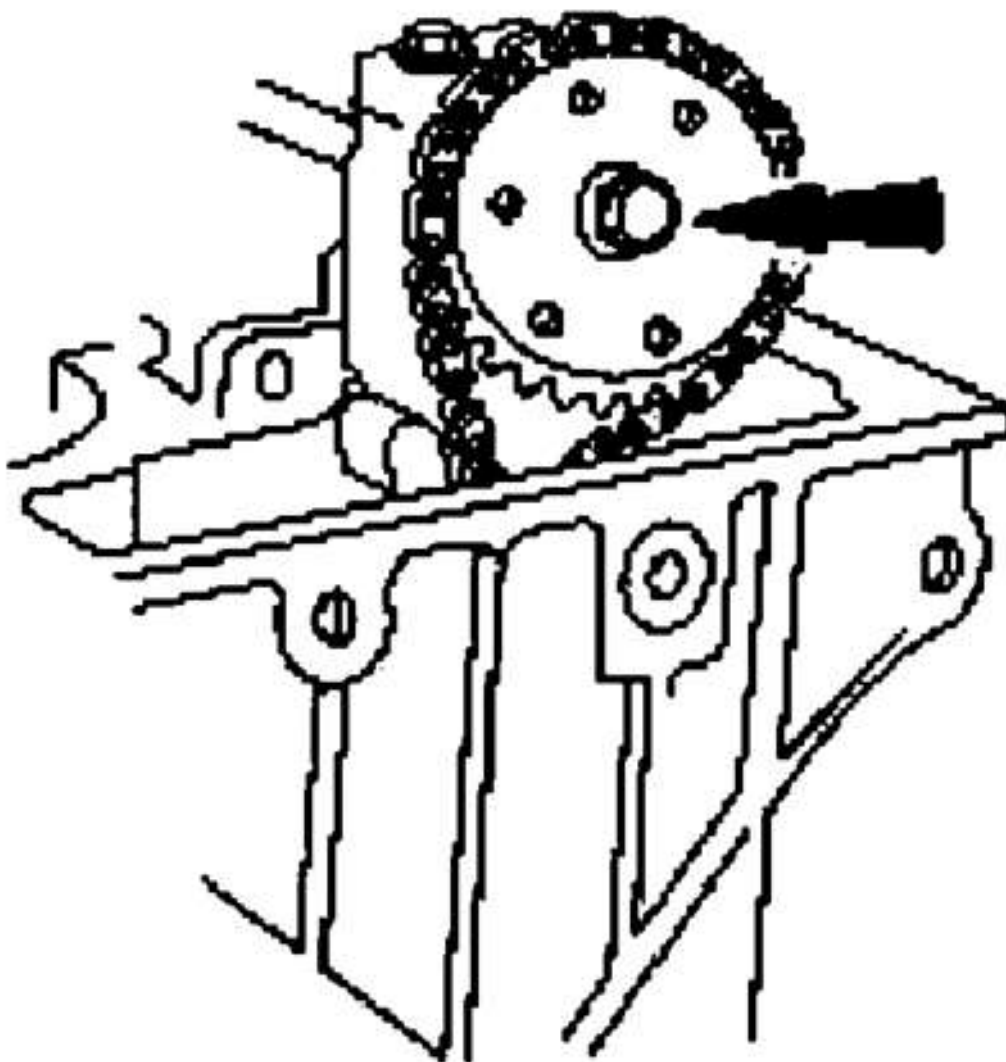


DISASSEMBLY AND ASSEMBLY OF SUBASSEMBLIES

CYLINDER HEAD

Special Tool(s)



G03180513

Fig. 413: Identifying Special Service Tool
Courtesy of FORD MOTOR CO.

Material

MATERIAL SPECIFICATION CHART

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Item	Specification
SAE 5W-20 Super Premium Synthetic Blend Engine Oil XO-5W20-QSP or equivalent	WSS-M2C153-H
Metal Surface Cleaner F4AZ-19A536-RA	WSE-M5B392-A

