

# PRODEMAND

YMMS: 2001 Ford Taurus SES  
Engine: 3.0L Eng  
VIN:

Feb 21, 2021  
License:  
Odometer:

## CMP SYNCHRONIZER

Question: cmp synchronizer

**CAUTION:** *A special tool and procedure are required to properly install camshaft positions sensor synchronizer. Failure to do so during installation will cause fuel injection to be out of time and may cause engine damage.*

For camshaft position sensor synchronizer removal, installation and alignment procedure, see:

2000

REMOVAL, OVERHAUL & INSTALLATION article in ENGINE PERFORMANCE

2001

REMOVAL, OVERHAUL & INSTALLATION - CARS - GAS article in ENGINE PERFORMANCE

## CAMSHAFT POSITION SENSOR [ FUEL SYSTEM ]

For Camshaft Position Sensor (CMP) removal & installation procedures, see CAMSHAFT POSITION SENSOR under IGNITION SYSTEM.

## CAMSHAFT POSITION SENSOR [ IGNITION SYSTEM ]

### Removal & Installation (3.0L DOHC VIN S)

CMP sensor is located on left side of timing cover. Disconnect negative battery cable. Disconnect CMP sensor harness connector. Remove CMP sensor retaining bolt and CMP sensor. See Figure. Ensure "O" ring is properly located and in good condition. To install, reverse removal procedure. Tighten CMP sensor bolts to specification. See TORQUE SPECIFICATIONS.

### Removal & Installation (3.0L VIN U & 2)

1. CMP sensor is located on top of camshaft synchronizer assembly. Disconnect negative battery cable. Remove the accelerator cable shield. Disconnect accelerator cable, speed control actuator cable and throttle return spring from throttle body lever. Remove 2 bolts retaining accelerator cable bracket and position aside. Loosen the clamp and disconnect the hose. Detach the spark plug wire retainer. Detach the wiring harness from the intake manifold support. Release the fuel charging wiring harness from the valve cover studs. Position the wiring harness away from the camshaft position sensor.
2. Disconnect CMP sensor harness connector. Remove CMP sensor mounting bolts and CMP sensor. To install, reverse removal procedure. Tighten CMP sensor bolts to specification. See TORQUE SPECIFICATIONS. If camshaft synchronizer removal and installation is necessary, see CAMSHAFT SYNCHRONIZER.

## CAMSHAFT SYNCHRONIZER [ FUEL SYSTEM ]

For camshaft synchronizer removal & installation procedures, see CAMSHAFT SYNCHRONIZER under IGNITION SYSTEM.

## CAMSHAFT SYNCHRONIZER [ IGNITION SYSTEM ]

Tip: camshaft synchronizer installation

**CAUTION:** *DO NOT rotate crankshaft or camshaft during removal or installation of synchronizer or fuel system will become out of time with engine and may cause engine damage.*

### Removal (3.0L VIN U & 2)

Question: Cam Sensor Quality?

1. Set piston No. 1 to Top Dead Center (TDC) of compression stroke. Disconnect negative battery cable. Note position of CMP sensor electrical connector. Remove CMP sensor. See REMOVAL & INSTALLATION (3.0L VIN U & 2) under CAMSHAFT POSITION SENSOR.
2. Apply reference marks on camshaft synchronizer assembly and engine. Remove camshaft synchronizer assembly hold-down bolt and clamp. Remove camshaft synchronizer assembly. Oil pump drive shaft may come out with synchronizer. If so, retrieve oil pump driveshaft before proceeding.

**CAUTION:** *After installation, do not loosen the synchronizer bolt and rotate the synchronizer assembly. The synchronizer assembly is not adjustable. Do not loosen the synchronizer bolt after the alignment tool has been removed in order to align the CMP electrical connector for any reason. If the electrical connector is not in the correct position, the synchronizer assembly must be removed, the alignment tool and the assembly reinstalled, if the engine has not been rotated from top dead center (TDC) of the compression stroke on the No. 1 cylinder.*

