



Technical Service Information

AUDI 09L -ZF6HP19A GEAR NOISE-TRANSFER CASE GEARTRAIN FAILURE

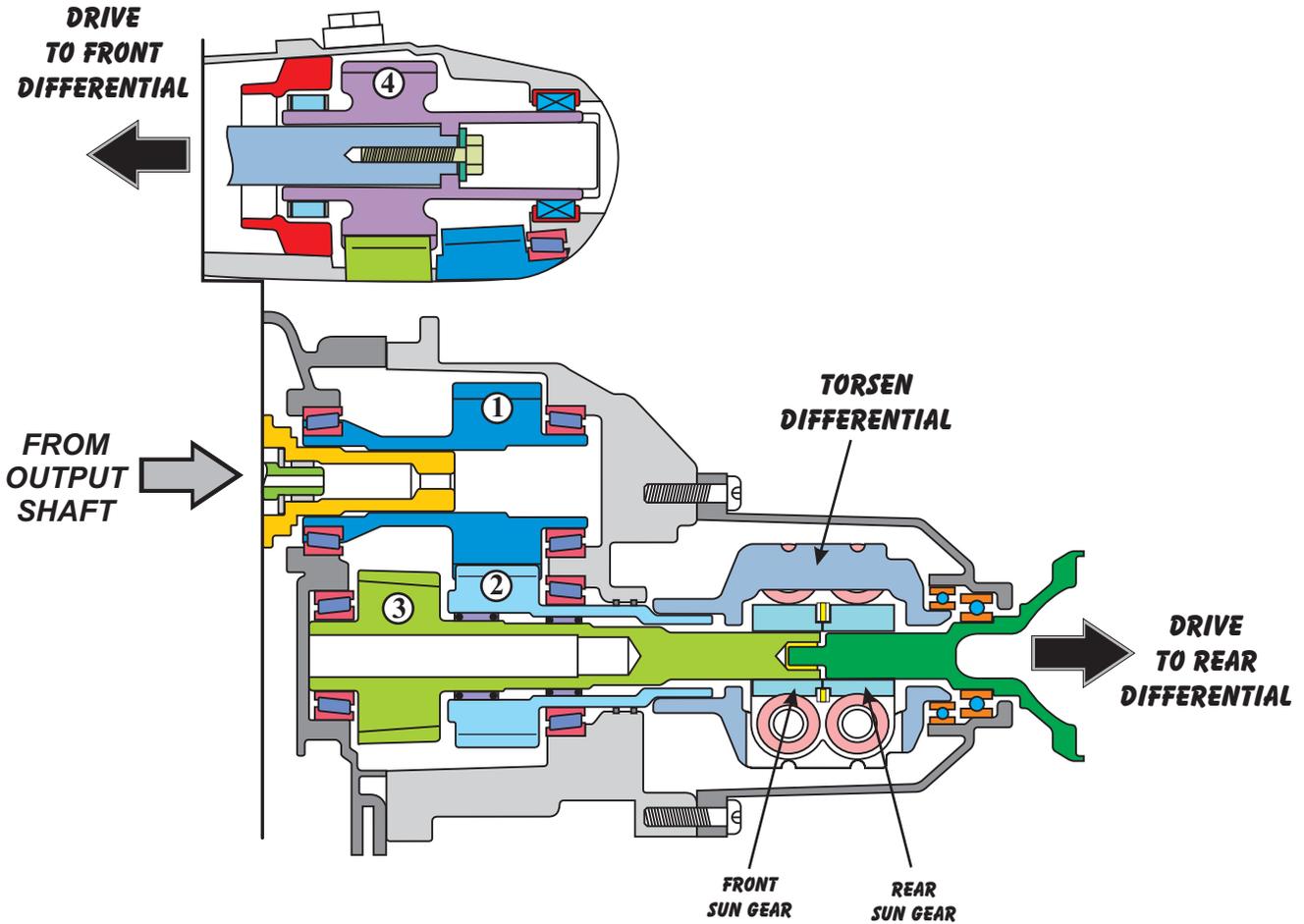
COMPLAINT: 2004 and up Audi vehicles equipped with the 09L All Wheel Drive transmission may exhibit a complaint of a gear mesh noise after overhaul. This noise if not caught quick enough will lead to transfer case geartrain failure.

CAUSE: The cause may be, that during transmission overhaul, the Drive transfer gear, connected to the output shaft of the transmission was installed backwards, meshing with the Driven transfer gear, connected to the Torsen Differential, leading to the Front Drive Shaft drive gear. When this gear is installed backwards, the gear mesh is off significantly causing the gear noise. Notice in Figure 1 in the cross-sectional view that gear 3 has a smaller diameter than gear 2, which creates the gear mesh problem and gear train destruction. Figure 1 also shows the gear train of the transfer case assembly including the Torsen Differential. Refer to Figures 2 and 3 for a description of power-flow and illustrations of the correct and in-correct assembly.

