

<b>Subject:</b> REPLACEMENT PROCEDURES FOR THE TRANSFER OIL SEALS (RIGHT SIDE)	<b>Bulletin No:</b> 03-005/15
	<b>Last Issued:</b> 02/27/2015

## BULLETIN NOTE

- This bulletin supersedes the previous bulletins 03-002/13 issued 03/28/13 and 03-003/11 issued 06/17/11. The APPLICABLE MODEL(S)/VINS have been revised.
- Changes are noted below in Red beside the change bar.

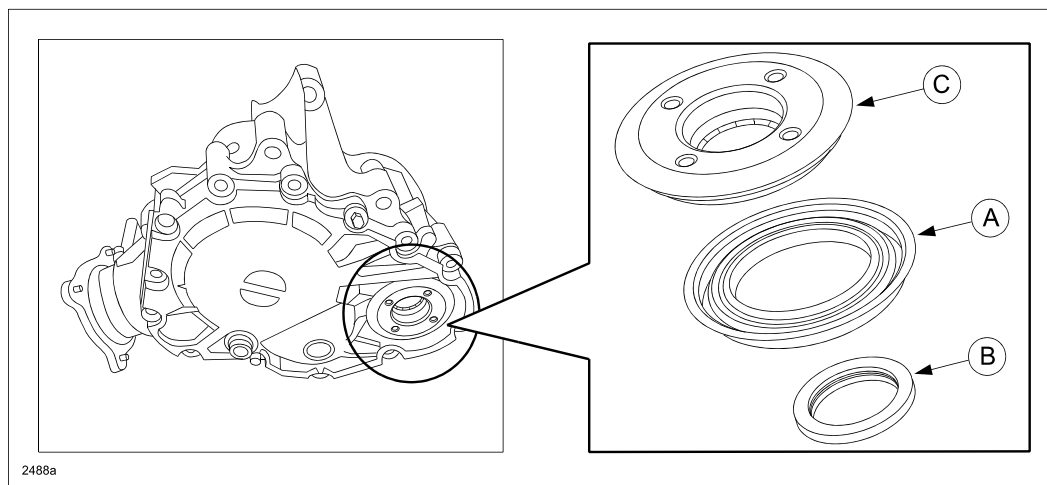
## APPLICABLE MODEL(S)/VINS

2010-2015 CX-9 equipped with AWD

## DESCRIPTION

If replacement of the right side (RH) transfer oil seal (A), and transfer dust seal (B) are necessary, use the following REPAIR PROCEDURE to install the new oil seals.

**NOTE:** Deflector (C) may not be reused.



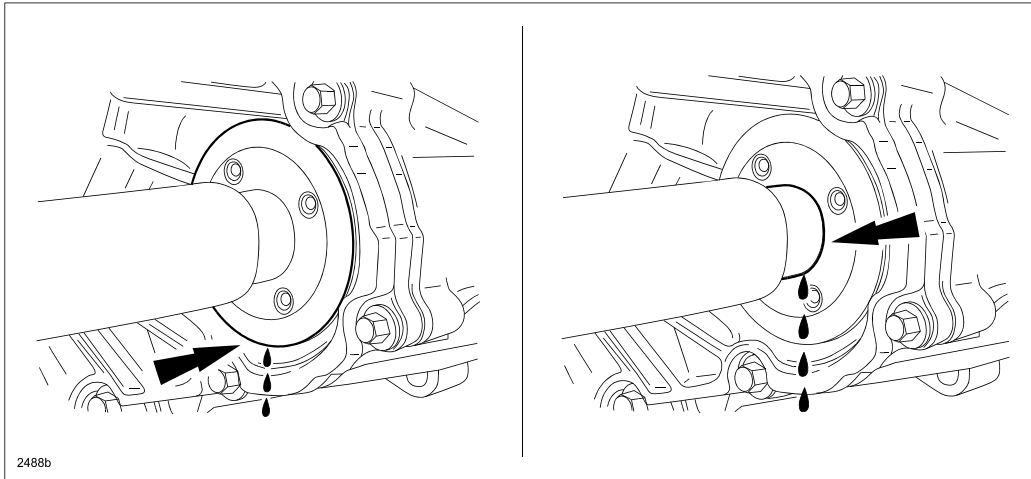
## REPAIR PROCEDURE

The transfer may leak different color fluids, red automatic transmission fluid (ATF) and tan/brown/black transfer gear oil. The transfer oil seal (A) prevents transfer gear oil leakage. It is important to note which color fluid is leaking to determine the most appropriate service.

