

SECTION **PR**  
PROPELLER SHAFT

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# PRECAUTIONS

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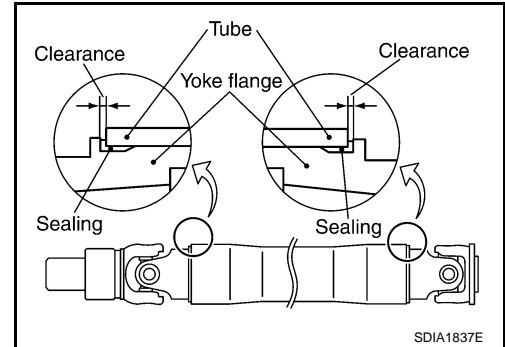
## SERVICE INFORMATION

### PRECAUTIONS

#### Precaution for Propeller Shaft

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- If propeller shaft is dropped, replace propeller shaft with new one.
- Do not hit, impact, or damage tube.
- If damage such as cracks or peeling off in sealing (joint between yoke and tube) is found, replace propeller shaft with new one.
- If there is chipping or bend in tube, replace propeller shaft with new one.
- Check that the clearance is between tube and yoke flange. If there is no clearance, replace propeller shaft.
- Protect propeller shaft with protector (special service tool) during work.



# PREPARATION

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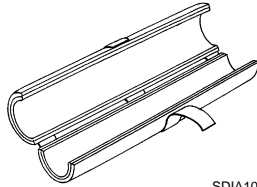
## PREPARATION

### Special Service Tool

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The actual shapes of Kent-Moore tools may differ from those of special service tools illustrated here.

Tool number (Kent-Moore No.) Tool name	Description
— (J-46208) Propeller shaft protector	Removing and installing propeller shaft



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# NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

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## NOISE, VIBRATION AND HARSHNESS (NVH) TROUBLESHOOTING

### NVH Troubleshooting Chart

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Use the chart below to help you find the cause of the symptom. If necessary, repair or replace these parts.

Reference page		PR-5	—	—	—	—	PR-5	PR-6	NVH in RFD section	NVH in FAX, RAX, FSU, and RSU section	NVH in WT section	NVH in WT section	NVH in RAX section	NVH in BR section	NVH in PS section
Possible cause and SUSPECTED PARTS		Uneven rotating torque	Center bearing improper installation	Excessive center bearing axial end play	Center bearing mounting (insulator) cracks, damage or deterioration	Excessive joint angle	Rotation imbalance	Excessive runout	DIFFERENTIAL	AXLE AND SUSPENSION	TIRE	ROAD WHEEL	DRIVE SHAFT	BRAKE	STEERING
Symptom	Noise	x	x	x	x	x	x	x	x	x	x	x	x	x	x
	Shake		x			x				x	x	x	x	x	x
	Vibration	x	x	x	x	x	x	x		x	x		x		x

x: Applicable

# REAR PROPELLER SHAFT

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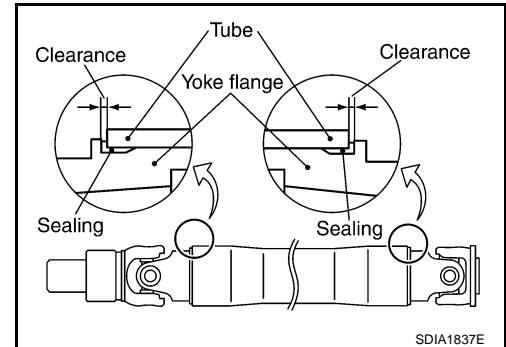
## REAR PROPELLER SHAFT

### On-Vehicle Inspection

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#### APPEARANCE AND NOISE INSPECTION

- Check the propeller shaft tube surface for dents or cracks. If damaged, replace propeller shaft assembly.
- If damage such as cracks or peeling off sealing (joint between yoke and tube) is found, replace propeller shaft with new one.
- Check that the clearance is between tube and yoke flange. If there is no clearance, replace propeller shaft.

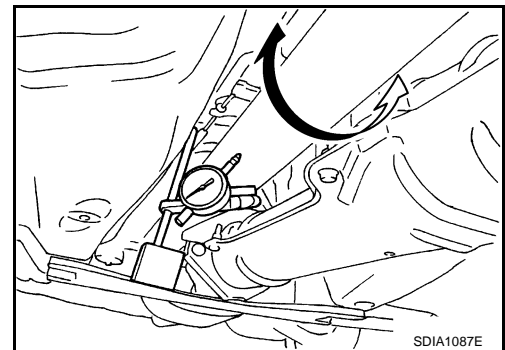


#### PROPELLER SHAFT VIBRATION

If vibration is present at high speed, inspect propeller shaft runout first.

