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2390 AND 2590 TRACTORS

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Reprinted

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Section 1210

GENERAL SPECIFICATIONS

2390 Tractors

Written In <i>Clear And Simple English</i>
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Hello dear friend!

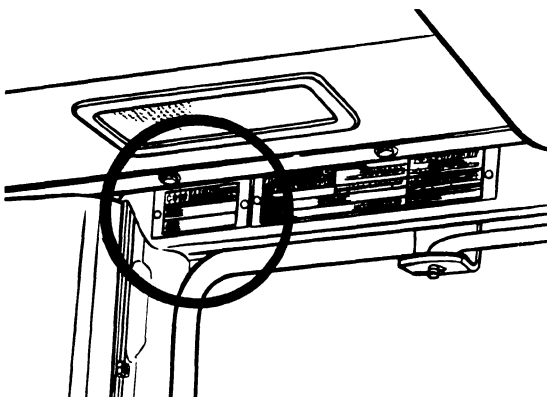
Thank you very much for reading.

Enter the link into your browser.

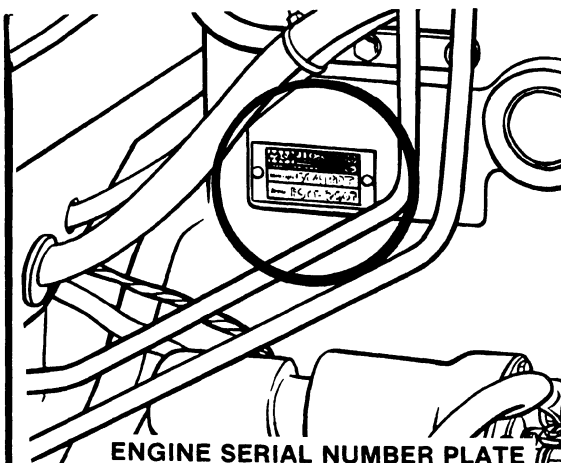
The full manual is available for immediate download.

<https://www.ebooklibonline.com>

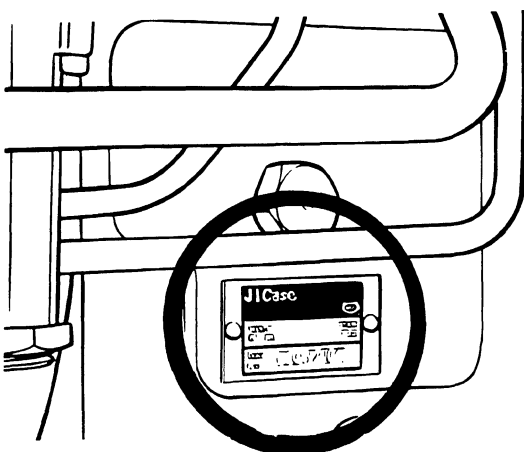
SERIAL NUMBERS



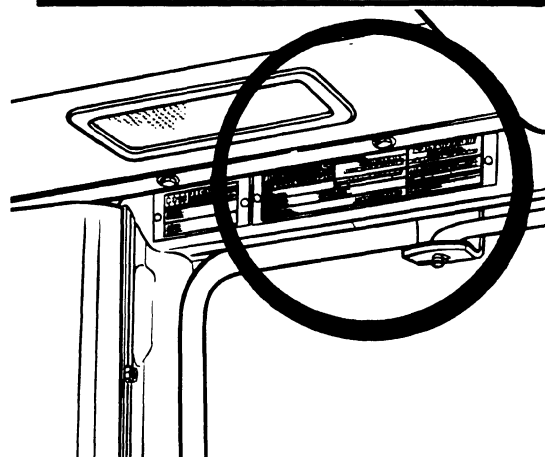
CAB SERIAL NUMBER PLATE



ENGINE SERIAL NUMBER PLATE



TRANSMISSION SERIAL NUMBER PLATE



MODEL AND PRODUCT IDENTIFICATION
NUMBER PLATE

DIESEL ENGINE SPECIFICATIONS

General

Type	Six Cylinder, Four Stroke Cycle, Turbocharged, Valve in Cylinder Head.
Firing Order	1-5-3-6-2-4
Bore	4-5/8 Inches (117.5 mm)
Stroke	5 Inches (127 mm)
Piston Displacement	504 Cubic Inches (8 259 cm ³)
Compression Ratio	15.75 to 1
Cylinder Sleeves	Wet Type, Can be Removed
Governor Engine Speed Without Load	2280 to 2320 RPM
Rated Engine Speed	2100 RPM
Engine Idle Speed	725 to 775 RPM
Rocker Arm-to-Valve Clearance (Exhaust)	0.025 Inch (0.635 mm)
(Intake)	0.015 Inch (0.381 mm)

IMPORTANT: *Rocker Arm-to-valve clearance adjustment must be made when the engine is not running.*

Piston and Rod

Rings Per Piston	3
Compression Rings per Piston	2
Oil Rings Per Piston	1
Type Piston Pin	Full Float
Type Bearings	Replacement Bearings Available, Steel Back with Aluminum or Copper and Lead Liners.

Main Bearings

Quantity of Bearings	7
Type of Bearings	Replacement Bearings Available, Steel Back with Aluminum or Copper and Lead Liners.

Engine Lubrication System

Oil Pressure	45 to 60 PSI (310 to 414 kPa) (3.1 to 4.14 bar) with Engine Warm and Operating at Rated Speed.
Type System	Pressure and Spray with Piston Oil Cooling
Oil Pump	Gear Type
Oil Filter (2)	Full Flow, Turn on Type, By-pass Valve in Filter Base.
Oil Capacity	With Filters, 26 U.S. Quarts (24.6 litres) Without Filters, 22 U.S. quarts (20.8 litres)
Oil Cooler	Engine Oil

Fuel System

Fuel Injection Pump	Robert Bosch, Type PES.
Pump Timing	27 Degrees (BTDC) Before Top Dead Center. IMPORTANT: <i>Do not increase past 27 degrees BTDC at any time. The given 27 Degrees Gives Minimum Emissions in Tractor Operation.</i>
Fuel Injectors	American Bosch, 17 mm
Fuel Transport Pump	Plunger Type, a Part of the Fuel Injection Pump.
Governor	Variable Speed, Parts of Fuel Injection Pump.
First Stage Fuel Filter	Full Flow, Turn on Type
Second Stage Fuel Filter	Full Flow, Turn on Type
Water Trap and Drain For Fuel Tank	Location is in Bottom of Fuel Tank.
Fuel Tank Capacity	85 U.S. Gallons (322 litres)
Fuel Level Gauge	Electric, Location is on Instrument Cluster.
Hand Primer Pump	Location is on Top of Fuel Transport Pump.
Primary Fuel Filter	Location is at Bottom of Fuel Transport Pump.

