

V O L V O

Volvo Car USA LLC

Technical Journal

Technical Journal Title Long Range PHEV ERAD Knocking Noise Repair Kit		Ref. No. TJ 36894.5.1	
Issuer (Dept.) Technical Service		Issue Date 12/3/24	Status Date 12/4/24
Car Market United States and Canada	Partner 3 US 7510 Volvo Car USA	Function Group 4632	
Function Description Electrical rear axis drive		Page Page 1 of 13	

Rows beginning with * are modified

Note! If using a printed copy of this Technical Journal, first check for the latest online version.

Attachment

File Name	File Size
Step-by-Step Repair Instructions TJ 36894.pdf	0.0492 MB
TJI-528981-1_1_9_en-US (1).pdf	2.8956 MB

DESCRIPTION:

*Updated info about the Torx socket

If a customer notices a knocking noise from the ERAD during acceleration or deceleration at low speeds, please follow the advice under "Service."

ERAD = Electric Rear Axle Drive

PHEV = Plug-In Hybrid Electric Vehicle

CSC Customer Symptom Codes

Code	Description
8N	Driving/Unusual noise/Unsure when/at all times
F2	Driving/Unusual noise/During acceleration
ZE	Idling/Unusual noise
D2	Front/rear axle/Unusual noise

DTC Diagnostic Trouble Codes

Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
224	H6	BH6PHEV					2022-2023		-	202147-202307
225	H6	BH6PHEV					2022-2023		-	202147-202307
238	H6	BH6PHEV					2022-2023		-	202201-202307
246	H6	BH6PHEV					2022-2023		-	202147-202307
256	H6	BH6PHEV					2022-2023		-	202147-202307

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SERVICE:

First please watch the attached video to ensure the customer's vehicle makes the noise addressed in this technical journal.

A repair kit is now available instead of replacing complete ERAD units for this issue.

- Please order part number 32411580 and follow the attached instructions.

NOTE: The gaskets included in the repair kit are only necessary to replace if damaged. Also, **grease and abrasive cloth are not included in the kit** and must be ordered separately (PN 1161748 and 9511024).

NOTE: A **T30 5-point security Torx socket** (aka Pentalobe Security bit) is required for this repair.

NOTE: In cases where the bearing is stuck in the cover, also order the new Bearing kit part number:32411722. **(When this repair is performed claim op 98587-3.)**

Warranty claim info:

To get a warranty claim accepted for a job described in this TJ, use the corresponding VST OP number stated in this TJ.

Note that the TJ number must be stated in the repair order text.

VST Operation Number

VST Operation Number	Description
98298-2	Bearing, ERAD, cleaning acc. to TJ
97733-3	High voltage battery disconnect/connect and insulation measurement acc. QB/TJ
98587-3	Bearing, ERAD, replace acc. to TJ

VEHICLE REPORT:

Yes, please submit a Vehicle Report if the service solution described in this TJ has no effect. Use concern area "Vehicle Report" and sub-concern area "Support Needed," use function group 4632.

To view TJ attachments continue to next page. This TJ has two attachments.

Overview

This noise is a result of corrosion on a bearing race surface. The typical repair procedure is to remove the covers, clean the bearing surfaces, apply grease, and reassemble. The gaskets are provided in case they are needed. In rare cases the resolver wheel may be found to be loose, or the bearing is stuck in the housing, in this event, the bearing kit must be ordered.

Disassembly

The top rectangular cover is removed first. A gasket for this cover is included in the kit, but it only needs to be replaced if the original one is damaged. Underneath this cover is a wire clip (also included in the kit) and two connectors that need to be disconnected.

Next, remove the smaller side cover, a gasket is included for this cover as well. Again, it is only necessary to replace if the original gasket is damaged.

Next, remove the larger side cover which the previous piece was bolted to. A gasket is included for this cover as well. Again, it is only necessary to replace if the original gasket is damaged.

Bearing Replacement:

Note: This section is only followed if the bearing remains in the side cover and/or the 4 lobed clover resolver wheel was removed from the shaft or appears to be loose.

Order Bearing Kit part number 32411722. This kit includes one replacement bearing and one 4 lobed resolver wheel.