### Installation

Tip: indication mark

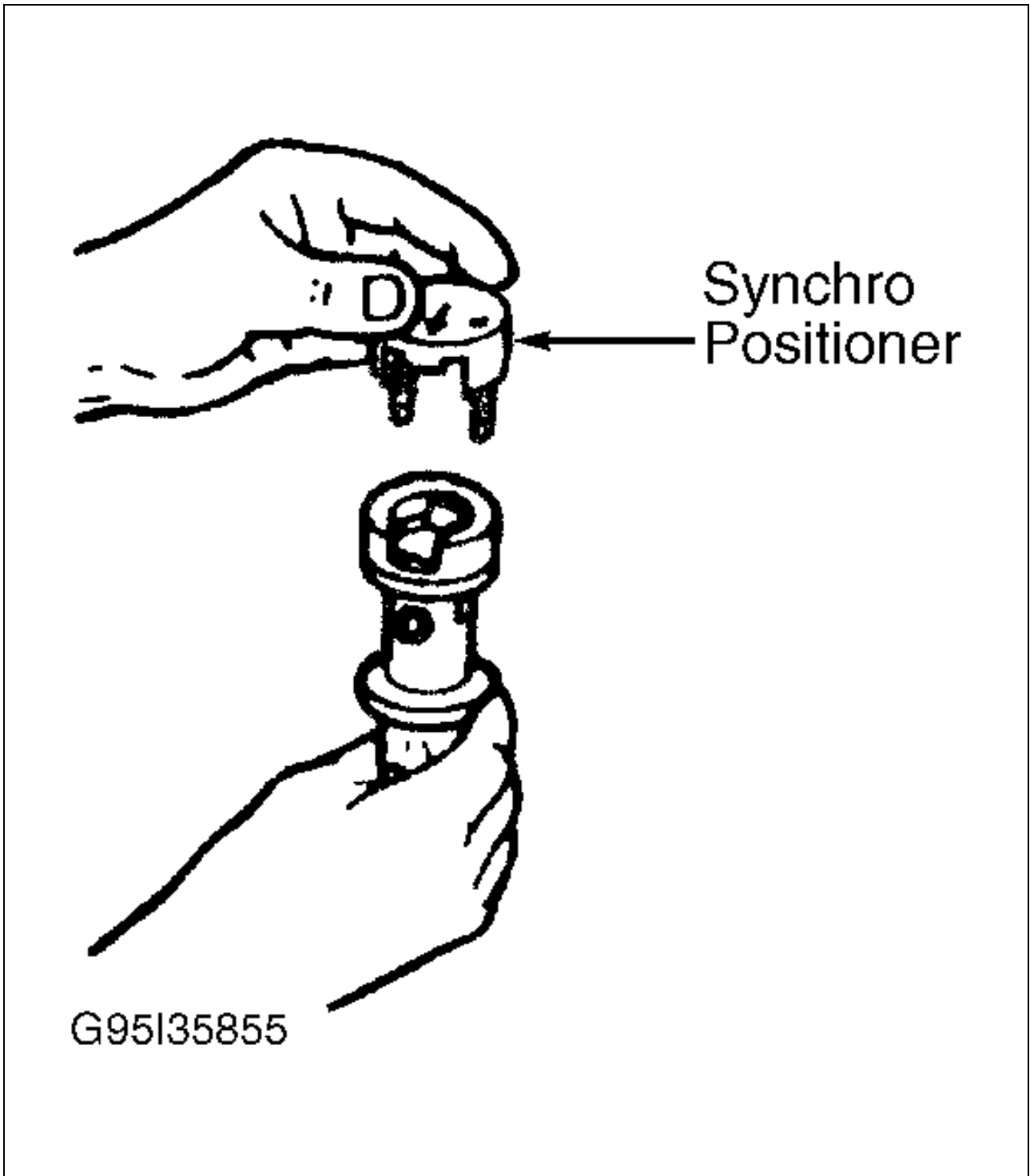
1. Install Synchro Positioner (303-589) on camshaft synchronizer assembly (CMP sensor removed). See Fig 1. Turn camshaft synchronizer shaft clockwise until tool boss engages with notch in camshaft synchronizer assembly. Tool should fit squarely in top of camshaft synchronizer assembly.
2. Ensure piston No. 1 is in TDC position on compression stroke. Install oil pump drive shaft in camshaft synchronizer assembly. Lubricate camshaft synchronizer gear with engine oil. Arrow on synchro

positioner will rotate clockwise until camshaft synchronizer is fully seated. Insert camshaft synchronizer assembly into engine.

