TROUBLESHOOTING

PR05A-02

PROBLEM SYMPTOMS TABLE

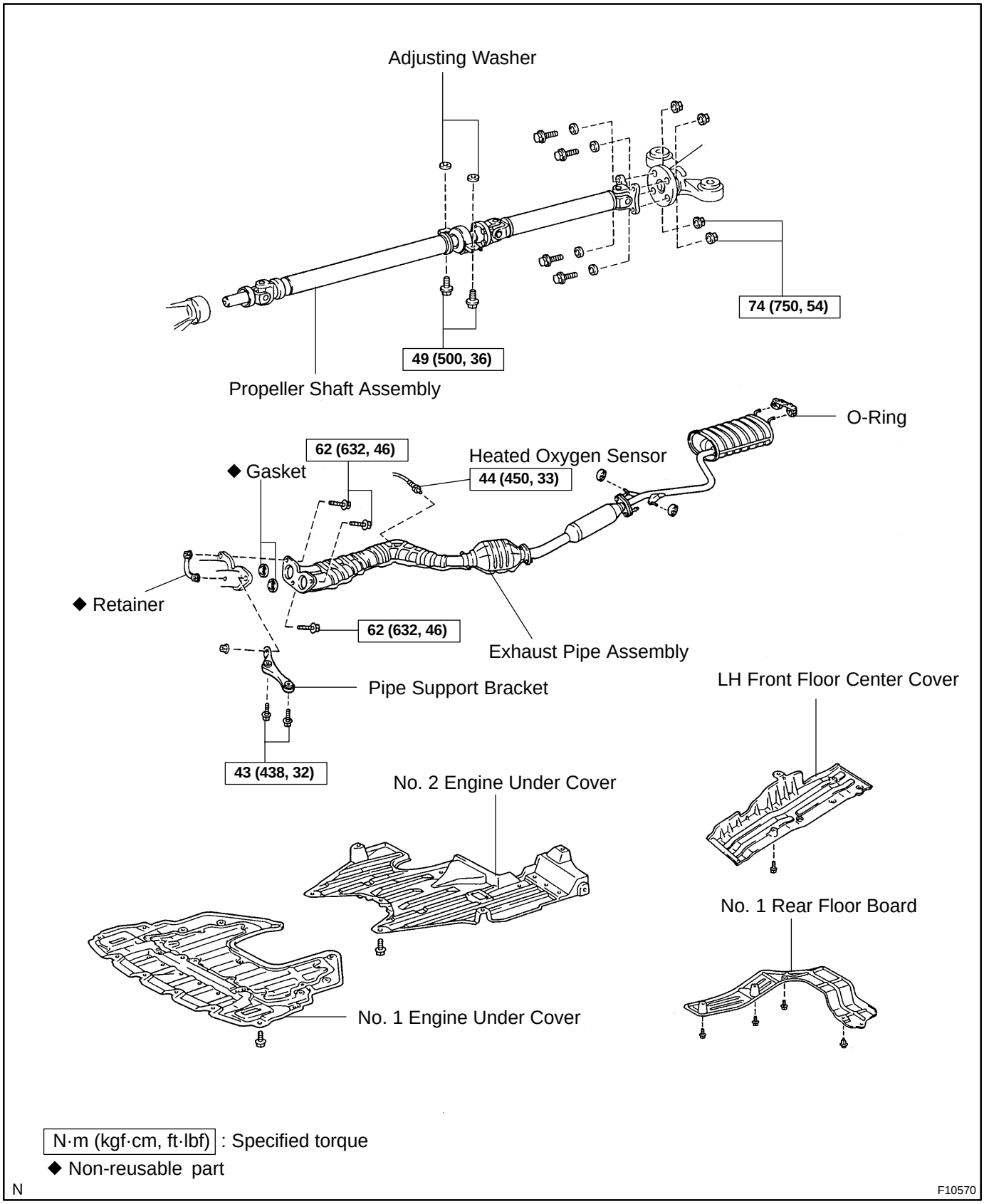
Use the table below to help you find the cause of the problem. The numbers indicate the priority of the likely cause of the problem. Check each part in order. If necessary, replace these parts.