Disassembly and Assembly

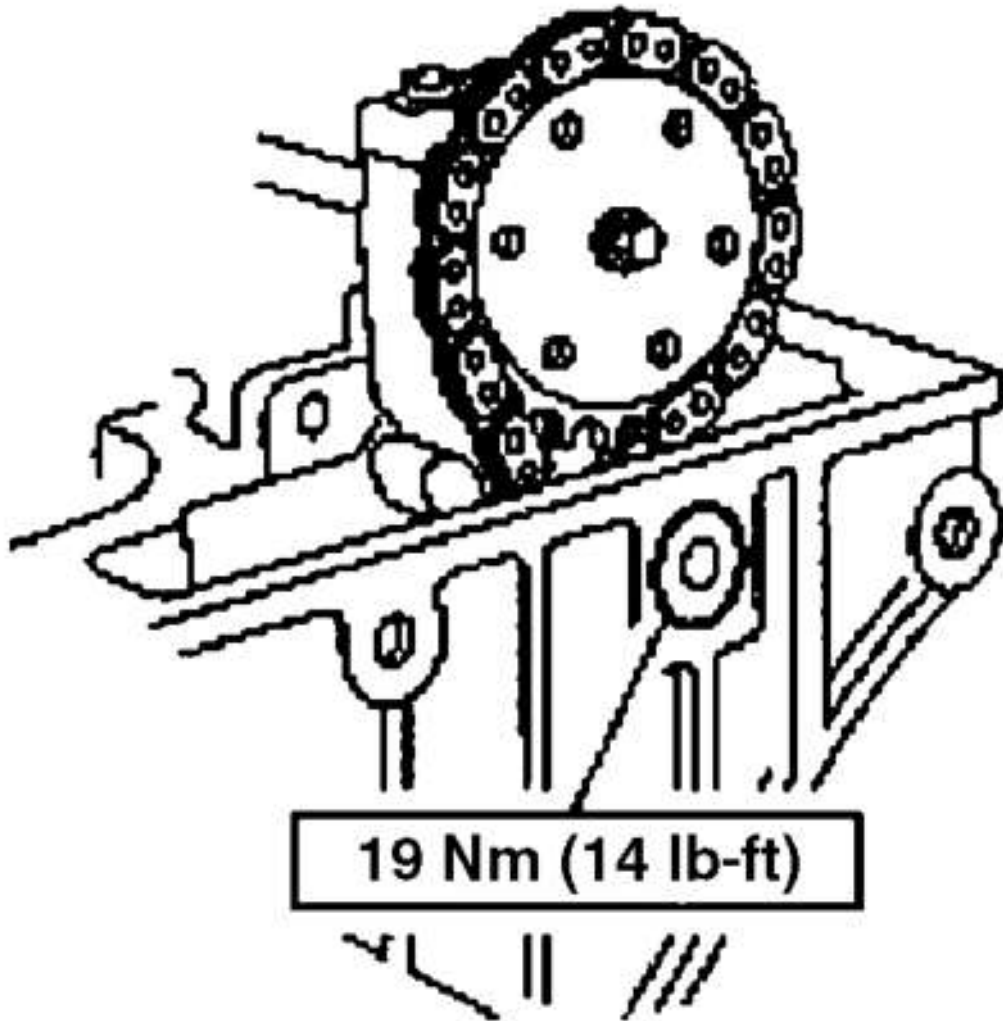
CAUTION: Do not use metal scrapers, wire brushes, power abrasive discs or other abrasive means to clean surfaces. These tools cause scratches and gouges which make leak paths.

1. Clean and inspect the sealing surfaces. For additional information, refer to ENGINE SYSTEM-GENERAL INFORMATION.

CAUTION: Place the cylinder head on a cardboard or wood surface to prevent damage to the joint face.

NOTE: The hydraulic lash adjusters must be installed in their original locations. Record hydraulic lash adjuster locations.

NOTE: LH is shown, RH is similar.



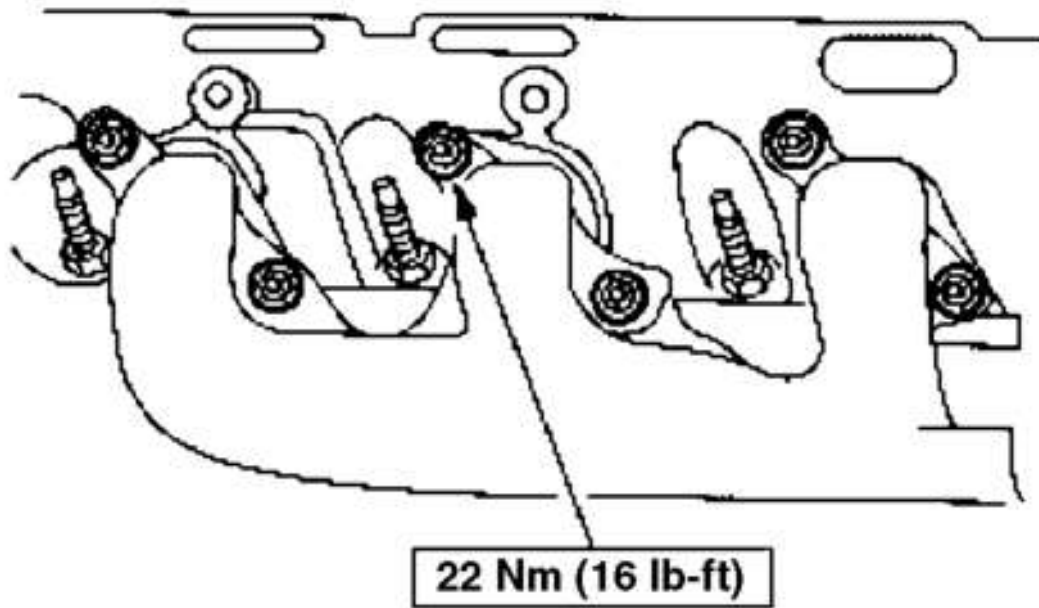
G03180514

Fig. 414: Exploded View Of Cylinder Head Assembly
Courtesy of FORD MOTOR CO.

