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Coding Information

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Title: S13 Gear Housing Leak (By The Air Compressor)

Applies To: S13 Integrated Powertrain LT RH HX

## Change Log

Please refer to the change log text box below for recent changes to this article:

07/14/2025 - Updated the service part table  
 05/21/2025 - Updated tools availability  
 05/14/2025 - Adding figures under warranty information to clarify on claiming this repair  
 05/06/2025 - Added parts catalog part number for the installation tool  
 04/15/2025 - Added warranty information, added clarification on tools  
 02/17/2025 - Added repair instruction steps.

## Description

The purpose of this document is to properly identify and repair a leak at the rear gear housing boss.

**If the repair below is followed, ensure the campaign warranty process is followed. Filing instructions are listed in the Warranty section below. Please note, the SRT allowance is for the entirety of this article**

## Symptoms

Diagnostic Trouble Codes & Dashboard Indicator Lights:

DTC/Light	Description
No Faults or Warning Lights	

Customer Observations or Concerns:

- Oil drip at the bottom of the rear gear housing near the compressor

## Special Tools / Software

Tool Description	Tool Number	Parts Catalog Part #	Comments
Punch and Extension Handle tool	12-573-01	1257301	Field repair installation tool

International shipped tools at NO COST to the main Dealer locations on the week of 4/29/2025. **Additional tools are available for purchase through tools catalog.** Tool availability for purchase through Parts Catalog - timing TBD

## Service Parts Information

Kit Description	Part Number	Quantity Required	Notes
Ribbed Sleeve	7109504C1	1	
Plug	7109506C1	1	
Loctite 603	acquire locally		

## Diagnostic Steps

**WARNING!** To prevent property damage, personal injury, and / or death, park vehicle on a hard, flat surface, turn the engine off, set the parking brake, and install wheel chocks to prevent the vehicle from moving in either direction.

**WARNING!** To prevent property damage, personal injury, and / or death, if the vehicle must be raised, do not work under the vehicle supported only by jacks. Jacks can slip or fall over.

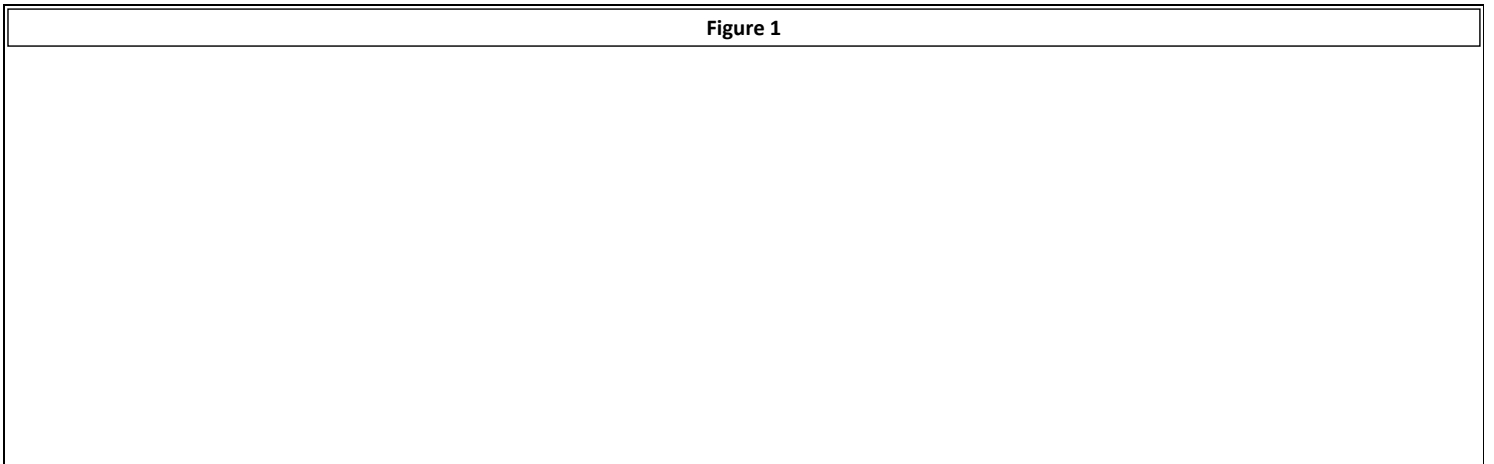
**WARNING!** To prevent personal injury and / or death, always wear safe eye protection when performing vehicle maintenance.