CORRECTION: To correct this condition, refer to Figure 2 for an illustration of the correct placement of the Drive transfer gear. Repair or replace gear train as necessary.

*Special Thanks to:
Erikson Industries
800-388-4418*

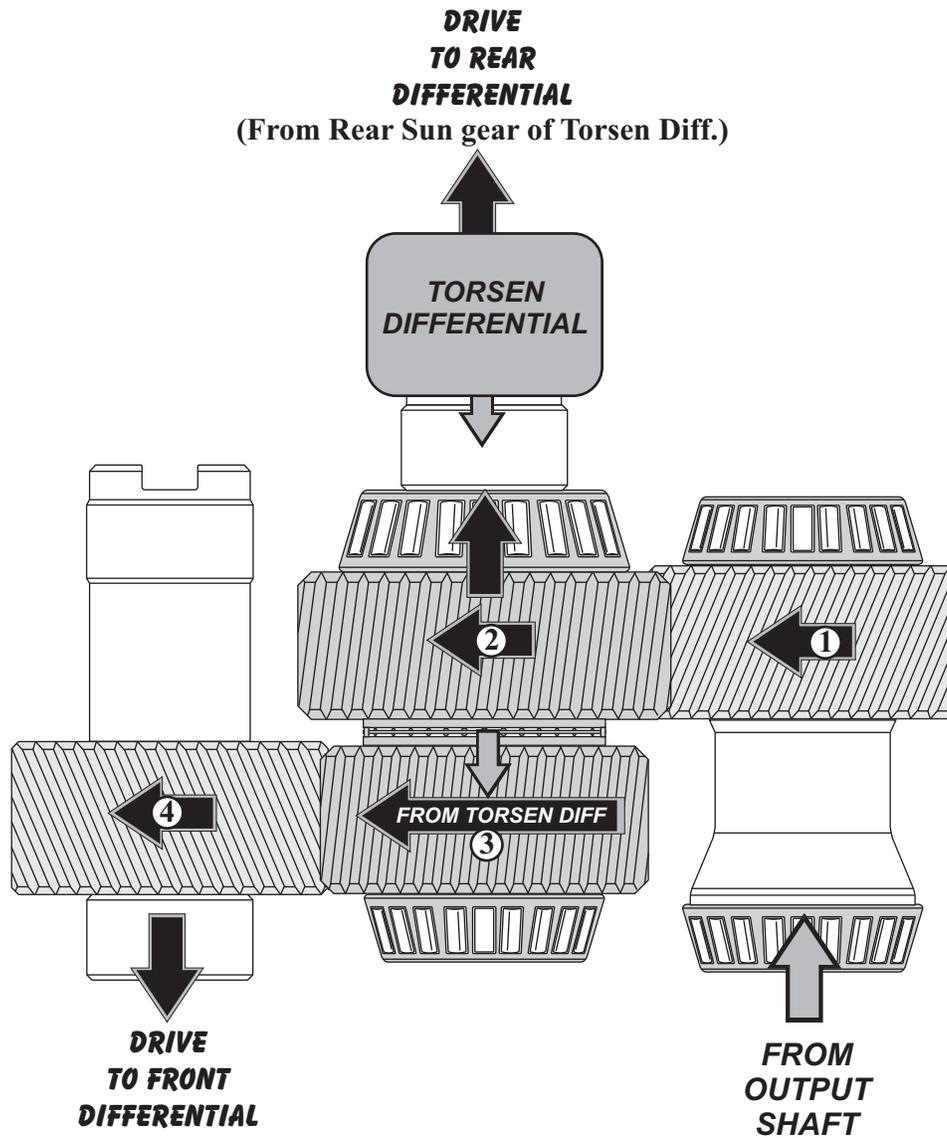
09L TRANSFER CASE CROSS-SECTIONAL VIEW



- Drive Gear ① is connected to the Output shaft of the Transmission*
- Driven Gear ② is connected to the Outer Spline - Carrier of the Torsen Differential*
- Driven Gear ③ is connected to the Inner Spline- Front sun gear of the Torsen Differential*
- Driven Gear ④ is connected to the Front Drive shaft*

Figure 1

09L TRANSFER CASE- "CORRECT ASSEMBLY"

