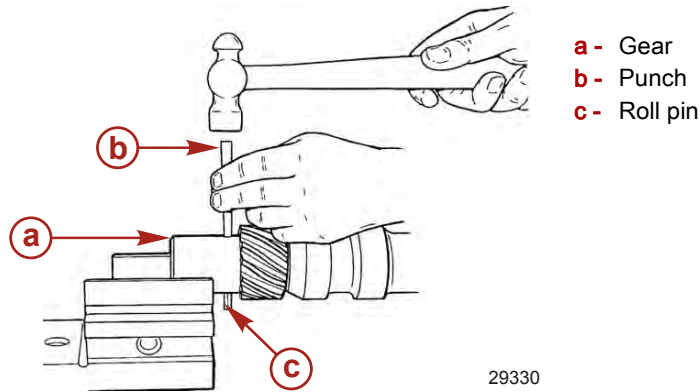


## Ignition System

2. Remove the rotor from the distributor shaft.



3. Remove the roll pin, washer, and drive gear from the distributor shaft.
4. Check for side play between the shaft and distributor housing bushings.

Description	Specification
Distributor shaft to housing side play	0.05 mm (0.002 in.) maximum

5. Remove the shaft from the housing.
6. Check the distributor shaft runout with a dial indicator and V-blocks.

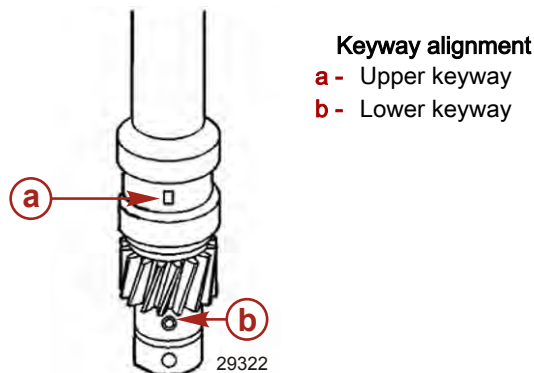
Description	Specification
Distributor shaft runout	0.05 mm (0.002 in.) maximum

## Distributor Assembly

1. Lubricate the distributor shaft with engine oil, and install the shaft into the housing.

Tube Ref No.	Description	Where Used	Part No.
80	SAE Engine Oil 30W	Distributor shaft	Obtain Locally

2. Install the tang washer, the washer, and the drive gear onto the shaft.
3. Temporarily install the rotor on the shaft. Using the scribe marks made during distributor removal, align the drive gear, the housing, and the rotor.
4. Install the roll pin through the drive gear and the distributor shaft.
5. Spin the distributor shaft to ensure that it spins freely.
6. Align the distributor shaft keyways.

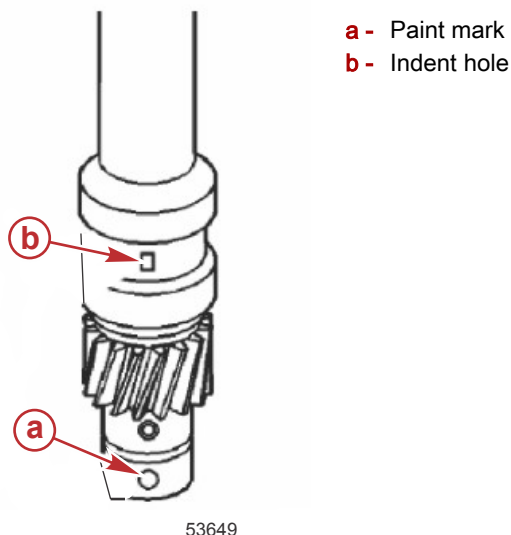


7. Install the rotor onto the distributor shaft. The rotor tang must be aligned with the scribe marks made during distributor removal.

