

# TROUBLESHOOTING

PR02P-02

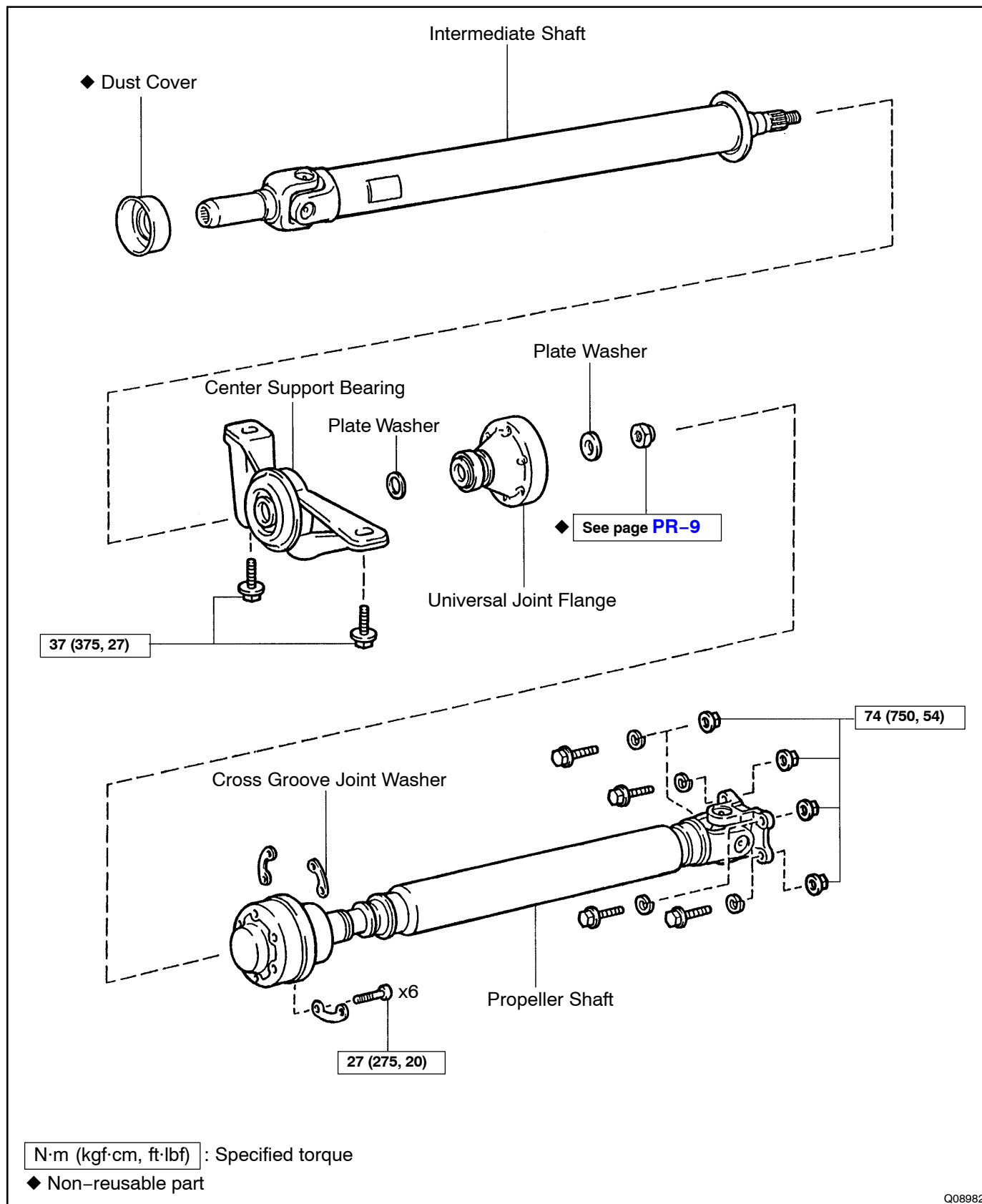
## PROBLEM SYMPTOMS TABLE

Use the table below to help you find the cause of the problem. The numbers indicate the priority of the likely cause of the problem. Check each part in order. If necessary, replace these parts.