### NOTE:

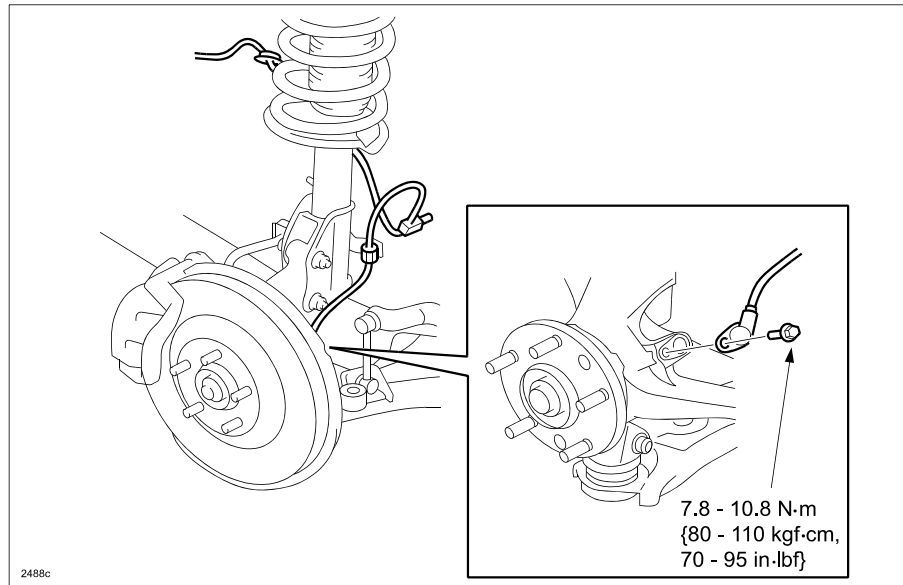
- This repair procedure is to be performed through the RH wheel opening.
- It is not necessary to remove the transfer assembly from the vehicle.
- The transfer oil seal (A) and dust seal (B) are not a source of a red ATF leak.
- The transfer oil may appear black and have a pungent odor. Do not mistake this for contaminated fluid.

1. Lift the vehicle. For additional information, refer to MS3 online or Workshop Manual (section 00-00 JACKING POSITIONS, VEHICLE LIFT (2 SUPPORTS) AND SAFETY STAND (RIGID RACK) POSITIONS).
2. Is there a fluid leak from the RH side of the transfer?

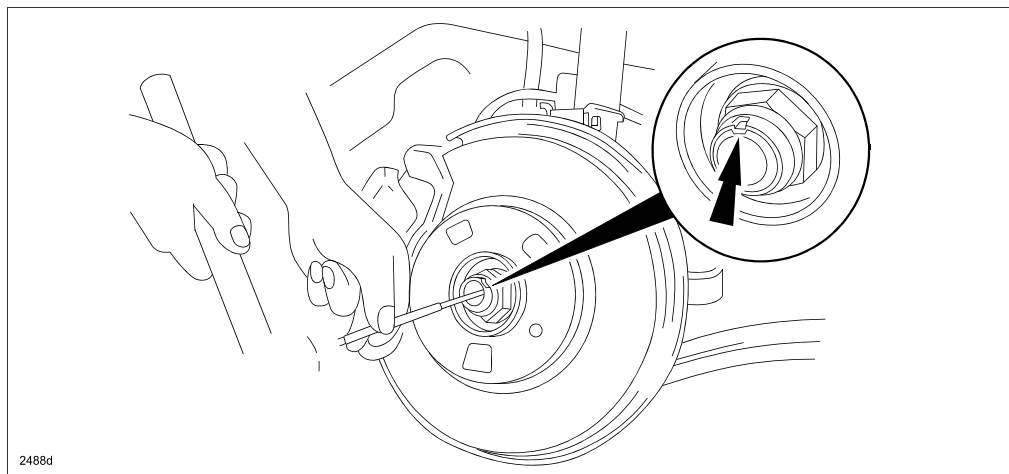


- Yes - Proceed to Step 3.
  - No - This bulletin does not apply. Refer to normal Workshop Manual diagnosis.
3. Inspect the transfer vent located on top of the transfer. Is the transfer vent restricted (mud/debris)?
    - Yes - Clear external restrictions from the transfer vent and proceed to step 25.
    - No - Proceed to step 4.
  4. What is the color of the fluid leak?
    - Tan/brown/black (transfer gear oil leak) - Proceed to Step 5.
    - Red ATF leak - This bulletin does not apply. Red ATF leak indicates the transaxle seal is leaking and needs to be replaced. Refer to MS3 online or Workshop Manual (section 05-17 OIL SEAL (DIFFERENTIAL) REPLACEMENT [AY6A-EL, AY6AX-EL]).
  5. Remove the RH wheel.
  6. Remove the RH side cover.