2. Remove the parts in the order indicated in the following illustration and table.
3. To assemble, reverse the disassembly procedure.

Items 2-5: Valve Assembly Disassembly Note

1. Using the special tool, compress the valve spring.

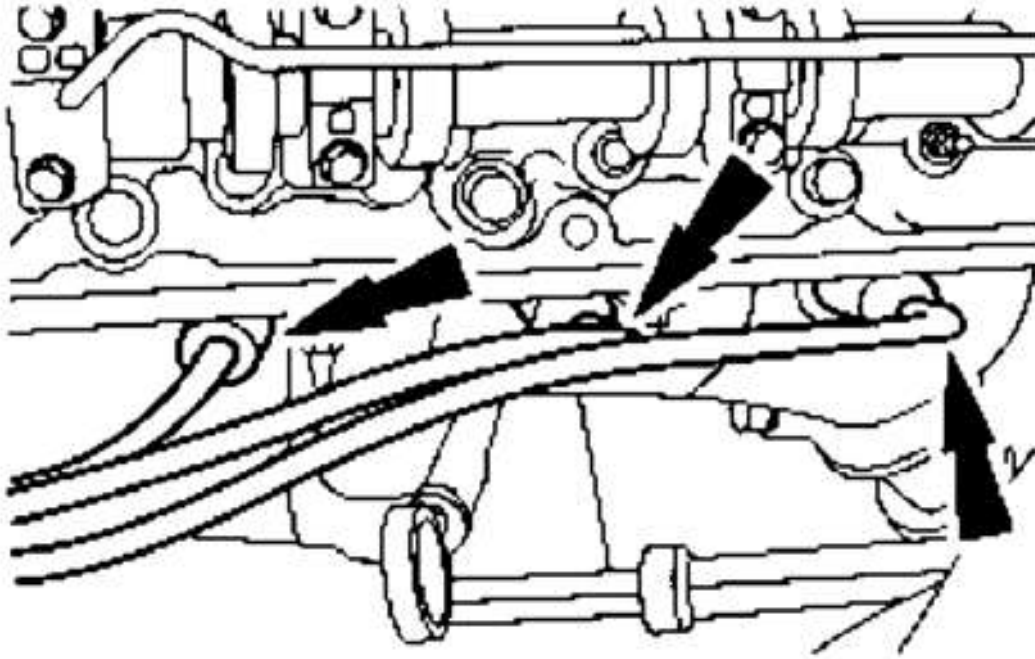


G03180515

Fig. 415: Compressing Valve Spring
Courtesy of FORD MOTOR CO.

CAUTION: Keep the valve and valve spring retainer keys in order so they can be installed in the same position.

NOTE: Valve stem seals should be visually inspected if new seals are not installed.



