

1822, 1844, 2022, 2044 and 2055 Cotton Picker
Service Manual

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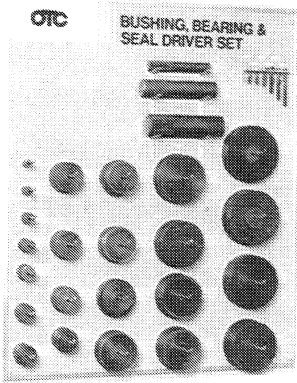
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SPECIAL TOOLS



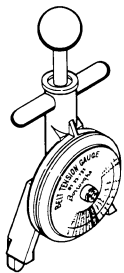
CAS-10387 BUSHING BEARING AND SEAL DRIVER SET



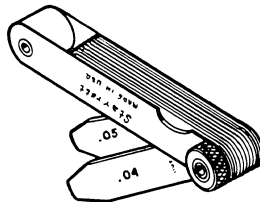
CAS-10389 UNIVERSAL DRIVER SET
(3-1/16 TO 4-1/2 INCH DIAMETER)



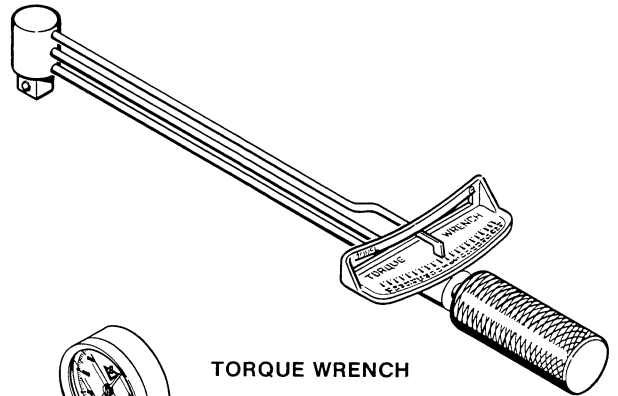
CAS-10388 UNIVERSAL DRIVER SET
(1/2 TO 4-1/2 INCH DIAMETER)



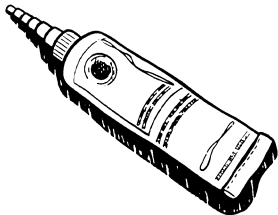
BELT TENSION GAUGE



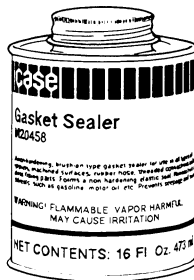
FEELER GAUGE



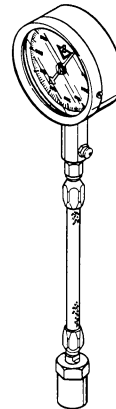
TORQUE WRENCH



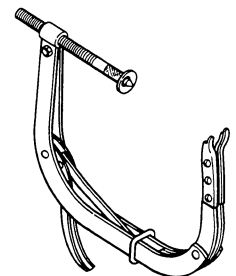
RTV LIQUID GASKET
(CASE PART NUMBER 345-61)



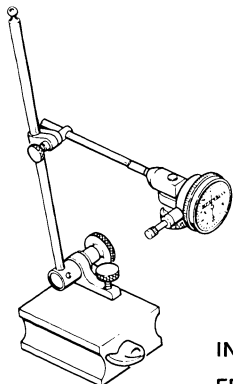
BLACK PERMATEX NUMBER 2
CASE PART NUMBER M20458



COMPRESSION GAUGE (FES-13-1)



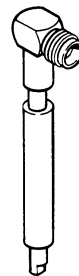
VALVE SPRING COMPRESSOR (CAS-1747)



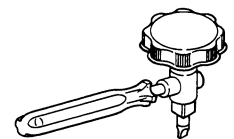
DIAL INDICATOR



INSTALLATION TOOL FOR CRANKSHAFT FRONT WEAR SLEEVE (IH-04-3004)



COMPRESSION TEST ADAPTER (FES-14-16)



TAPPET ADJUSTMENT TOOL

SPECIFICATIONS

	U.S. Value	Metric Value
Maximum Crankshaft Damper Pulley Cavity Depth	0.12 inch	3.00 mm
Timing Marks On The Crankshaft Pulley Hub And Inertia Member Of The Damper Must Be Aligned Within	0.060 inch	1.524 mm
Run-Out On Front Face Of The Damper Inertia Member	0.060 inch	1.524 mm
Rocker Arm To Valve Clearance:		
Intake Valves (Cold)	0.025 inch	0.635 mm
Exhaust Valves (Cold)	0.025 inch	0.635 mm
Engine Compression	335 to 365 PSI	2 310 to 2 517 kPa (23.10 to 25.17 bar)
Maximum Opening Pressure Variation Between Each Cylinder	150 PSI	1 034 kPa (10.34 bar)
Fuel Injection Pump Static Timing		
DT-466C (1844 Cotton Picker)	25 degrees BTC	
D-466 (1640 Combine)	12 degrees BTC	
DT-466B (1660 Combine)	15 degrees BTC	
DTI-466C (1680 Combine)	25 degrees BTC	
Fan Belt Deflection (Cooling System) From:		
A 25 lb (111 N) Force	(1844 Cotton Picker) 13/16 inch (1640, 1660 and 1680 Combine) 1/2 inch	21 mm 13 mm
A Belt Tension Gauge	60 to 85 lbs	267 to 378 N
Compressor Belt Deflection (Air Conditioner) From:		
A 25 lb (111 N) Force	(1844 Cotton Picker) 15/32 inch (1640, 1660 and 1680 Combine) 1/2 inch	11.9 mm 13 mm
A Belt Tension Gauge	60 to 85 lbs	267 to 378 N
Low Idle Engine RPM	*950 to 1050 RPM	
High Idle Engine RPM	*2690 to 2770 RPM	
Rated Load Engine RPM	*2500 RPM	
Overload Engine RPM	*2000 RPM	

* Speeds are after engine is operated for 15 minutes minimum.