GENERAL TRACTOR SPECIFICATIONS

Air Intake System

Type Dry Type Air Induction System, Two Stage
with Service Indication, Strata Tube.

Cooling System

Capacity 44 U.S. Quarts (41.6 litres)
Type Pressure System, Thermostat Controlled.
By-pass, Impeller Type Pump.
Radiator Heavy Duty Fin and Tube Type
Thermostats (2) Starts to Open at Approximately 175° F (79° C)
Fully Open at 202° F (94° C).
Pressure Cap 10 PSI (69 kPa)(6.9 bar)
Coolant Level Low Coolant Warning Lamp on Instrument Cluster.

Electrical System

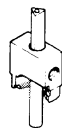
Type of System 12 Volt, Negative Ground
Batteries Two 12 Volt Batteries Connected in Parallel, AABM
Group Size TFG 10-600 Rated in 1.255 to 1.265 Specific Gravity. Discharge Rate 300 Amperes at 0° F.
Voltage Decrease to 9.4 After 10 seconds. Voltage
Decreases 1.0 Volt per Cell After 5 minutes.
Alternator 12 Volt, 61 Ampere Output, Negative Ground or 12 Volt
72 Ampere Output Negative Ground.
Voltage Regulator 12 Volt, Solid State, Inside
Component of Alternator
Starter Motor 12 Volt with Solenoid Switch
Headlights (2) 12 Volt, 40/60 Watt Sealed Beam High-Low
Front Floodlights (4 Max)(Optional) 12 Volt, 50 Watt, Sealed Beam
Rear Floodlights (3 Max)(Optional) 12 Volt, 50 Watt, Sealed Beam
Flasher Lights (2) With Direction Turn Signals 12 Volt, Amber Lens
Tail Light (2) 12 Volt, Red Lens
Tractor Electrical System Circuit Breaker 12 Volt, Dual 50 Ampere Circuit Breakers Connected
in Parallel, 100 Ampere Rating, 80 Ampere Continuing Capacity.
Cab Electrical System Circuit Breaker 12 Volt, 20 Ampere

INSTALLATION INSTRUCTIONS FOR M20614 TEFLON VALVE SEAL KIT

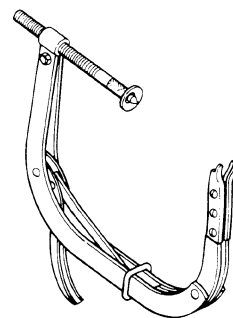
Special Tools Required



M20624 SEAL INSTALLATION TOOL

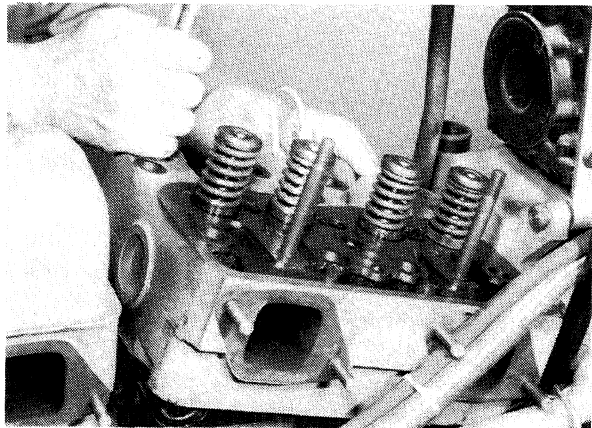


M20617 VALVE GUIDE CUTTING TOOL



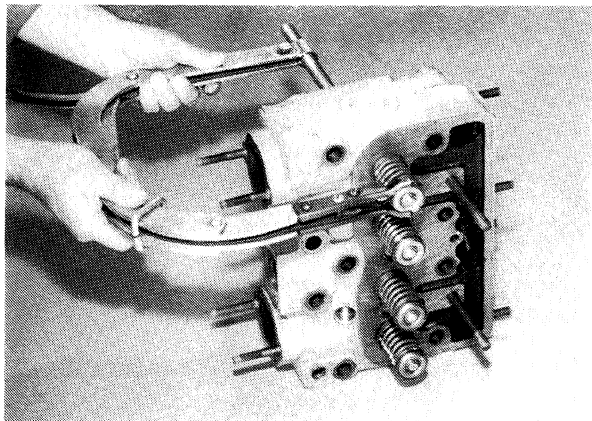
VALVE SPRING COMPRESSOR

STEP 1



Remove the cylinder heads. See Section 2215 of the Service Manual for removal of the cylinder heads.

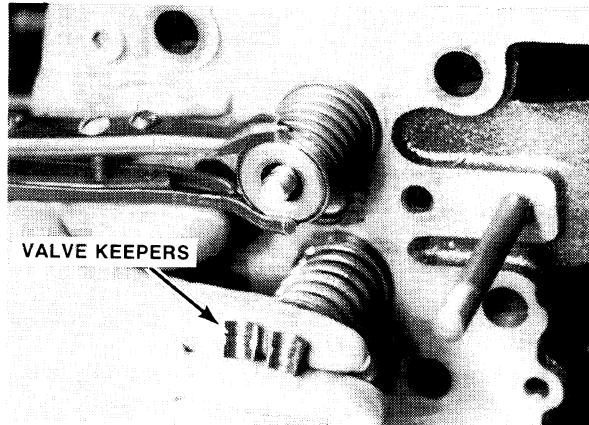
STEP 2



Use a valve spring compressor to push down the valve springs.

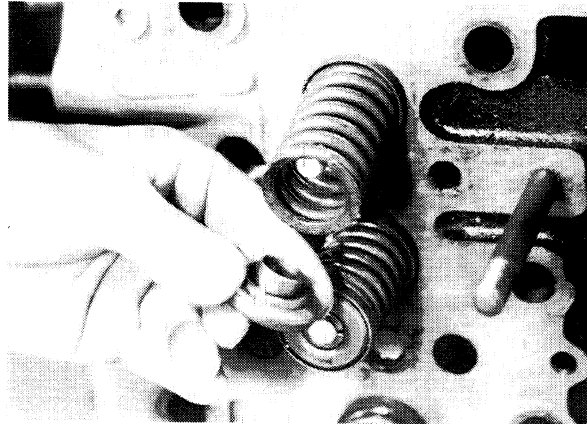
IMPORTANT: Make a mark on the valves, rotators, spring retainers and keepers. This will make sure that the parts are installed in the original location.