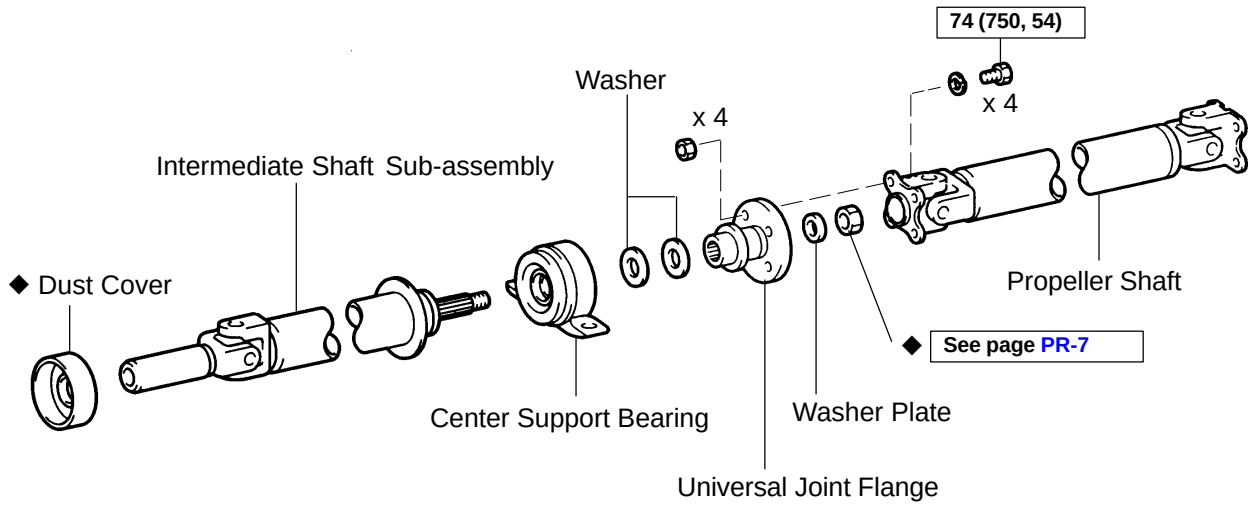
Symptom	Suspect Area	See page
Noise	1. Sleeve yoke spline (Worn) 2. Spider bearing (Worn or stuck)	- PR-6
Vibration	1. Sleeve yoke spline (Stuck) 2. Propeller shaft (Runout) 3. Propeller shaft (Imbalance)	- PR-6 -

PROPELLER SHAFT ASSEMBLY

COMPONENTS

PR05B-04





N·m (kgf·cm, ft·lbf) : Specified torque
◆ Non-reusable part

F08147

PR05C-02

REMOVAL

1. REMOVE NO. 1 AND NO. 2 ENGINE UNDER COVERS

2. REMOVE LH FRONT FLOOR CENTER COVER

3. REMOVE NO. 1 REAR FLOOR BOARD

4. REMOVE EXHAUST PIPE ASSEMBLY

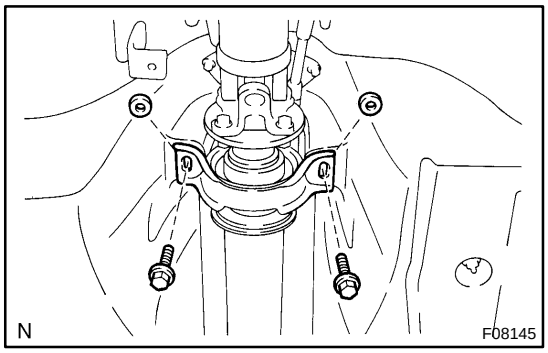
(a) Disconnect the heated oxygen sensor.

(b) Remove the 5 bolts, pipe support bracket, retainer and nut from the exhaust manifold.

(c) Disconnect the exhaust pipe assembly from the 4 O-rings.

(d) Remove the exhaust pipe assembly.

(e) Remove the 2 gaskets from exhaust pipe assembly.



5. REMOVE PROPELLER SHAFT

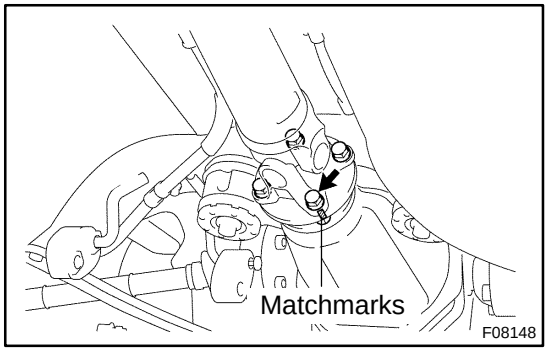
(a) Remove the 2 center support bearing set bolts and adjusting washers.

HINT:

Production vehicles are not equipped with adjusting washers.