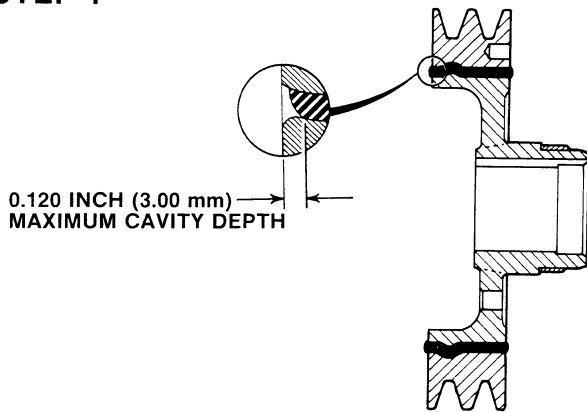
SPECIAL TORQUES

	U.S. Value	Metric Value
Oil Pump Housing Bolts	24 to 29 lb ft	33 to 39 Nm (3.3 to 3.9 kgm)
Crankshaft Pulley Bolts	110 to 132 lb ft	149 to 172 Nm (14.9 to 17.2 kgm)
Crankshaft Pulley Seal Plate Bolts	45 to 54 lb ft	61 to 73 Nm (6.1 to 7.3 kgm)
Cylinder Head Bolts	165 lb ft	225 Nm (22.5 kgm)
Valve Cover Bolts	24 to 29 lb ft	33 to 39 Nm (3.3 to 3.9 kgm)
Injection Fuel Pump Drive Gear Access Cover	24 to 29 lb ft	33 to 39 Nm (3.3 to 3.9 kgm)

ENGINE TUNE-UP PROCEDURE

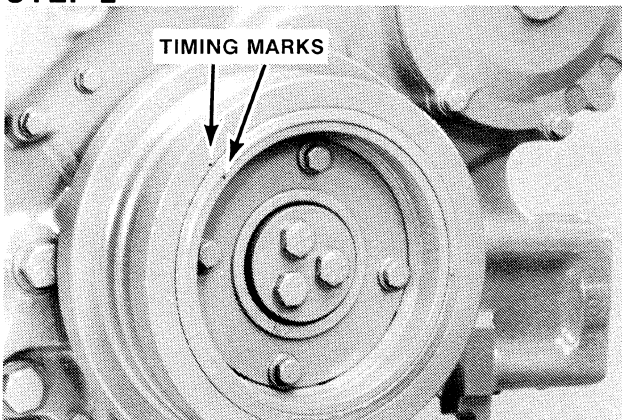
Checking The Crankshaft Damper Pulley

STEP 1



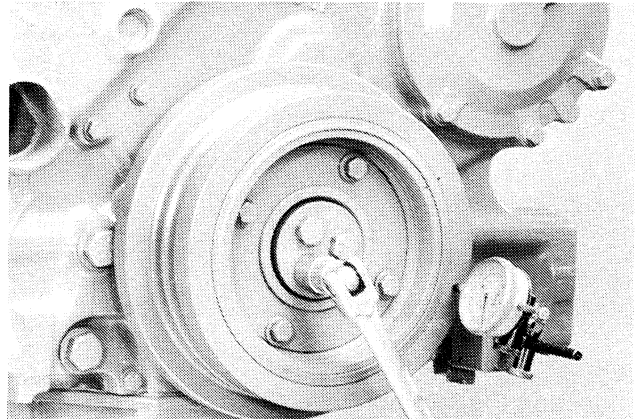
The damper must be replaced if the cavity depth in the inner or outer diameter of the rubber member is 0.120 inch (3.00 mm) or more through 360 degrees. The cavity in the rubber member is caused by rubber becoming loose and falling off.

STEP 2



The timing marks on the hub and inertia member of the damper must be aligned within 0.060 inch (1.524 mm). Replace the damper if the timing marks are not aligned within 0.060 inch (1.524 mm).

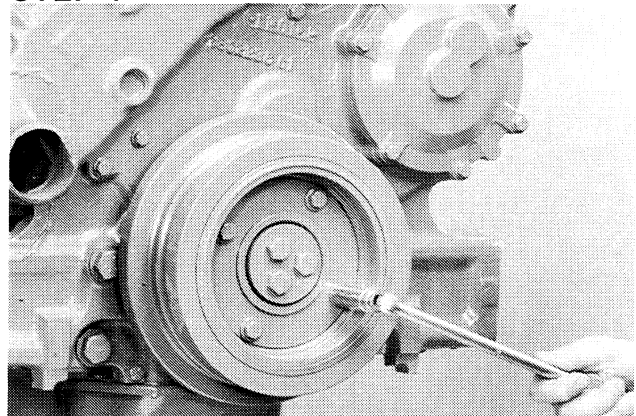
STEP 3



Use a dial indicator to measure the run-out on the front face of the inertia member. Measure the run-out at four different positions, 90 degrees apart. Replace the damper if the run-out is more than 0.060 inch (1.524 mm).

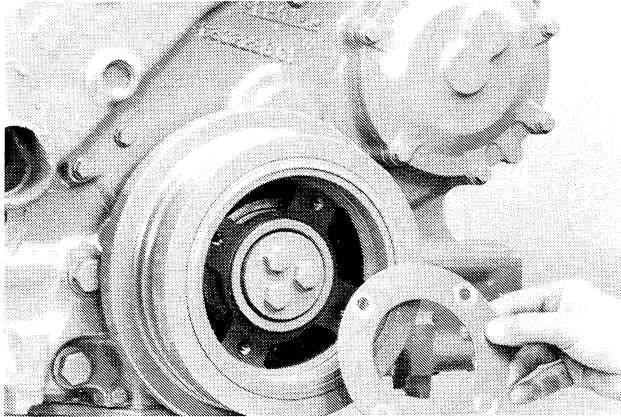
NOTE: Replace the damper if the inertia member of the damper touches the crankshaft pulley at any point.