7. Remove the RH front ABS wheel-speed sensor.

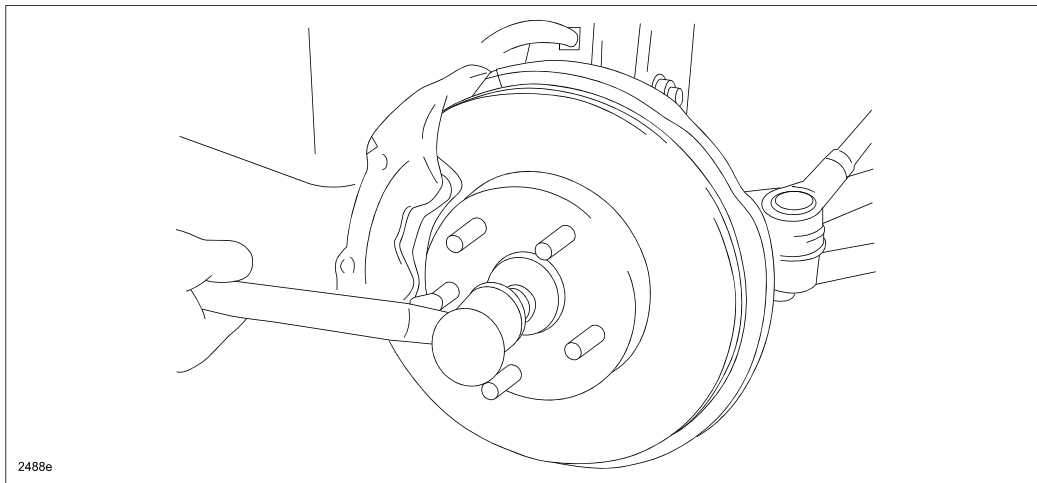


8. Knock the crimped portion of the hub nut outward using a small chisel and a hammer.

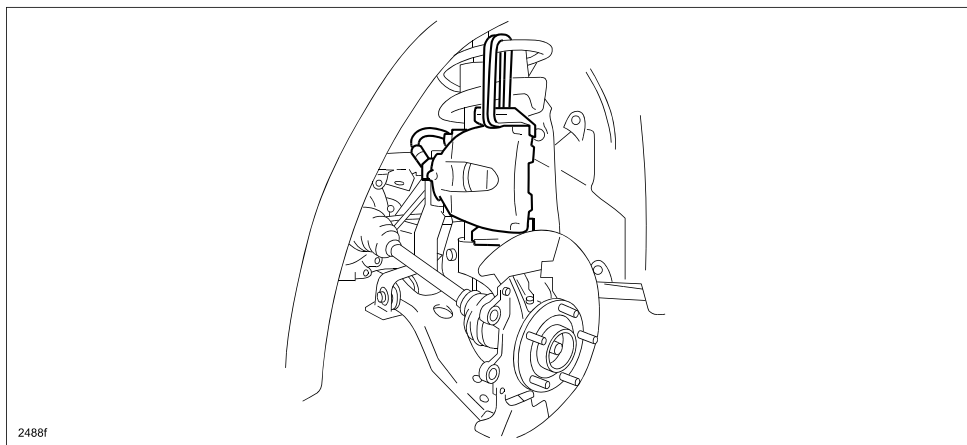


9. Apply the brake to keep the half-shaft from rotating for the front wheel hub nut removal.  
10. Loosen the wheel hub nut so that the nut is flush with the end of the drive shaft.