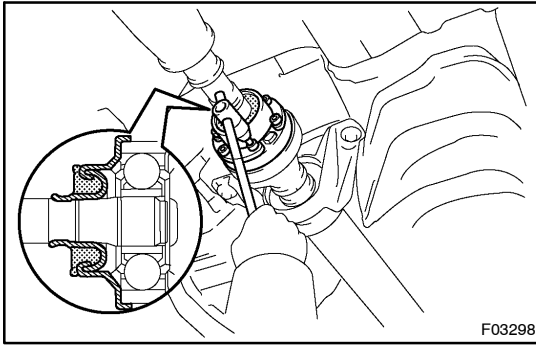
| Symptom   | Suspect Area                                                                                                                                                                                             | See page                                                                                                             |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Noise     | 3. Sleeve yoke spline (Worn)<br>4. Center support bearing (Worn)<br>5. Spider bearing (Worn or stuck)                                                                                                    | <a href="#">PR-6</a><br><a href="#">PR-6</a><br><a href="#">PR-6</a>                                                 |
| Vibration | 1. Rear propeller and intermediate shafts (Runout)<br>2. Propeller shafts (Imbalance)<br>3. Universal joint flange (Runout)<br>4. Cross groove joint (Stuck or damaged)<br>5. Sleeve yoke spline (Stuck) | <a href="#">PR-6</a><br><a href="#">PR-6</a><br><a href="#">PR-6</a><br><a href="#">PR-6</a><br><a href="#">PR-6</a> |

# PROPELLER SHAFT ASSEMBLY COMPONENTS

PR02Q-01



Q08982



## REMOVAL

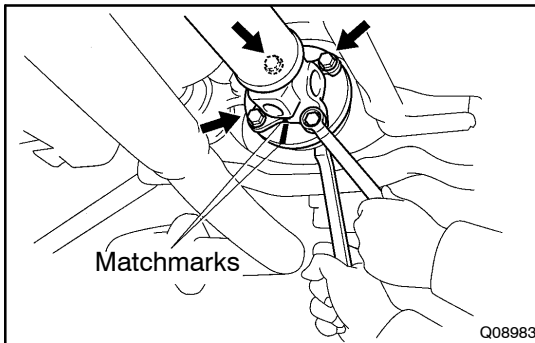
### 1. LOOSEN CROSS GROOVE JOINT SET BOLT

- Depress the brake pedal and hold it.
- Using a hexagon wrench, loosen the cross groove joint set bolts 1/2 turn.

#### HINT:

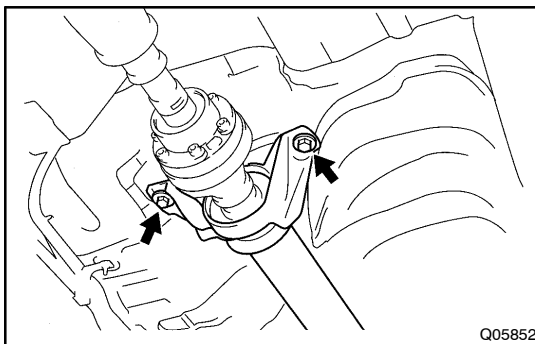
Put a piece of cloth, or equivalent, into the inside of the cross groove joint cover so that the boot does not touch the inside of the cross groove joint cover.

- Loosen the 2 bolts and center support bearing.