STEP 4



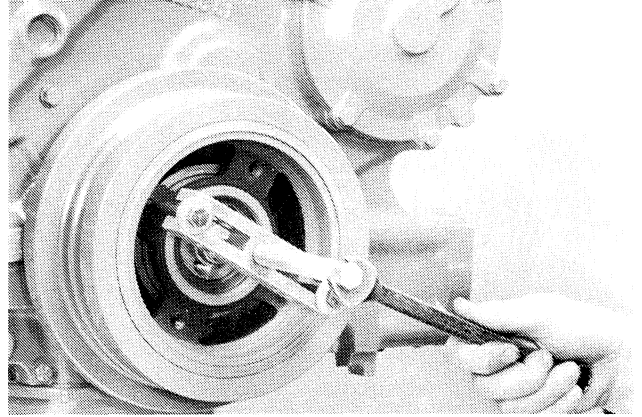
Remove the bolts from the seal plate that is on the engine vibration damper pulley.

STEP 5



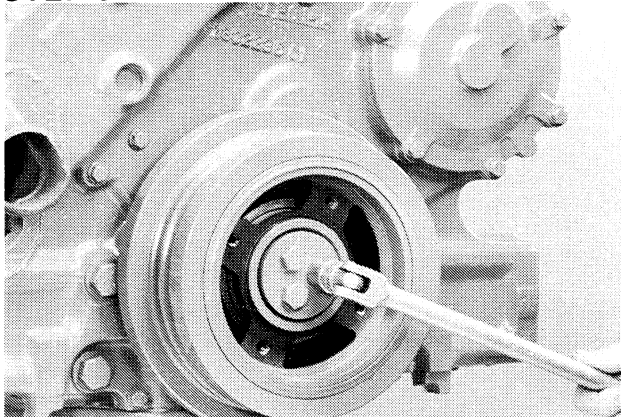
Remove the seal plate.

STEP 8



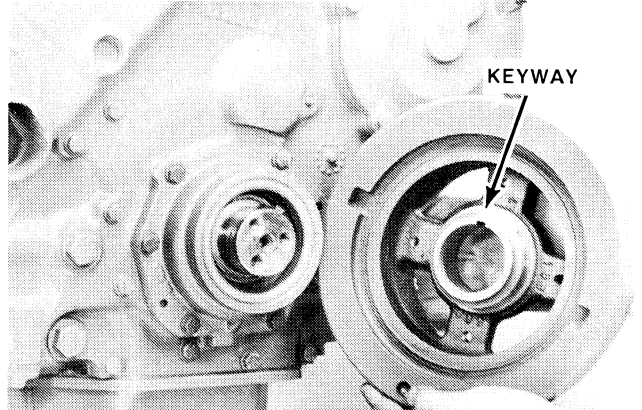
Use a suitable puller to remove the damper pulley.

STEP 6



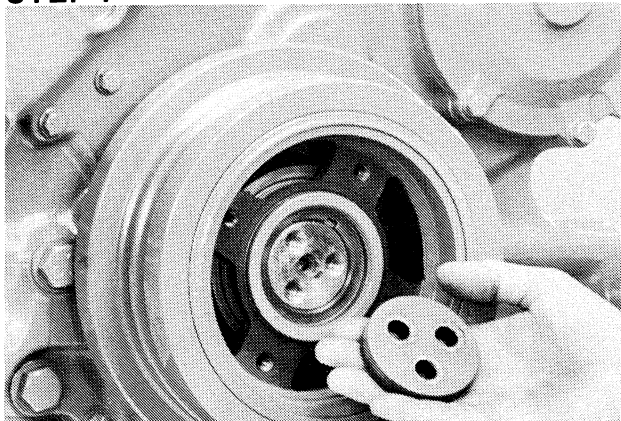
Remove the bolts from the damper retaining plate.

STEP 9



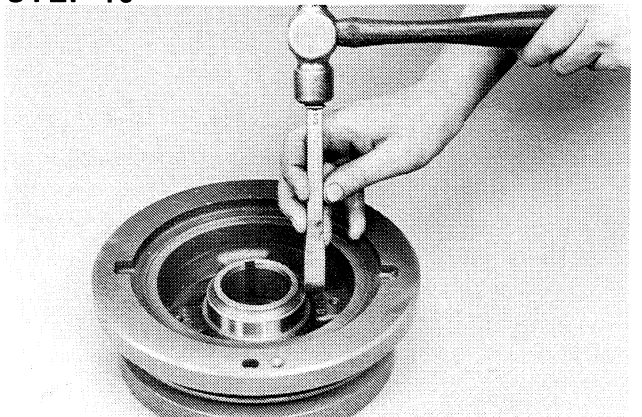
Inspect the keyway in the damper pulley to make certain that the hub is not cracked from pulley assembly over the key that is not correct. A crack in the hub will cause a distortion in the seal wear ring and a leak in the seal. Replace the damper if there are cracks in the hub.

STEP 7



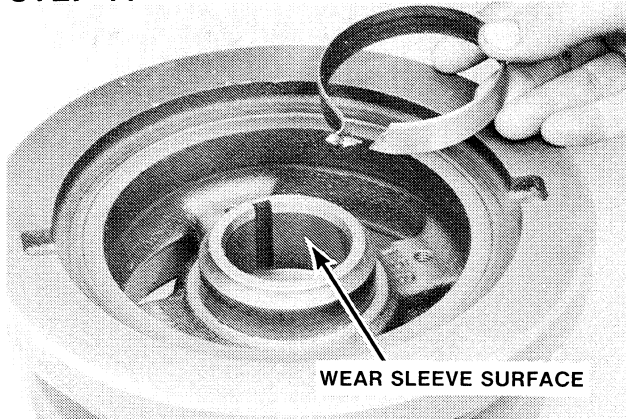
Remove the retaining plate.