**NOTE:** *Coat camshaft synchronizer gear with engine oil prior to installation. Failure to do so, may result in gear failure.*

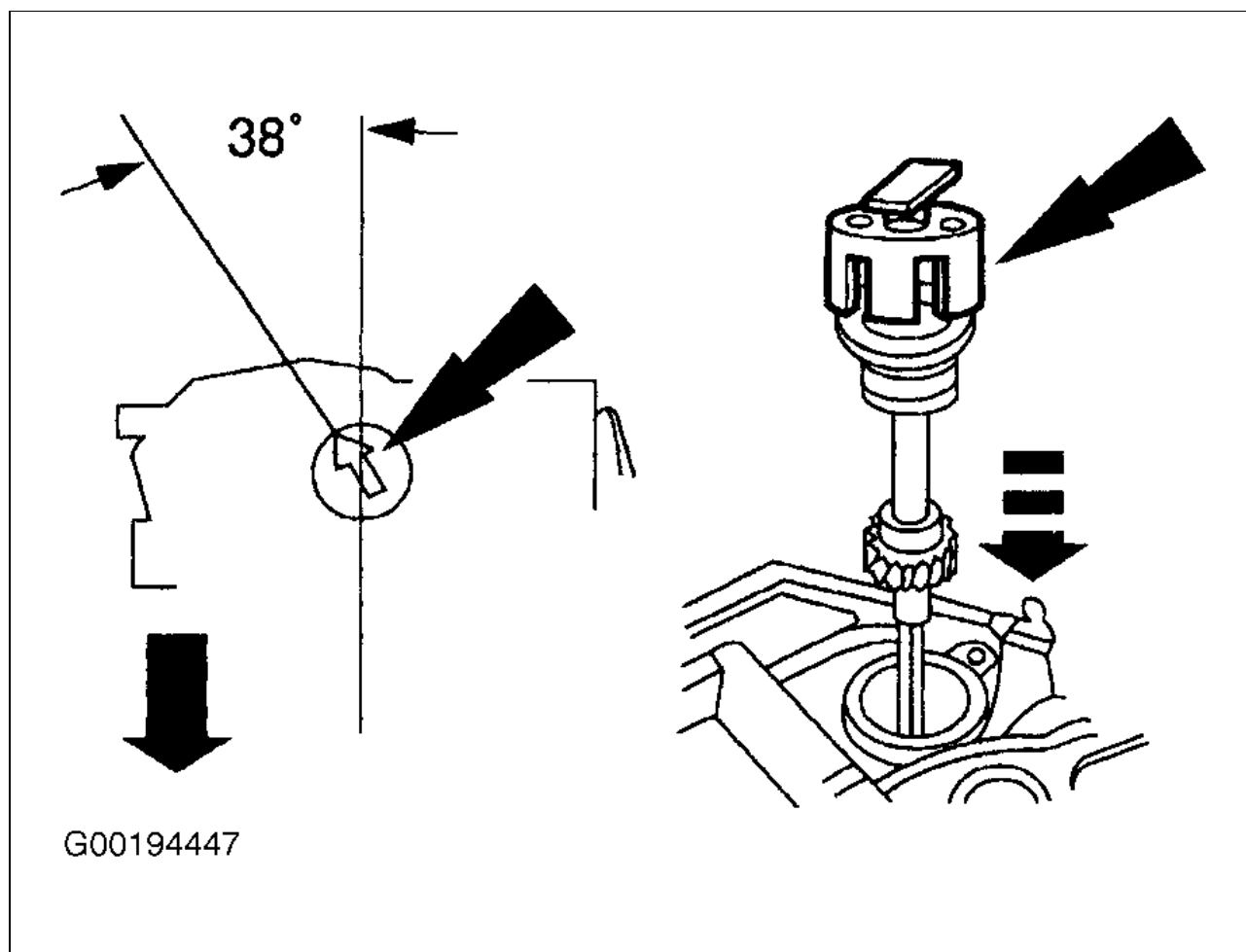
3. When installed, synchro positioner should point 38 degrees from centerline of engine. See Fig 2. Install and tighten camshaft synchronizer hold-down clamp bolt. If synchro positioner is not pointing in correct direction, remove camshaft synchronizer assembly and return to step 1. If camshaft synchronizer is installed correctly, remove synchro positioner.
4. Install CMP sensor and tighten bolts to specification. See TORQUE SPECIFICATIONS. Connect CMP sensor harness connector and negative battery cable.

Fig 1: Installing Synchro Positioner On Synchronizer Assembly (Typical)



Courtesy of FORD MOTOR CO.

Fig 2: Installing Camshaft Synchronizer (Except 3.0L VIN S)



Courtesy of FORD MOTOR CO.

