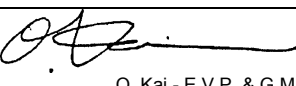




SERVICE BULLETIN

PUBLICATION GROUP, AFTER SALES SERVICE DEP.
MITSUBISHI MOTOR SALES EUROPE BV

SERVICE BULLETIN		No.: ESB-99E37-001																					
		Date: 1999-12-30	<Model> (EC) CARISMA <M/Y> 97-10																				
Subject: CHANGE TO POWER STEERING OIL PUMP																							
Group: STEERING																							
CORRECTION	 O. Kai - E.V.P. & G.M. After Sales Service Dept.																						
1. Description: The power steering oil pump has been changed in the shape of hub from the round type to a three-spoke type. Accordingly, removal and installation procedures of the power steering oil pump have been changed.																							
2. Applicable Manuals: <table border="1"> <thead> <tr> <th>Manual</th> <th>Pub. No.</th> <th>Language</th> <th>Page(s)</th> </tr> </thead> <tbody> <tr> <td rowspan="7">'97 CARISMA Workshop Manual Chassis Supplement</td> <td>PWDE9502-A</td> <td>(English)</td> <td rowspan="7">37A-1</td> </tr> <tr> <td>PWDS9503-A</td> <td>(Spanish)</td> </tr> <tr> <td>PWDF9504-A</td> <td>(French)</td> </tr> <tr> <td>PWDG9505-A</td> <td>(German)</td> </tr> <tr> <td>PWDD9506-A</td> <td>(Dutch)</td> </tr> <tr> <td>PWDW9507-A</td> <td>(Swedish)</td> </tr> <tr> <td>PWDI96E1-A</td> <td>(Italian)</td> </tr> </tbody> </table>				Manual	Pub. No.	Language	Page(s)	'97 CARISMA Workshop Manual Chassis Supplement	PWDE9502-A	(English)	37A-1	PWDS9503-A	(Spanish)	PWDF9504-A	(French)	PWDG9505-A	(German)	PWDD9506-A	(Dutch)	PWDW9507-A	(Swedish)	PWDI96E1-A	(Italian)
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	PWDI96E1-A	(Italian)																					
3. Details:																							

GROUP 37A STEERING

<Added>

GENERAL OUTLINE OF CHANGES

"SPECIAL TOOLS" on the following page comes here.

- The following service procedures have been added to the addition of the diesel-powered vehicle.
Applicable models: 1900D
 - Removal and installation of the power steering oil pump
 - Removal and installation of the power steering hoses