G03180516

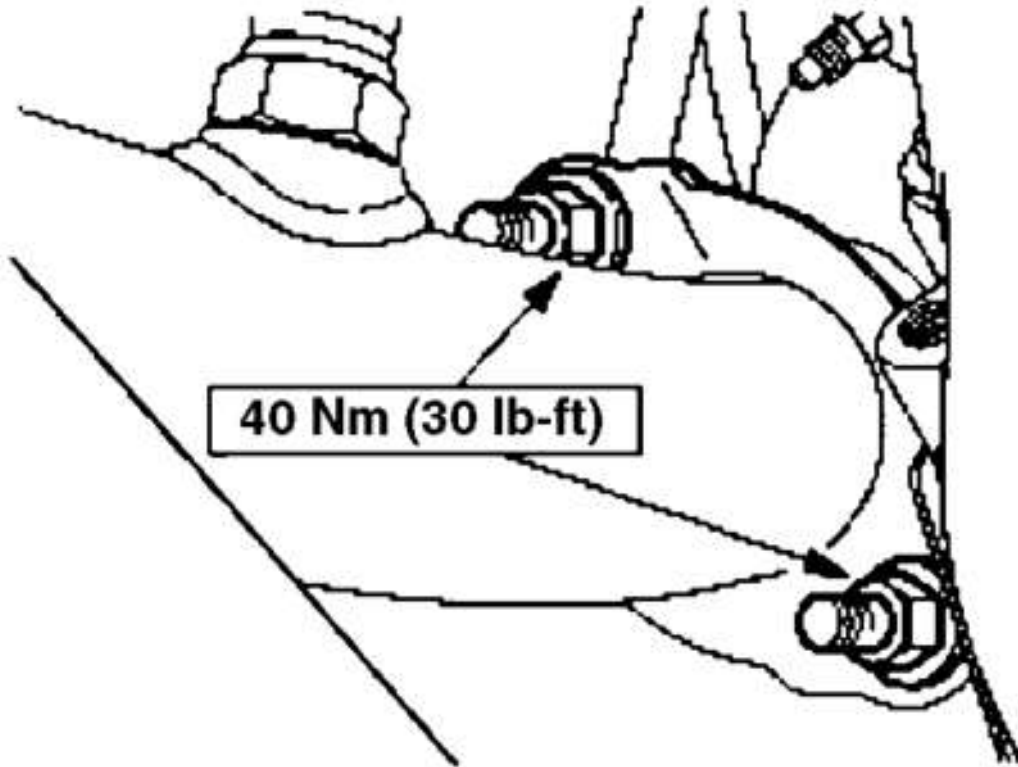
Fig. 416: Removing Valve Spring Retainer Keys, Valve Spring Retainer And Valve Stem Seal
Courtesy of FORD MOTOR CO.

2. Remove the valve spring retainer keys, the valve spring retainer, the valve spring and the valve stem seal.
3. Repeat the above steps and remove all of the valve spring retainer keys, the valve spring retainer, the valve spring and the valve stem seal.

Items 14-12: Camshaft Bearing Cap and Camshaft Assembly Note

NOTE: **The camshaft bearing caps must be installed in their original location.
Record camshaft bearing cap location.**

1. Use a plastic scraper and metal surface cleaner to clean the cylinder head.
2. Lubricate the camshaft journals with clean engine oil.

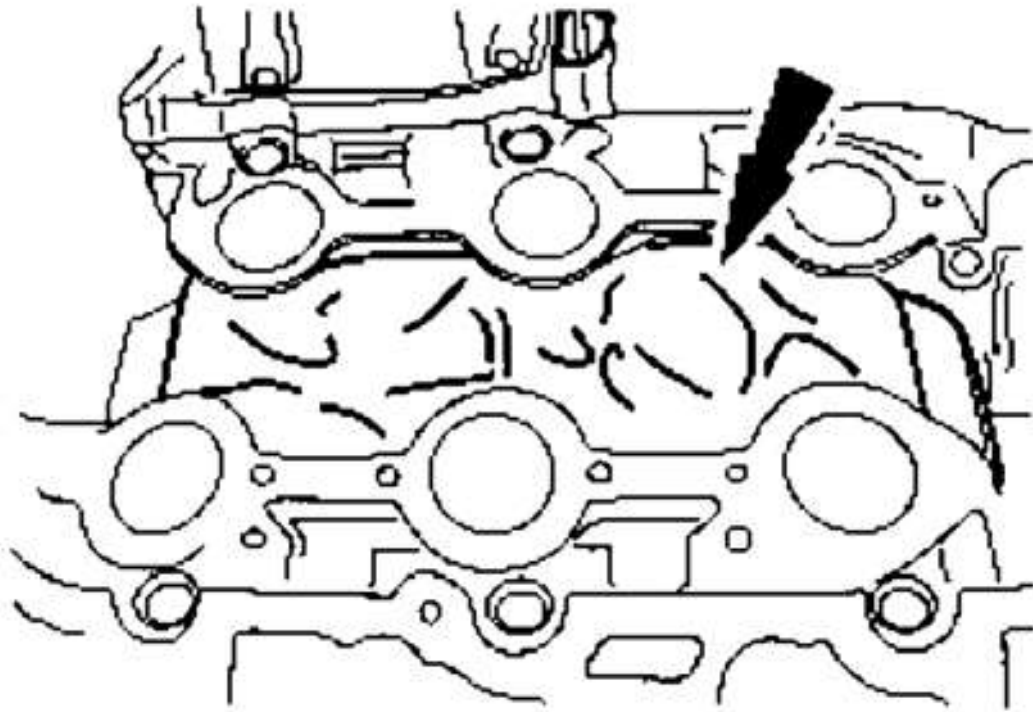


G03180517

Fig. 417: Installing Camshaft Bearing Cap And Camshaft
Courtesy of FORD MOTOR CO.