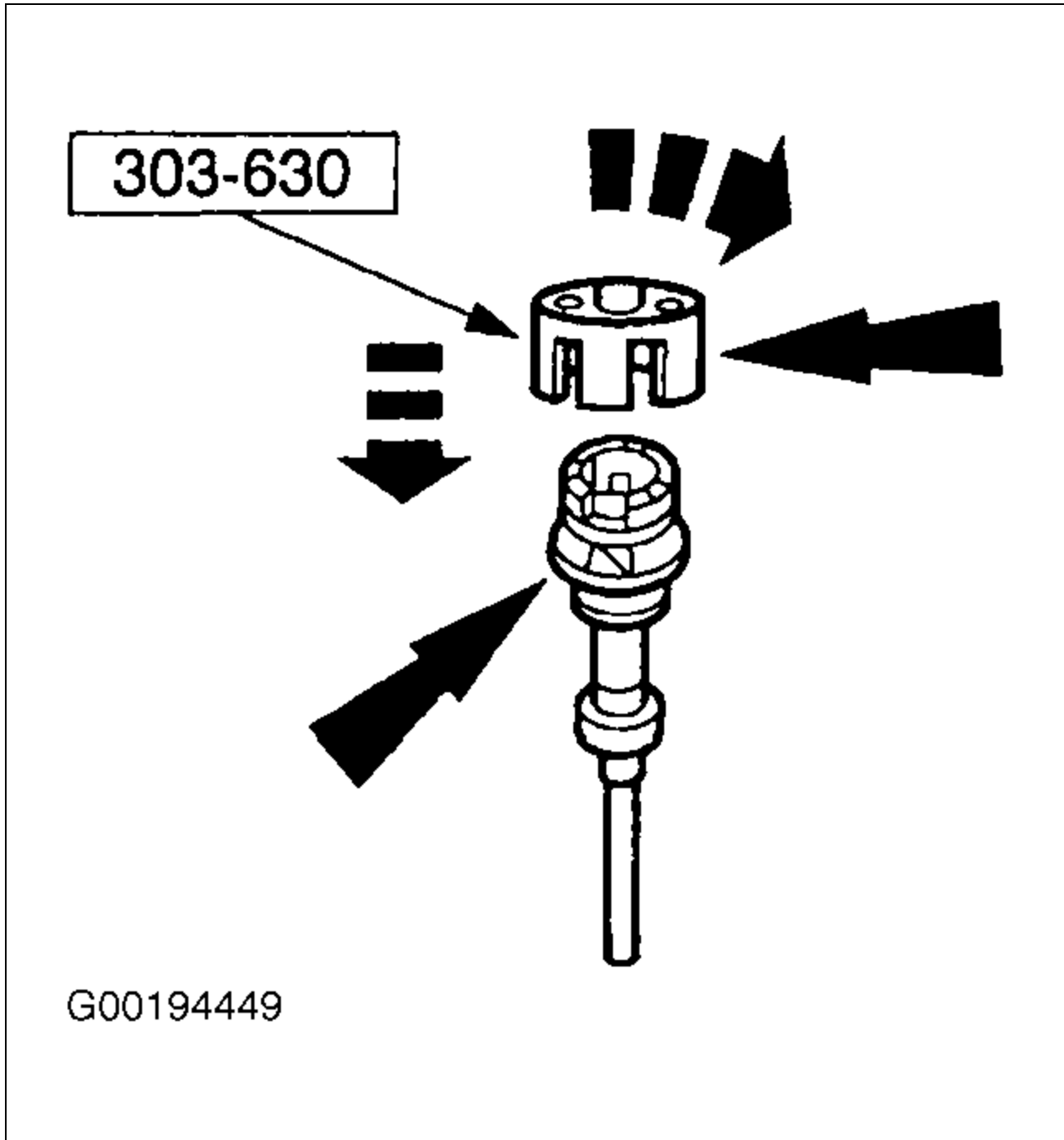
**CAUTION:** After installation, do not loosen the synchronizer bolt and rotate the synchronizer assembly. The synchronizer assembly is not adjustable. Do not loosen the synchronizer bolt after the alignment tool has been removed in order to align the CMP electrical connector for any reason. If the electrical connector is not in the correct position, the synchronizer assembly must be removed, the alignment tool and the assembly reinstalled if the engine has not been rotated from Top Dead Center (TDC) of the compression stroke on the No. 1 cylinder.

### Installation

1. Install Synchro Positioning Tool (303-630) on the camshaft synchronizer by rotating the tool until it engages the notch in the camshaft synchronizer housing and the armature. See Fig 3.