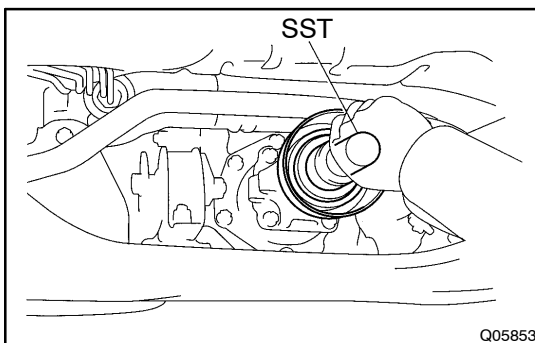
### 2. DISCONNECT PROPELLER SHAFT FROM DIFFERENTIAL

- Place matchmarks on both flanges.
- Remove the 4 bolts, washers and nuts.

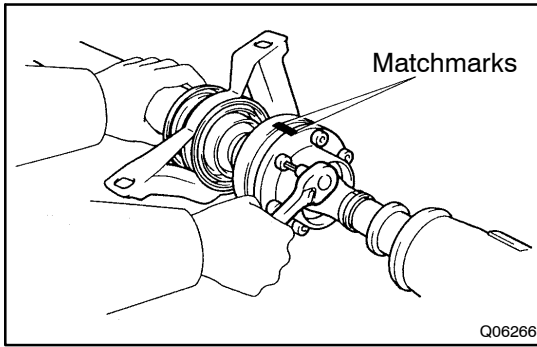


### 3. REMOVE PROPELLER SHAFT FROM TRANSAXLE

- Remove the 2 bolts and center support bearing.



- Pull out the propeller shaft yoke from the transaxle.
- Insert SST in the transaxle to prevent oil leakage.  
SST 09325-20010



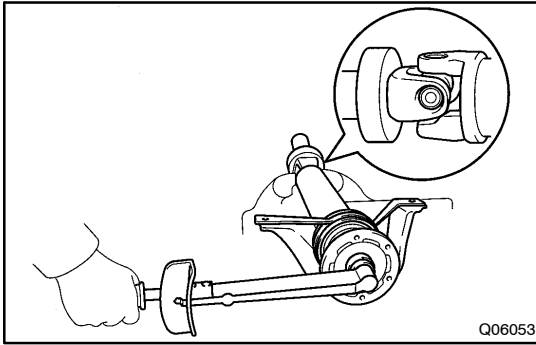
#### 4. SEPARATE INTERMEDIATE SHAFT AND REAR PROPELLER SHAFT

- (a) Place matchmarks on the joint and flange.

HINT:

Do not place the matchmarks with a punch.

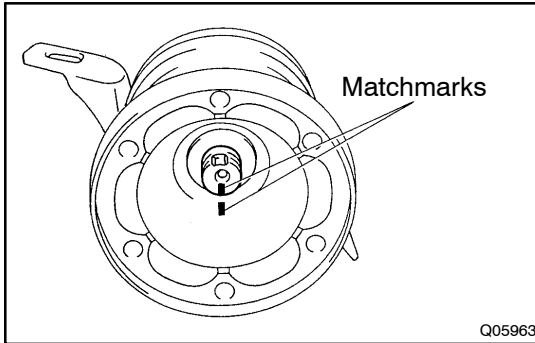
- (b) Using a hexagon wrench, remove the 6 bolts and 3 washers to separate intermediate propeller shaft and propeller shaft.



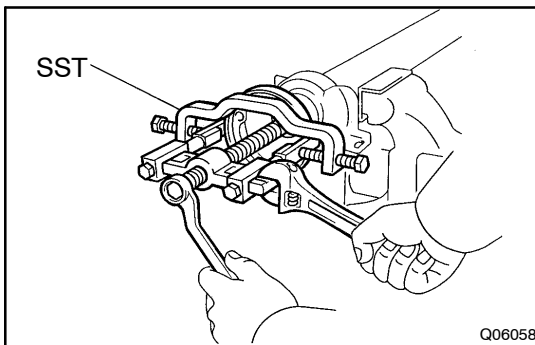
## DISASSEMBLY

### 1. REMOVE CENTER SUPPORT BEARING

- (a) Using a hammer and chisel, loosen the staked part of the nut.
- (b) Using a vise to hold the front flange, remove the nut and plate washer.