STEP 10



Remove the seal wear ring in the damper pulley if there are signs of distortion and scratches on the damper pulley. Use a chisel to cut through the wear ring. Be careful not to damage the damper hub.

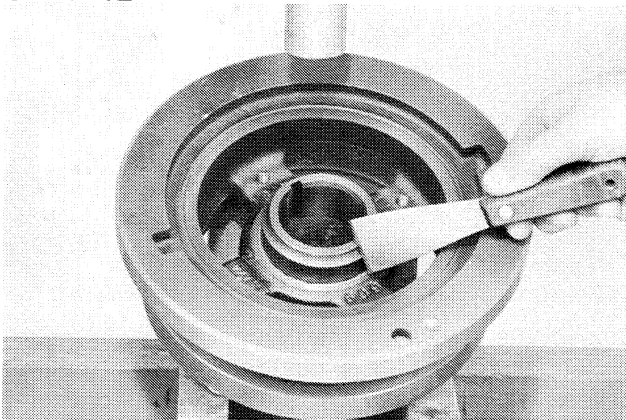
STEP 11



Remove the wear sleeve.

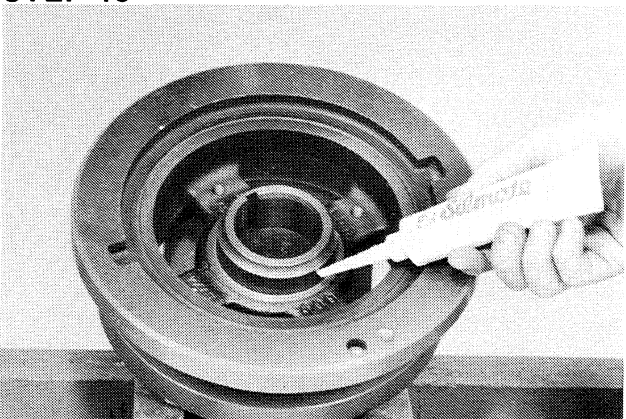
NOTE: Remove scratches from the wear sleeve surface of the hub.

STEP 12



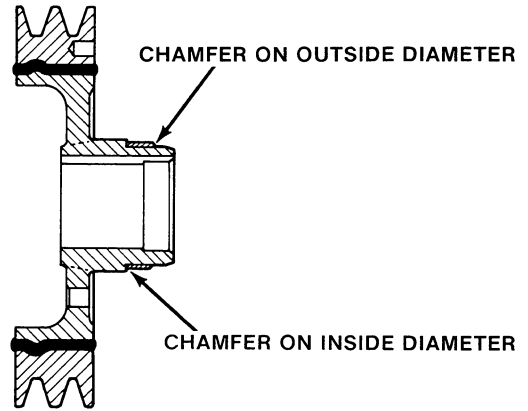
Remove all foreign material from the wear sleeve surface.

STEP 13



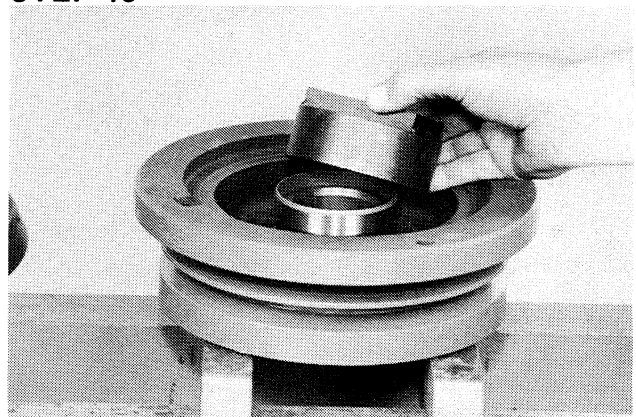
Apply a small bead of RTV liquid gasket (IH 446-839-C1)(Case 345-61) to the circumference of the wear sleeve contact area.

STEP 14

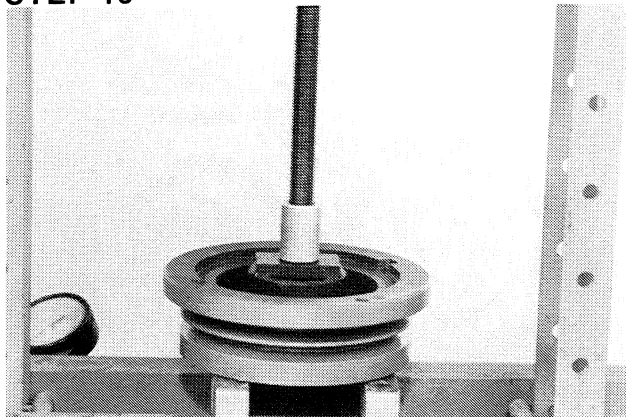


Position the new wear sleeve with the end having the chamfer on the inside diameter over the pulley hub. The end of the wear sleeve having the chamfer on the outside diameter must engage the installation tool.

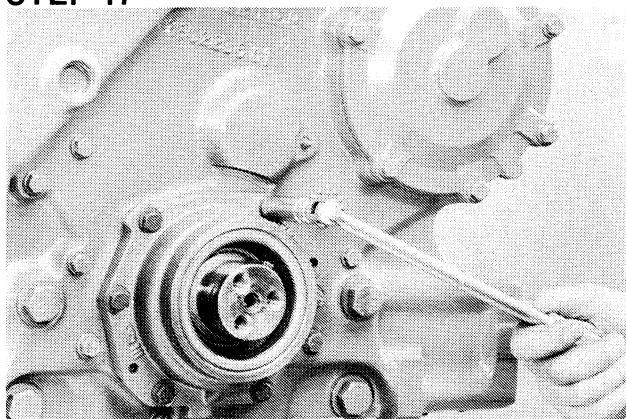
STEP 15



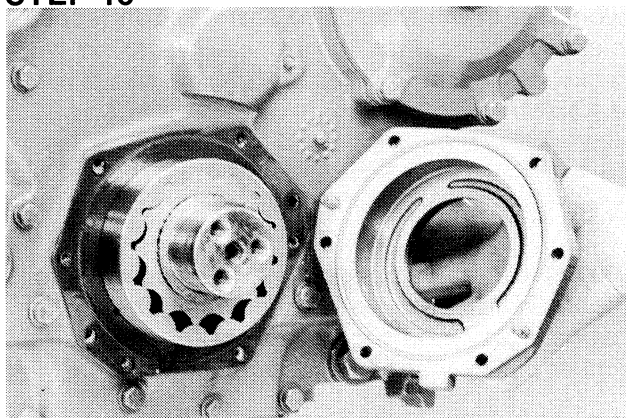
Install the wear sleeve installation tool (IH-04-3004) on the wear sleeve.