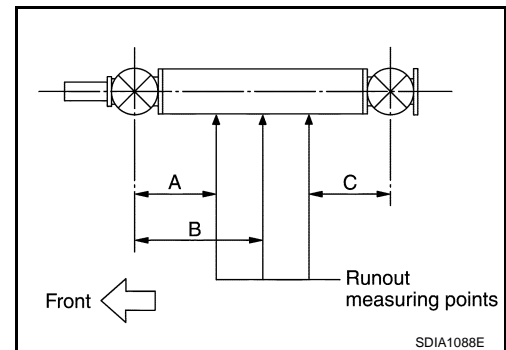
1. Measure propeller shaft runout at runout measuring points by rotating final drive companion flange with hands.

**Propeller shaft runout limit : 1.5 mm (0.059 in) or less**



#### Propeller shaft runout measuring points

- Dimension for M/T models**
- A: 340 mm (13.39 in)
  - B: 660.5 mm (26.00 in)
  - C: 340 mm (13.39 in)
- Dimension for A/T models**
- A: 340 mm (13.39 in)
  - B: 641.5 mm (25.26 in)
  - C: 340 mm (13.39 in)



2. If runout still exceeds specifications, separate propeller shaft at final drive companion flange; then rotate companion flange 90, 180, 270 degrees and install propeller shaft.
3. Check runout again. If runout still exceeds specifications, replace propeller shaft assembly.
4. Check the vibration by driving vehicle.

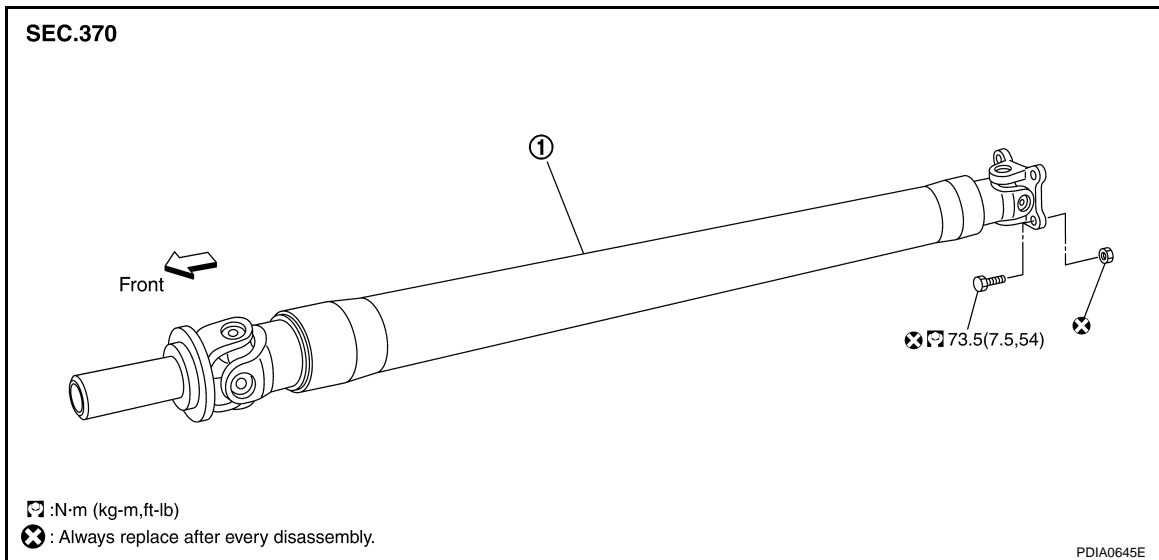
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# REAR PROPELLER SHAFT

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## Component

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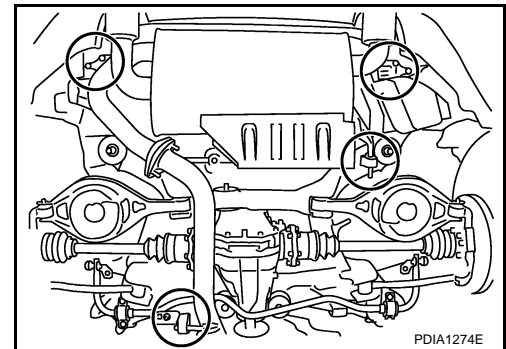
1. Propeller shaft

## Removal and Installation

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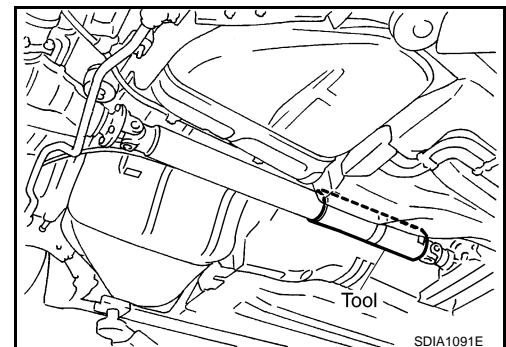
### REMOVAL

1. Set transmission to neutral position.
2. Release parking brake.
3. To keep space for removing propeller shaft, first detach rear-side mounts (4 locations) of exhaust tube and main muffler. Then lower exhaust tube and main muffler, and support them with jack or equivalent. (See the figure.)