To remove the bearing from the side case, place the side casing in a hydraulic press. Support the bottom of the side case using special tool 999 7095. Press the bearing out of the cover using tool 999 7176 or equivalent.

Install the new bearing on the shaft using special tool 999 7542.

Install the resolver wheel on the shaft using special too 999 7546.

Repair

Remove the "wave" type washer from the inside of the large side cover.

Using abrasive cloth (not included in the kit) clean any corrosion from the outside surface of the bearing. Ensure there are no bits of abrasive cloth left after cleaning.

Repeat the process on the bearing mating surface inside of the large side cover.

Apply a thin and even layer of grease (not included in the kit) to both surfaces which were just cleaned.

Reinstall the "wave" type washer on the inside of the large cover.

Reassembly:

Reassemble in reverse order of disassembly, taking note of the torque specs listed during the disassembly instructions.



Volvo Car Customer Service

TJ Instruction VCC-528981-1

Title	ERAD bearing	Page	1 (10)
Action	Product fix	Operation number:	98298-2 97733-3

Issue	Date	Reason
1	2024-04	Technical content change

Affected vehicles

Model year	Model	Transmission
2022, 2023	S60 (19-)	TG-81SD
2022, 2023	S90 (17-)	TG-81SD
2022, 2023	S90L	TG-81SD
2022, 2023	V60 (19-)	TG-81SD
2022, 2023	V90 (17-)	TG-81SD
2022, 2023	XC60 (18-)	TG-81SD
2022, 2023	XC90 (16-)	TG-81SD

Materials

Materials	Qty.	Part No.	Notes
Abrasive cloth	0.3	9511024	
Splines grease	0.5	1161748	Consumable;

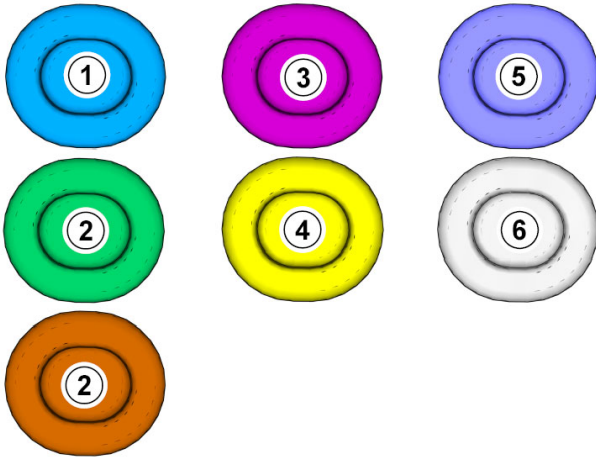
Special tools

Description	Part No.
Socket	999 7095
Drift	999 7176
Counterhold	999 7542
Drift	999 7546

Equipment

Designation	Part No.
Hydraulic press	
Copper mallet	

Color symbols



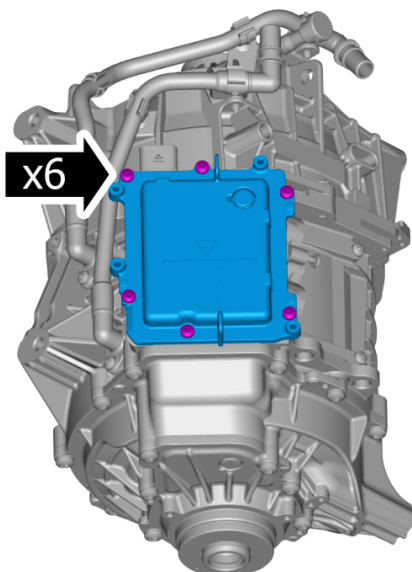
Note! This colour chart displays (in colour print and electronic version) the importance of the different colours used in the images of the method steps.

- 1 . Used for focused component, the component with which you will do something.
- 2 . Used as extra colors when you need to show or differentiate additional parts.
- 3 . Used for attachments that are to be removed/installed. May be screws, clips, connectors, etc.
- 4 . Used when the component is not fully removed from the vehicle but only hung to the side.
- 5 . Used for standard tools and special tools.
- 6 . Used as background color for vehicle components.