NOTICE:

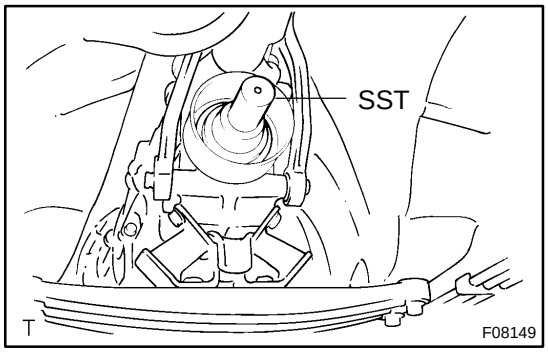
When removing the set bolts, support the center support bearing by hand so that the transmission and intermediate shaft, and propeller shaft and differential, remain in a straight line.



(b) Place matchmarks on the differential companion flange and propeller shaft.

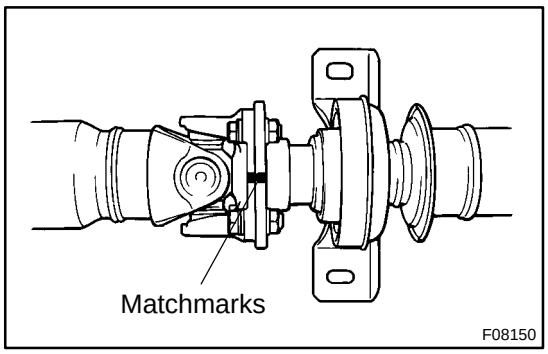
(c) Remove the 4 bolts, washers and nuts.

(d) Pull the yoke from the transmission.



(e) Install SST in the transmission to prevent oil leakage.
SST 09325-20010

PR05D-01



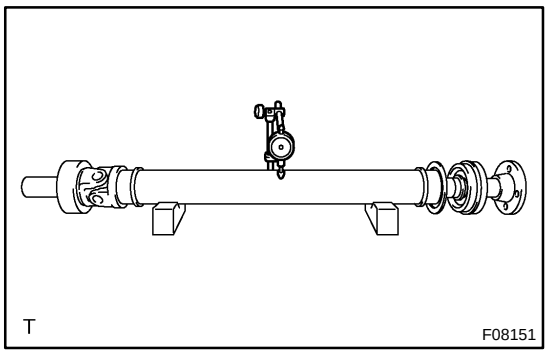
DISASSEMBLY

DISASSEMBLE PROPELLER SHAFT

(a) Place matchmarks on the universal joint flange and propeller shaft flange.
(b) Remove the 4 bolts, washers and nuts.
(c) Separate the intermediate shaft and propeller shaft.

PR05E-01

INSPECTION

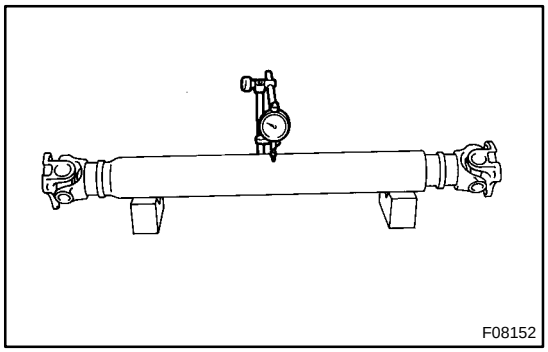


1. INSPECT RUNOUT OF INTERMEDIATE SHAFT

Using a dial indicator, inspect the intermediate shaft runout.

Maximum runout: 0.8 mm (0.031 in.)

If the runout is greater than the maximum, replace the intermediate shaft sub-assembly.

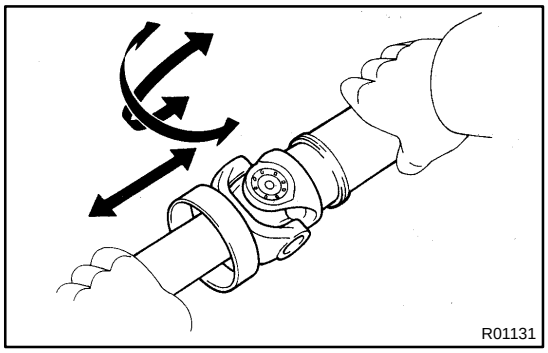


2. INSPECT RUNOUT OF PROPELLER SHAFT

Using a dial indicator, inspect the propeller shaft runout.

Maximum runout: 0.8 mm (0.031 in.)