POWER STEERING OIL PUMP <Round hub type> <Added>

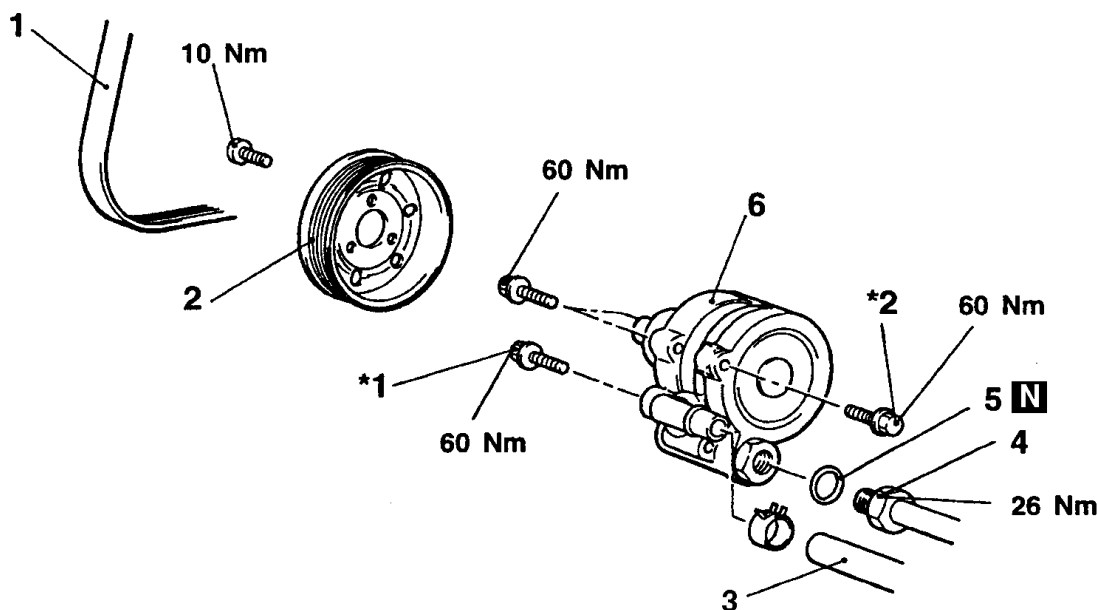
REMOVAL AND INSTALLATION

Pre-removal Operation

- Power Steering Fluid Draining
- Timing Belt Lower Cover Removal (Refer to GROUP 11 - Crankshaft Pulley.)

Post-installation Operation

- Power Steering Fluid Supplying
- Drive-belt Tension Adjusting
- Power Steering Fluid Line Bleeding
- Oil Pump Pressure Check
- Timing Belt Lower Cover Installation (Refer to GROUP 11 - Crankshaft Pulley.)



Removal steps

- Drive belt
- Power steering pump pulley
- Suction hose connection
- Pressure hose connection
- O-ring

6. Oil pump

NOTE

*1: Vehicles with A/C

*2: Vehicles without A/C

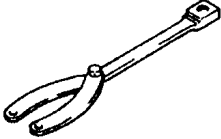
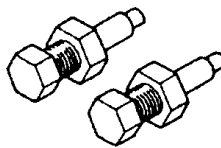

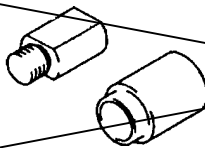
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Descriptions on pages 4 to 6 added here.

INSPECTION

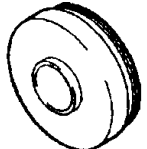
Check the drive-belt for cracks.
Check the pulley assembly for uneven rotation

SPECIAL TOOLS

Tool	Number	Name	Use
 B991367	MB991367	Special spanner	Removal and installation of the power steering pump pulley
 B991394	MB991394	Pin set	
	MB996047	Special bolt	Installation of the power steering pump hub
 MD999574		セカンドサーボポンプレッサーアダプターセット	

<Old>

<New>

	MD998815	Adapter, installer
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POWER STEERING OIL PUMP <3-SPOKE HUB TYPE>

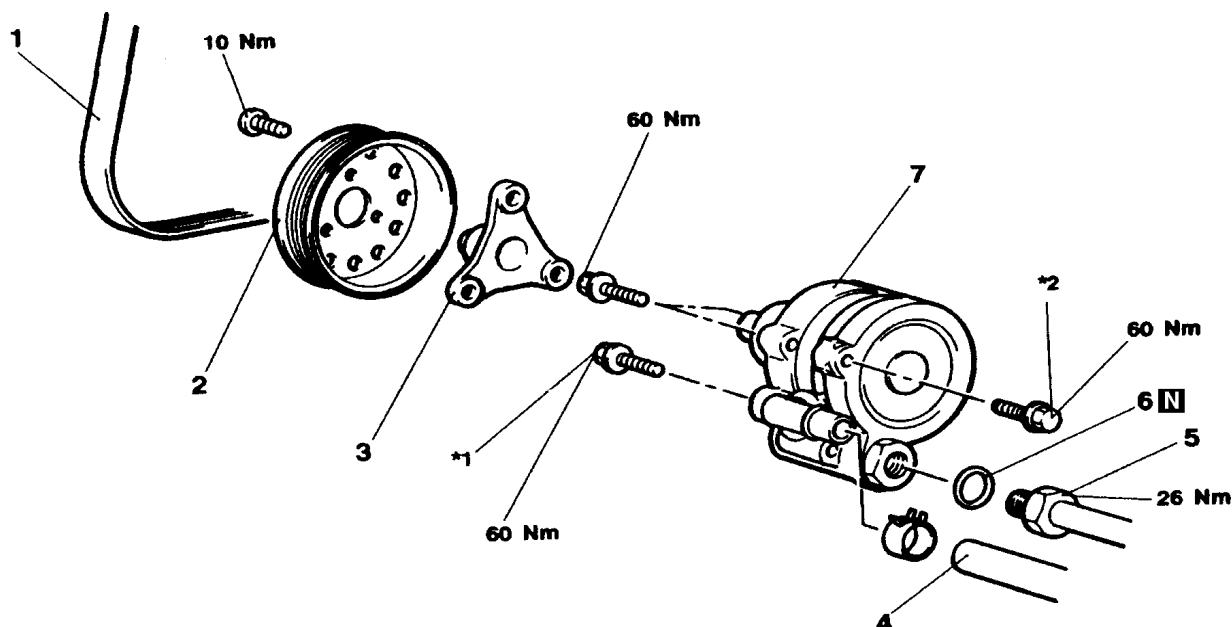
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REMOVAL AND INSTALLATION**Pre-removal Operation**

