

## FAN CLUTCH INSTALLATION PROCEDURE

It is important to use the correct fan clutch for the specific vehicle application for proper cooling and to avoid damage to the vehicle. Always check for and replace a damaged fan or water pump when replacing a fan clutch

### REMOVAL - BOLT-ON FAN CLUTCH:

Remove the bolts or nuts attaching the fan clutch to the water pump. Remove the bolts or nuts attaching the fan blade to the fan clutch.

### REMOVAL -THREAD-ON FAN CLUTCHES ONLY

Note: Clockwise and counter clockwise rotation is as viewed from in front of the vehicle.

**Clockwise Fan Clutches. Left hand thread. Turn clockwise to remove.**

**Counter-clockwise Fan Clutches. Right hand thread. Turn counter-clockwise to remove.**

Use specialized fan clutch tools to hold the pulley in place while turning the threaded nut on the fan clutch.

### INSPECT BLADE FOR:

- a. Missing, bent or broken blades.
- b. Bent or cracked spider.
- c. Loose or missing rivets.

### FAN INSTALLATION:

1. Position fan on the clutch. Check for interference between the fan and the body of the clutch.
2. Install and tighten bolts. Refer to the chart below for proper torque.

Bolts used to attach the fan to the clutch must meet the following specifications:

**Caution: Over tightening can strip the threads from the fan clutch holes.**

<u>Size/Length</u>	<u>Grade</u>	<u>Plating</u>	<u>Torque</u>	
			<u>ft-lb</u>	<u>Nm</u>
5/16"-18 x 5/8"	5 Minimum	Zinc or Cadmium	15-18	20-24
10mm x 1.5 x 13mm	8.8 Minimum	Zinc or Cadmium	15-18	20-24
6mm x 1.0 x 13mm	8.8 Minimum	Zinc or Cadmium	10-12	13-16

### INSTALLATION - BOLT-ON FAN CLUTCH

1. If required, slide the reducer bushing (supplied in some models) over the water pump pilot. Failure to install the bushing with a 3/4" fan clutch pilot onto a 5/8" water pump pilot will result in severe vibration and damage to the vehicle.
2. Install the bolts or nuts that attach the fan clutch to the water pump. Use the lock washers provided. Position the split in the lock washers over the flange of the fan clutch.
3. Gradually tighten the bolts or nuts. Ensure that the fan clutch flange seats fully against the water pump flange. Torque to 15-18 ft-lb (20-24 Nm)

## INSTALLATION – THREAD-ON FAN CLUTCH

**Caution: Failure to correctly torque thread-on fan clutches can cause them to spin off of the water pump when the engine is shut off causing damage to the radiator and fan.**

Holding the pulley as described above, torque as specified below:

<u>Hex Size</u>	<u>Threaded</u>	<u>Torque Specification</u>	
<u>in / mm</u>	<u>Pilot Size</u>	<u>ft-lb</u>	<u>Nm</u>
1.40 / 36mm	30mm x 1.5	65-75	85-100
1.57 / 40mm	33mm x 1.5	80-90	105-120
1.88/ 47mm	36mm x 2.0	83-113	113-153
1.88/ 47mm	1-1/4"-18	77-83	90-112

With the engine off spin the fan blade by hand. Check for any interference. Fan blade should be no less than  $\frac{3}{4}$ " (18mm) from the radiator, shroud, or any engine component.