STEP 16

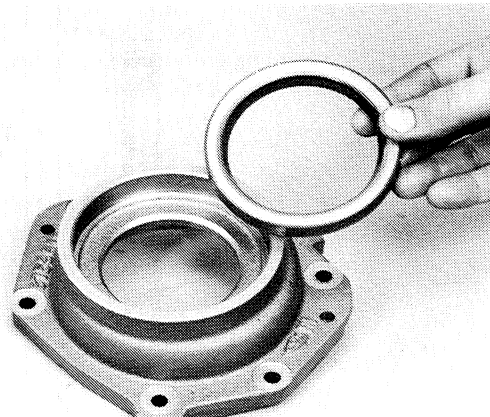
Press the wear sleeve on the hub until the sleeve hits the shoulder in the hub.

STEP 17

Remove the bolts from the lubricating oil pump housing.

STEP 18

Remove the pump housing.

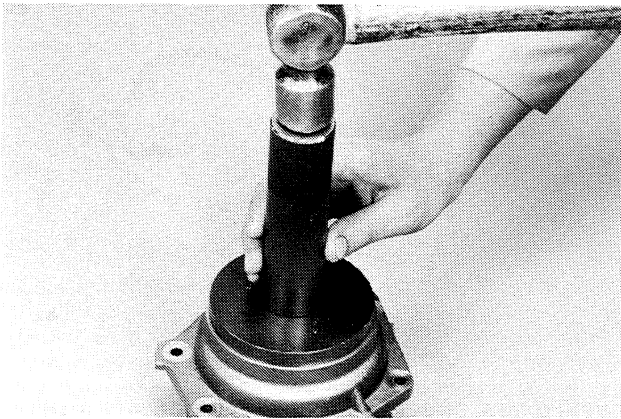
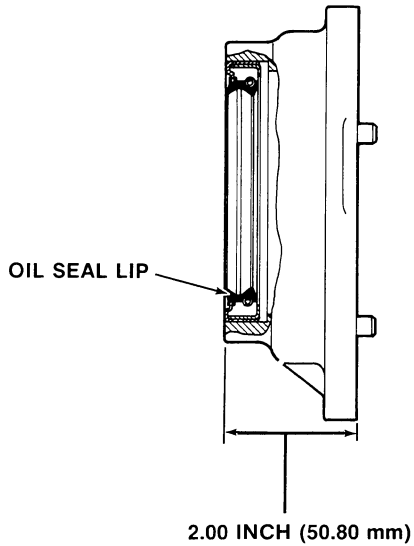
STEP 19

Remove the oil seal from the pump housing.

STEP 20

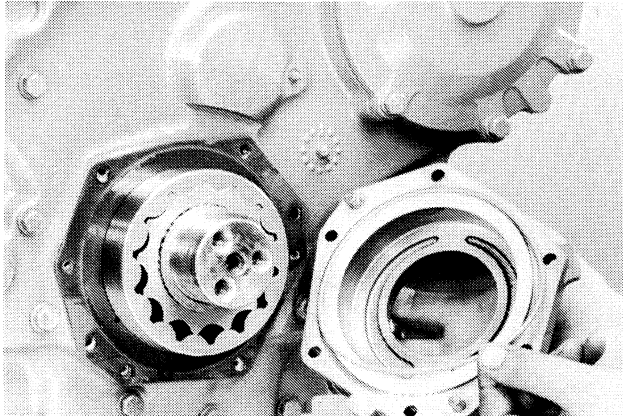
Install a new oil seal into the pump housing. Apply RTV liquid gasket (IH-446-839-C1)(Case 345-61) to the outside diameter of the oil seal. The lip of the oil seal must be toward the inside of the pump housing.

STEP 21



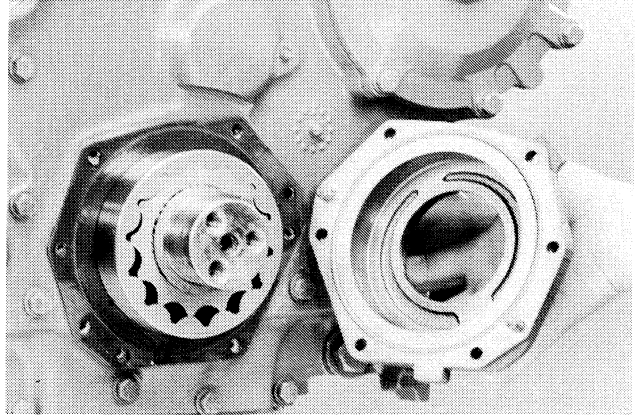
Use a driver (OTC-27553) and handle (OTC-27489) to press the oil seal into the pump housing to the dimension shown.

STEP 22



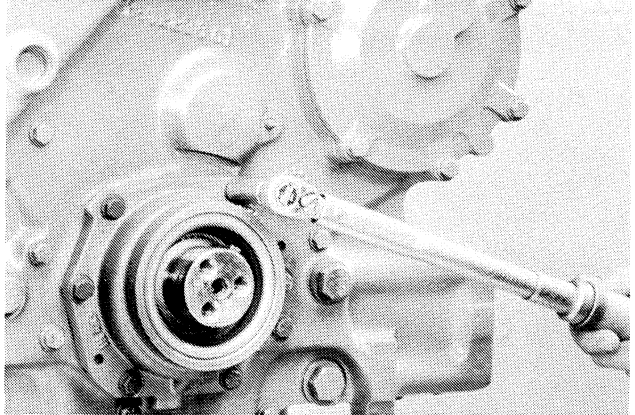
Install a new o-ring into the pump housing.