STEP 3

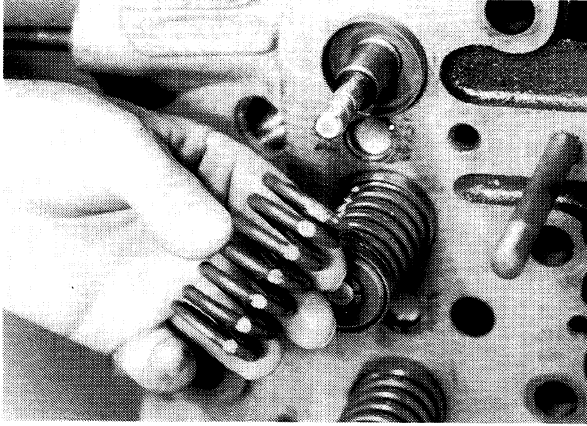


Push down the valve springs and remove the valve keepers.

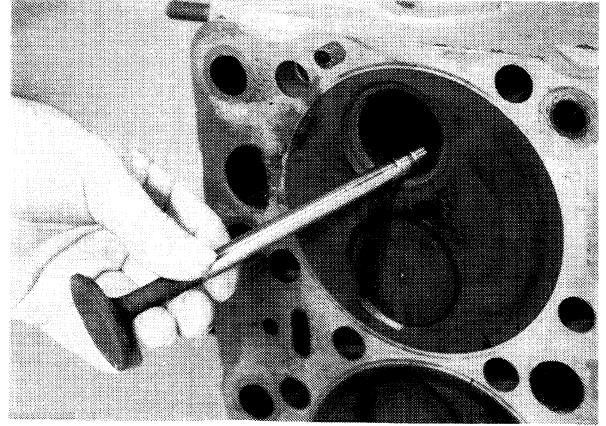
STEP 4



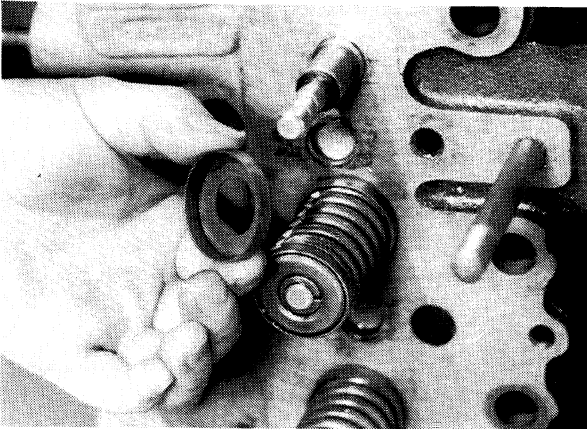
Remove the valve rotators or the valve spring retainers.

STEP 5

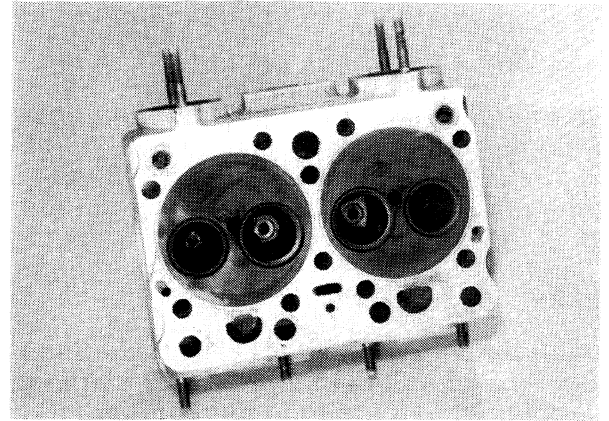
Remove the valve springs.

STEP 8

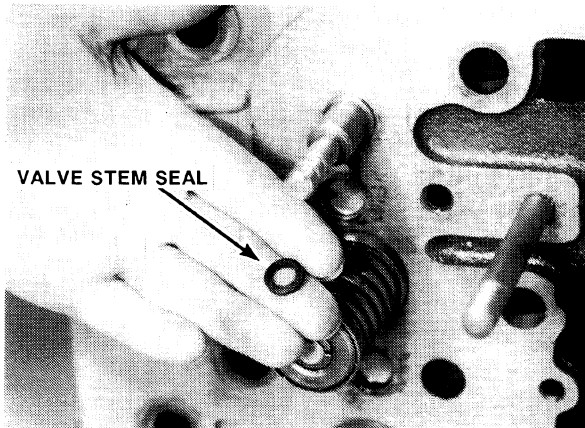
Remove the valves.

STEP 6

Remove the spring seats.

STEP 9

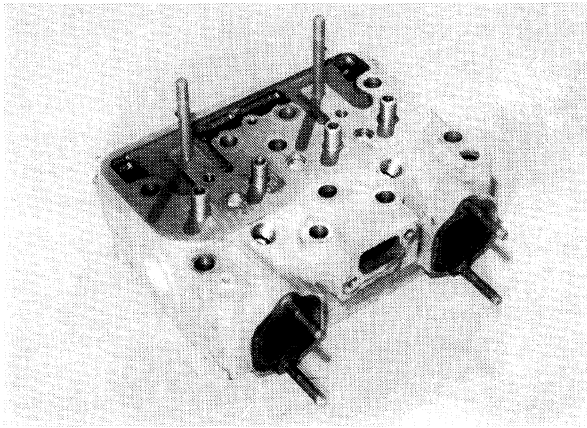
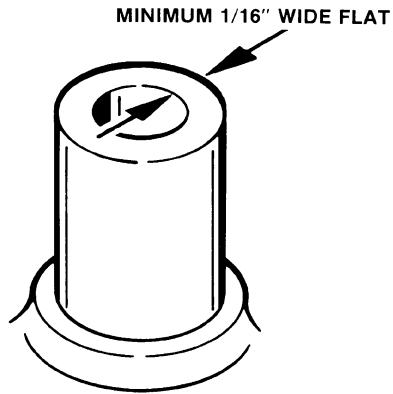
Clean the cylinder head completely, removing all the carbon and other deposits. Check for cracks and for any sign of damage, existing in the area of the fire ring contact.

STEP 7

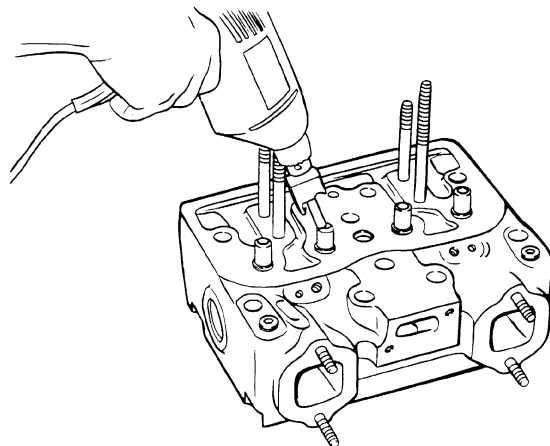
Remove the valve stem seals.

STEP 10

Clean the valves with a fine wire brush that is power driven. Remove all carbon and varnish deposits. Do not scratch the valve stems.