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

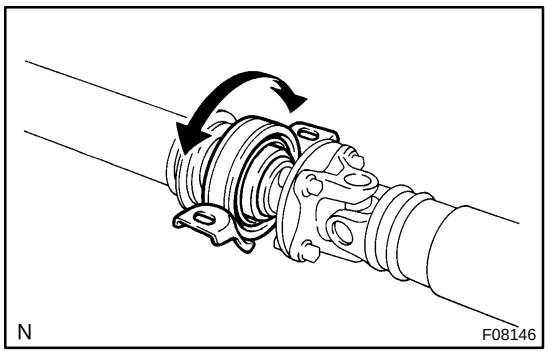


3. INSPECT SPIDER BEARING

(a) Check if the spider bearing rotates smoothly.

(b) Check if there any play in the spider bearing.

If necessary, replace the propeller shaft assembly or intermediate shaft sub-assembly.



4. INSPECT CENTER SUPPORT BEARING

(a) Check if the bearing turns smoothly.

(b) Check for crack in or damage to the cushion.

If the center support bearing is damaged, worn or does not turn smoothly, replace it.

PR05F-02

REPLACEMENT

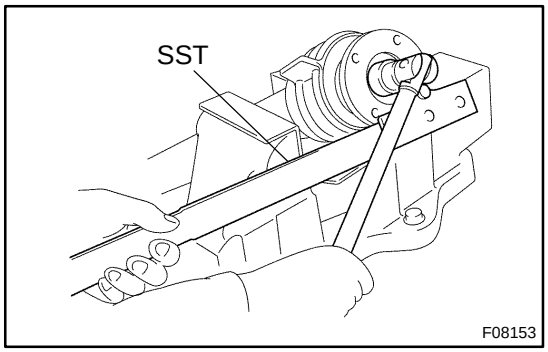
NOTICE:

Be careful not to grip the propeller shaft tube too tightly in the vise as will cause deformation.

1. REPLACE CENTER SUPPORT BEARING

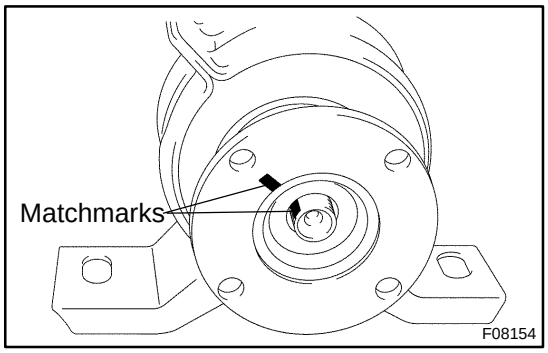
(a) Using a chisel and hammer, unstake the staked part of the nut.

(b) Mount the intermediate shaft sub-assembly in a vise.

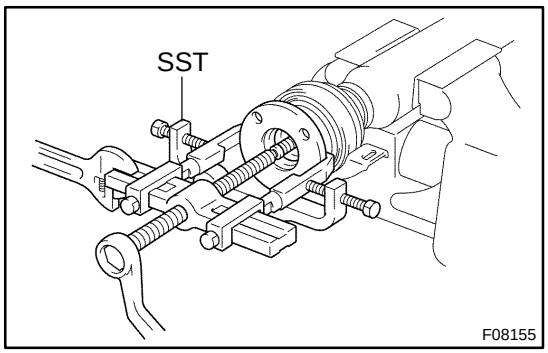


(c) Using SST to hold the universal joint flange, remove the nut.
SST 09930-00021

(d) Remove the washer plate.



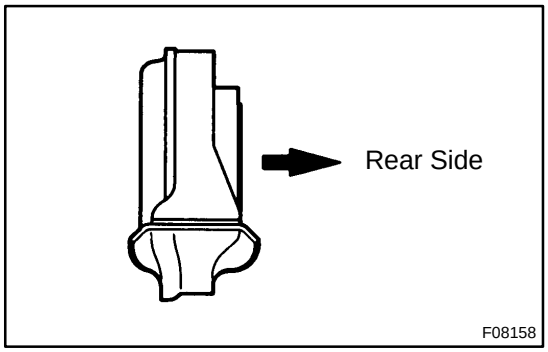
(e) Place matchmarks on the universal joint flange and intermediate shaft.



(f) Using SST, remove the universal joint flange.
SST 09950-4001 1 (09951-04020, 09952-04010, 09953-04030, 09954-04010, 09955-04061, 09957-04010, 09958-04011)

(g) Remove the 2 washers.

(h) Remove the center support bearing.