- Power Steering Fluid Draining.
- Hydraulic unit remove <Vehicles with ABS>
- Alternator remove.

Post-installation Operation

- Alternator installation
- Hydraulic unit installation. <Vehicles with ABS>
- Power Steering Fluid Supplying.
- Drive Belt Tension Check.
- Power steering Fluid Line Bleeding.
- Oil Pump Pressure Check



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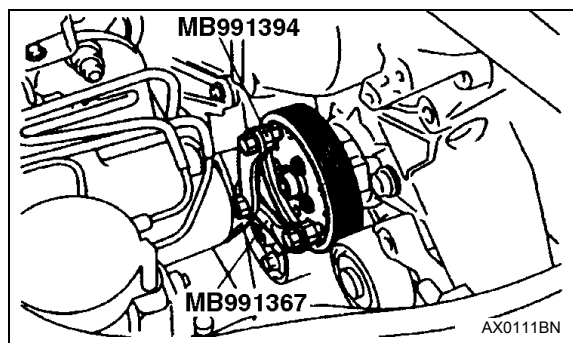
Removal steps

◀A▶ ▶B▶
◀B▶ ▶A▶

1. Drive belt
2. Power steering pump pulley
3. Power steering pump hub
4. Suction hose connection
5. Pressure hose connection
6. O-ring
7. Oil Pump