STEP 23



Install the pump housing to the front cover.

STEP 24



Install new bolts into the pump housing and tighten the bolts to a torque of 24 to 29 lb ft (33 to 39 Nm) (3.3 to 3.9 kgm).

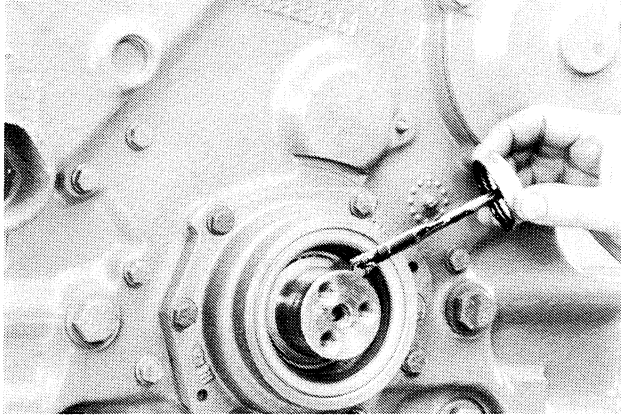
NOTE: Be careful not to mix the six pump housing bolts with any other bolts. These six bolts have a nylon seal in the threads to seal through tapped holes which go into the oil cavity behind the crankcase front cover. Replace these six bolts with new bolts.

STEP 25

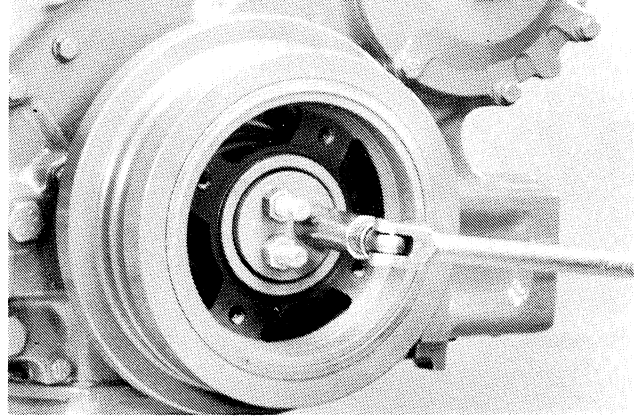
NOTE: Heat the damper pulley in boiling water for a period not to be more than one hour. The rubber member can be damaged. Do not try to install a damper pulley that has not been heated.



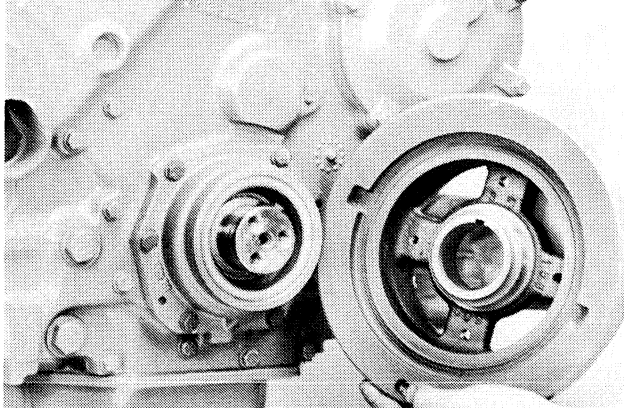
CAUTION Always wear heat protective gloves to prevent burning your hands when handling heated parts.

STEP 26

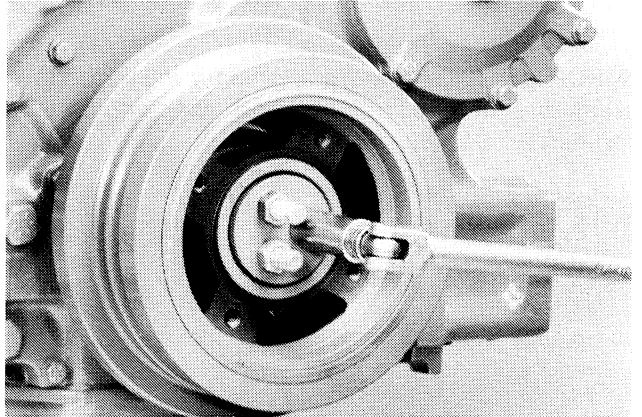
Apply a small amount of black Permatex Number 2 (Case Part Number M20458) to the key in the crankshaft and keyway in the damper hub.

STEP 29

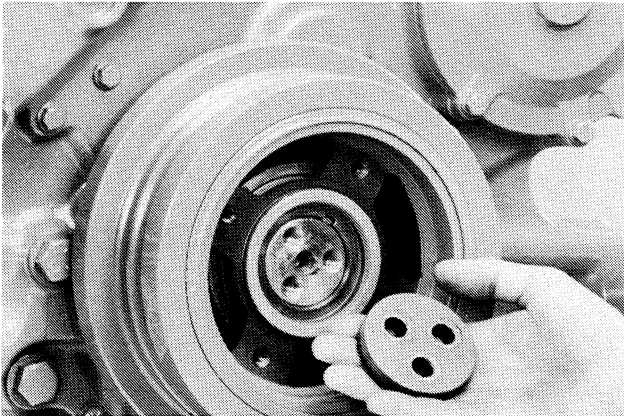
Install three studs through the retaining plate and into the crankshaft. Install nuts on the studs.