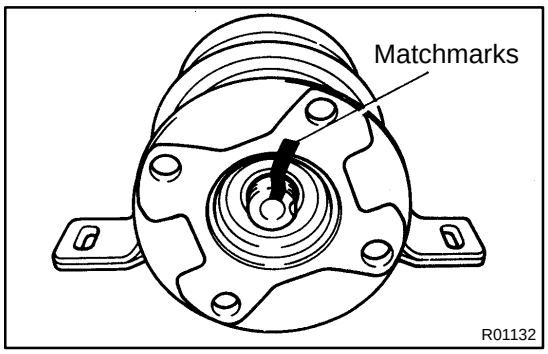


(i) Install a new center support bearing to intermediate shaft.

HINT:

Install the center support bearing in the direction, as shown.

(j) Install the 2 washers.

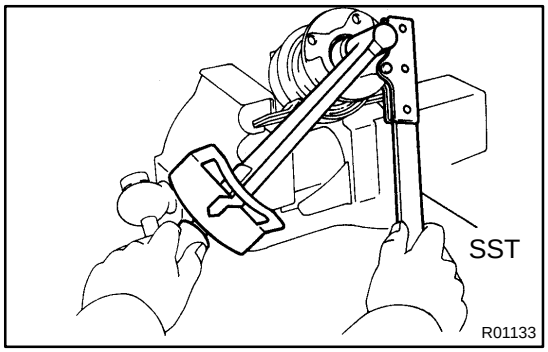


(k) Align the matchmarks on the universal joint flange and intermediate shaft, and install the universal joint flange.

HINT:

If replacing either the center flange or intermediate shaft, reassemble them so that the front yoke of the intermediate shaft and the rear yoke of the propeller shaft are facing in the same direction.

(l) Install the washer plate.

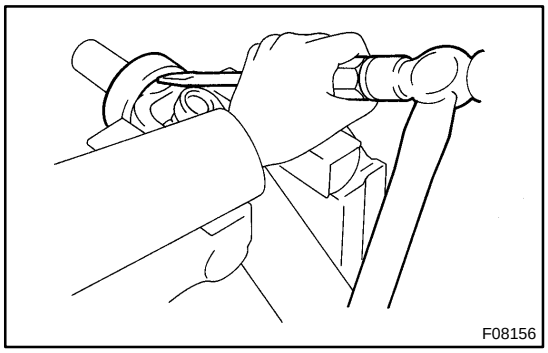


(m) Using SST to hold the flange, install a new nut.
SST 09330-00021
Torque: 181 N·m (1,850 kgf·cm, 134 ft·lbf)

(n) Loosen the nut.

(o) Torque the nut again.
Torque: 69 N·m (700 kgf·cm, 51 ft·lbf)

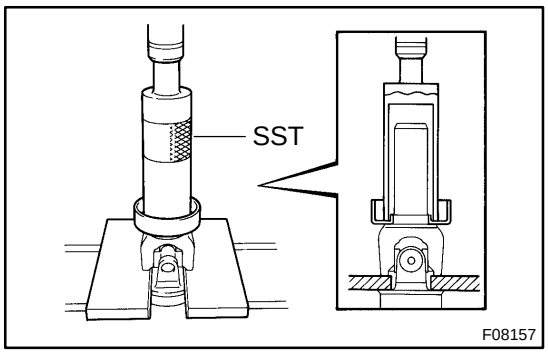
(p) Using a chisel and hammer, stake the nut.



2. REPLACE DUST COVER

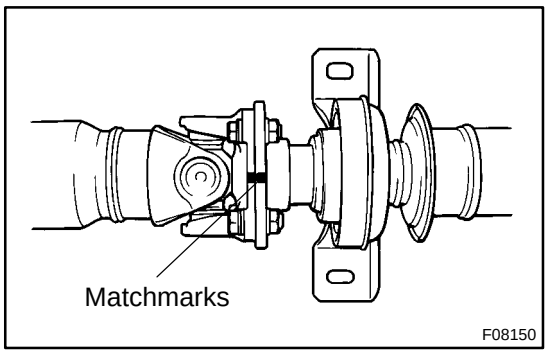
(a) Mount the intermediate shaft sub-assembly in a vise.