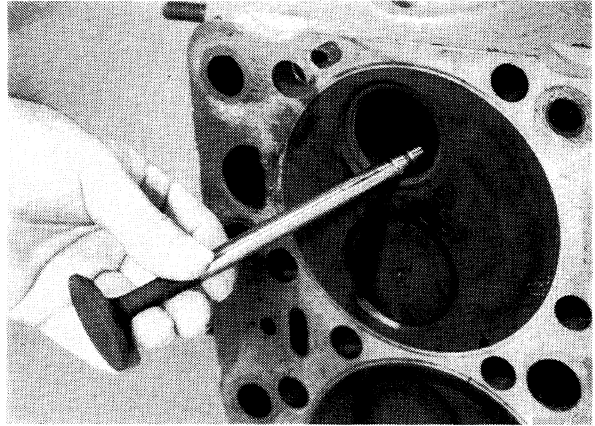
STEP 11

Check the top surface of the valve guide. There must be a minimum of a 1/16" (0.0625 mm) wide flat around the complete top surface.

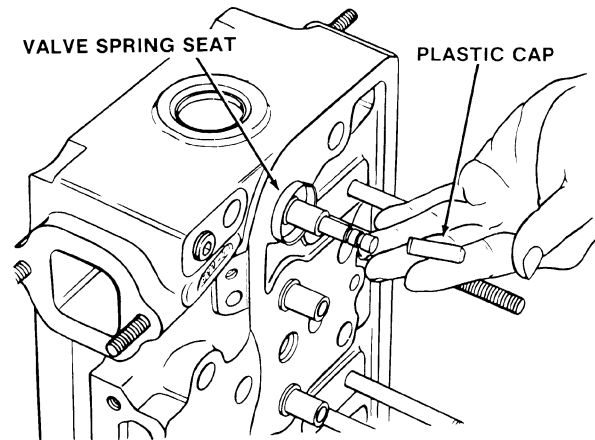
STEP 12

Use the M20617 tool in an electric drill to give the necessary flat area on the valve guide.

IMPORTANT: Do not go over 450 RPM when drilling.

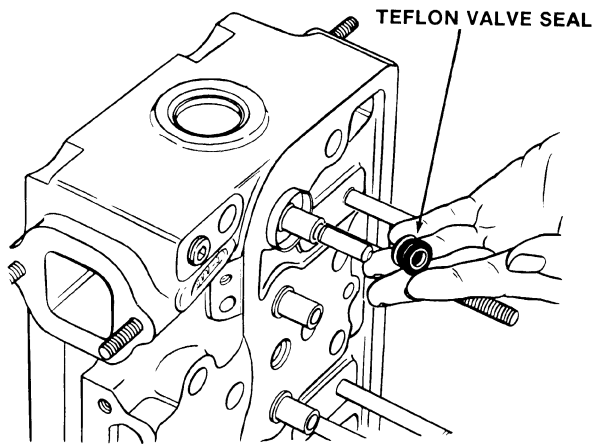
STEP 13

Put clean engine oil on the valves before installing the valves in the cylinder head.

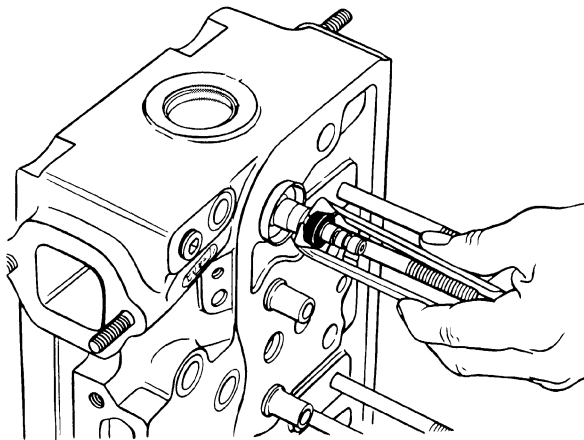
STEP 14

Install the spring seats. Put the plastic installation cap on the end of the valve stem. The plastic cap prevents the sharp edges on the valve stem grooves from cutting the valve seal.

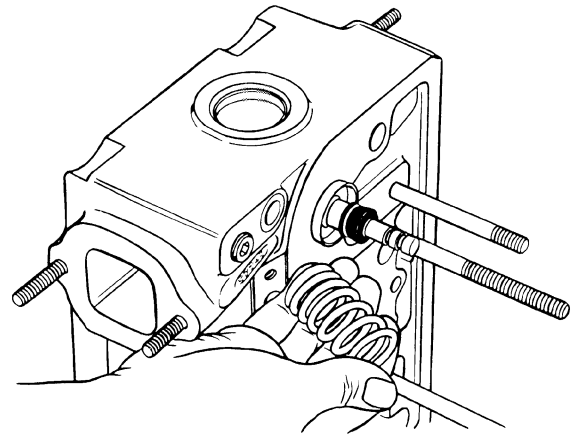
NOTE: One M20614 kit is required for one cylinder head.

STEP 15

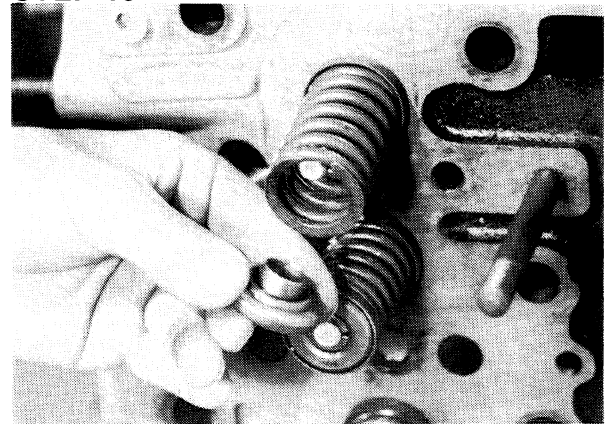
Put the valve seal over the plastic cap. Hold your thumb against the white seal insert to keep the insert from coming out. Push the valve seal down so that the seal jacket is against the top of the valve guide. Remove the installation cap. Keep the cap since the cap will be used again.

STEP 16

Use the M20624 tool and push the seal down over the valve guide until the seal is level with the top of the guide.

STEP 17

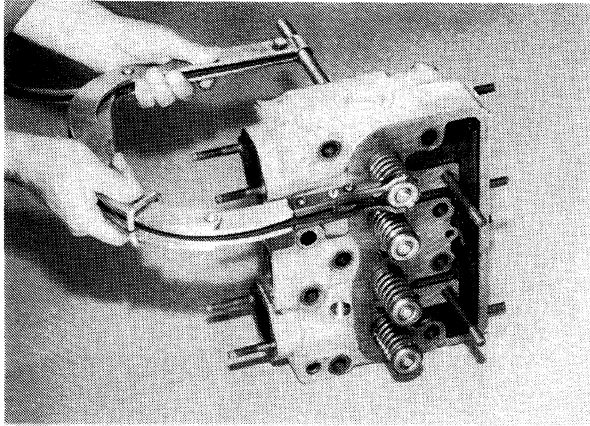
Install the valve spring. Either end of the valve spring can be installed in the valve spring seat because both ends of the spring are closed.