- (c) Place matchmarks on the flange and shaft.

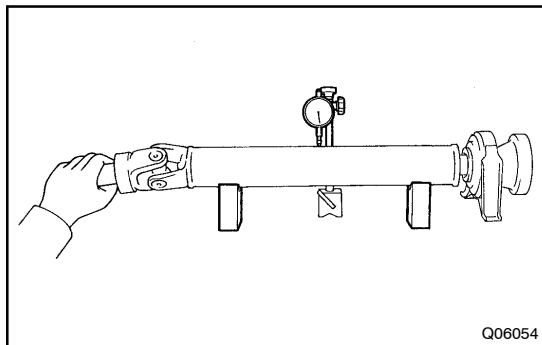


- (d) Using SST, remove the universal joint flange.  
SST 09950-40010 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04060, 09958-04010)
- (e) Remove the center support bearing and plate washer.



### 2. INSPECT CENTER SUPPORT BEARING

- (a) Turn the bearing by hand with applying force in the rotation direction. Check the bearing turns smoothly.
- (b) Check that the seals are not cracked or damaged.  
If the bearing is damaged, worn, or does not turn freely, replace it.



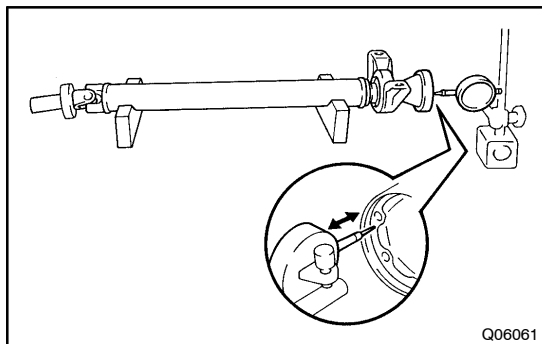
## INSPECTION

### 1. INSPECT INTERMEDIATE AND REAR PROPELLER SHAFTS RUNOUT

Using a dial indicator, inspect the intermediate shaft and propeller shaft.

**Maximum runout: 0.8 mm (0.031 in.)**

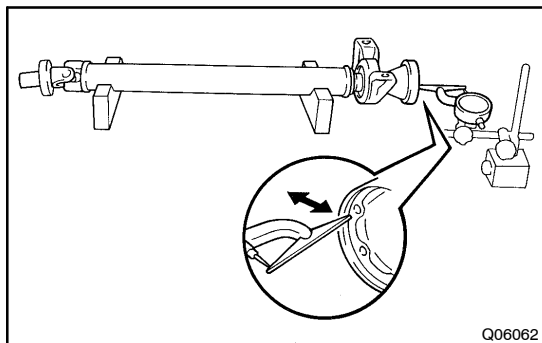
If the shaft runout is greater than the maximum, replace the shaft.



### 2. INSPECT UNIVERSAL JOINT FLANGE RUNOUT

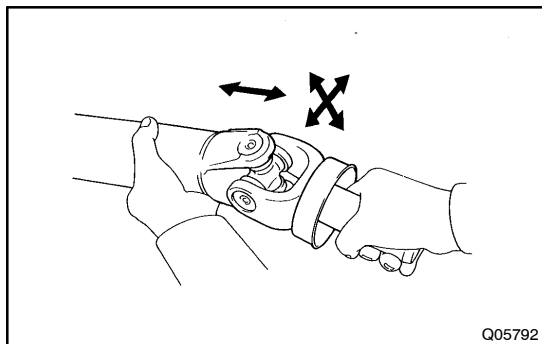
(a) Using a dial indicator, inspect the rear side of universal joint flange runout in the horizontal direction.