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



(c) Using SST and press, install a new dust cover.
SST 09316-6001 1 (09316-00011)

PR05G-03



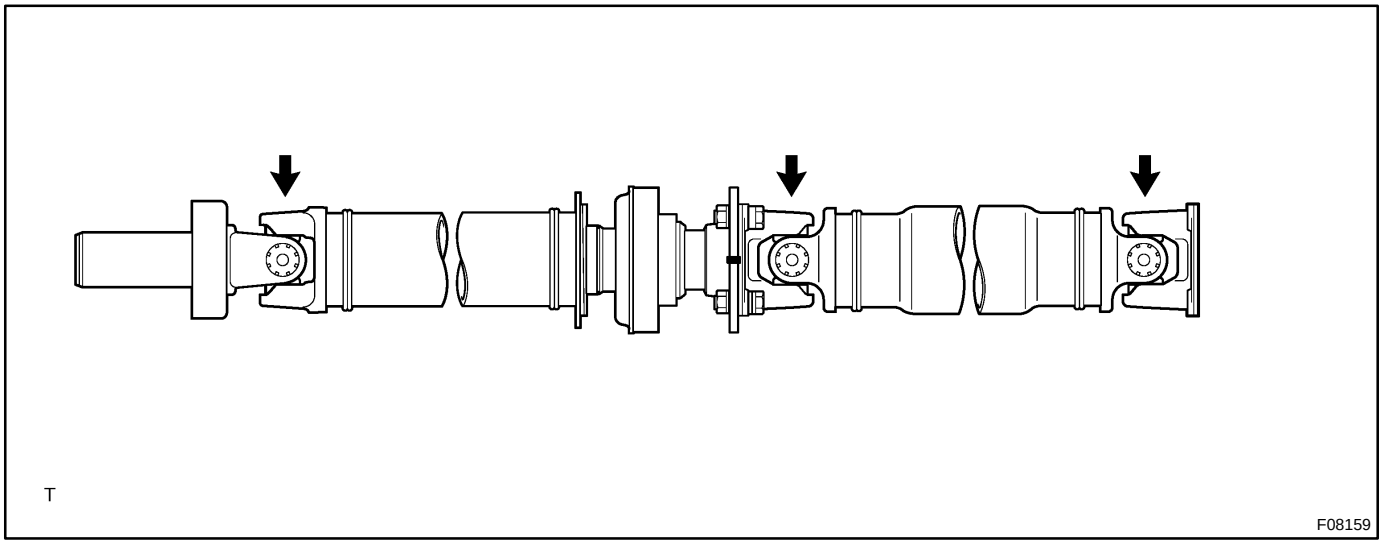
REASSEMBLY

REASSEMBLE PROPELLER SHAFT

(a) Assemble the propeller shaft, align the matchmarks on the universal joint flange and propeller shaft flange, and connect the flanges with the 4 bolts, washers and nuts.

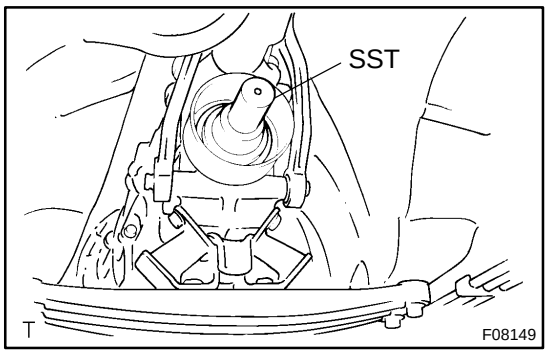
(b) Torque the 4 nuts.
Torque: 74 N·m (750 kgf·cm, 54 ft·lbf)

HINT:
Assemble the propeller shaft so that each joint faces in the direction as shown in the illustration.



PR05H-04

INSTALLATION



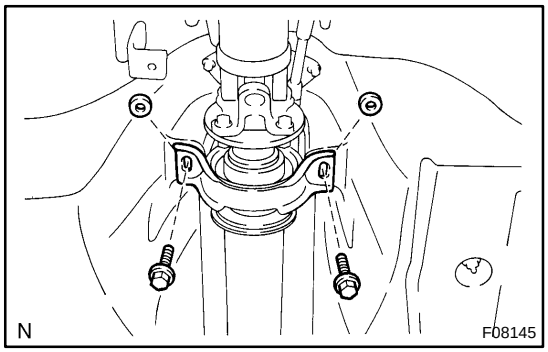
1. INSTALL PROPELLER SHAFT

(a) Remove the SST.
SST 09325-20010

(b) Insert the propeller shaft assembly to the transmission.

NOTICE:

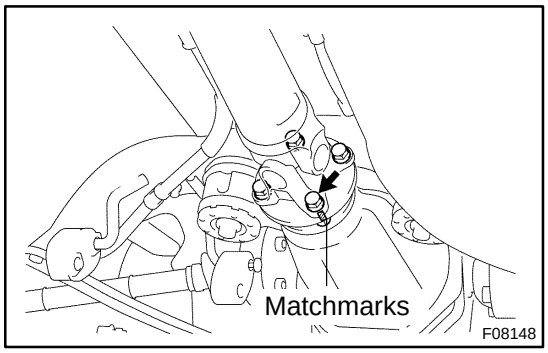
Support the center support bearing by hand so that the transmission and intermediate shaft, and propeller shaft and differential, remain in a straight line.