Removal

Remove electric rear axle drive ERAD , refer to:

- Removal, replacement and installation
- 4 - Power transmission
- 46 - Rear axle, drive shafts
- 465 - final drive (front and rear)

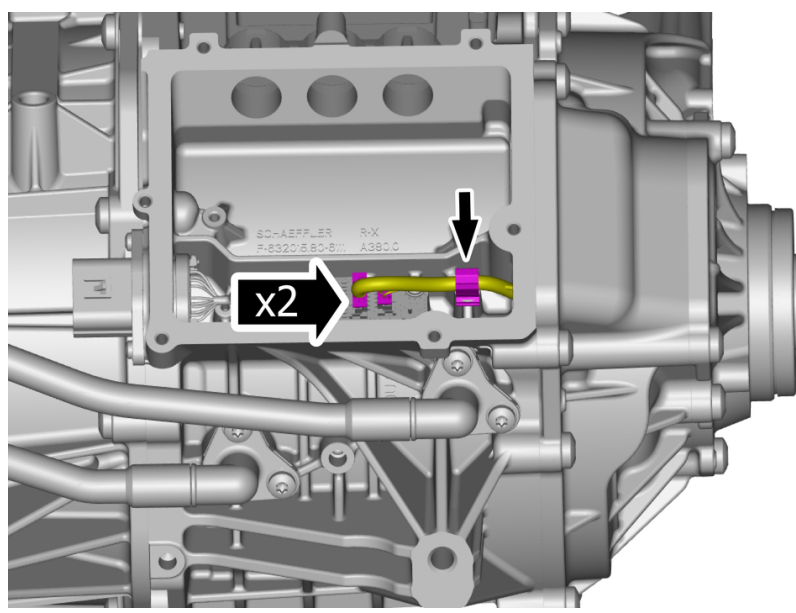


Remove the screws.

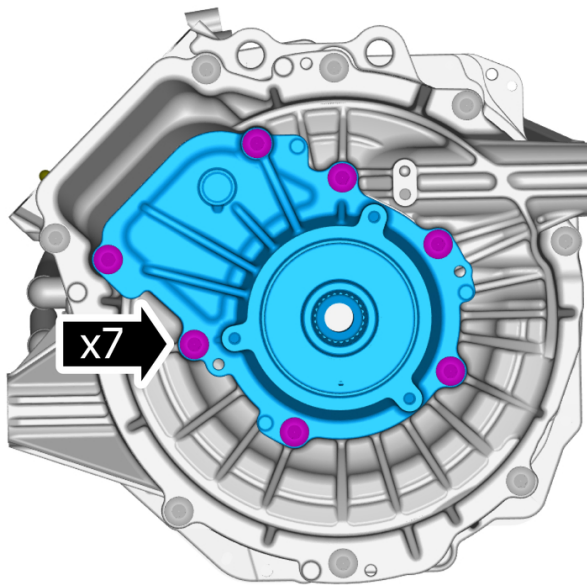
Remove the marked part.

Torque:

High voltage wiring harness lid, ERAD ,
9 Nm



Disconnect the connectors.
Loosen the fastener.

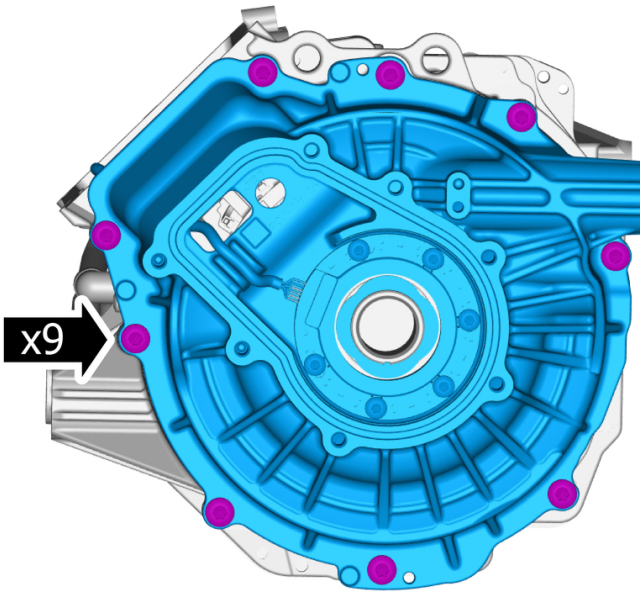


Caution! Take extra care when handling the components.