**Maximum runout: 0.1 mm (0.004 in.)**



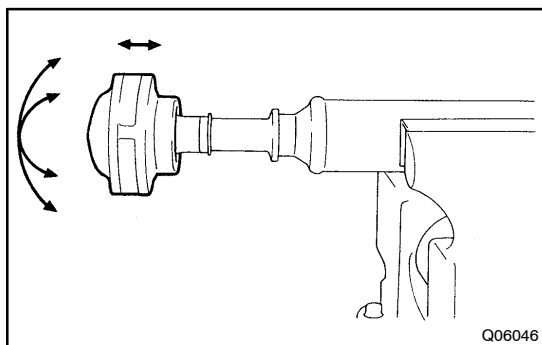
(b) Using a dial indicator, inspect the rear side of universal joint flange runout in the vertical direction.

**Maximum runout: 0.1 mm (0.004 in.)**



### 3. INSPECT SPIDER BEARING

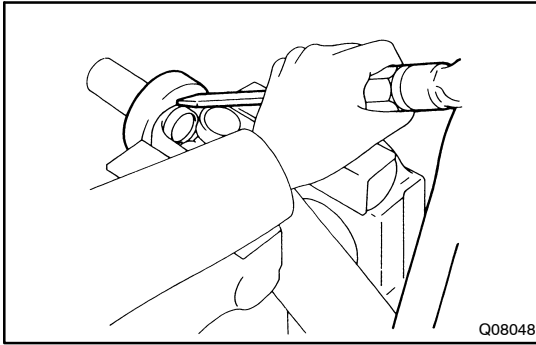
Check the spider bearing axial play by turning the flange with holding the shaft tightly.



### 4. INSPECT CROSS GROOVE JOINT

Check that the joint turns smoothly in the directions as shown. Check for damage or grease leakage from the boot.

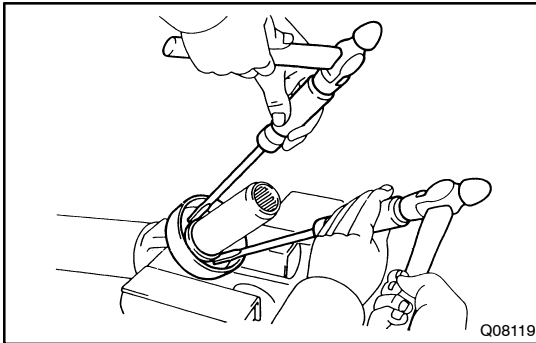
If a problem is found, replace the rear propeller shaft.



## REPLACEMENT

### REPLACE DUST COVER

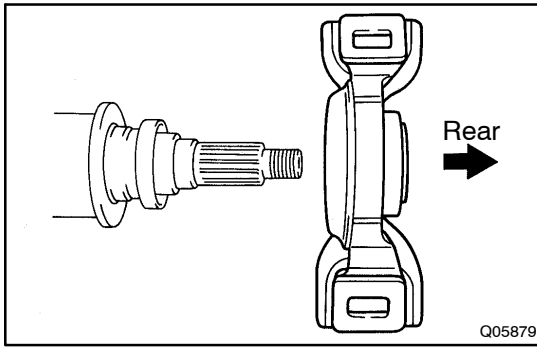
- (a) Using a screwdriver and hammer, remove the dust cover.



- (b) Using 2 screwdrivers and hammers, install a new dust cover.

### NOTICE:

**Be careful not to damage the dust cover.**



## REASSEMBLY

### 1. INSTALL CENTER SUPPORT BEARING

- Set the center support bearing on the intermediate shaft as shown.
- Install the plate washer to the intermediate shaft.
- Align the matchmarks on the flange and shaft and place the flange on the shaft.
- Using a vise to hold the flange, press the bearing into position by tightening down a new nut and washer.

**Torque: 181 N·m (1,850 kgf·cm, 134 ft·lbf)**

- Loosen the nut.
- Torque the nut again.

**Torque: 69 N·m (700 kgf·cm, 51 ft·lbf)**

- Using a hammer and chisel, stake the nut.