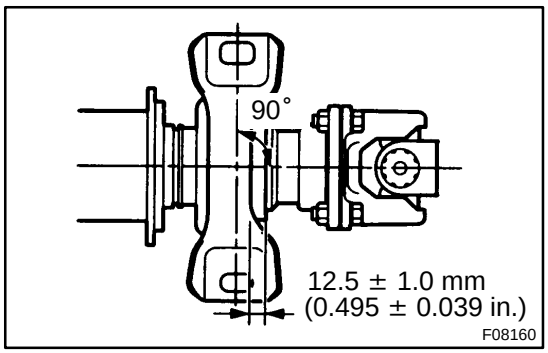
(c) Temporarily install the 2 center support bearing set bolts with the adjusting washers.

HINT:

Use the adjusting washers which were removed.



(d) Align the matchmarks on the differential companion flange and propeller shaft, and install the propeller shaft on the differential with the 4 bolts, washers and nuts.
Torque: 74 N·m (750 kgf·cm, 54 ft·lbf)



(e) Torque the 2 center support bearing set bolts.
Torque: 49 N·m (500 kgf·cm, 36 ft·lbf)

HINT:

Adjust the center support bearing to keep the dimension, as shown with the vehicle in the unladen condition.

Under the same condition, check if the center line of the center support bearing is at right angles to the shaft axial direction.

2. INSTALL EXHAUST PIPE ASSEMBLY

(a) Connect the exhaust pipe assembly to the 4 O-rings.

(b) Install the exhaust pipe assembly with 2 new gaskets, 5 bolts, pipe support bracket, retainer and nut.
Torque: 62 N·m (632 kgf·cm, 46 ft·lbf)

(c) Connect the heated oxygen sensor.
Torque: 44 N·m (450 kgf·cm, 33 ft·lbf)

3. INSTALL NO. 1 REAR FLOOR BOARD

4. INSTALL LH FRONT FLOOR CENTER COVER

5. INSTALL NO. 1 AND NO. 2 ENGINE UNDER COVERS

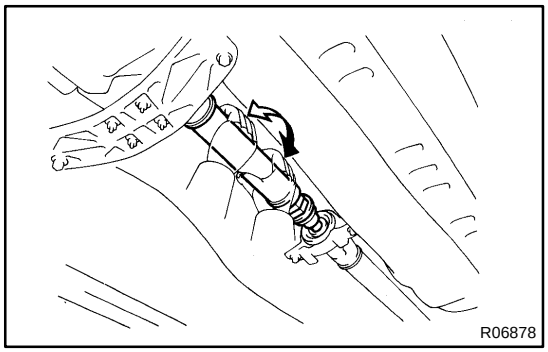
JOINT ANGLE

PR05I-01

ADJUSTMENT

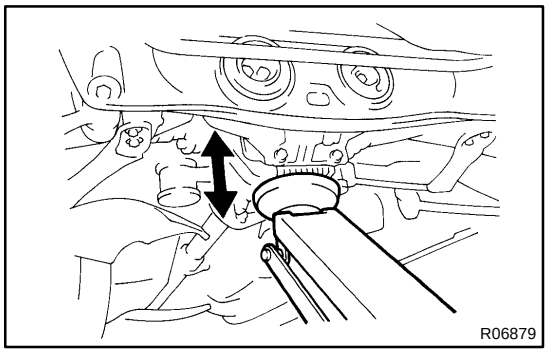
NOTICE:

When doing operations which involve the removal and installation of the propeller shaft, always check the joint. Make adjustments if necessary.

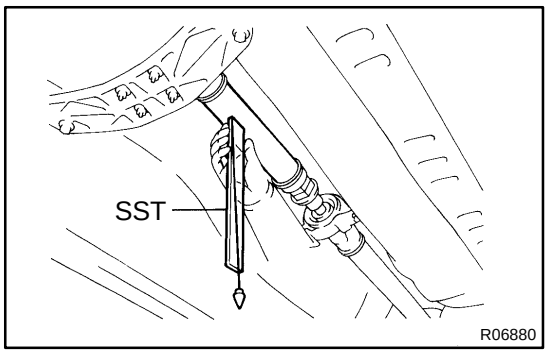


1. STABILIZE PROPELLER SHAFT AND DIFFERENTIAL

(a) Turn the propeller shaft several times by hand to stabilize the center support bearing.