## MPI Distributor Installation

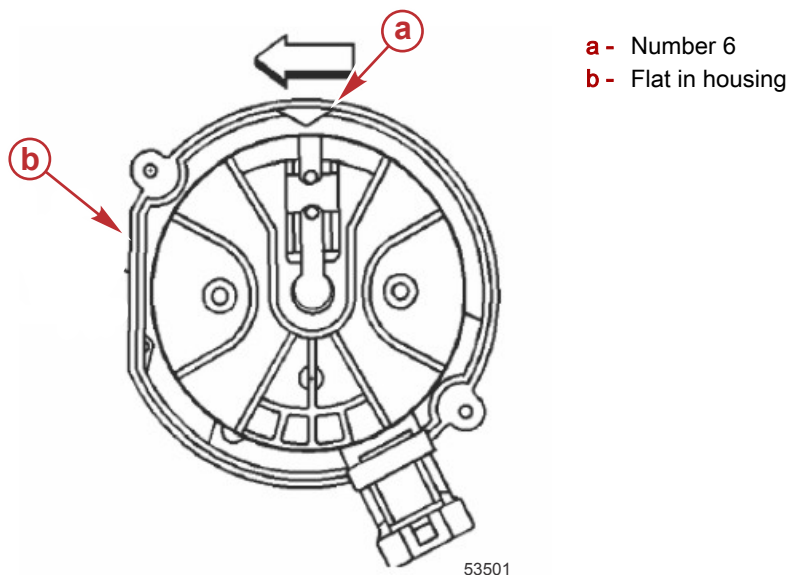
1. Verify that cylinder No. 1 is at TDC. If not, follow either of the following methods to position cylinder No. 1 at TDC:  
**IMPORTANT: Do not insert anything into a spark plug hole while turning the engine over.**

- a. Remove the No. 1 spark plug. Attach a suitable socket and drive to the crankshaft pulley nut. Place a finger over the plug hole and turn the engine over by hand until compression is felt in the No. 1 cylinder. Continue turning the engine over by hand until the block mounted timing pointer aligns with the timing mark on the crankshaft pulley.
  - b. Attach a suitable socket and drive to the crankshaft pulley nut. Remove the left (when observed from the rear of the engine) rocker cover and turn the engine over by hand until the No. 1 cylinder intake valve is fully closed. Continue turning the engine over by hand until the block mounted timing pointer aligns with the timing mark on the crankshaft pulley.
2. Install a new gasket on the distributor housing.

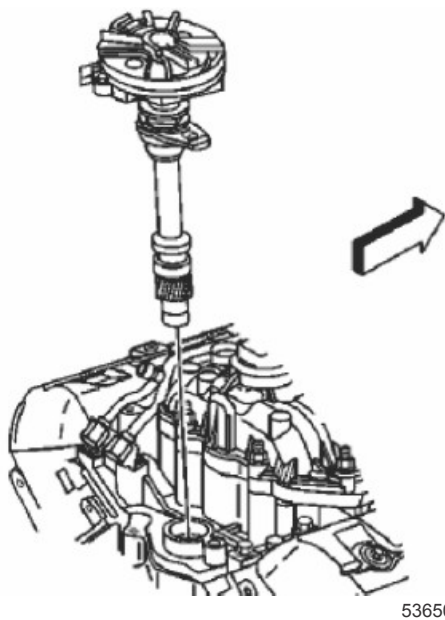


3. Align the indent hole on the driven gear with the paint mark on the distributor housing.
4. Ensure that the distributor rotor segment points to the cap hold area.
5. Align the slotted tang in the oil pump driveshaft with the distributor driveshaft. Rotate the oil pump driveshaft with a screwdriver if necessary.

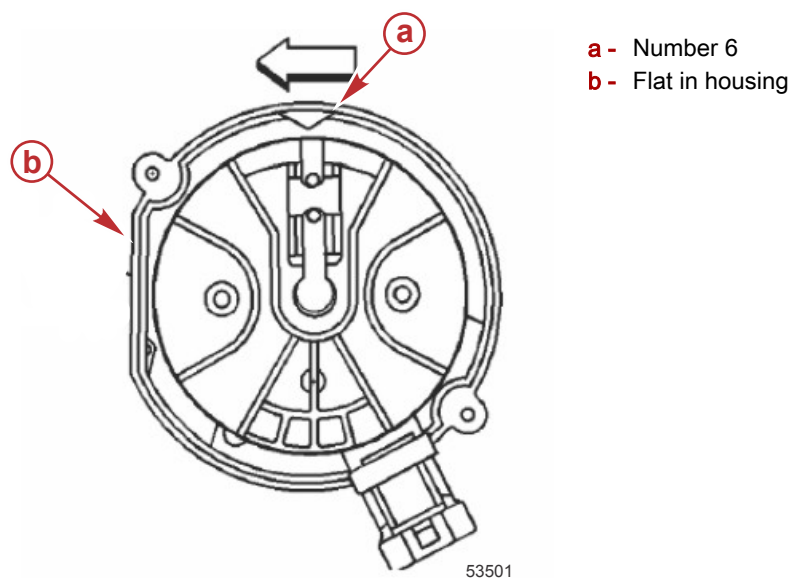
**IMPORTANT:** Ensure that the oil pump shaft is properly engaged. If the engine has been turned over after disassembly it may be necessary to reposition the oil pump shaft.