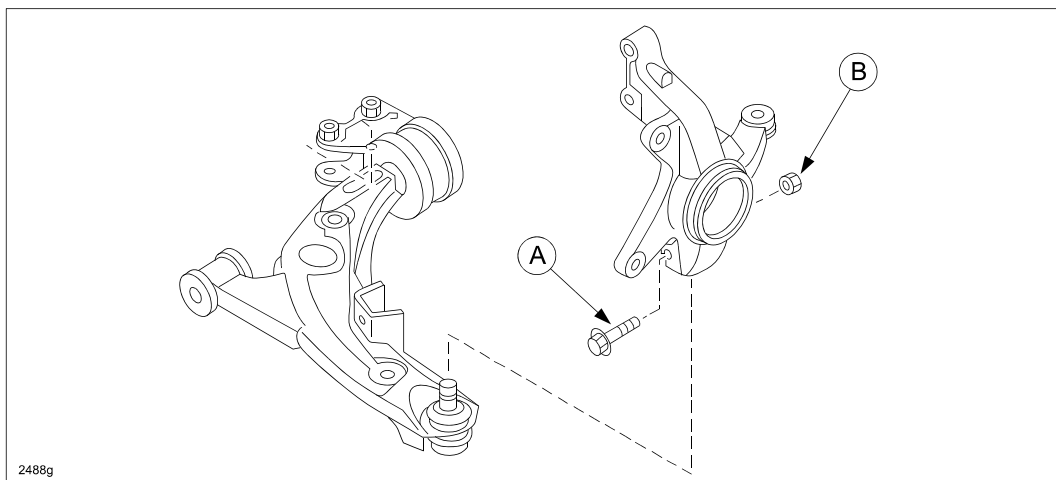
11. Tap the hub nut with a copper or dead-blow hammer to loosen the drive shaft from the front wheel hub.
12. Remove and discard the wheel hub nut.



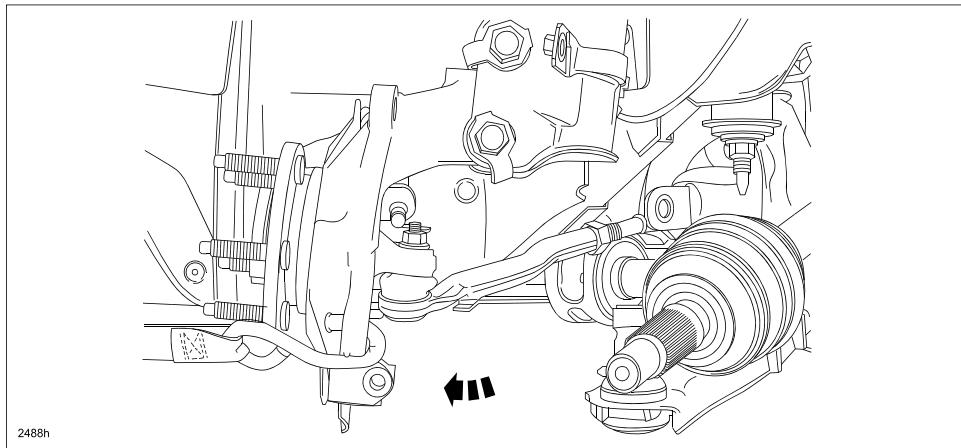
13. Remove the brake caliper component from the steering knuckle and suspend it out of the way using a cable.



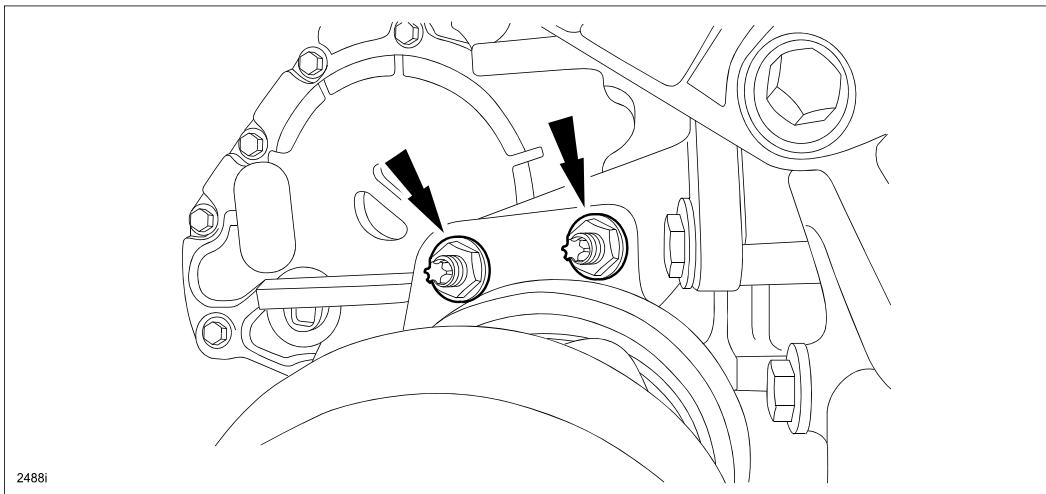
14. Remove the front lower arm ball joint bolt (A) and nut (B). Then separate the lower control arm from the knuckle.