Remove the screws.
Remove the marked parts.

Torque:

Inner shaft lid screw, ERAD , 23 Nm

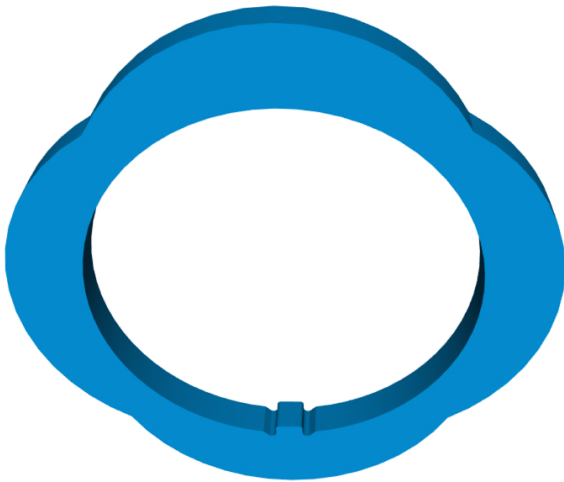


Caution! Take extra care when handling the component.

Remove the screws.
Remove the marked part.

Torque:

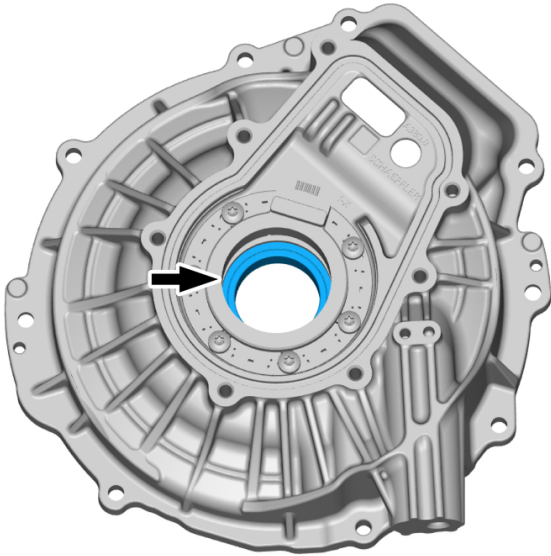
Electric motor cover screw, ERAD , 23 Nm



Caution! If the component is loose, a new component must be installed.

The following steps apply if damages are discovered

Note! Orientation view

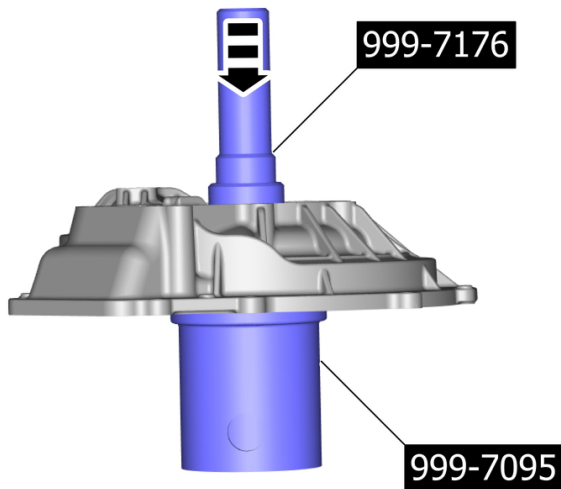


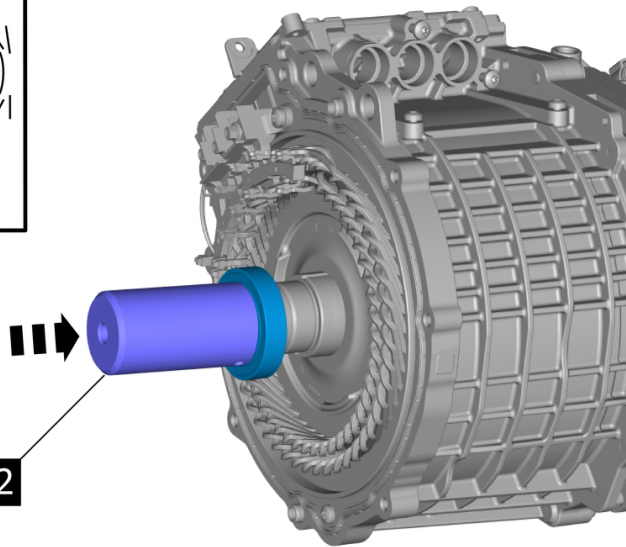
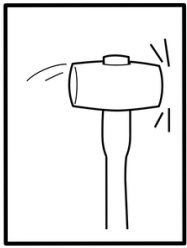
Install the Special tool.