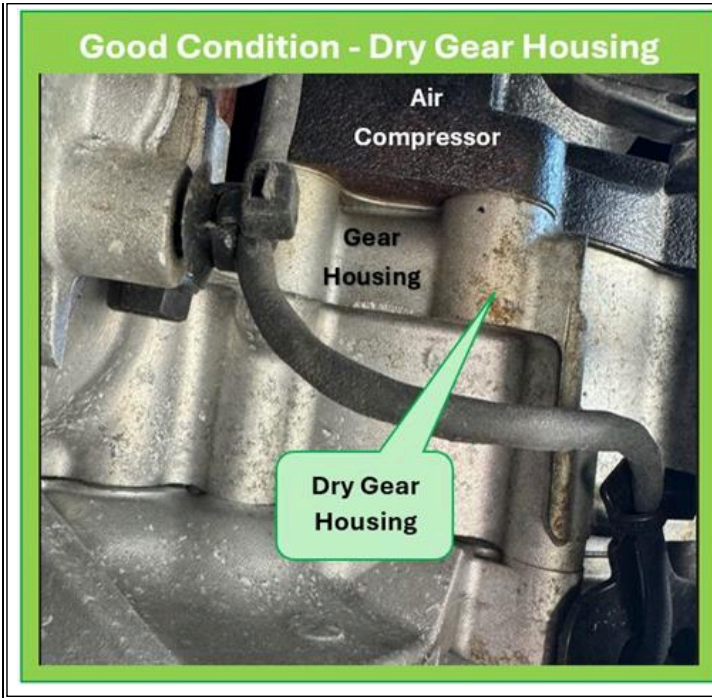
**WARNING!** To prevent property damage, personal injury, and / or death, keep flames or sparks away from vehicle and do not smoke while servicing the vehicle's batteries. Batteries expel explosive gases.

**WARNING!** To prevent property damage, personal injury, and / or death, remove the ground cable from the negative terminal of the battery box before disconnecting any electrical components. Always connect the ground cable last.

Step	Action	Decision
1	<b>DIAGNOSTIC:</b> Per Figure 1 below, inspect for oil being present at the bottom of the gear housing near the air compressor	<b>Yes:</b> Go to step 2
	<b>YES/NO QUESTION?</b> Is oil present at the bottom of the gear housing at the area as shown in Figure 1?	<b>No:</b> Reference <b>IK1201505</b> for other leak locations

Figure 1





Step	Action	Decision
	<p><b>DIAGNOSTIC:</b></p> <p>Use Figure 2, Figure 3, and Figure 4 below to assist in inspecting for oil seeping past the machined exposed boss surface</p>	<p><b>Yes:</b> Go to Repair Steps</p>
2	<p>*NOTE* The International S13 engine has oil dye added from the plant</p> <p>*NOTE* If oil is noticed, clean it using a degreaser and verify that the oil is coming through the machined surface</p> <p>*NOTE* Run a regen for half-hour, this would give sufficient time to develop a leak after cleaning to assist in confirming the leak location</p> <p><b>YES/NO QUESTION?</b></p> <p>Is there oil leaking at the machined boss area?</p>	<p><b>No:</b> Reference <b>IK1201505</b> for other leak locations</p>

Figure 2 - Using a mirror to inspect between the lower compressor stud and the block