15. Pull the knuckle outward, rotate it toward the rear of the vehicle, and secure it.

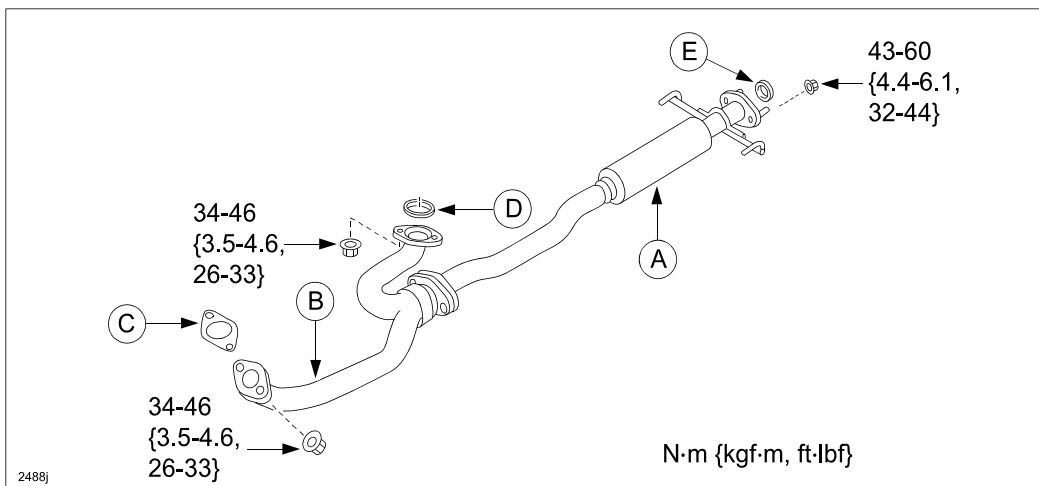


16. Remove the two (2) RH drive shaft bolts and the drive shaft assembly.

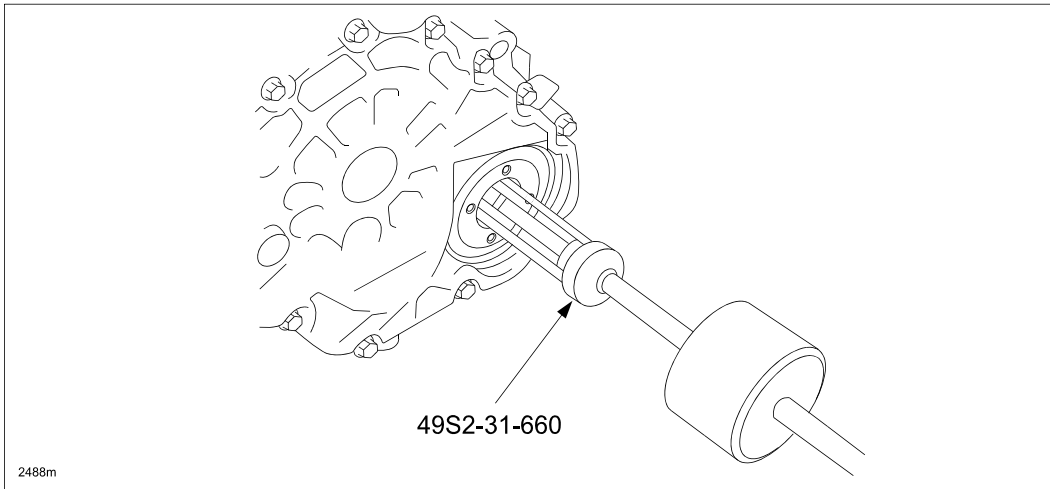


**CAUTION:** The sharp edges of the drive shaft can slice or puncture the oil seals. Be careful when removing the drive shaft from the transaxle.

