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Service Information Bulletin

SUBJECT	DATE
Symptom Diagnostics - Transmission Fluid Inspection	February 2017

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0140	DT12	Metal in Oil	This is a new section.

DiagnosticLink users: Please update the troubleshooting guides in DiagnosticLink with this newest version. To update the tool troubleshooting guide, open DiagnosticLink and from the Help – Troubleshooting Guides menu, select the appropriate troubleshooting manual, then click Update.



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2 Metal in Oil

NOTE: Abnormal amounts of metal in the oil is a catastrophic failure and requires a transmission replacement. Follow this procedure to determine if a warranty claim should be submitted.

- How was the vehicle towed? Was it towed from the rear (front wheels on the ground) or from the front (rear drive wheels on the ground)? If from the front, was the driveline properly removed? Refer to Detroit Service Letter [15TS15Rev3](http://ddcsn-ddc.freightliner.com/cps/rde/xbc/ddcsn/15TS15Rev3.pdf) (<http://ddcsn-ddc.freightliner.com/cps/rde/xbc/ddcsn/15TS15Rev3.pdf>).
- Check Detroit/Owl warranty for previous repair/ tow event. Check warranty repairs on both the Detroit and DTNA systems for claims that resulted in towing. Note that it doesn't have to be a transmission claim to result in towing. For example, a fuel system- related failure that resulted in a no-start engine condition usually means the vehicle was towed to the repair shop. Check with the customer on non-warranty repairs that could have resulted in towing.
- Does the vehicle show any signs of being in an accident which may have led to towing?
- Inspect the rear drive wheels for flat spotting or scuffing, which may indicate the vehicle was dragged after improper towing, leading to a failure of the transmission.
- If vehicle was towed, what was the reason?

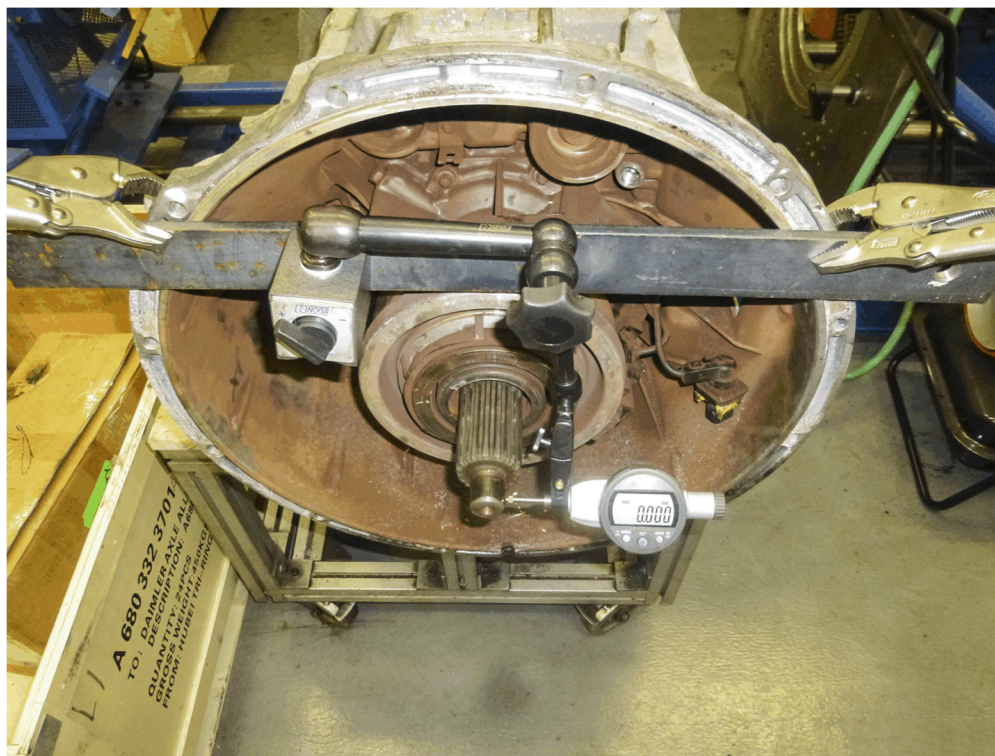
NOTE: If towing was deemed to be improper, damage to the DT12™ transmission from improper towing is not covered under warranty.