### 2. INSTALL JOINT END COVER

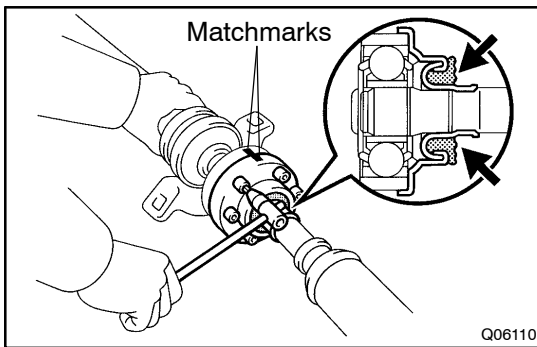
- Align the matchmarks and install the universal joint flange to the cross groove joint.
- Tighten the 6 bolts and 3 washers to press the joint end cover.

#### HINT:

Tighten the bolts gradually and equally to prevent damaging the end cover.

- Remove the 6 bolts and 3 washers and separate the universal joint flange from the cross groove joint.

### 3. INSPECT CROSS GROOVE JOINT (See page [PR-6](#))



### 4. CONNECT FRONT PROPELLER SHAFT WITH REAR PROPELLER SHAFT

Using a hexagon wrench, tighten the 6 bolts and 3 washers temporarily.

#### HINT:

Put a piece of cloth or an equivalent into the inside of the universal joint cover.

## INSTALLATION

### 1. INSTALL INTERMEDIATE SHAFT

- (a) Remove SST from the transfer.
- (b) Insert the yoke into the transfer.

### 2. INSTALL CENTER SUPPORT BEARING TEMPORARILY

### 3. INSTALL PROPELLER SHAFT

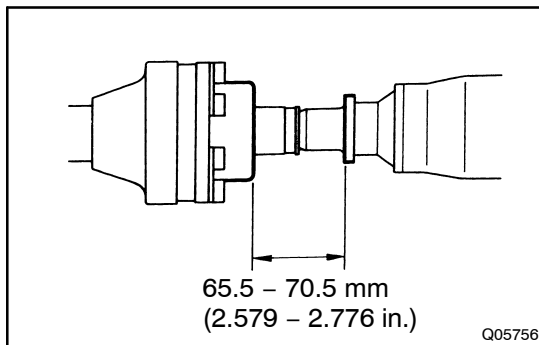
- (a) Align the matchmarks on the flanges and connect the shaft with the 4 bolts, washers and nuts.
- (b) Torque the bolts and nuts.

**Torque: 74 N·m (750 kgf·cm, 54 ft·lbf)**

### 4. TIGHTEN CROSS GROOVE JOINT SET BOLT

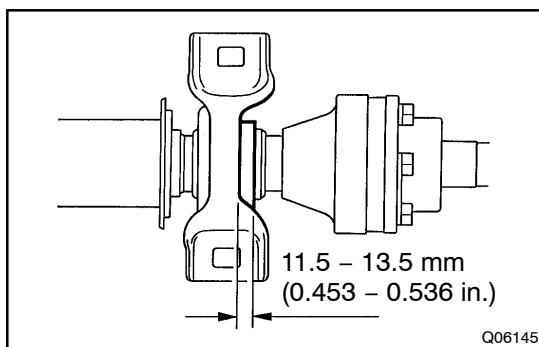
- (a) Depress the brake pedal and hold it.
- (b) Using a hexagon wrench, tighten the cross groove joint set bolts.

**Torque: 27 N·m (275 kgf·cm, 20 ft·lbf)**



### 5. INSTALL CENTER SUPPORT BEARING

- (a) With the vehicle in the unladen condition, adjust the dimension between the rear side of cover and the shaft, as shown in the illustration.



- (b) With the same condition, adjust the dimension between the rear side of center bearing housing and the rear side of cushion at 11.5 – 13.5 mm (0.4528 – 0.5315 in.), as shown in the illustration below, then torque the bolts.

**Torque: 37 N·m (375 kgf·cm, 27 ft·lbf)**

- (c) Check that the center line of the bracket is at right angles at the shaft axial direction.