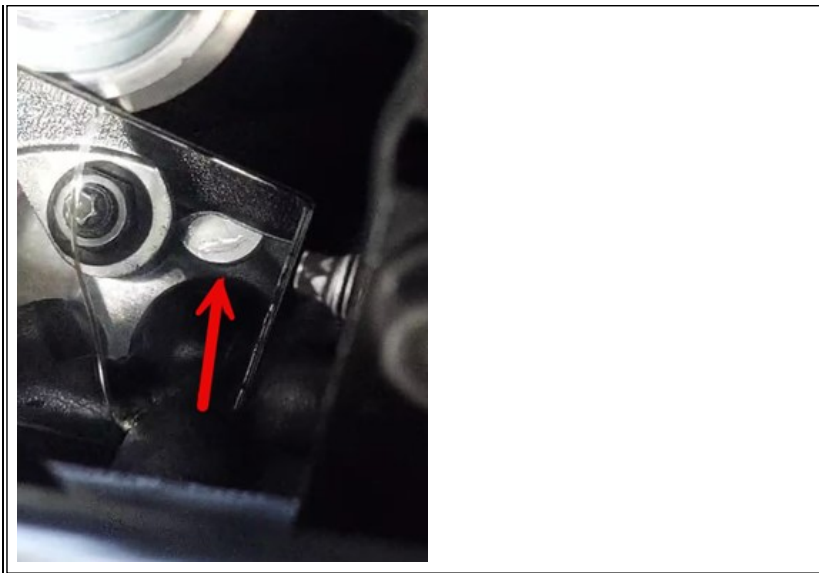
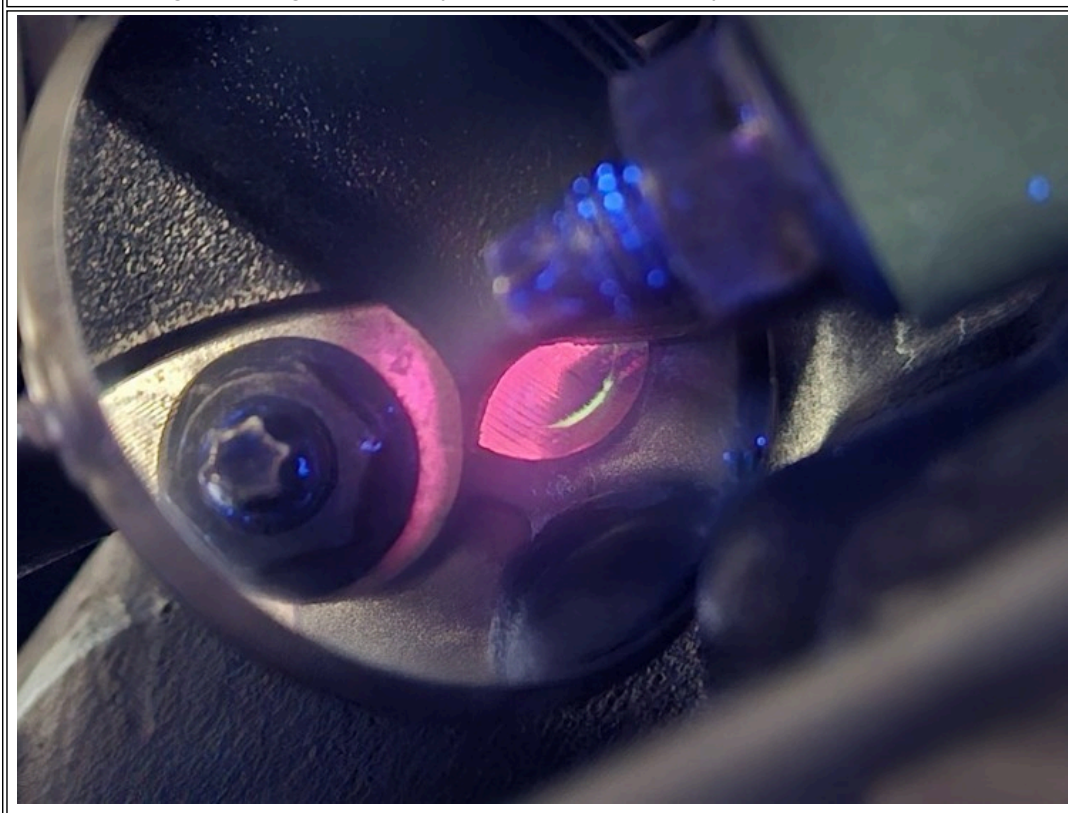
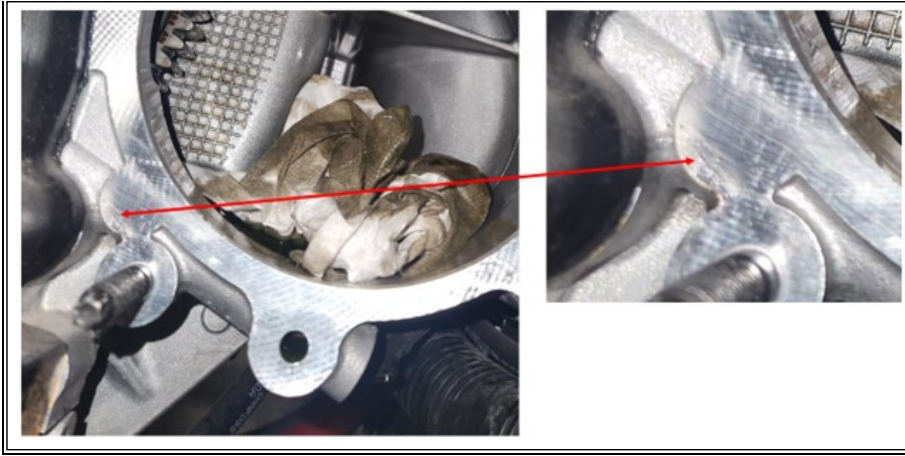