3. Lubricate the camshaft bearing caps with clean engine oil.

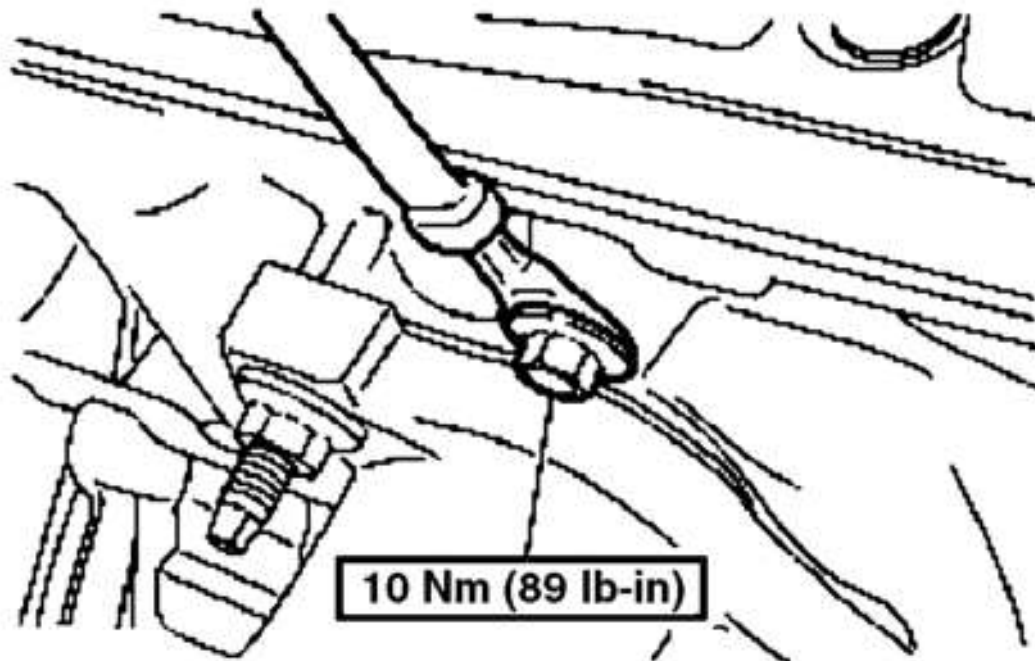
CAUTION: Make sure the camshaft sprocket keyway is up and 90 degrees from the valve cover mounting surface.



G03180518

Fig. 418: Installing Camshaft Bearing Caps Bolts
Courtesy of FORD MOTOR CO.

4. Install the camshaft and the camshaft bearing caps in their original locations.
 - Install the bolts loosely.
5. Tighten the bolts in the sequence shown.



G03180519

Fig. 419: Identifying Bolt Tightening Sequence
Courtesy of FORD MOTOR CO.

Item 8: Camshaft Sprocket Bolt Assembly Note

NOTE: Make sure the valve train does not rotate while tightening the bolt.

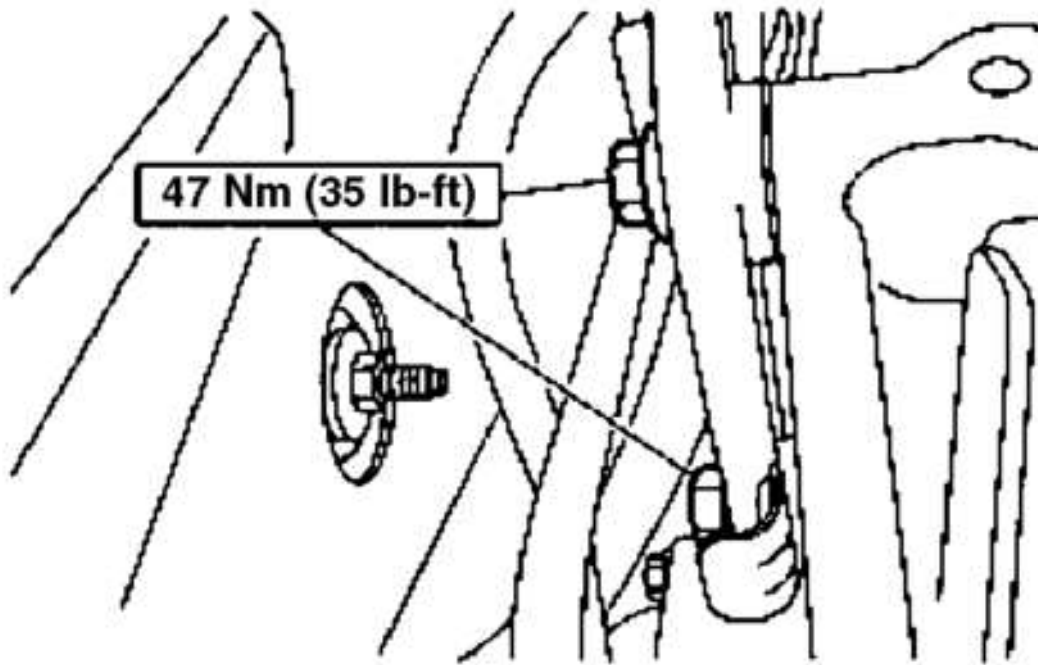
1. Tighten the camshaft sprocket bolt to 40 Nm (30 lb-ft) then rotate 85°-95°.