STEP 18

Install the valve rotators or the valve spring retainers (flat side up).

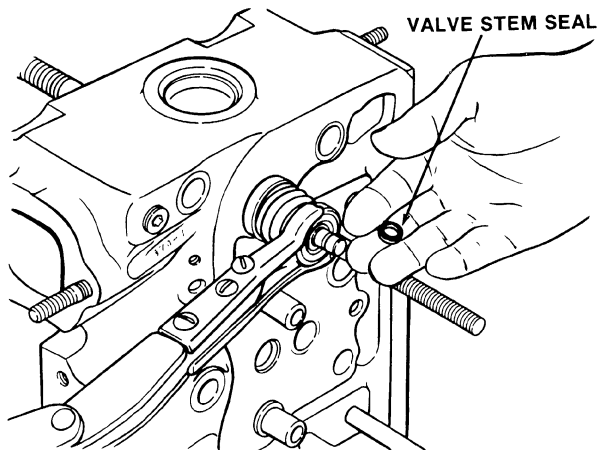
IMPORTANT: *Install the valve rotators or the valve spring retainers with the original valves because these parts are worn as counterparts of each other.*

STEP 19



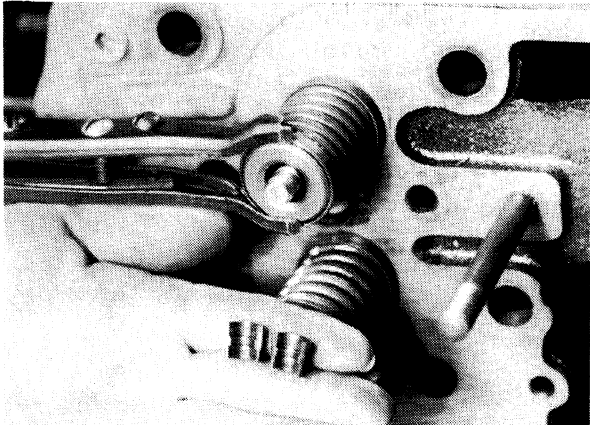
Push down the valve springs with a spring compressor.

STEP 20



Install a new valve seal in the lower valve stem groove.

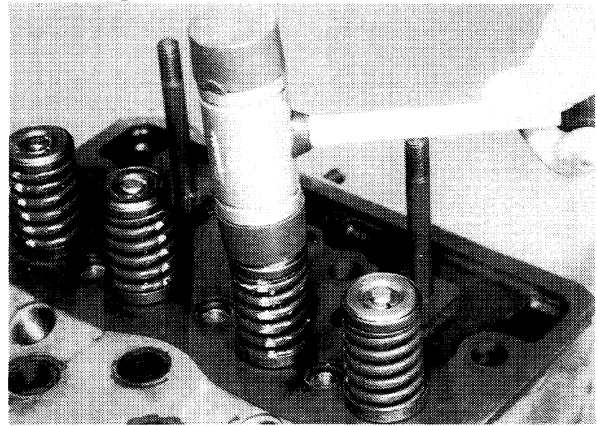
STEP 21



Install the valve keepers in the upper valve stem groove.

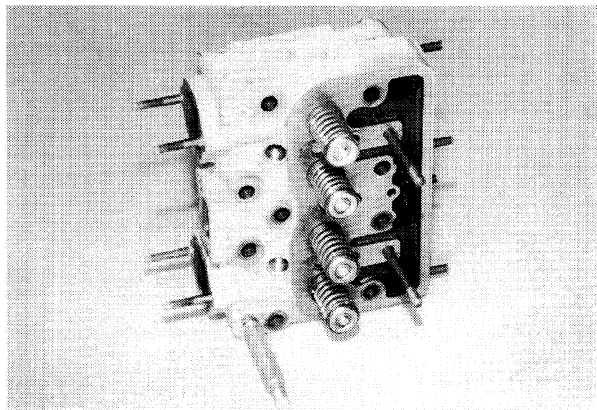
Rac 8-20111

STEP 22



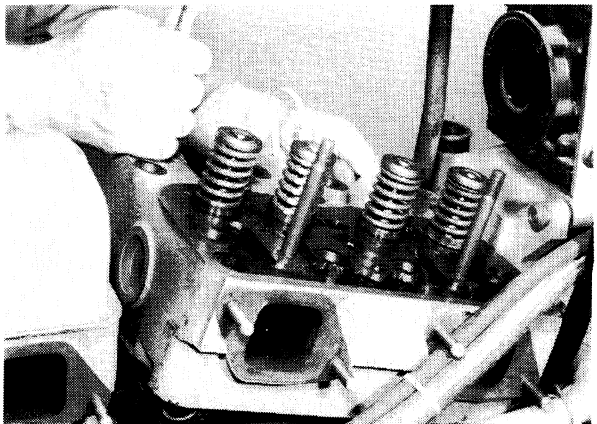
Remove the spring compressor. Hit the end of the valve stems with a soft hammer to seat the valve keepers.

STEP 23



Install teflon seals on all the intake and exhaust valves.

STEP 24



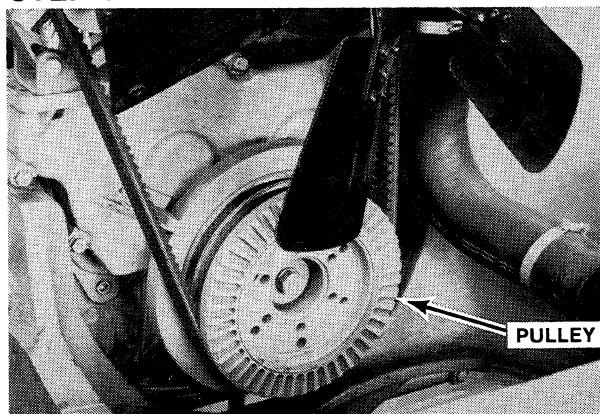
Install the cylinder heads. See Section 2215 of the Service Manual for installation of the cylinder heads.

Revised 7-83 Printed in U S A.