Figure 3 - Using a mirror to inspect between the lower compressor stud and block



**\*NOTE\*** - Below Figure 4, the air compressor is removed to assist in showing the area in question; the compressor does not need to be removed to inspect for the boss leak

Figure 4



## **Repair Step(s)**

The steps below are specific to repairing a leak at the exposed machined boss as described above

1. Bring the vehicle to a level surface, wheels chocked, and let the vehicle run until the engine reaches operating temperatures

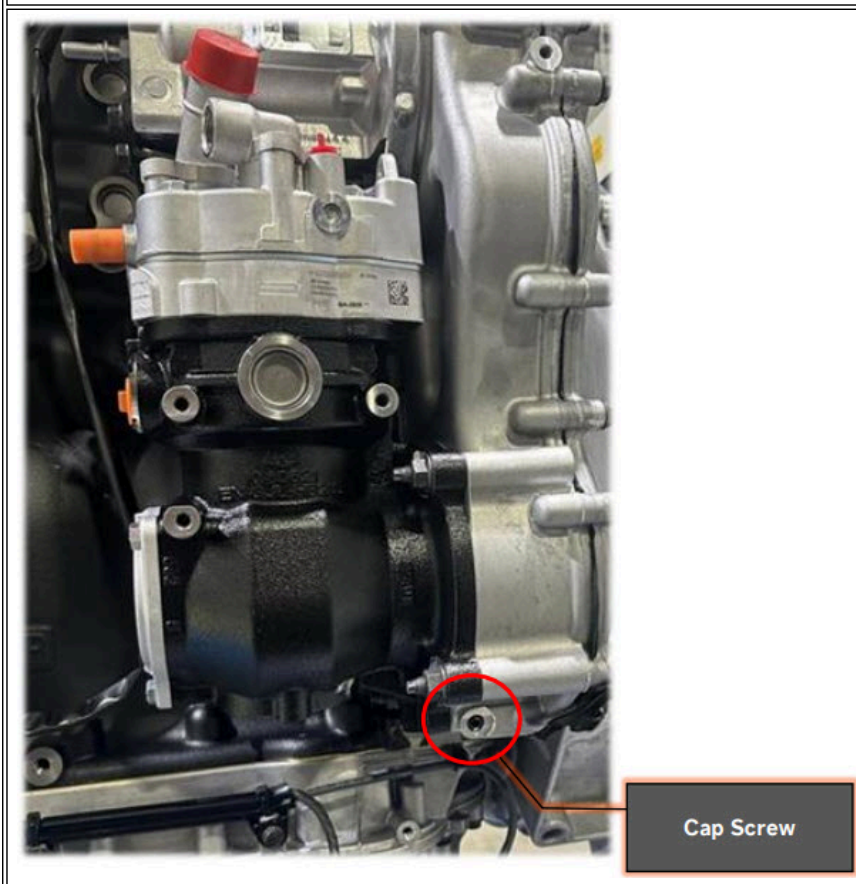
2. Shut the engine off - let it sit for approximately 15 minutes