Special Tool: T9997095, Socket

Special Tool: T9997176, Drift

Use: Hydraulic press



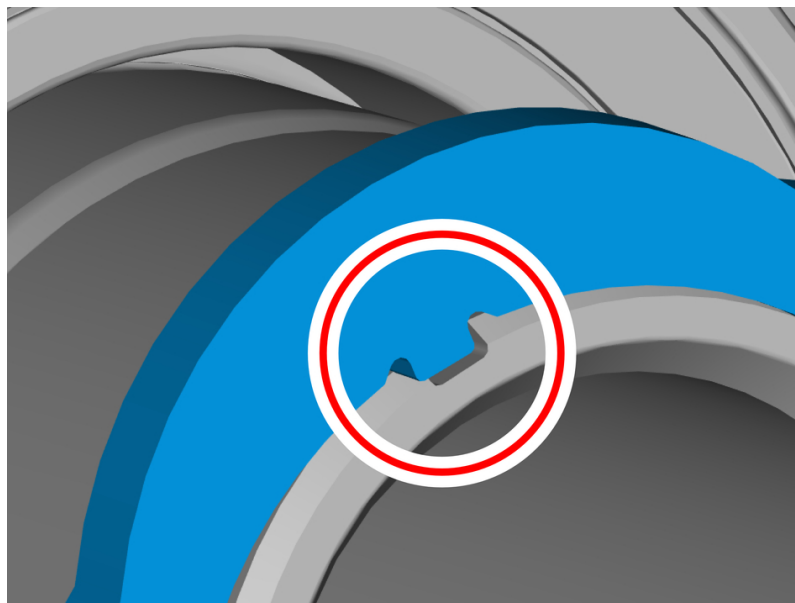


999-7542

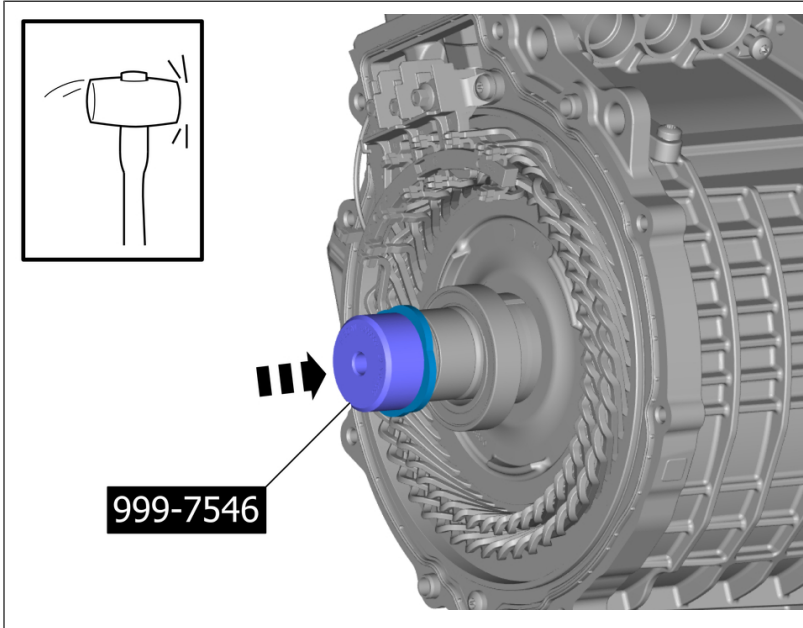
Install the marked component.

Special Tool: T9997542, Counterhold

Use: Copper mallet



Note! Orientation view



Install the marked component.