ENGINE TUNE-UP PROCEDURE

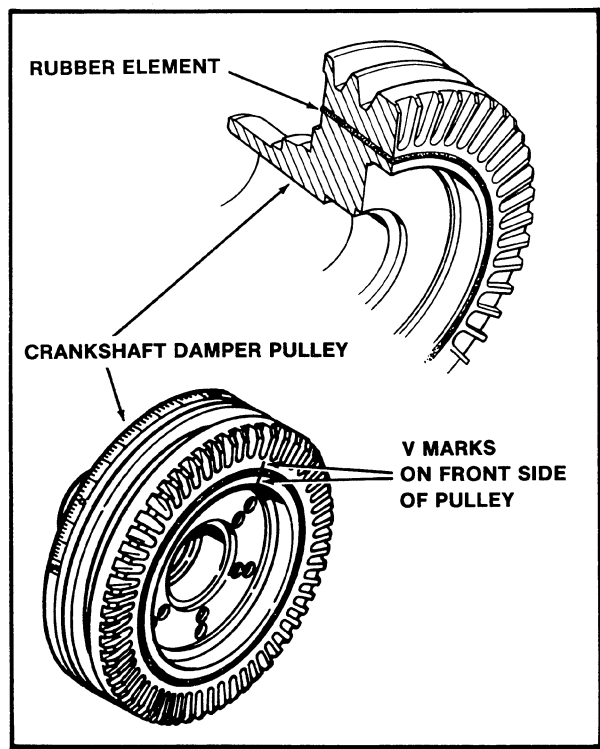
Checking The Crankshaft Damper Pulley (If Equipped)

STEP 1

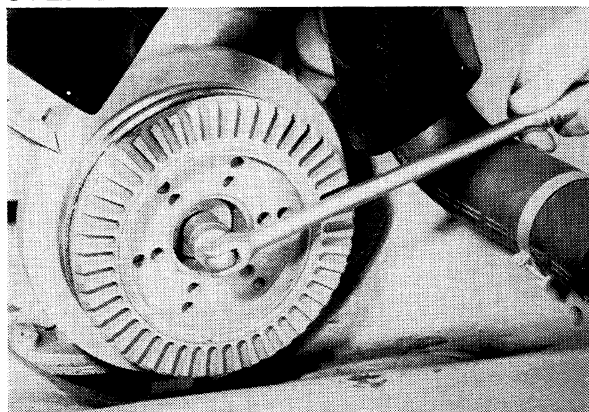


The recommendation for the change interval for the crankshaft damper pulley is 2000 hours maximum. At any time over 1500 hours change the pulley at any engine overhaul or tune-up.

Every 500 hours and during the engine tune-up, visually check the rubber element for areas where the rubber is coming off or cracked. Check the alignment of the marks between the inner and outer units. If the marks move, the damper pulley must be replaced. Go to Step 2 for pulley removal.



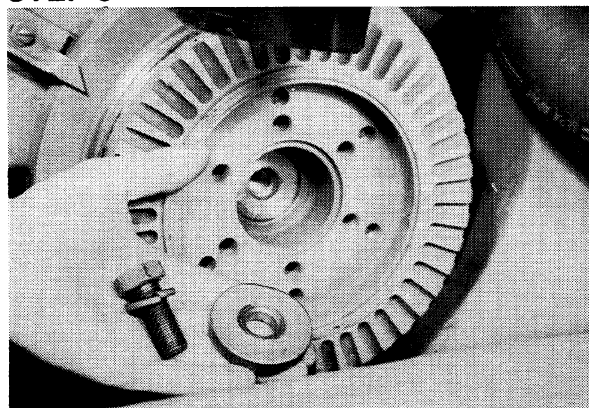
STEP 2



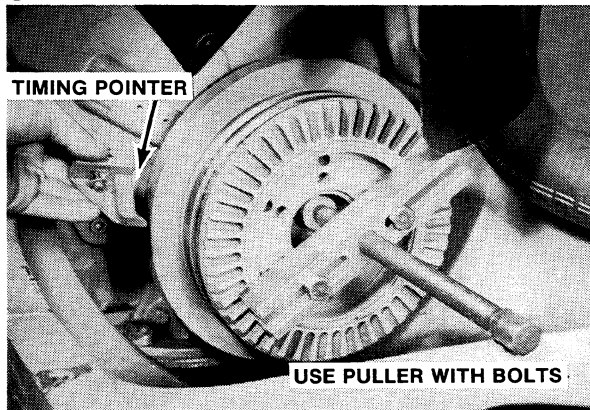
Loosen the pulley to crankshaft bolt.

NOTE: See Section 9260 or 9360 of the Service Manual for hood removal and Section 2255 for radiator and alternator belts removal.

STEP 3

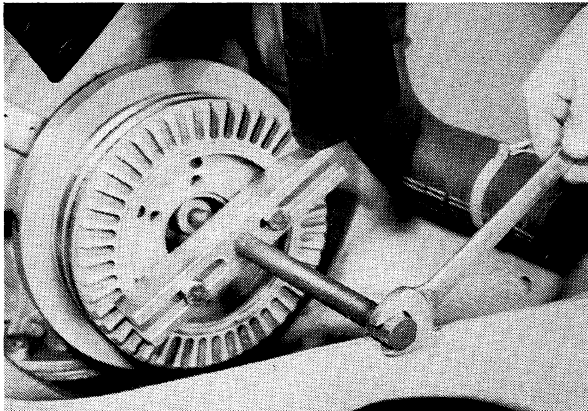


Remove the bolt, lockwasher and the retainer washer.

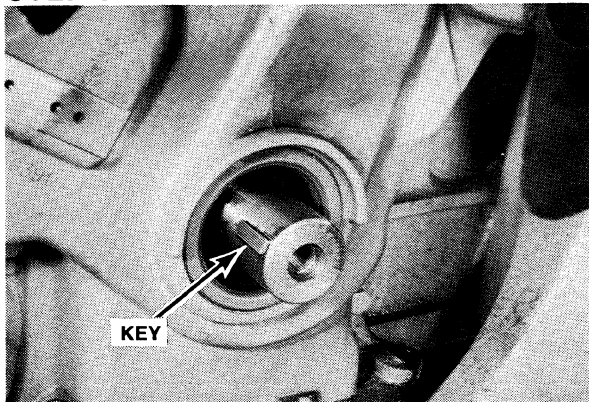
STEP 4

Remove the timing pointer.

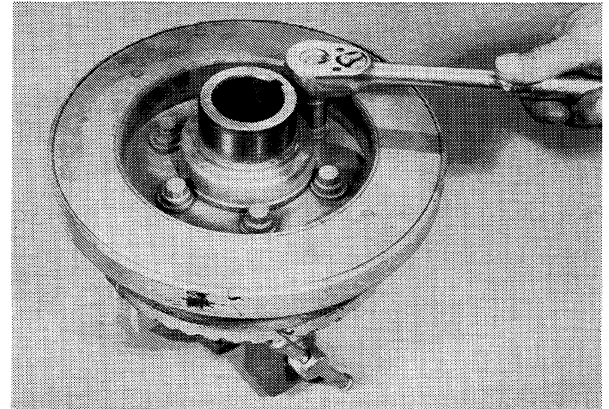
IMPORTANT: Use a puller with bolts to remove the pulley. Do not pull or hit the pulley or the viscous damper. Serious damage to the pulley, damper and the rubber sleeve in the pulley can result.