**NOTE:** For repair effectiveness, this repair needs to be completed with the engine still warm/hot after shutting the vehicle off - do not let it sit for an extended period of time before performing the repair

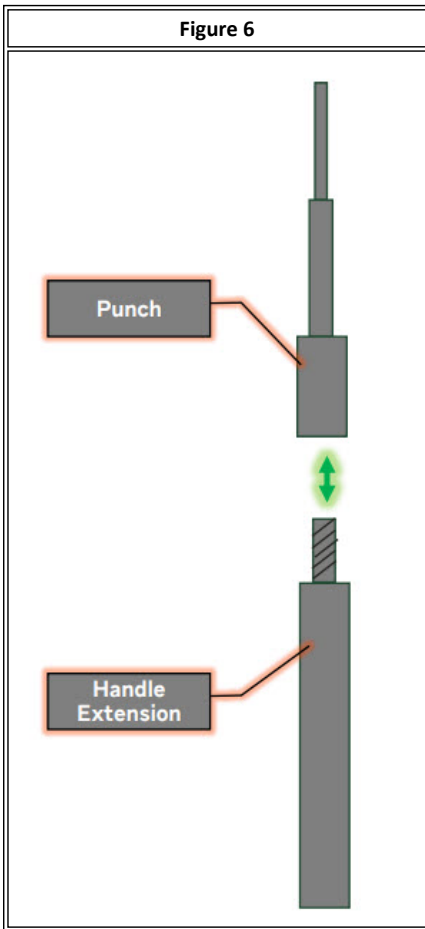
3. Clean off the area around the cap screw (reference Figure 5) with engine degreaser to ensure no debris could be introduced into open oil system

4. Remove the cap screw at the bottom of the gear housing (reference Figure 5) to expose the oil galley and allow the residual oil to drain

