

ATTENTION:

- GENERAL MANAGER
- PARTS MANAGER
- CLAIMS PERSONNEL
- SERVICE MANAGER

IMPORTANT - All Service Personnel Should Read and Initial in the boxes provided, right.

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QUALITY DRIVEN® SERVICE

SERVICE BULLETIN

APPLICABILITY: 2018-21MY Legacy & Outback
 2017-21MY Impreza
 2018-21MY Crosstrek
 2019-21MY Forester

NUMBER: 03-87-21

DATE: 01/14/22

SUBJECT: Humming / High Pitch Sound From Drive Line

INTRODUCTION:

This bulletin provides a repair procedure for R152 type rear differentials. In some very rare cases, a customer may experience a humming / high pitch sound coming from the undercarriage while driving. This can be caused by worn differential gear surfaces resulting from hard usage of the vehicle such as extreme weather conditions, severe road conditions, and / or steep incline driving. A higher viscosity (thicker) gear oil has been introduced to provide additional protection against premature gear surface wear under these unusual driving conditions.

PRODUCTION CHANGE INFORMATION:

The higher viscosity fluid (**75W-90**) has been incorporated into production per the table below.

Model	Starting VIN
Legacy	M3019244
Outback	M3197842
Impreza 4-Door	M3606662
Impreza 5-Door	M3714901
Crosstrek	MH321913
Forester	MH492693

CAUTION: VEHICLE SERVICING PERFORMED BY UNTRAINED PERSONS COULD RESULT IN SERIOUS INJURY TO THOSE PERSONS OR TO OTHERS.

Subaru Service Bulletins are intended for use by professional technicians ONLY. They are written to inform those technicians of conditions that may occur in some vehicles, or to provide information that could assist in the proper servicing of the vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do the job correctly and safely. If a condition is described, DO NOT assume that this Service Bulletin applies to your vehicle, or that your vehicle will have that condition.

Subaru of America, Inc. is ISO 14001 Compliant

ISO 14001 is the international standard for excellence in Environmental Management Systems. Please recycle or dispose of automotive products in a manner that is friendly to our environment and in accordance with all local, state and federal laws and regulations.

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PART INFORMATION:

REMINDER: Always order the most up-to-date replacement parts based on the specific VIN being repaired.

Part Description	Part #	Type R152 I.D. Numbers	Differential Model #	Reduction Ratios
DIFFERENTIAL CARRIER ASSEMBLY	38300AC370	42	VB1AAB	3.700(37/10)
	38300AC380	43	VB1BAA	3.900(39/10)
	38300AC390	44	VB1CAA	4.111(37/9)
	38300AC440	E1	VB1AAC	3.700(37/10)
SELF-LOCKING NUT	023512000		-	

Part Description	SOA Item #	Description	Package Size	Warranty Part #
High Performance 75W90	SOA427V1700	Gear Oil	Case of 12/1 qt.	SOA635301 per qt.
	SOA427V1710		16 Gallon Keg	

NOTE: The Differential Mount Locking Nuts p.n. **023512000** are **one-time use** parts. Refer to the applicable Service Manual and Electronic Parts Catalog (EPC) for the quantity requirements.

SERVICE PROCEDURE / INFORMATION:

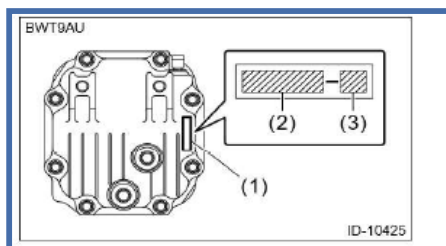
REMINDERS:

- Customer satisfaction and retention starts with performing quality repairs.
- Please read all the Steps outlined below before proceeding with any work.

Identification:

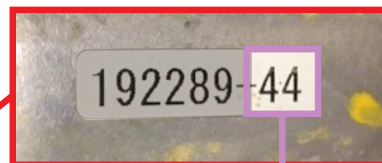
Confirm the source of the sound is the rear differential and not from the wheel bearings and drive shafts before proceeding. It is important to identify the rear differential type to verify applicability before proceeding with any service procedures. The information below will outline how to identify the differential type.

STEP 1) Locate the identification number located on the rear differential.