STEP 5

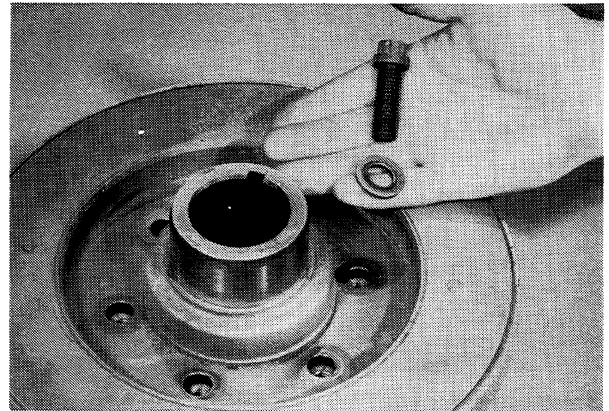
Remove the pulley.

STEP 6

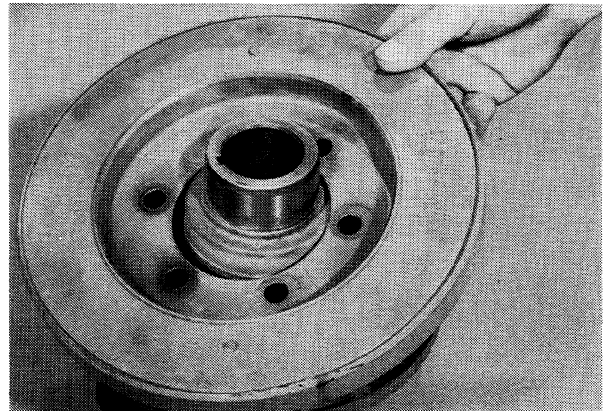
Do not lose the pulley retaining key.

STEP 7

Leave the puller on the pulley and put the puller in a vise. Loosen the bolts that hold the damper (if equipped) to the pulley.

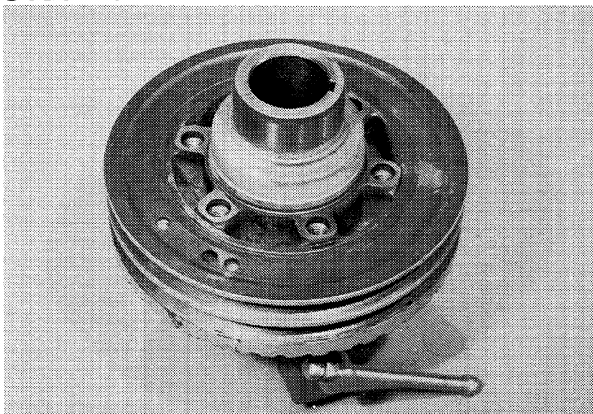
STEP 8

Remove the bolts and the washers.

STEP 9

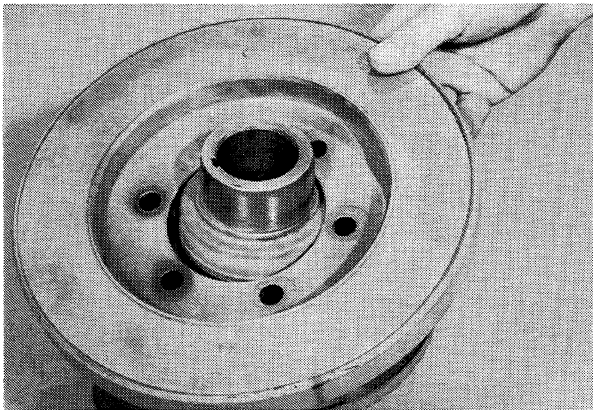
Remove the damper.

STEP 10



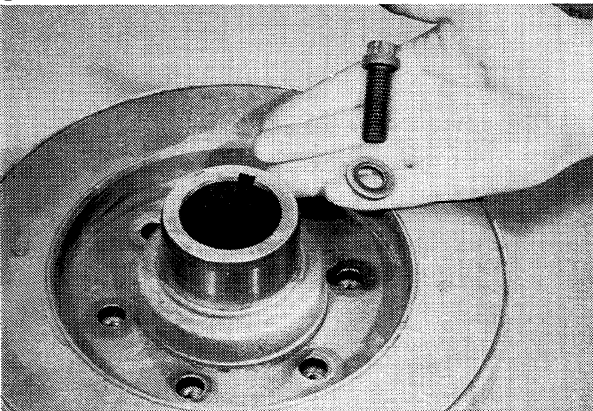
Fasten the puller to the front side of a new pulley and put the puller in a vise.

STEP 11



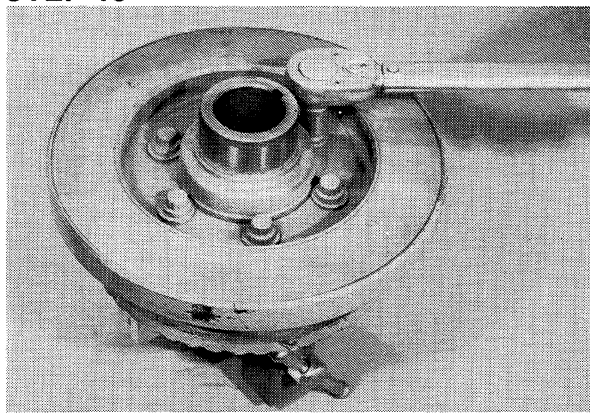
Install the damper to the pulley. The flat side of the damper is against the pulley.

STEP 12



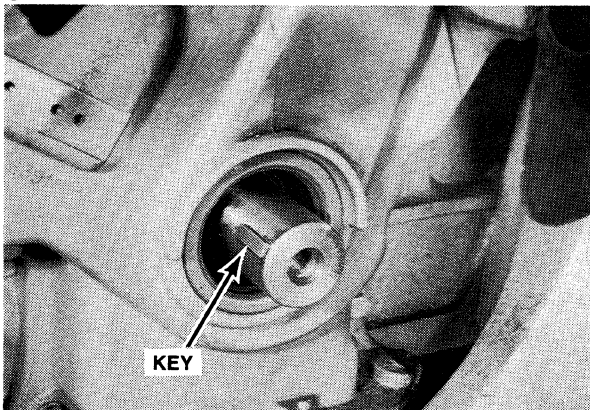
Install the bolts and new hardened washers.