Items 5-2: Valve Assembly Note

NOTE: Make sure that the garter spring is present in the valve stem seal.

NOTE: Lubricate the valve stems with clean engine oil.

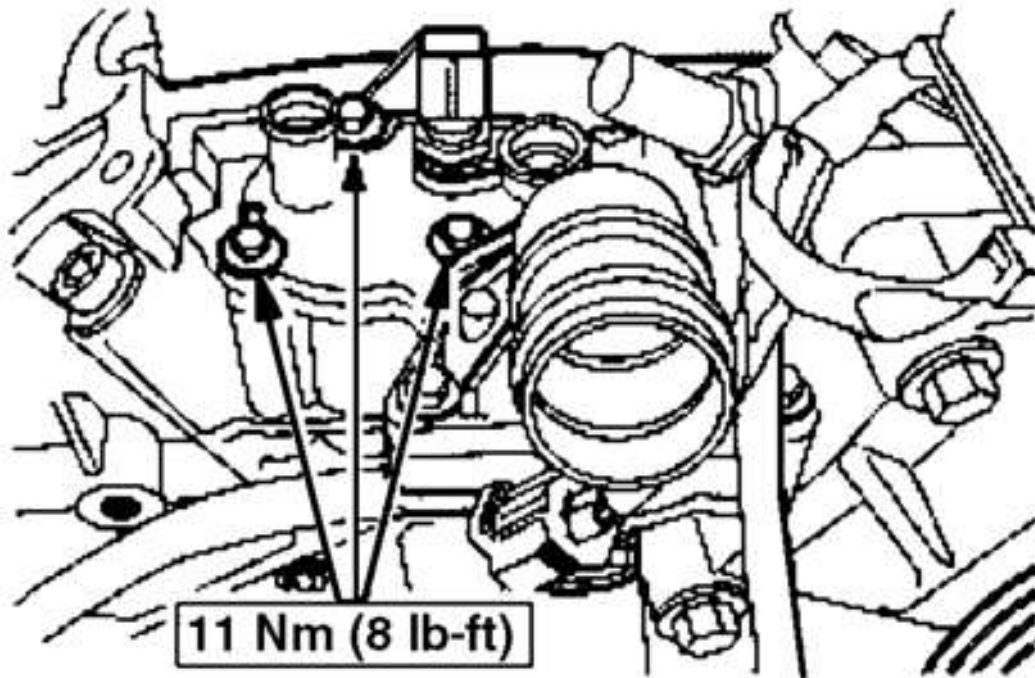
NOTE: The valve stem seal must be bottomed on the valve seat.



G03180520

Fig. 420: Installing Valve Seals
Courtesy of FORD MOTOR CO.

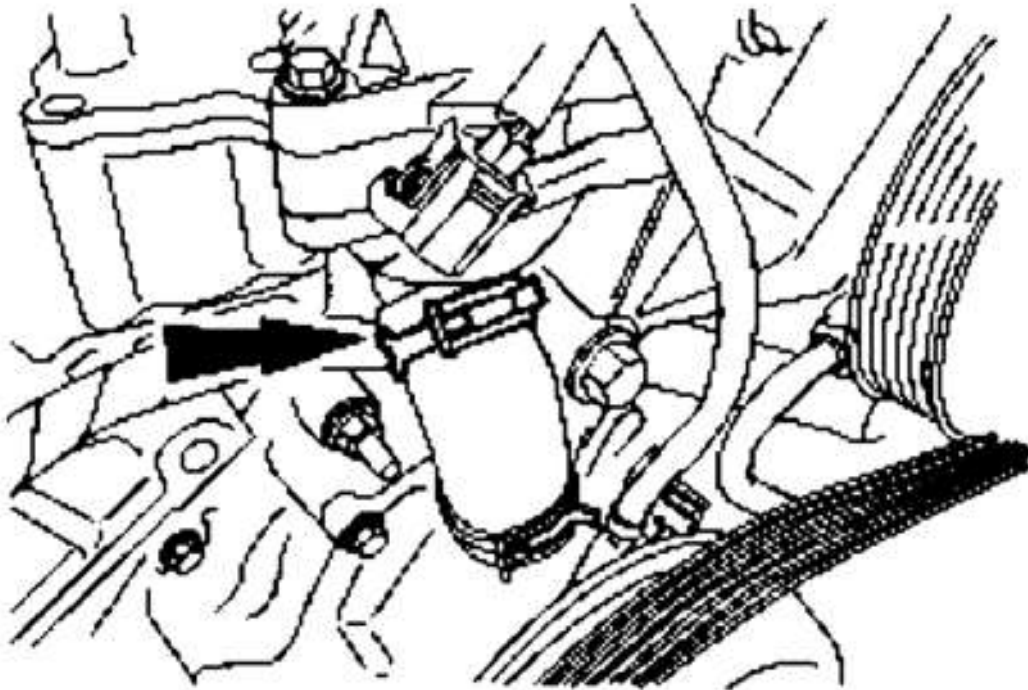
1. Using the special tools, install new valve seals.
2. Install the special tool between the valve spring coils to protect the valve stem seal from damage.