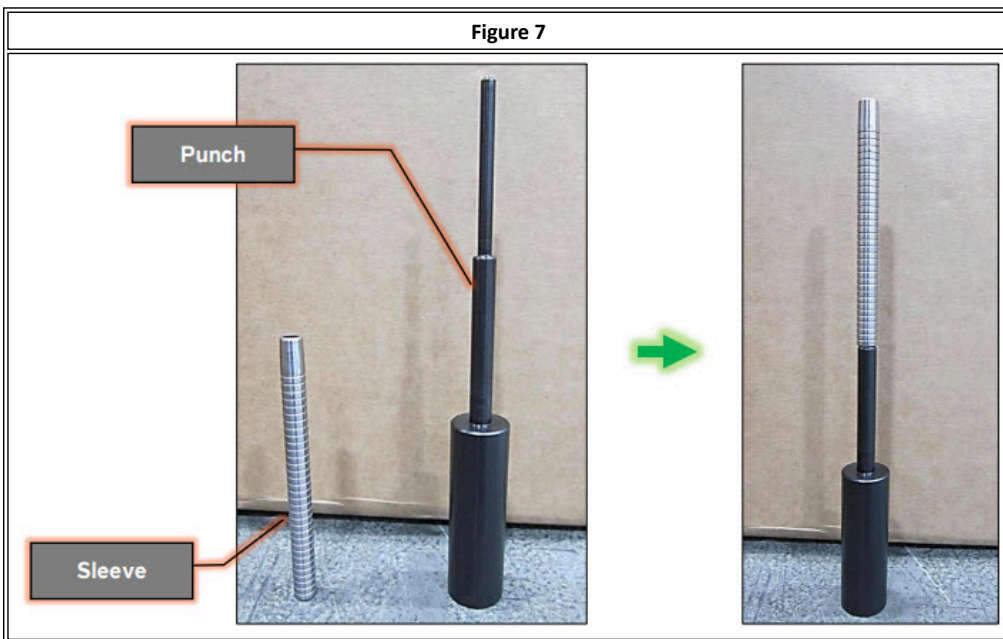
**Figure 5**



5. Assemble the tool by installing the extension handle onto the sleeve and installing punch (reference Figure 6)

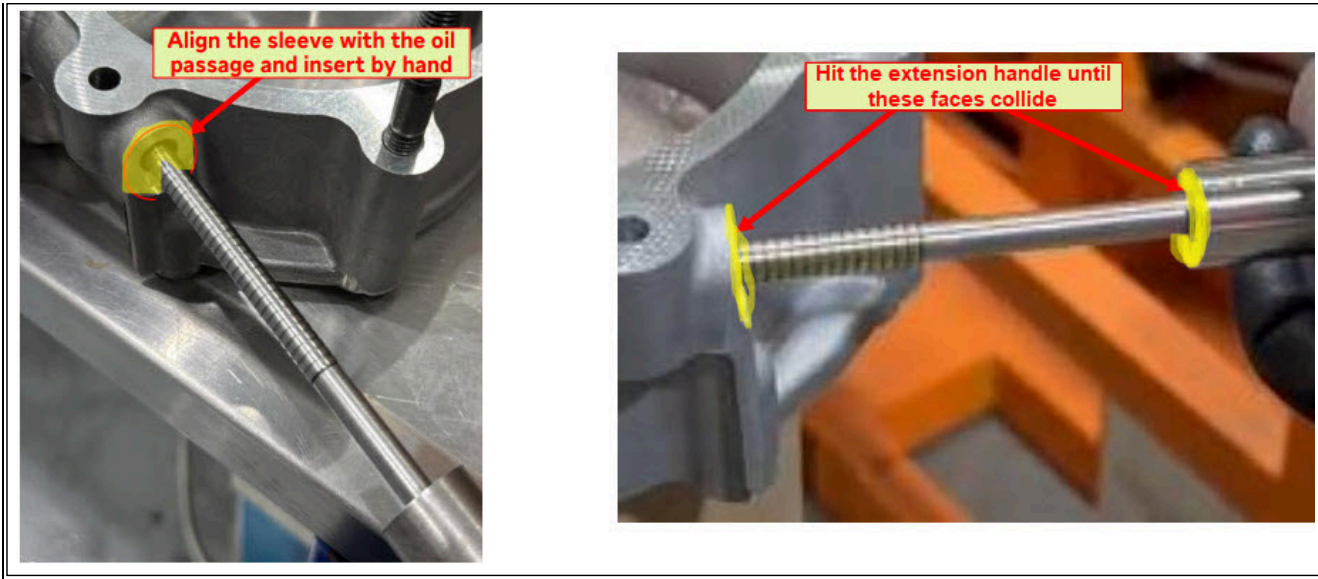


6. Take the sleeve, spray it with a degreaser to ensure it is clean, and install the sleeve onto the tool with the tapered end facing away from the tool (reference Figure 7)



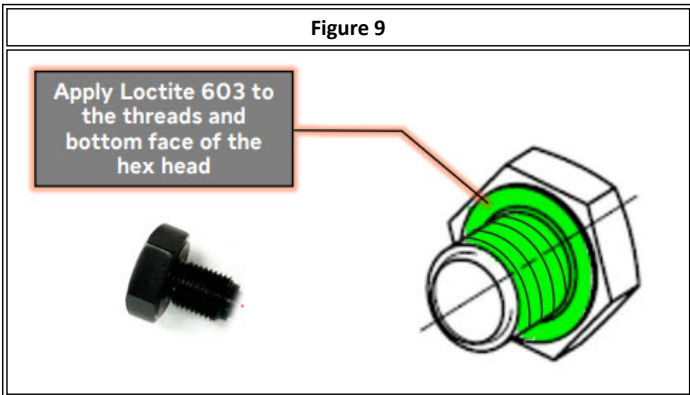
7. Align the sleeve with the oil gallery and use a hammer to hit the extension handle until the 3rd step of the tool makes contact with the housing (reference Figure 8)