STEP 13



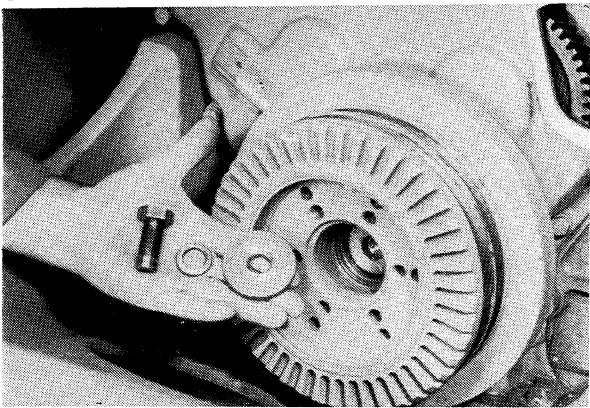
Tighten the bolts to a torque of 110 to 132 ft. lbs. (149 to 179 Nm)(14.9 to 17.9 kgm). Remove the puller.

STEP 14



Replace the key if the key shows damage.

STEP 15



Install the pulley to the crankshaft. Install the bolt, lockwasher and retaining washer.

NOTE: The hub side of the pulley must be put against the engine. Align the crankshaft key with the slot in the pulley.

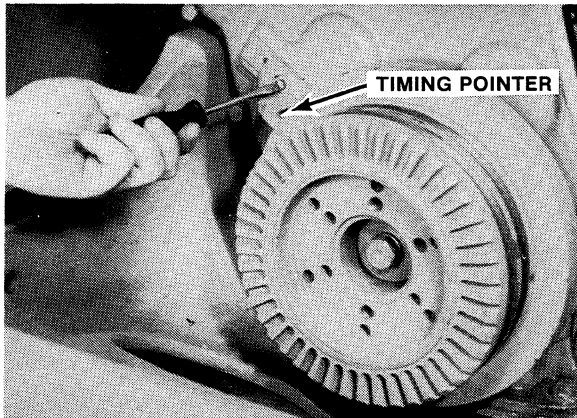


Suggest:

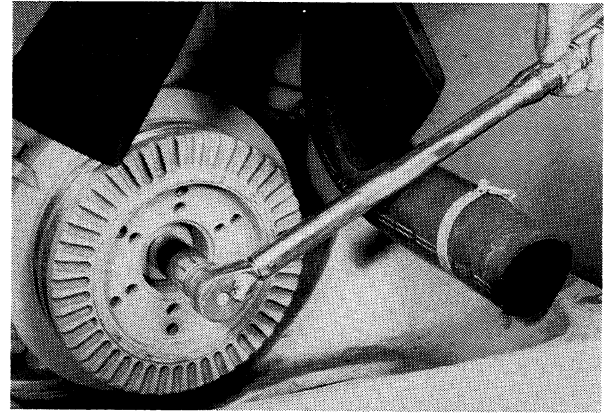
If the above button click is invalid.

Please download this document first, and then click the above link to download the complete manual.

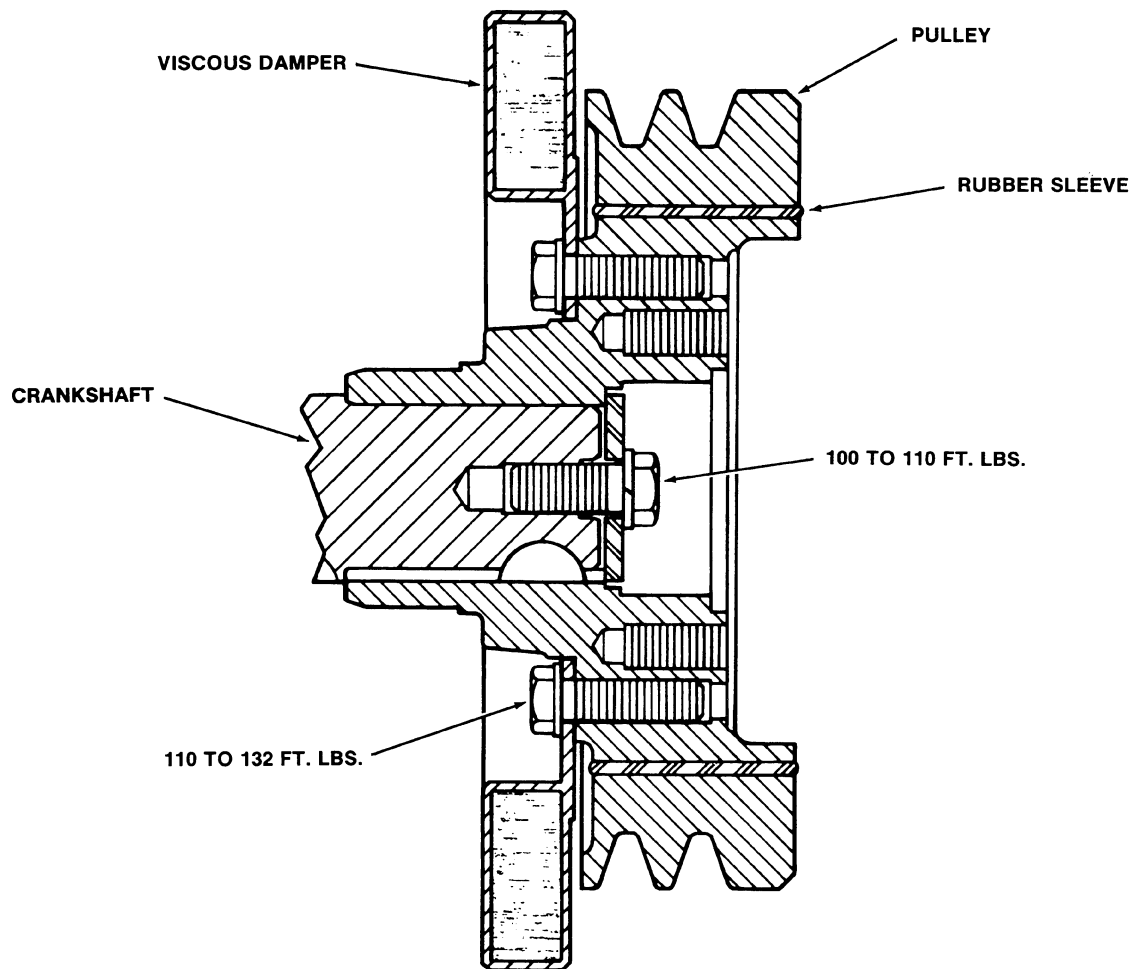
Thank you so much for reading

STEP 16

Install the timing pointer.

STEP 17

Tighten the bolt to a torque of 100 to 110 ft. lbs. (136 to 149 Nm)(13.6 to 14.9 kgm).



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