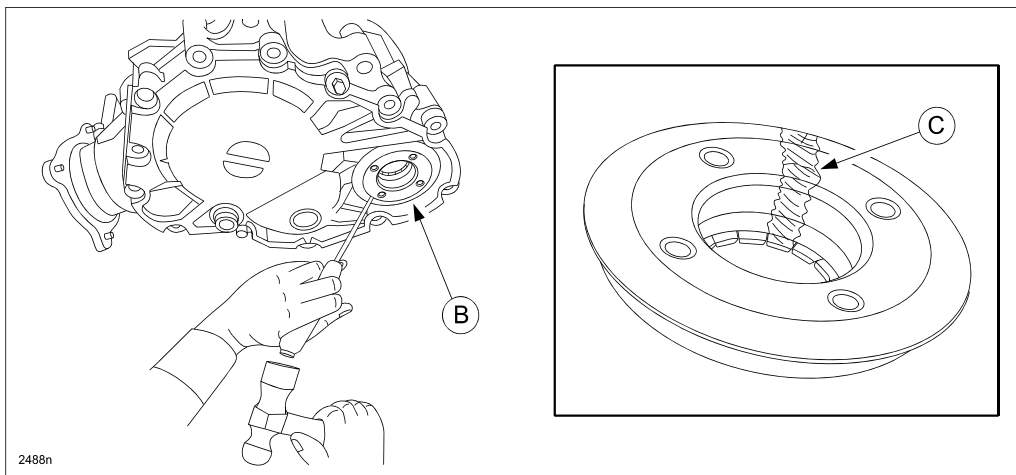
17. Remove the exhaust middle pipe (A) and the front pipe (B) as an assembly. Discard (C), (D) and (E) exhaust gaskets.



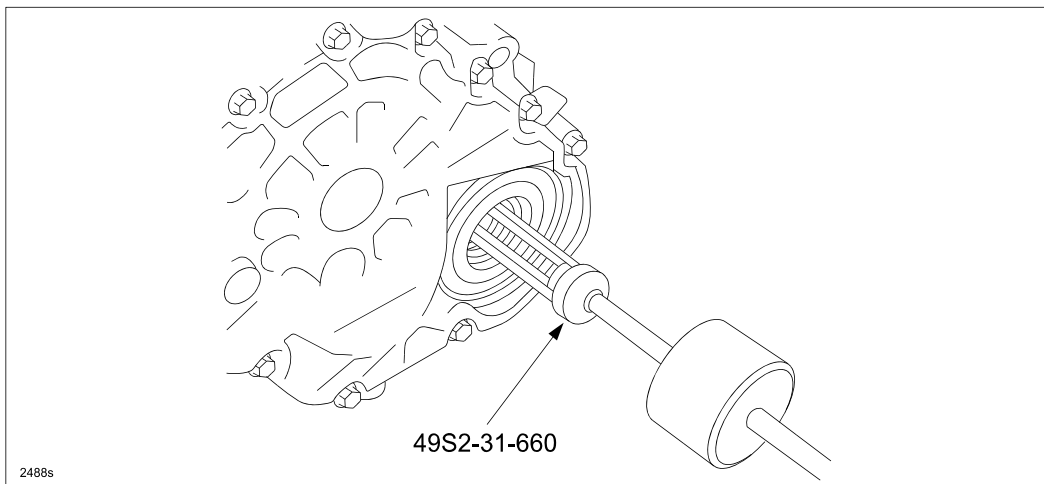
18. Use Special Service Tool (SST) part number 49S2-31-660 to remove the deflector.



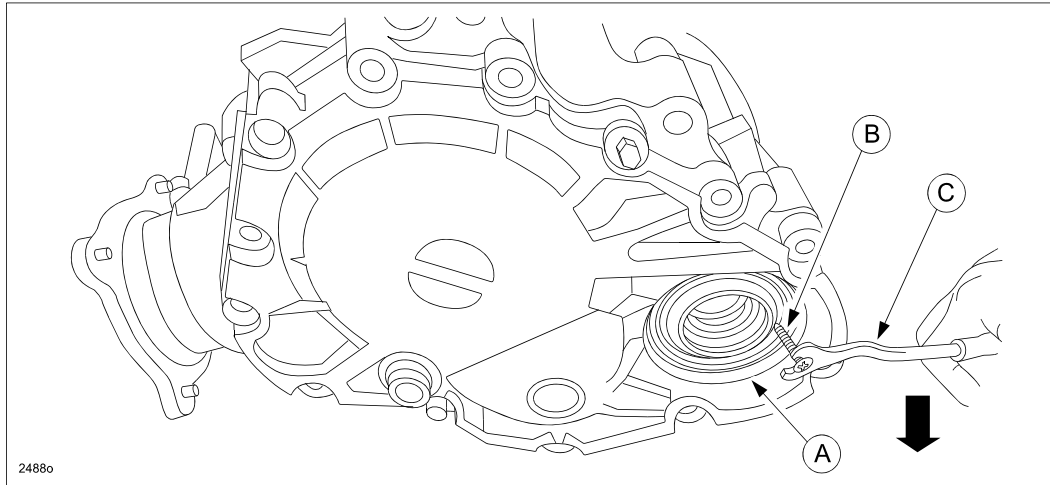
**NOTE:** Do not reuse the removed deflector (B). If the deflector is difficult to remove using SST 49S2-31-660, break the deflector by using a flat-blade screw driver for hammering (C).