6. Align the flat in the distributor housing toward the front of the engine.

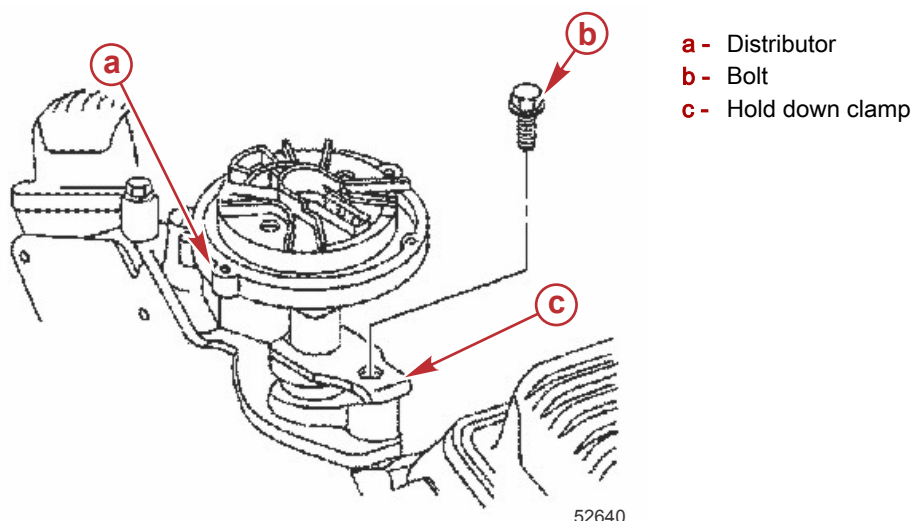


7. Install the distributor and distributor clamp. The flat in the distributor housing must point toward the front of the engine.



8. Once the distributor is fully seated, align the distributor rotor segment with the number 6 pointer that is cast into the distributor base. If the distributor rotor segment does not come within a few degrees of the number 6 pointer, the gear mesh between the distributor and camshaft may be off a tooth or more. Repeat the procedure again in order to achieve proper alignment.

9. When properly installed, the distributor housing is in full contact with the machined relief in the intake manifold.



10. Install the hold down clamp over the distributor and tighten the bolt to the specified torque.

Description	Nm	lb-in.	lb-ft
Distributor hold down clamp bolt	24.5	–	18

11. Connect all ignition control wiring.  
 12. Install the distributor cap.  
 13. Connect the spark plug wires. Remove any temporary plug wire labeling once all wires have been installed and routing confirmed.

## TKS Thunderbolt V Ignition System

### Precautions

#### ⚠ WARNING

Avoid fire or explosion hazard. Electrical, ignition, and fuel system components on Mercury Marine products comply with federal and international standards to minimize risk of fire or explosion. Do not use replacement electrical or fuel system components that do not comply with these standards. When servicing the electrical and fuel systems, properly install and tighten all components.

#### ⚠ WARNING

Neglect or improper maintenance, repairs, or inspections of the power package can result in product damage or serious injury or death. Perform all procedures as described in this manual. If you are not familiar with proper maintenance or service procedures, consign the work to an authorized Mercury Marine dealer.

#### ⚠ WARNING

Performing service or maintenance without first disconnecting the battery can cause product damage, personal injury, or death due to fire, explosion, electrical shock, or unexpected engine starting. Always disconnect the battery cables from the battery before maintaining, servicing, installing, or removing engine or drive components.

#### ⚠ WARNING

Explosive fumes contained in the engine compartment can cause serious injury or death from fire or explosion. Before starting the engine, operate the bilge blower or vent the engine compartment for at least five minutes.