G03180521

Fig. 421: Installing Valve Spring Coils To Protect Valve Stem Seal From Damage
Courtesy of FORD MOTOR CO.

3. Using the special tool, install the valve spring, the spring retainer and the valve spring retainer keys.



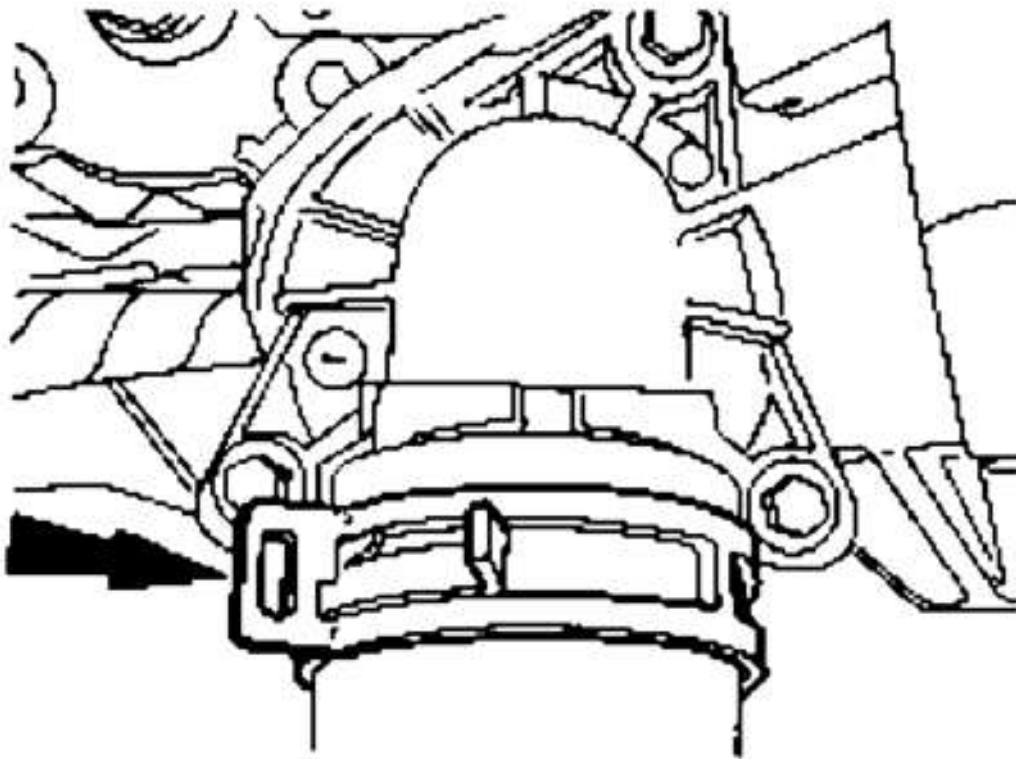
G03180522

Fig. 422: Installing Valve Spring, Spring Retainer And Valve Spring Retainer Keys
Courtesy of FORD MOTOR CO.

4. Repeat the above steps and install all of the remaining valves, valve stem seals, valve spring, spring retainer and the valve spring retainer keys.

Item 1: Hydraulic Lash Adjuster Assembly Note

NOTE: Lubricate the hydraulic lash adjusters with clean engine oil.



G03180523

Fig. 423: Installing Hydraulic Lash Adjusters
 Courtesy of FORD MOTOR CO.