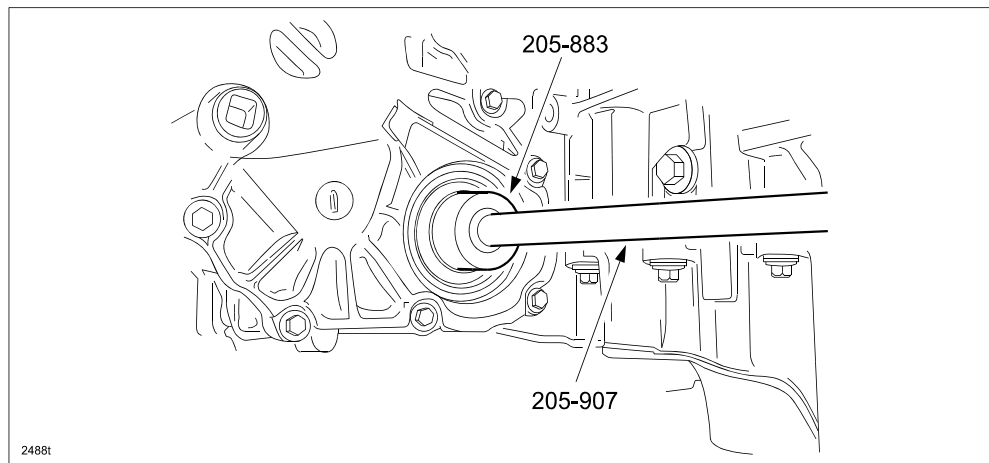
19. Use SST part number 49S2-31-660 to remove the transfer dust seal.



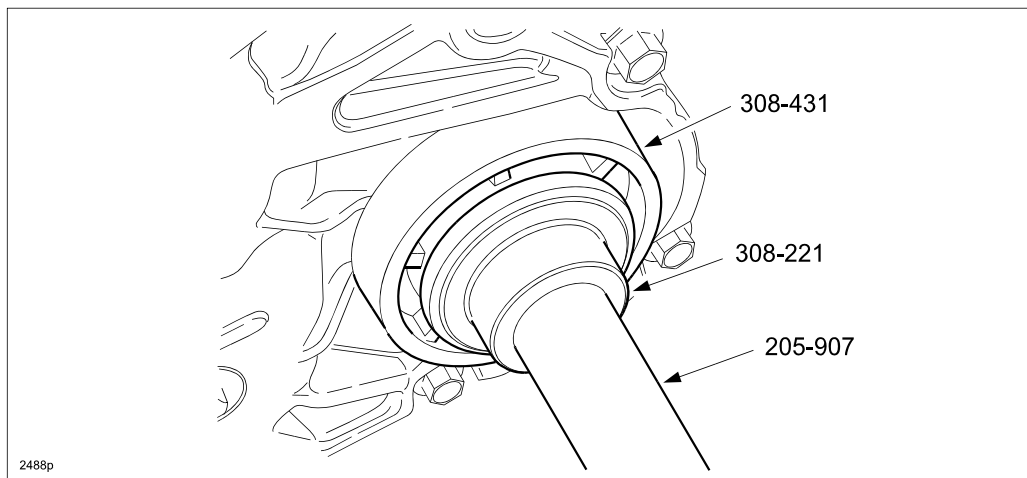
20. Remove the oil seal (A).
  - a. Insert a tapping screw (B) into the groove of the oil seal.
  - b. To remove the oil seal, pry the screw outward by using a fastener remover tool (C).