STEP 27

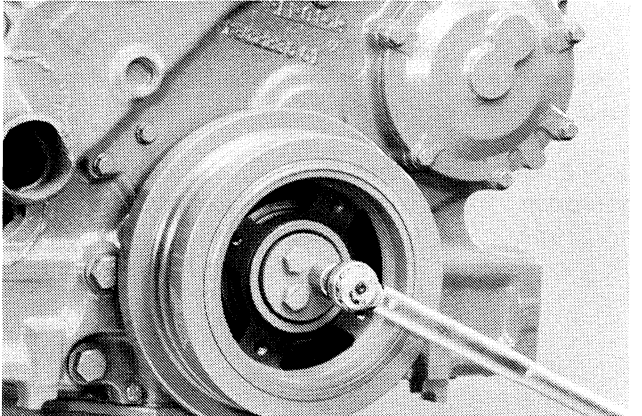
Install the damper pulley by aligning the key and keyway. Push the damper pulley on the crankshaft.

STEP 30

Tighten the nuts alternately to push the damper pulley on the crankshaft.

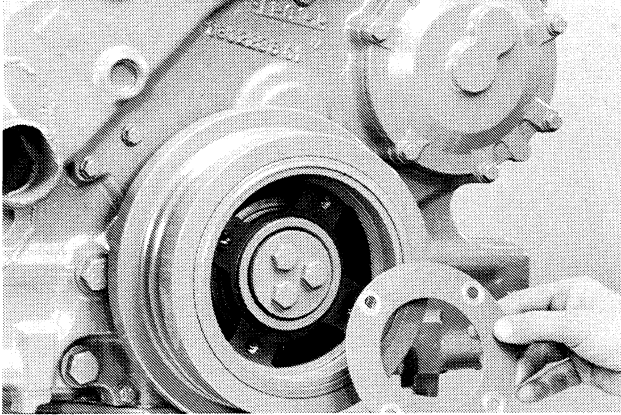
STEP 28

Install the damper pulley retaining plate into the damper pulley.

STEP 31

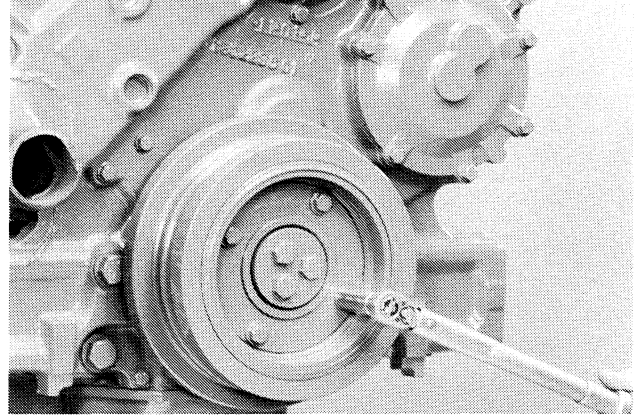
Remove the nuts and studs. Install the retaining plate bolts and tighten the bolts to a torque of 110 to 132 lb ft (149 to 179 Nm)(14.9 to 17.9 kgm). Prevent the engine from turning when tightening the bolts.

STEP 32



Install the seal plate.

STEP 33

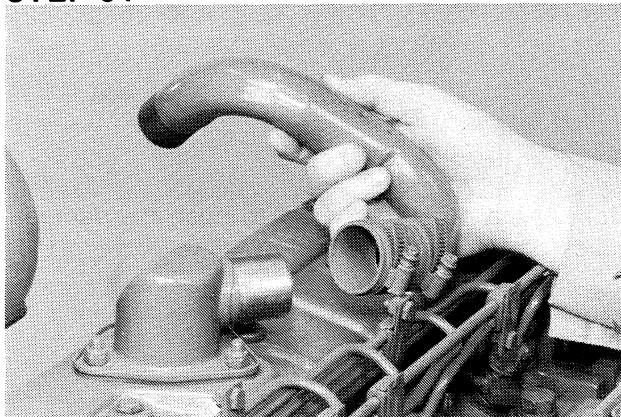


Install the seal plate bolts and tighten the bolts to a torque of 48 to 57 Nm (4.8 to 5.7 kgm) (35 to 42 lb ft).

Checking Piston Top Center

IMPORTANT: Check the alignment marks on the crankshaft damper pulley before checking piston top center. See Step 2.

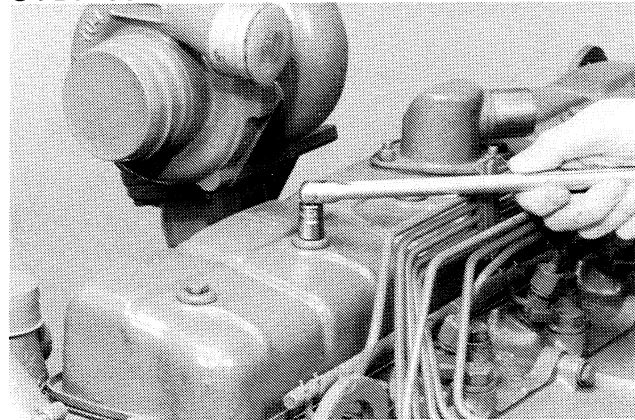
STEP 34



Remove the engine breather tube from the engine valve cover, if equipped.

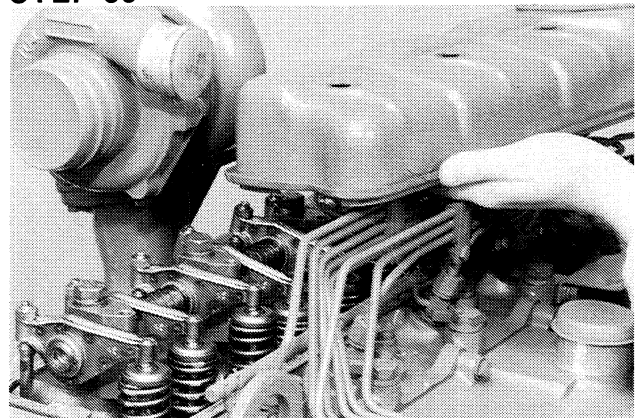
NOTE: The turbocharger air cross over tube, if equipped, has been removed for photographic purposes.