- (1) LABEL
- (2) REAR DIFFERENTIAL SERIAL NUMBER
- (3) REAR DIFFERENTIAL IDENTIFICATION NUMBER

EXAMPLE:



EXAMPLE:
REAR DIFFERENTIAL I.D. #44 SHOWN

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STEP 2) Compare the identification number with the part information chart provided on Page #1. Does the identification number match the part information shown?

YES: The rear differential is a R152 type. Continue to **STEP 3**.

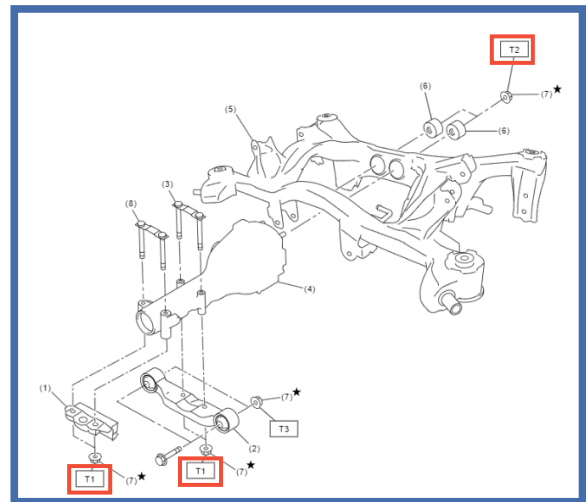
NO: The rear differential is **NOT** a R152 type. Continue diagnosis as per the applicable Subaru Service Manual: Driveline/Axle > Symptoms and causes > INSPECTION.

STEP 3) Refer to the applicable Service Manual and review: General Description > Repair Contents > Action required before & after Battery Disconnect. Additionally, record any stored seat position(s) before proceeding. Relearn any seat position memory after work is complete. If the power rear gate (PRG) height has been customized, that position must also be noted and relearned.

STEP 4) IMPORTANT: The new rear differential **MUST** be filled with the new 75W90 gear oil. The service procedure for rear differential replacement remains unchanged. Always refer to the applicable Service Manual and review the full requirements of the repair being performed. The Service Manual procedures contain information critical to performing an effective repair the first time, every time. This includes but is not limited to important **SAFETY** precautions, proper inspection criteria, necessary special tools, required processes and related one-time-use parts needed for a complete and lasting repair. Refer to the applicable Subaru Service Manual: Driveline/Axle > DIFFERENTIALS > Rear Differential.

IMPORTANT NOTES:

- The Service Manual uses a **black star (★)** in the component breakdown illustrations to indicate one-time use parts. For example, T1 and T2 are self-locking nuts (023512000) and are one-time use only. See the image to the right.
- Whenever reconnecting the ground cable terminal to the battery sensor, torque to 7.5Nm (5.5ft.-lbs. or 66 inch-lbs.) while supporting the sensor with the other hand as outlined in the applicable Service Manual under: STARTING/CHARGING SYSTEMS > Battery Sensor.



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WARRANTY / CLAIM INFORMATION:

For vehicles within the Basic New Car Limited, Powertrain, an active Subaru Added Security Powertrain, Classic or Gold plan, this repair may be submitted using the following claim information:

Model	Labor Description	Labor Operation #	Labor Time	Fail Code
Legacy/Outback	REAR DIFFERENTIAL ASSEMBLY R&R	B372-001	0.8	KCA25
	DIFFERENTIAL NOISE TESTING & DIAGNOSIS	C363-001	0.3	
Impreza/Crosstrek	REAR DIFFERENTIAL ASSEMBLY R&R	B372-001	1.0	
	DIFFERENTIAL NOISE TESTING & DIAGNOSIS	C363-001	0.3	
Forester	REAR DIFFERENTIAL ASSEMBLY R&R	B372-001	0.8	
	DIFFERENTIAL NOISE TESTING & DIAGNOSIS	C363-001	0.3	

IMPORTANT REMINDERS:

- SOA strongly discourages the printing and/or local storage of service information as previously released information and electronic publications may be updated at any time.
- Always check for any open recalls or campaigns anytime a vehicle is in for servicing.
- Always refer to STIS for the latest service information before performing any repairs.