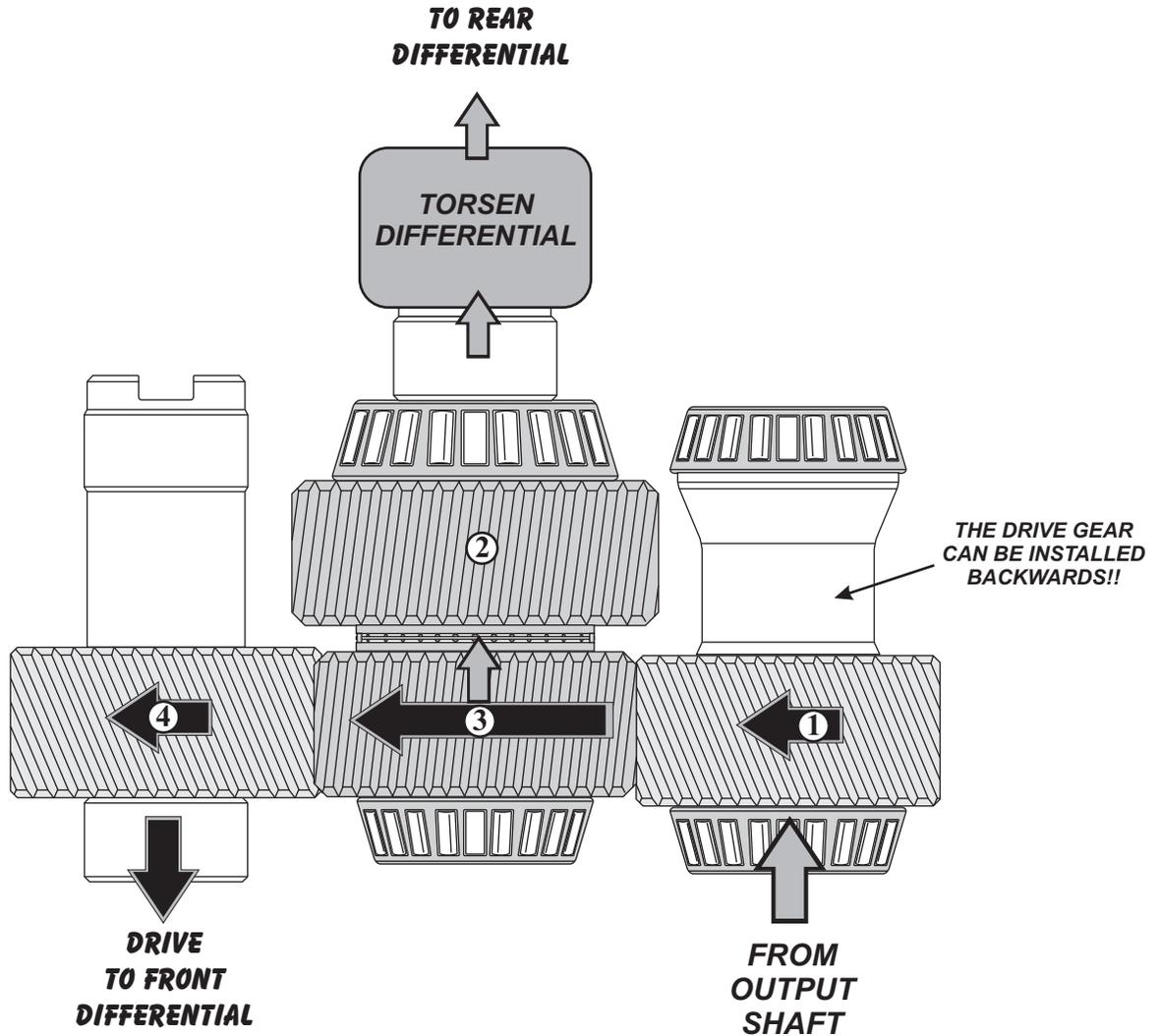


- Drive Gear ① is connected to the Output shaft of the Transmission*
- Driven Gear ② is connected to the Outer Spline - Carrier of the Torsen Differential*
- Driven Gear ③ is connected to the Inner Spline- Front sun gear of the Torsen Differential*
- Driven Gear ④ is connected to the Front Drive shaft*

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Figure 2

09L TRANSFER CASE- "IN-CORRECT ASSEMBLY"



- Drive Gear ① is connected to the Output shaft of the Transmission*
- Driven Gear ③ is connected to the Inner Spline of the Torsen Differential*
- Driven Gear ④ is connected to the Front Drive shaft*
- Driven Gear ② is connected to the Outer Spline of the Torsen Differential but is not driven by the correct geartrain.*

NOTE: Drive Gear 1 can be installed backwards, as the tapered bearing is the same on both ends. Notice that Gear 2 and 3 have different diameters, this is what causes the gear noise, and will quickly destroy the gear set.

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Figure 3