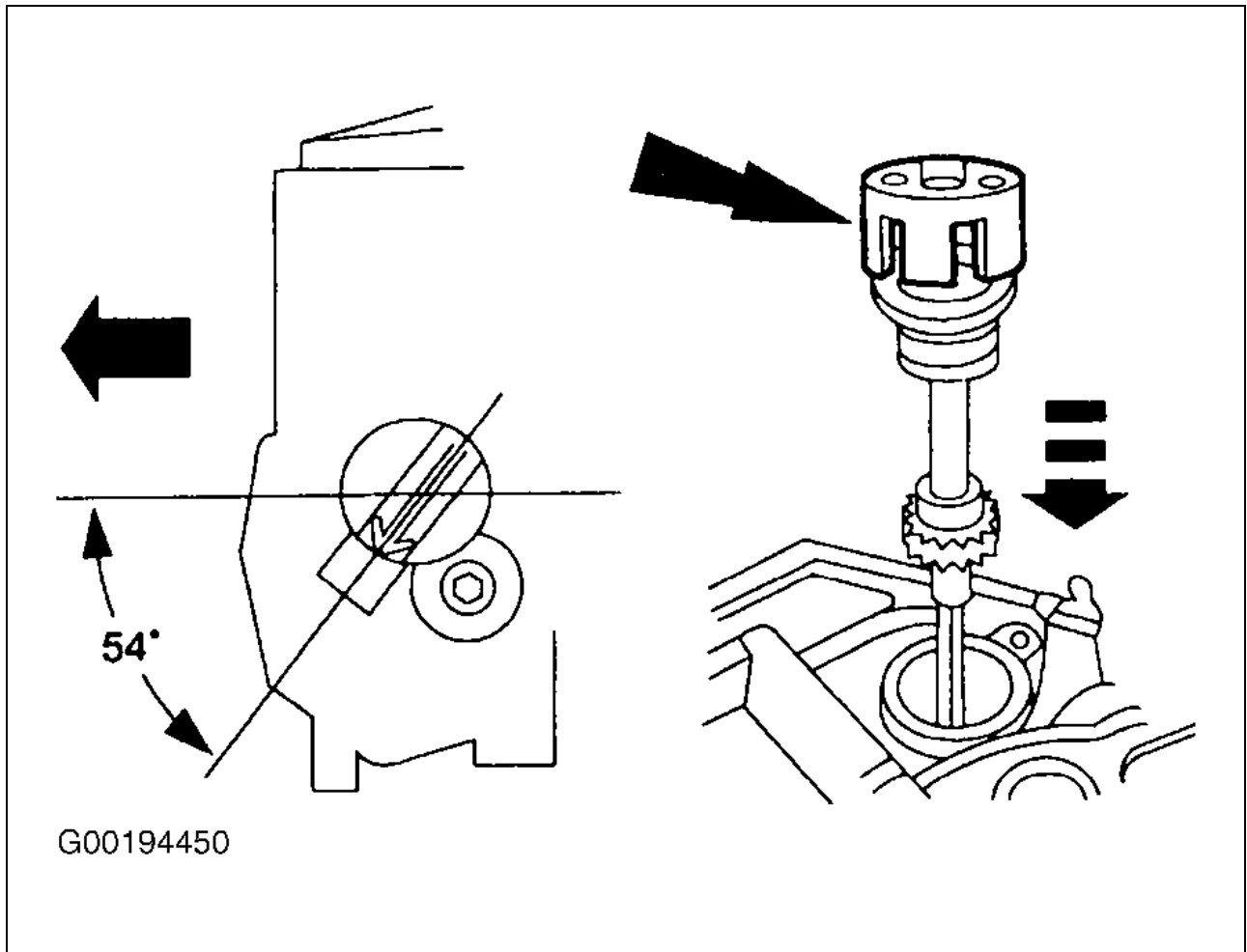
2. Install camshaft synchronizer housing assembly so the arrow on the Install Synchro Positioning Tool (303-630) is 54 degrees from centerline of the engine. See Fig 4.
3. Install and tighten synchronizer hold down bolt. See TORQUE SPECIFICATIONS.
4. Remove Synchro Positioning Tool (303-630). Install CMP sensor to camshaft synchronizer. See REMOVAL & INSTALLATION (3.8L) under CAMSHAFT POSITION SENSOR. Install the EGR valve to exhaust manifold tube. Connect the battery ground cable.

Fig 3: Installing Synchro Positioning Tool On Camshaft Synchronizer Assembly



Courtesy of FORD MOTOR CO.

Fig 4: Aligning Camshaft Synchronizer Assembly



Courtesy of FORD MOTOR CO.