


Camshaft Position (CMP) Sensor**SPECIAL SERVICE TOOL(S) REQUIRED**

Description	Tool Number
Syncro Positioning Tool—3.0L (Early Build)	T95T-12200-A
Syncro Positioning Tool—3.0L (2-Pin Cam Position Sensors) (Late Build)	303-589
Syncro Positioning Tool—3.8L	303-562 (T96T-12200-A)


 **CAUTION:** Prior to removal of the camshaft position sensor (CMP sensor) (12126), set cylinder No.1 to zero degrees top dead center (TDC) of compression stroke. Then note the position of the camshaft position sensor electrical connector. The installation procedure requires the connector be located in the same position.

Removal

1. Disconnect battery ground cable (14301). Refer to [Section 14-01](#).
2. Disconnect fuel charging wiring connector from camshaft position sensor.
3. Remove camshaft position sensor retaining screws and camshaft position sensor from camshaft position sensor housing.
4. If removing camshaft position sensor housing from the cylinder block (6010), proceed with Removal Step 5. If not removing camshaft position sensor housing, proceed to Step 6 of the installation procedures.
5. Remove hold-down clamp (12270) (bolt and washer assembly).
6. **NOTE: Remove the oil pump intermediate shaft (6A618) with the camshaft position sensor housing.**


Remove camshaft position sensor housing from cylinder block.

Installation

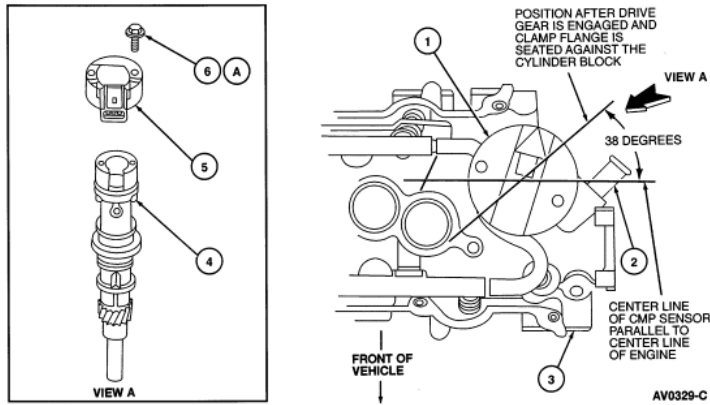
1.  **CAUTION:** If the replacement camshaft position sensor housing does not contain a plastic locator cover tool, a special service tool must be obtained prior to installation of the replacement camshaft position sensor. Failure to follow this procedure will result in improper camshaft position sensor alignment. This will result in the ignition fuel system being out of time with the engine, possibly causing engine damage.

NOTE: For 3.0L engines, use Syncro Positioning Tool 303-589. For 3.8L engines, use Syncro Positioning Tool 303-562 (T96T-12200-A).

If the plastic locator cover tool is not attached to the replacement camshaft position sensor housing, attach syncro positioning tool as follows:

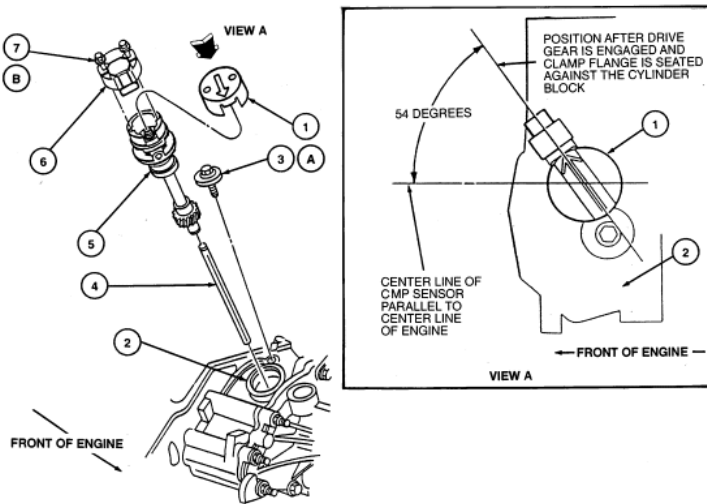
- a. Engage camshaft position sensor housing vane into the radial slot of the tool.
 - b. Rotate tool on camshaft position sensor housing until tool boss engages notch in camshaft position sensor housing.
2. Transfer oil pump intermediate shaft from old camshaft position sensor housing to replacement camshaft position sensor housing.
 3. Install camshaft position sensor housing so drive gear engagement occurs when arrow on syncro positioning tool is pointed approximately as shown in the illustrations. This step will locate camshaft position sensor electrical connector in the pre-removal position.
 4. Install hold-down clamp (washer and bolt assembly) and tighten bolt to 20-30 Nm (15-22 lb-ft).
 5. Remove syncro positioning tool.
 6.  **CAUTION:** If camshaft position sensor electrical connector is not positioned properly, DO NOT reposition the connector by rotating the camshaft position sensor housing. This will result in the fuel system being out of time with the engine, possibly causing engine damage. Remove the camshaft position sensor housing and repeat installation procedure, beginning with Step 1.
- Install camshaft position sensor and retaining screws. On 3.0L engine, tighten screws to 2.5-3.5 Nm (23-30 lb-in). On 3.8L engine, tighten screws to 4.5-7 Nm (40-61 lb-in).
7. Connect fuel charging wiring connector to camshaft position sensor.
 8. Connect battery ground cable. Refer to [Section 14-01](#).

Camshaft Position Sensor—3.0L Engine



Item	Part Number	Description
1	T95T-12200-A	Syncro Positioning Tool
2	□	Fitting (Part of 9424)
3	9424	Intake Manifold
4	□	Camshaft Position Sensor Housing (Part of 12126)
5	6B288	Camshaft Position Sensor (2-Wire Variable Reluctance)
6	N602704-S	Screw (2 Req'd)
A	□	Tighten to 2.5-3.5 Nm (23-30 Lb-In)

Camshaft Position Sensor—3.8L Engine



Item	Part Number	Description
1	303-562 (T96T-12200-A)	Syncro Positioning Tool
2	6019	Engine Front Cover
3	12270	Hold-Down Clamp
4	6A618	Oil Pump Intermediate Shaft
5	□	Camshaft Positioning Sensor Housing (Part of 12126)
6	12126	Camshaft Position Sensor
7	N602704-S	Screw (2 Req'd)
A	□	Tighten to 20-30 Nm (15-22 Lb-Ft)
B	□	Tighten to 4.5-7 Nm (40-61 Lb-In)