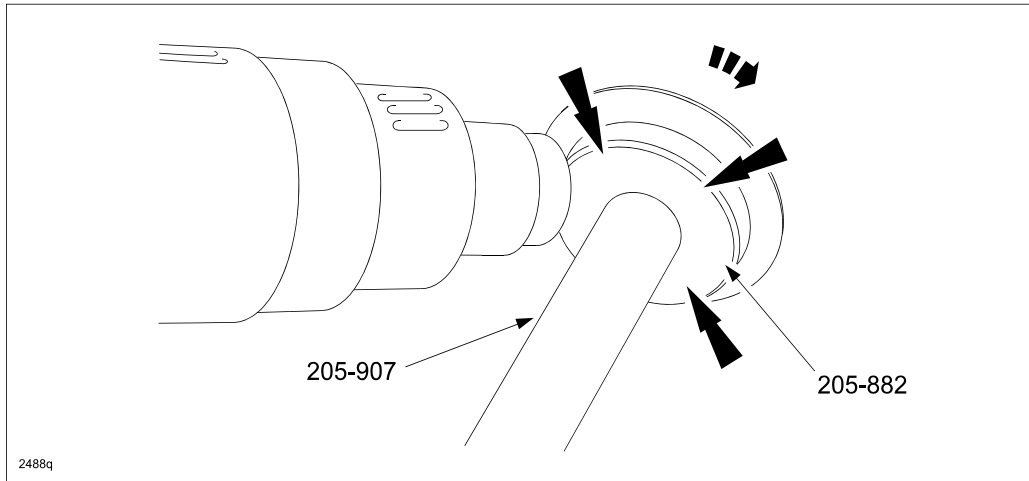
21. Use SST part number 205-907 and part number 205-883 to install the new transfer dust seal.



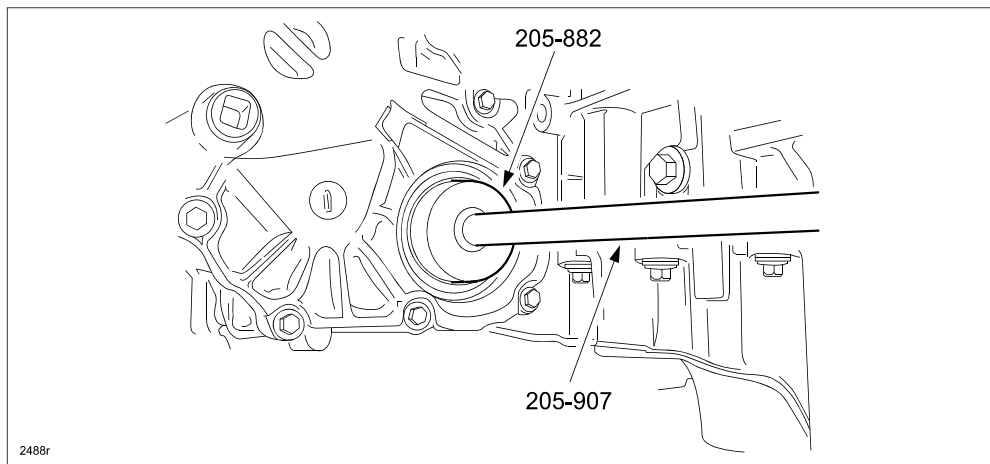
22. Use SST part number 205-907, part number 308-221, and part number 308-431 to install the new oil seal.



23. Use SST part number 205-907 and part number 205-882, then install new deflector on SST. Heat the outer side surface of the deflector by heat gun at 250°C (482°F) for approximately 30 seconds.



24. Use SST part number 205-907 and part number 205-882 to install the new deflector to the case until it seats.



**CAUTION:** Use gloves when handling the deflector as it may be hot after Step 23.

25. Install removed components in reverse order.
26. Inspect transfer fluid level per MS3 online or Workshop Manual (section 03-16 TRANSFER OIL INSPECTION).
27. Verify repair.



## SPECIAL SERVICE TOOL (SST) INFORMATION

Part Number	Description
49S2-31-660	Needle Bearing Puller
205-882	Transfer Dust Shield Installer
205-883	Seal Installer
205-907	Driver Handle
308-221	Seal Installer
308-431	Half-shaft oil seal installer

## PART(S) INFORMATION

Part Number	Description	Qty.	Note
AW21-27-272	Dust Cover	1	Deflector
AW21-27-398	Oil Seal	1	Transfer gear oil seal RH
AW21-27-514A	Oil-Idle Gear Seal	1	Transfer dust seal
LA01-33-042B	Nut	1	Wheel hub nut
CY01-40-305A	Exhaust Gasket	1	LH Catalyst gasket
CA01-40-581	Seal Ring	1	RH Catalyst gasket
AJ17-40-305	Exhaust Gasket	1	Middle pipe rear gasket

## WARRANTY INFORMATION

**NOTE:**

- This warranty information applies only to verified customer complaints on vehicles eligible for warranty repair.
- This repair will be covered under Mazda's New Vehicle Limited Warranty and Powertrain Limited Warranty term.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	75
Damage Code	9C
Part Number Main Cause	AW21-27-398
Quantity	1
Operation Number / Labor Hours:	XXF2FXRX / 1.5 Hrs.