4. Attach propeller shaft protector (special service tool) to propeller shaft. (When reused.)

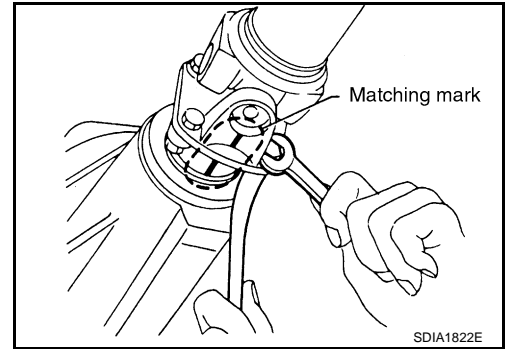
**Tool number** : — (J-46208)



# REAR PROPELLER SHAFT

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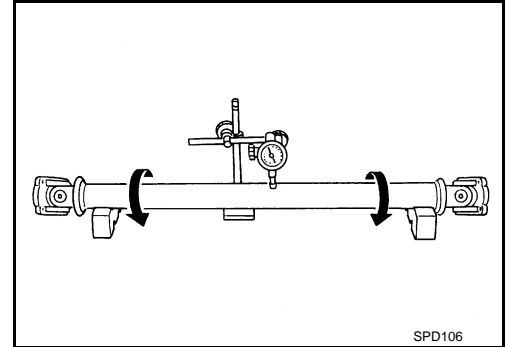
- Put matching marks on flange yoke with final drive companion flange. (When reused.)  
**CAUTION:**  
**For matching mark, use paint. Never damage flange yoke and companion flange.**
- Remove propeller shaft fixing bolts and nuts. Then propeller shaft.



## INSPECTION

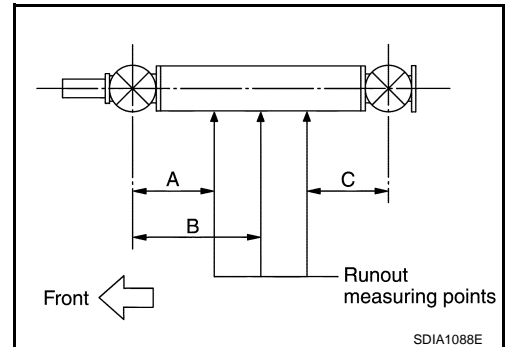
- Inspect propeller shaft runout at measuring points. If runout exceeds specifications, replace propeller shaft assembly.

**Propeller shaft runout limit : 1.5 mm (0.059 in) or less**



### Propeller shaft runout measuring points

<b>Dimension for M/T models</b>	<b>A: 340 mm (13.39 in)</b>
	<b>B: 660.5 mm (26.00 in)</b>
	<b>C: 340 mm (13.39 in)</b>
<b>Dimension for A/T models</b>	<b>A: 340 mm (13.39 in)</b>
	<b>B: 641.5 mm (25.26 in)</b>
	<b>C: 340 mm (13.39 in)</b>

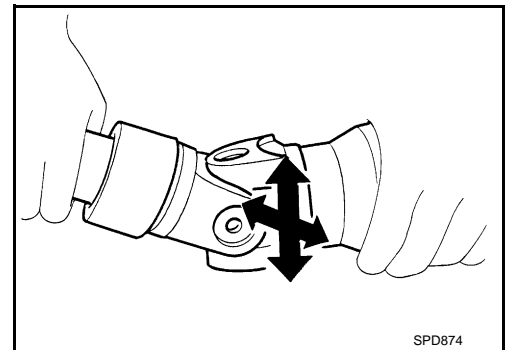


- Inspect journal axial play. If the play exceeds specifications, replace propeller shaft assembly.

**Journal axial play : 0 mm (0 in)**

- Check propeller shaft for bend and damage. If damage is detected, replace propeller shaft assembly.