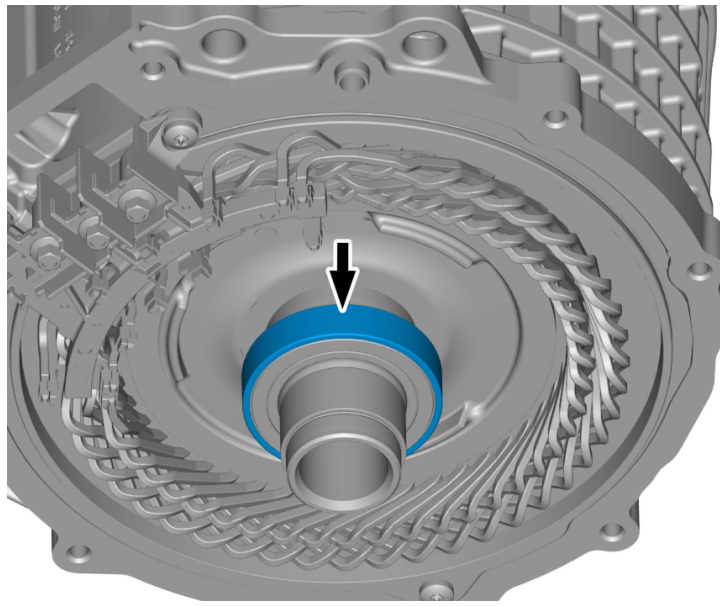
Special Tool: T9997546, Drift

Use: Copper mallet

Continue the removal following the steps below.



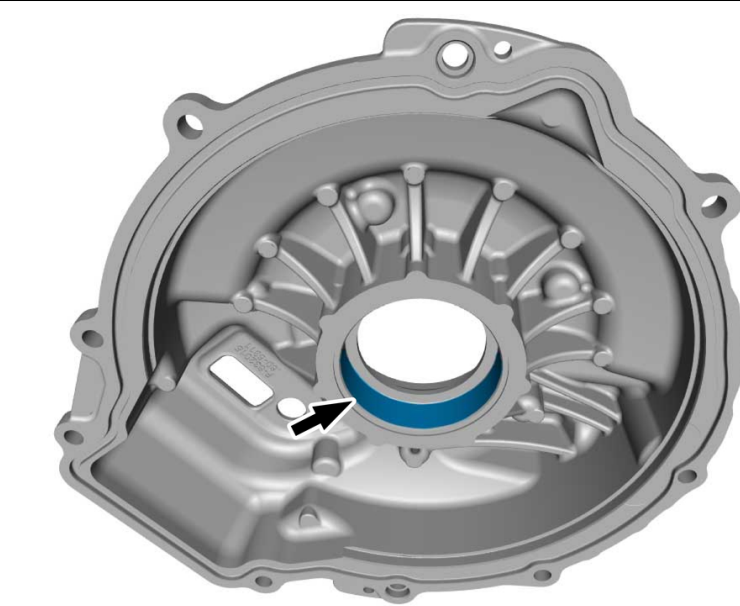
Remove the marked part.



Caution! Make sure that the surface is clean and free of foreign material.

Clean the marked area.