STEP 35



Remove the bolts from the valve cover.

STEP 36



Remove the valve cover.



Suggest:

If the above button click is invalid.

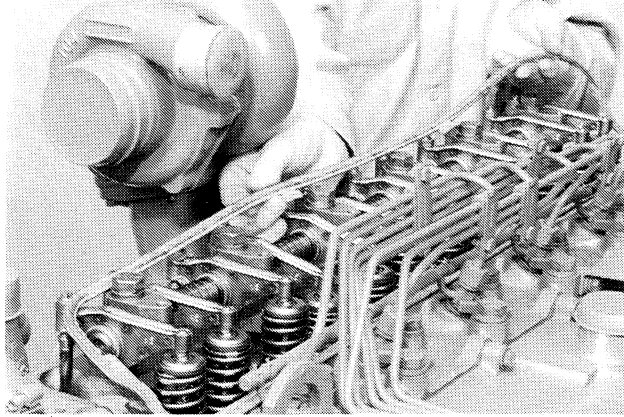
Please download this document

first, and then click the above link

to download the complete manual.

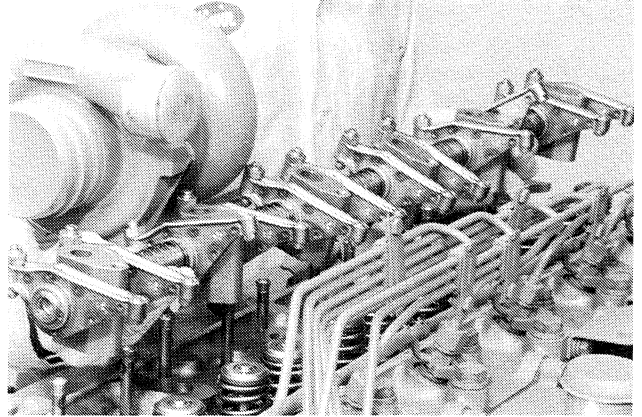
Thank you so much for reading

STEP 37



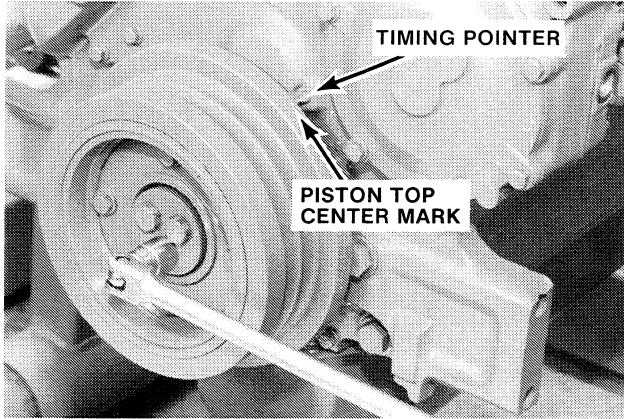
Remove the gasket.

STEP 40



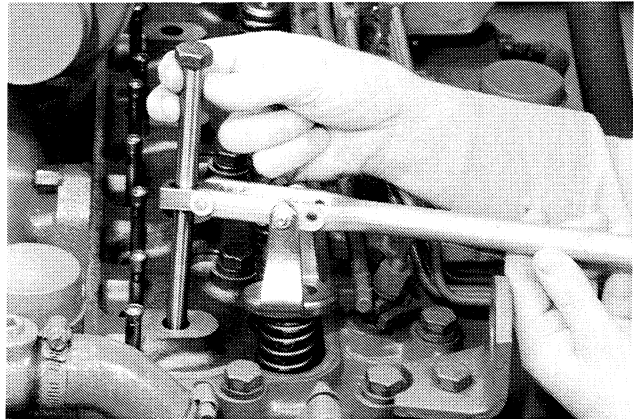
Remove the rocker arm assembly.

STEP 38



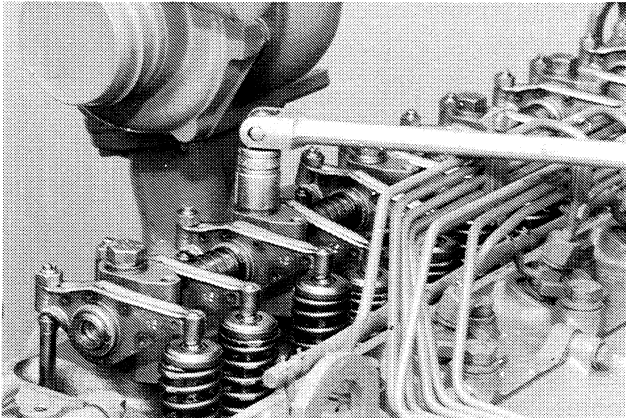
Turn the engine over until the piston top center mark on the crankshaft damper pulley is aligned with the timing pointer.

STEP 41



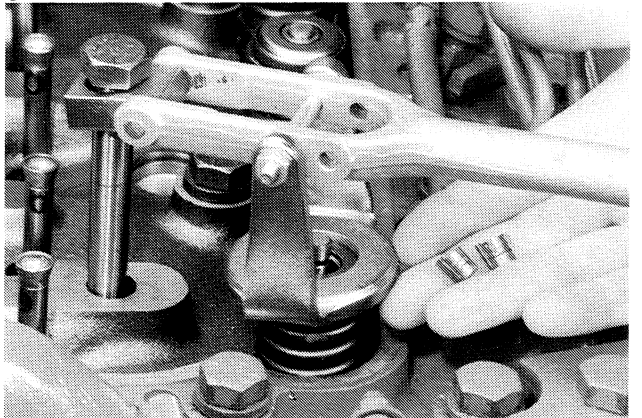
Use a spring compressor (CAS-1747) and one of the rocker arm assembly bolts to compress the number one intake valve spring.

STEP 39



Remove the bolts from the rocker arm assembly.

STEP 42



Compress the valve spring and remove the valve keepers.

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