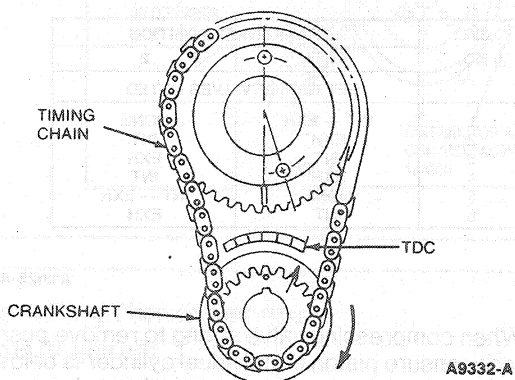


## ADJUSTMENTS (Continued)

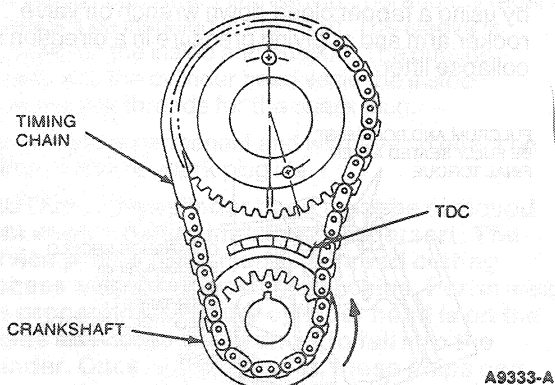
**Timing Chain Deflection****Tools Required:**

- Rotunda Dial Indicator with Bracketry 014-00282

1. Remove the RH valve rocker arm cover as outlined.
2. Loosen the No. 3 exhaust rocker arm and rotate to one side.
3. Install Rotunda Dial Indicator with Bracketry 014-00282 on the end of the push rod.  
NOTE: Timing chain and sprockets must be removed before tensioner.
4. Remove timing chain and tensioner assembly as outlined.
5. Turn the crankshaft clockwise until No. 1 piston is at TDC. The damper timing mark should point to TDC on the timing degree indicator. This will also take up the slack on the RH side of the chain.



6. Zero the dial indicator.
7. Slowly turn the crankshaft counterclockwise until the slightest movement is seen on the dial indicator. Stop, and observe the damper timing mark for the number of degrees of travel from TDC.



8. If the reading on the timing degree indicator exceeds 6 degrees, replace the timing chain and sprockets.

**Crankshaft End Play Check****Tools Required:**

- Rotunda Dial Indicator with Bracketry 014-00282
1. Force crankshaft toward rear of cylinder block.
  2. Install Rotunda Dial Indicator with Bracketry 014-00282 or equivalent so that the contact point rests against crankshaft flange and indicator is parallel to crankshaft axis.
  3. Zero dial indicator. Pry crankshaft forward and note reading on dial.
  4. If end play exceeds specification, replace thrust bearing.  
If end play is less than specification, inspect thrust bearing surfaces for scratches, burrs, nicks or dirt.
  5. Recheck end play.

**Balance Shaft End Play Check****Tools Required:**

- Rotunda Dial Indicator with Bracketry 014-00282
1. Force the balance shaft to the rear of the cylinder block.
  2. Install Rotunda Dial Indicator with Bracketry 014-00282 or equivalent so that the contact point rests against the front of the balance and the indicator parallel to the balance shaft axis.
  3. Zero the dial indicator. Pry the balance shaft forward and note the reading on the dial.
  4. If end play exceeds specification, remove the balance shaft gear and replace the thrust plate. If end play is less than specification, check the thrust plate and balance shaft for scratches, burrs, nicks or dirt.
  5. Recheck the end play.

**Connecting Rod Side Clearance Check****Tools Required:**

- Rotunda Dial Indicator with Bracketry 014-00282
1. Install Rotunda Dial Indicator with Bracketry 014-00282 or equivalent so that the contact point rests against the connecting rod cap.
  2. Pull cap toward front of engine and zero the dial indicator.
  3. Push cap toward rear of engine and observe amount of side clearance on dial indicator.
  4. If side clearance exceeds specification, replace connecting rod and cap.  
If side clearance is less than specification, remove rod and cap and inspect for scratches, burrs, nicks or dirt between crankshaft and connecting rod.