Use: Abrasive cloth , 9511024

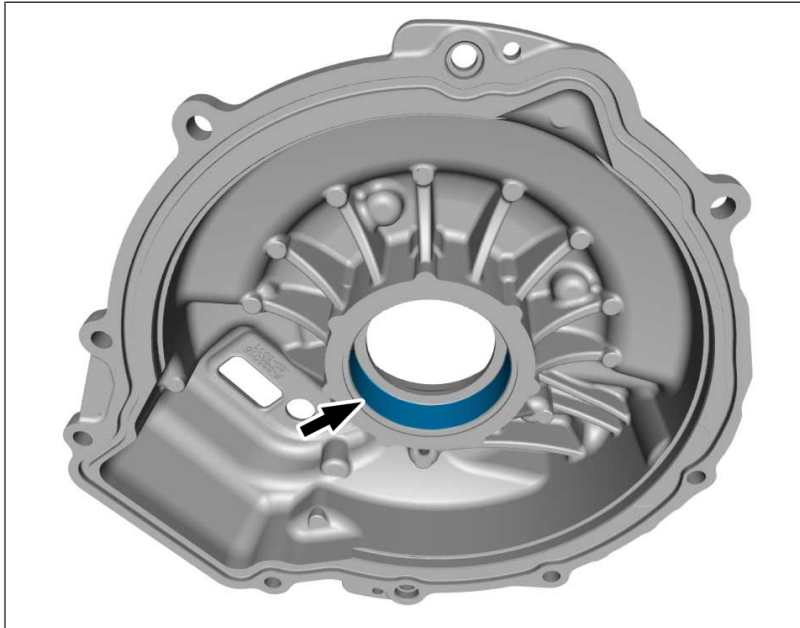


Caution! Make sure that the surface is clean and free of foreign material.

Clean the marked area.

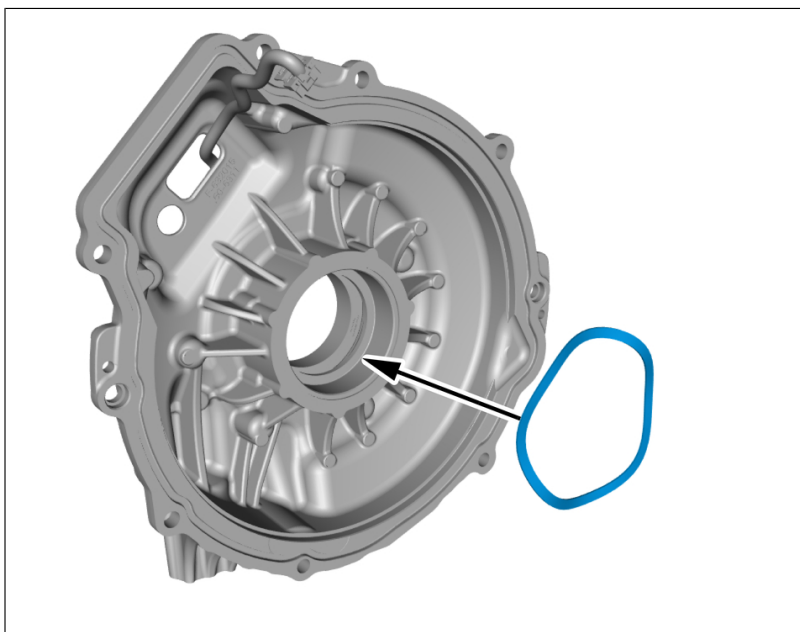
Use: Abrasive cloth , 9511024

Installation

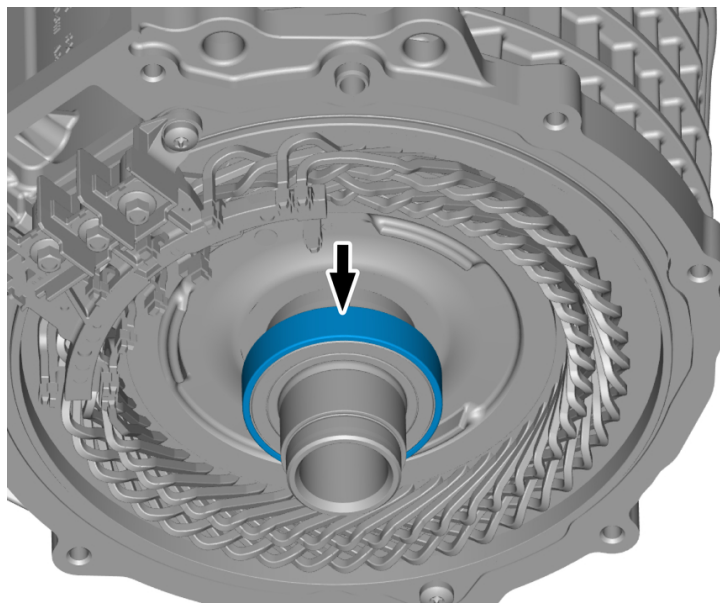


Apply grease on the area indicated.
Apply a thin and even layer.

Use: Splines grease , 1161748



Install the marked component.



Apply grease on the area indicated.
Apply a thin and even layer.

Use: Splines grease , 1161748

To install, reverse the removal procedure.