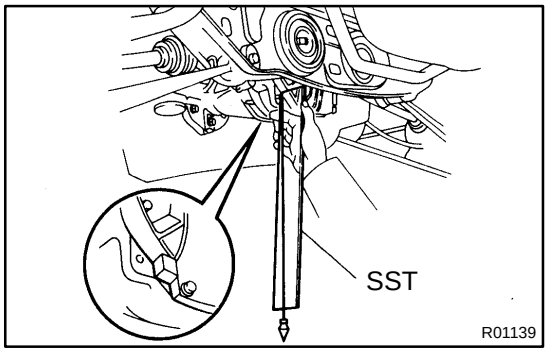


(b) Using a jack, raise and lower the differential to stabilize the differential mounting cushion.



2. CHECK JOINT ANGLE OF NO. 2 JOINT AND NO. 3 JOINT

(a) Using SST, measure the installation angle of the intermediate shaft and propeller shaft.
SST 09370-50010



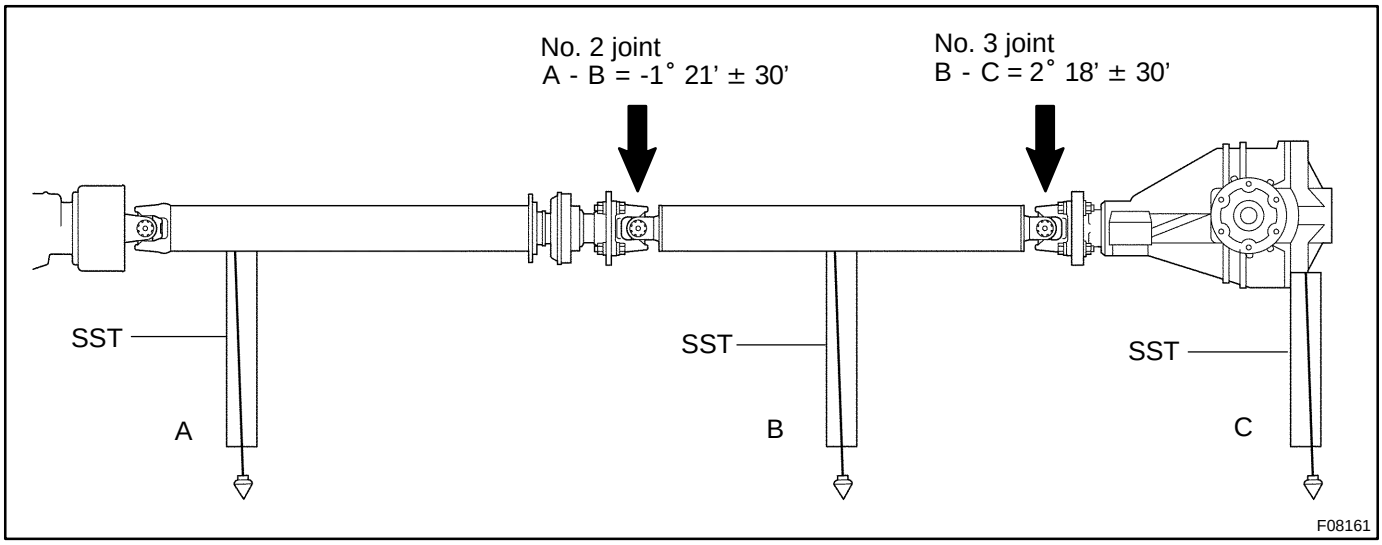
(b) Using SST, measure the installation angle of the differential.
SST 09370-50010

HINT:

Measure the installation angle by placing the SST in the position, as shown in the illustration.

(c) Calculate the No. 2 joint angle.
No. 2 joint angle:
A - B = -1° 21' ± 30'
A: Intermediate shaft installation angle
B: Propeller shaft installation angle

(d) Calculate the No. 3 joint angle.
No. 3 joint angle:
B - C = 2° 18' ± 30'
B: Propeller shaft installation angle
C: Differential installation angle



If the measured angle is not within the specification, adjust it with the center support bearing adjusting washer and differential adjusting shim.

Center support bearing adjusting washer thickness:

Thickness mm (in.)	Thickness mm (in.)
2.0 (0.079)	9.0 (0.354)
4.5 (0.177)	11.0 (0.433)
6.5 (0.256)	13.5 (0.531)

NOTICE:
- **Left and right washers should be the same thickness.**
- **2 washers should not be assembled together.**
- **Some vehicles are not assembled with washers.**