Figure 8



8. Remove the tool from the galley

9. Take the new plug, spray it with degreaser, apply Loctite 603 onto the threads and inner face of the hex head, using a torque wrench, install and tighten the plug into the oil galley to 25Nm (reference Figure 9)



10. Using a degreasing spray, ensure all the oil has been cleaned off in the area

11. Perform a regen for half an hour

12. Verify that the leak is no longer present at the exposed machined boss

\*\*\*NOTE\*\*\* If the leak is still present, open a Technical Service case file for further direction

## Warranty Information

Please follow steps outlined below

Repair	SRT	Hrs
DIAGNOSTICS AND SLEEVE INSTALL	A40-25A06-1	2.0

Warranty Figure 1

Repair Line Exceptions

**Repair Information**

Causal Part Number

Warranty Type Code \*  
40-Authorized Safety Recall or Field Chg

Warranty Type Part Code \*  
P-Production Part

Campaign \*  
25A06-S13 VEHICLES OIL

Noun Code

Cause Code \*  
Z-Completed Campaign

VMRS Code

Failed Serial Number

Replacement Serial Number

Guide Tool Code

Failed Health Report ID

Post Repair Health Report ID

SPN Fault Code

Approval Code

Case ID

Technician Name

Service Contract

PAD (Percentage Allowed) \*  
100

Warranty Figure 2

Parts Information Total Parts An

Causal	Failed Part	Replacement Part *	Replacement Part Description	Quantity *
<input type="checkbox"/>		7109504C1	SLEEVE B	1
<input type="checkbox"/>		7109506C1	PLUG M10	1

+ Add Item

Warranty Figure 3

Labor Information Technician Actual Hours  Total Labor Hours 2.0 Total Labor Amount 384.00

Labor *	Labor Description *	No. of hours *	Hourly Rate(\$)	Labor Amount(\$)		
A40-25A06-1	SLEEVE INSTALL AND CURE TIME	2.0	192.00	384.00	☰	🗑️

+ Add Item

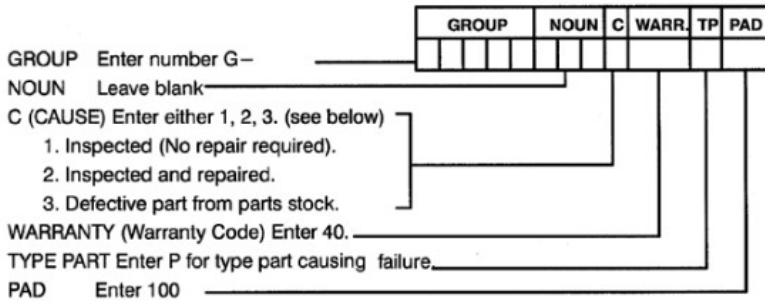
**ADMINISTRATIVE PROCEDURE**

The expense will be charged to Warranty. Claims should be submitted in the normal manner, referencing the Proactive Field Change Number.

It is important that the coding be completed properly to assist in processing the warranty claim. Complete instructions will be found in the Warranty Policy Manual, Section 10.

As with all claim submissions, items acquired locally must be submitted in the Other Charges tab. The cost of any bulk items (such as a bag of cable tie straps, roll of wire, barrel of oil, or tube of silicone) should be prorated for the cost of the individual pieces/amount used during each repair.

To ensure this important improvement is made in a timely manner, all claims for this Proactive Field Change Number must be submitted within 12 months from the release of this document or within the normal warranty period for the vehicle, if after 12 months from the release date



**Warranty Claim Coding:**

Refer to the [Warranty Coding Manual](#) for Group and Noun Codes.

**Standard Repair Time(s):**

Refer to the [SRT Manual](#) for Repair Times

**Other Resources**

[Master Service Information Site](#)

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