**CAUTION:**  
**Never disassemble joints.**



## INSTALLATION

When Installing New Propeller Shaft

### CAUTION:

- When installing propeller shaft, handle it carefully.**
- Propeller shaft must be installed with packing material attached (delivered condition). Never install propeller shaft with packing material removed.**

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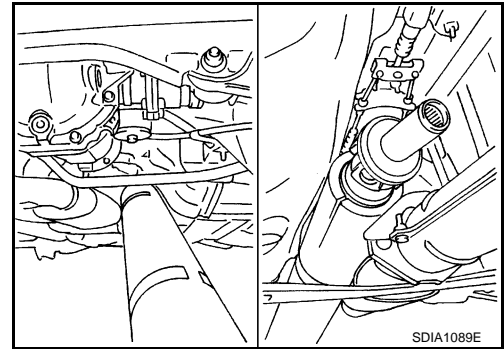
# REAR PROPELLER SHAFT

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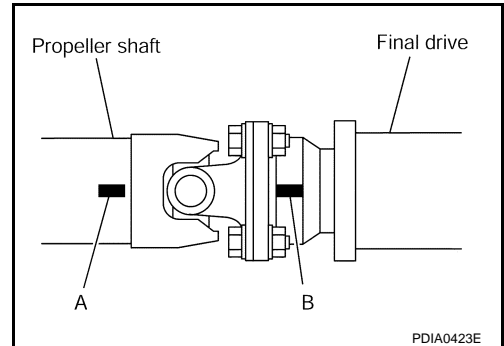
1. Insert propeller shaft with packing material between floor reinforcement and floor panel.

**CAUTION:**

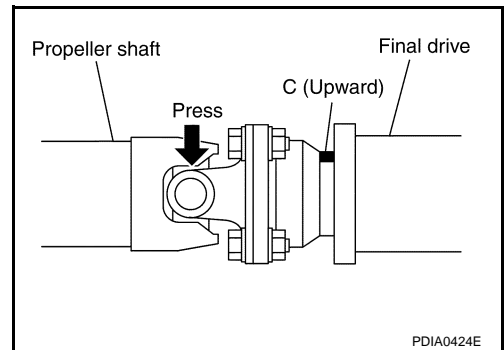
After insertion, check that shift control boot does not come off (M/T models).



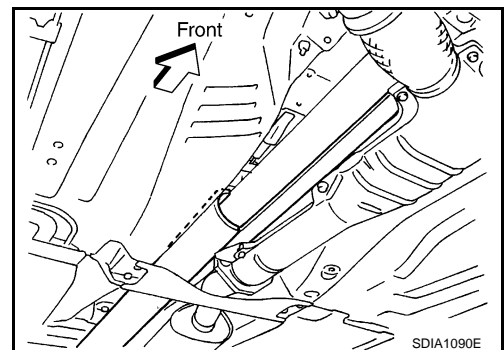
2. Install propeller shaft while aligning its matching mark (A) with the matching mark (B) on the joint as close as possible.
3. Temporarily tighten bolts and nuts.



4. Press down propeller shaft with matching mark (C) facing upward. Then tighten fixing bolts and nuts to the specified torque. Refer to [PR-6. "Component"](#).



5. Remove packing material from propeller shaft.
6. Return exhaust system to its original position. For tightening torque, [EX-3](#).
7. After assembly, perform a driving test to check propeller shaft vibration. If vibration occurred, separate propeller shaft from final drive. Reinstall companion flange after rotating it by 90, 180, 270 degrees. Then perform driving test and check propeller shaft vibration again at each point.



### When Installing Reused Propeller Shaft

**CAUTION:**

When installing propeller shaft, handle it carefully.

1. With propeller shaft protector (special service tool) attached, align matching marks to install propeller shaft to final drive companion flange, and then tighten to specified torque. Refer to [PR-6. "Component"](#).
2. Remove propeller shaft protector (special service tool) from propeller shaft.
3. Return exhaust system to its original position. For tightening torque, [EX-3](#).
4. After assembly, perform a driving test to check propeller shaft vibration. If vibration occurred, separate propeller shaft from final drive. Reinstall companion flange after rotating it by 90, 180, 270 degrees. Then perform driving test and check propeller shaft vibration again at each point.



# SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE INFORMATION >

## SERVICE DATA AND SPECIFICATIONS (SDS)

### General Specification

INFOID:000000004657057

Applied model	VQ35HR	
	M/T	A/T
Propeller shaft model	2S80A CFRP	
Number of joints	2	
Coupling method with transmission	Sleeve type	
Type of journal bearings	Shell type (Non-disassembly type)	
Distance between yokes	95 mm (3.74 in)	
Shaft length (Spider to spider)	1321 mm (52.007 in)	1283 mm (50.512 in)
Shaft outer diameter	85.0 mm (3.346 in)	

### Propeller Shaft Runout Limit

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Model	2S80A CFRP	
Propeller shaft runout limit	1.5 mm (0.059 in) or less	

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