Check for the following:

1. After reviewing the above items, is there evidence of improper towing?
 - a. Yes; because the vehicle was towed improperly, the transmission is not warrantable.
 - b. No; Go to step 2.

NOTE: Input Shaft Measurement

2. Mount dial indicator as shown below; zero out dial indicator.



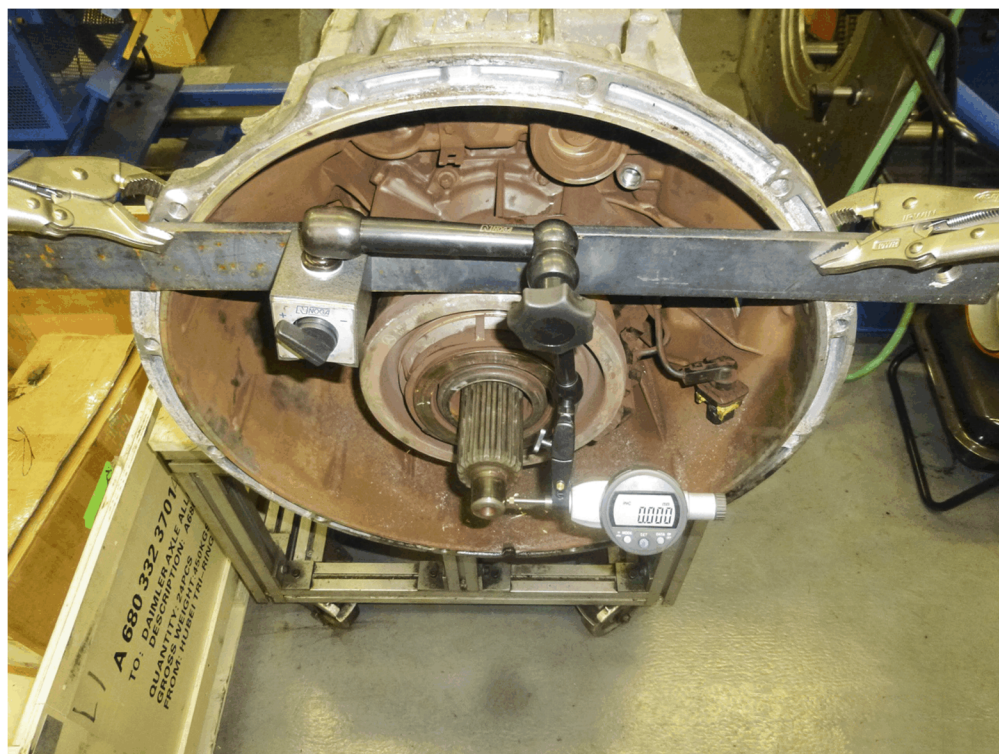
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3. Pull input shaft to the 9'o clock position and record measurement in table below.



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4. Return input shaft to the zero position.



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5. Pull input shaft to the 3'oclock position and record measurement, then add the two measurements together and record total.



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6. Rotate the input shaft three or four revolutions and repeat measurements. Retain measurement values.

Table 1.

	Measurement 1*	Measurement 2*
Nine o'clock position		
Three o'clock position		
Total		
*Disregard negative value when adding together the measurements		

NOTE: Internal Gear Inspection

7. Remove the AMT shift control and the shift actuator (*this is necessary to view gear movement and inspect for burnt/ discolored K2 gear*), see images and video link below for inspection example. A burnt gear will be black in color and also may appear to be dry if excessive overheating occurred. However, note that other failure modes besides improper towing can cause a burnt K2 gear.



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The video below is an example taken while moving the input shaft by hand.

https://ddcsn-ddc.freightliner.com/media/IMG_3186.MOV (https://ddcsn-ddc.freightliner.com/media/IMG_3186.MOV).

NOTE: Collectively, the above items may indicate an improper tow may have occurred. The final determination will be made by Detroit quality inspection.

8. Attach all of the gathered information, including the measurements in Table 1, and submit them as attachments with a warranty claim.