1. Install the hydraulic lash adjusters in their original location.

PISTON

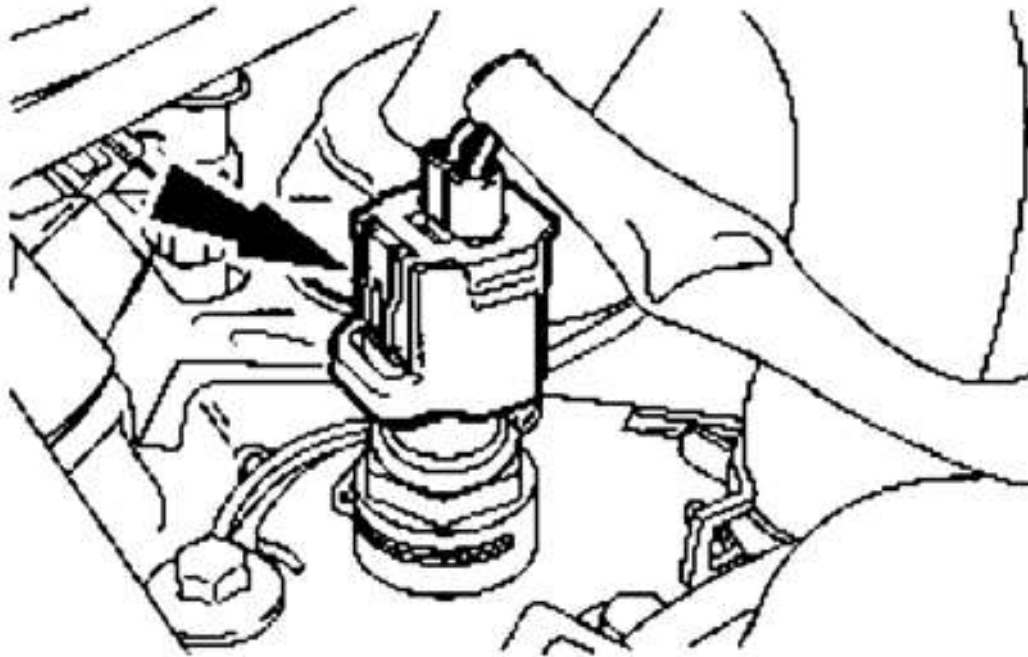
Material

MATERIAL SPECIFICATION CHART

Item	Specification
SAE 5W-20 Super Premium Synthetic Blend Engine Oil XO-5W20-QSP or equivalent	WSS-M2C153-H

Disassembly and Assembly

1. Disassemble the parts in the order indicated in the following illustration and table.



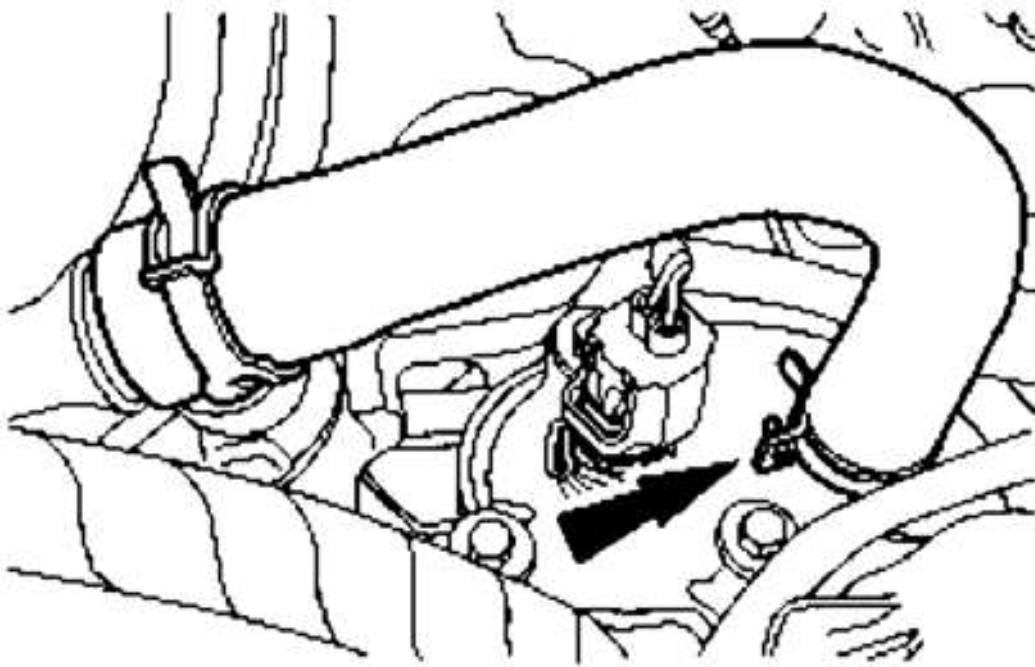
G03180524

Fig. 424: Exploded View Of Piston Assembly
Courtesy of FORD MOTOR CO.

2. To assemble, reverse the disassembly procedure.

Items 10-9: Piston and Connecting Rod Assembly Note

NOTE: The connecting rod must be installed into the piston with identification markings toward the front.



G03180525

Fig. 425: Identifying Piston And Connecting Rod Identification Marks
Courtesy of FORD MOTOR CO.

1. Position the connecting rod in the piston.