26–006 DT12 Excessive Wear

TSB-26-006-WST

Creation Date: 2025-02-04

Engine or Vehicle Affected:

- 49X
- 48X
- 47X

This is an informational bulletin only. The described condition is a product improvement and is not warrantable.

Described Condition

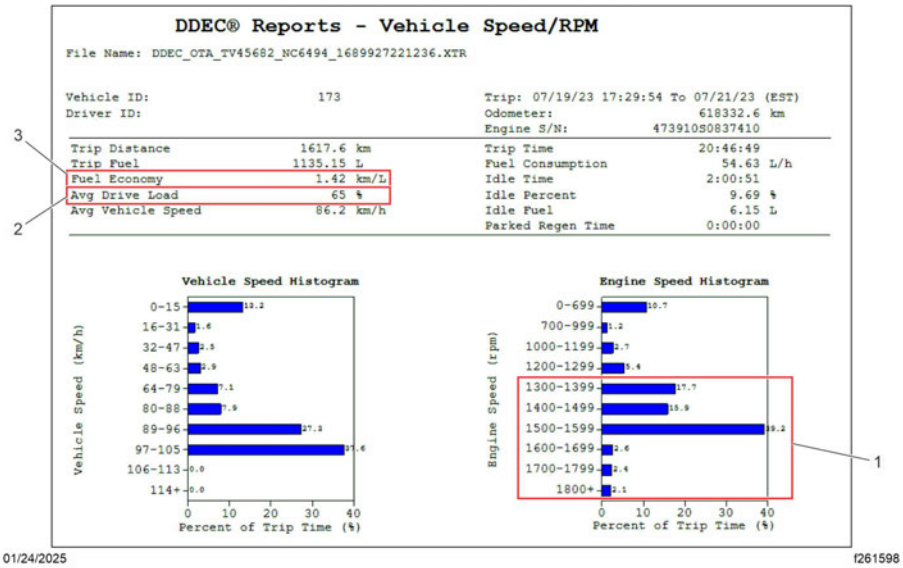
Some customers in severe-duty applications experience higher-than-expected wear rates on select components related to the DT12 transmission and clutch. For these customers, there is an opportunity to extend the life of the DT12 transmission before the wear becomes unmanageable.

In addition to understanding the factors that contribute to this level of wear, customers in these applications should also follow the shortest fluid service maintenance interval for the application. For specific details, see the *Transmission Fluid Service Information* manual.

Factors

The factors that indicate a severe duty transmission application may experience high wear rates are listed below. Using DDEC Reports, it is possible to identify vehicles exposed to these factors at a level that may impact transmission life. See Fig. 1. These factors include high average revolutions per minute (rpm), engine loads, low fuel economy, high Gross Combined Vehicle Weights (GCVW), and are all typically above the levels listed below.

- Total percent of trip time, for engine speed over 1,300 rpm, greater than 40%.
- Average drive load greater than 40%.
- Fuel economy less than 4 mpg (1.7 km/L).
- Hauling greater than 160,000 lbs (72,640 kg).



1. Total percent of trip time, for engine speed over 1,300 rpm, greater than 40%.
2. Average drive load greater than 40%.
3. Fuel economy less than 4 mpg (1.7 km/L).

Fig. 1, Highlighted Wear Factors in DDEC Reports

Components

Select components are affected when the wear factors are near threshold levels, and typically, most/all will show signs of wear in these applications. See Fig. 2.

- Clutch release bearing retainer ring damage and/or clutch contact surface wear on the Concentric Pneumatic Clutch Actuator (CPCA).
- Clutch diaphragm finger wear, broken damper springs, and/or worn spring pockets.
- Pilot bearing and input shaft tip wear.
- Loss of bearing preload.
- Transmission main and counter shaft.

Fig. 2, Examples of CPCA, Clutch, and Input Shaft Wear

Management

As these components wear, the rate of wear also increases. If the components are replaced or adjusted before the wear becomes too excessive, the life expectancy of transmissions in these applications can be significantly extended.

Each application may be different, but it is common to see significant wear developing around 190,000 miles (305,710 km). For vehicles exposed to this level of loading, this may be a good time to replace worn components and adjust bearing preloads.

Damage

Besides the list of components that exhibit wear, transmissions exposed to this level of loading may eventually have a catastrophic failure with abnormal metal present in the sump, and/or contact between the main shaft speed sensor and the tone ring due to the main shaft movement. As the wear approaches this level, it is no longer manageable with shim adjustments and component replacement; transmission replacement is the only option.

Warranty

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Note:

026-001-063
W12
W14
W16
W17
REPLACE
ADJUST
REMOVE
INSTALL

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