

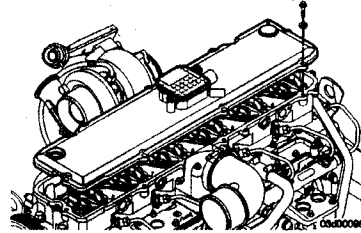
## Preparatory Steps

Remove the crankcase breather tube, rocker lever cover mounted breather **only**.

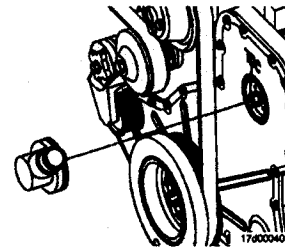
Remove the capscrews.

Remove the rocker lever cover and gasket.

**Note :** Rocker lever cover configurations will be different based upon if the cover is center-bolted or perimeter bolted. The rocker lever cover can also be taller if the engine is equipped with engine brakes.



Remove the plastic fuel pump drive cover located on the front of the engine.

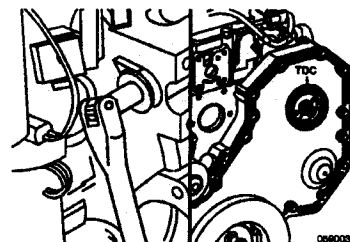


## Adjust

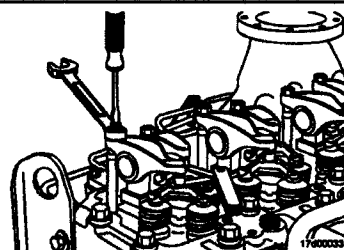
### ⚠ CAUTION ⚠

**Engine coolant temperature should be less than 60°C [140°F].**

Use barring tool, Part Number 3824591, or equivalent, and rotate the crankshaft to align the Top Dead Center (TDC) marks on the gear cover and the fuel pump gear.



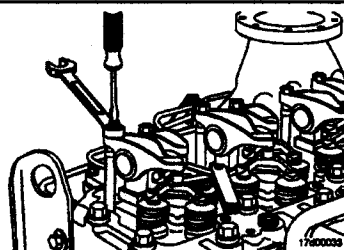
With the engine in this position, lash can be checked on the following rocker arms: 1I, 1E, 2I, 3E, 4I, and 5E.



Lash Check Limits			
	mm		in
Intake	0.152	MIN	0.006
	0.559	MAX	0.022
Exhaust	0.381	MIN	0.015
	0.813	MAX	0.032

**Note :** Lash checks are performed as part of a troubleshooting procedure, and resetting is **not** required during checks as long as the lash measurements are within the above limits.

Measure lash by inserting a feeler gauge between the crosshead and the rocker lever ball insert and socket while lifting up on the end of the rocker arm. If the lash measurement is out of specification, loosen the locknut and adjust the lash to the nominal specification.



Lash Reset Specifications			
	mm		in
Intake	0.305	NOM	0.012
Exhaust	0.559	NOM	0.022

**Note :** Lash resets are **only** required at the interval specified in the Maintenance Schedule, when lash is measured and found out of specification, or when engine repairs cause removal of the rocker arms and/or loosening of the adjusting screws.

Tighten the locknut and measure again.

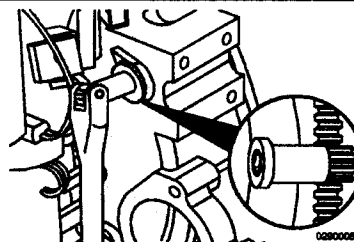
**Torque Value:** 24 n·m [ 212 in-lb ]

Install the nut cap on the exhaust adjusting screws for engine brakes, if applicable.

**Torque Value:** 24 n·m [ 212 in-lb ]

Use the barring tool, Part Number 3824591, or equivalent, and rotate the crankshaft 360 degrees and measure lash for rocker arms 2E, 3I, 4E, 5I, 6I, and 6E.

Reset the lash, if out of specification.

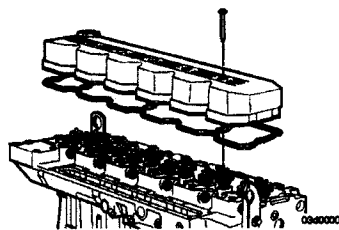


## Finishing Steps

### Center Bolted Rocker Lever Cover

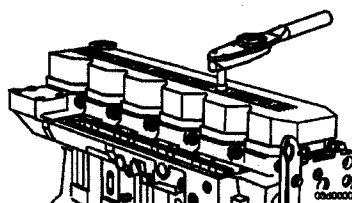
Place the gasket on the cylinder head. Be sure the gasket is properly aligned around the cylinder head capscrews.

Install the rocker lever cover and capscrews.



Tighten the capscrews.

**Torque Value:** 12 n·m [ 106 in-lb ]

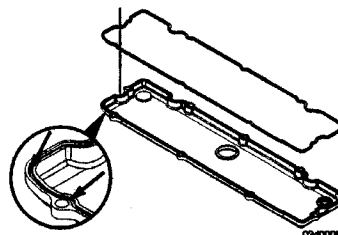


### Perimeter Bolted Rocker Lever Cover

**Note :** If the gasket has been removed from the rocker lever cover, a new gasket **must** be used.

The following installation procedure **must** be used when installing the press-in gasket.

1. Press the molded gasket into the corners of the rocker lever cover.
2. Press the gasket around the capscrew mounting holes.
3. Press the remaining gasket into the rocker lever cover.



Install the rocker lever cover and capscrews.

**Torque Value:** 12 n·m [ 106 in-lb ]

Install the crankcase breather tube, rocker lever cover mounted breather **only**.