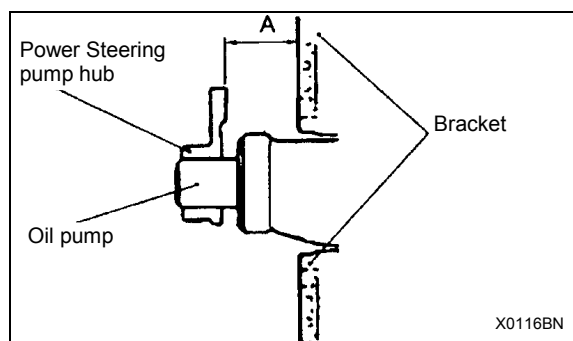
NOTE

- *1: Vehicles with A/C
*2: Vehicles without A/C

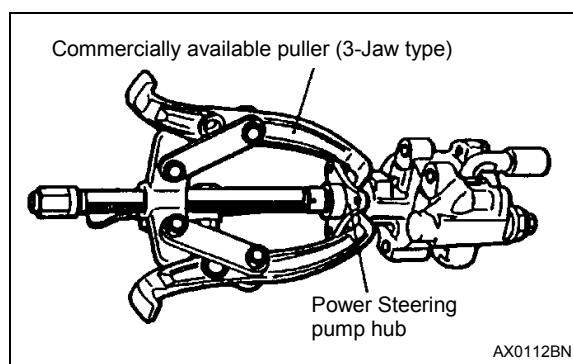
**REMOVAL SERVICE POINT**◀A▶ **POWER STEERING PUMP PULLEY REMOVAL**

◀B▶ POWER STEERING PUMP HUB REMOVAL

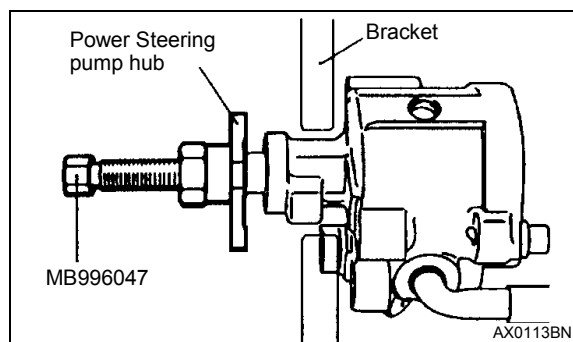
1. Remove the engine mount (RH) to body bolts. Lift the engine on a garage jack, etc. to ensure that the working space is available.



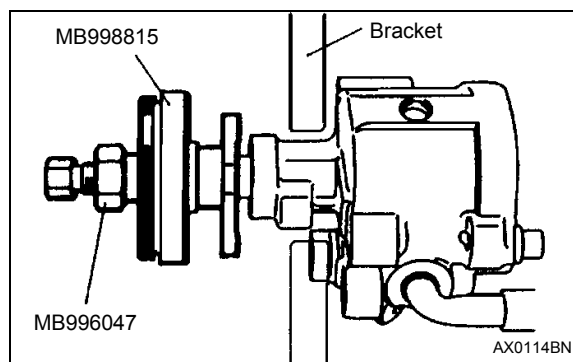
2. Measure dimensions A between the power steering pump hub and the bracket.

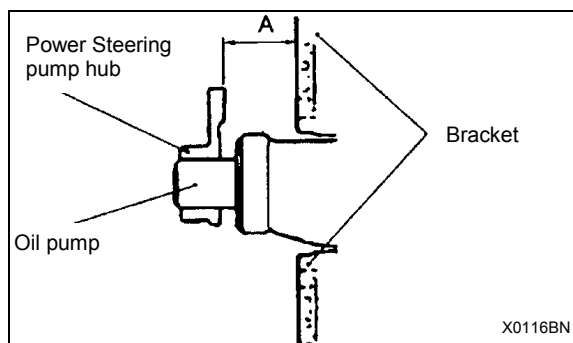


3. Using a commercially available puller (3-jaw type), remove the power steering pump hub.

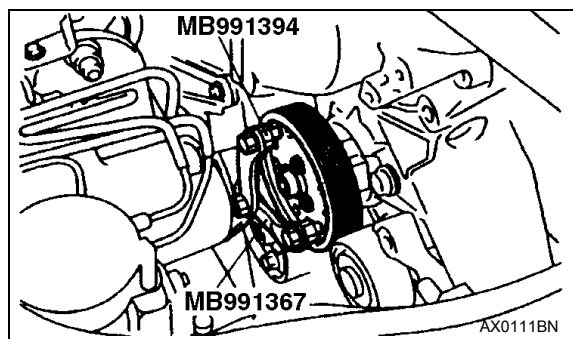
**INSTALLATION SERVICE POINTS****◀A▶ POWER STEERING PUMP HUB INSTALLATION**

1. Install the special tool in the power steering pump hub, and install the bolt of the special tool to the oil pump.
2. Holding the bolt of the special tool from turning, install the power steering pump hub while turning the nut.
3. When the nut of the special tool no longer turns, remove the special tool.
4. Combine special tool MB996047 and special tool MD998815, and again install the bolt of the special tool on the power steering pump.





5. Secure the bolt of the special tool to prevent it from turning until dimension (A) between the power steering pump hub and the bracket becomes the same as before removal. Then turn the nut to install the power steering pump hub.
6. Install the engine mount to body bolts.



►◄ POWER STEERING PUMP PULLEY INSTALLATION