

## Transmission Fluid Service Information

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**Models: DT12**



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## 1. Introduction

### 1.01 Introduction

This publication specifies the transmission fluids and drain intervals required for transmissions manufactured and marketed by Detroit®. Selection of approved transmission fluids in conjunction with transmission fluid maintenance is required to achieve optimal performance in Detroit™ transmissions.

### 1.02 Transmission Terminology

This table describes the different transmission terms used in this publication.

Guide to DT12 Terminology		
Core Model Years	Transmission Type	Terminology Used in this Manual
2020 and Newer	C & D Box	2017 and Newer
2017 and Newer	A & B Box CO2	2017 and Newer
2016 and Older	A & B Box Classic	2016 and Older

### 1.03 DT12 Identification

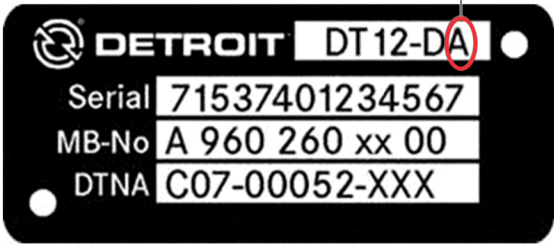
Reference the following tables to help identify a Detroit® Transmission.

DT12 Identification		
Detroit Transmission Tag	Previous Data Code	New Data Code July 2020
DT12-OA	DT12-OH1	DT12-OH
DT12-DA	DT12-DH1	DT12-DH
DT12-OB	DT12-OH1-8	DT12-OHL
DT12-DB	DT12-DH1-8	DT12-DHL
DT12-OC	DT12-OH2	DT12-OHE
	DT12-OV2	DT12-OV
DT12-DC	DT12-DH2	DT12-DHE
	DT12-DV2	DT12-DV
DT12-OD	DT12-OE2	DT12-OVX

Naming Decoder	
O= OVER DRIVE	H= HIGHWAY
D= DIRECT DRIVE	HL= HIGHWAY LIGHTWEIGHT
A= A BOX	HE= HIGHWAY EFFICIENCY
B= B BOX	V= VOCATIONAL
C= C BOX	VX= VOCATIONAL EXTREME
D= D BOX	

1.04 DT12 Transmission Tag

Detroit® transmissions have a label which describes the transmission make.



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1. **Box Identification:** A, B, C or D Box  
**Example:** DT12-DA - A Box





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## 2. Transmission Fluid Information

### 2.01 Transmission Fluid - Lists of Approved Products

Detroit® transmission fluid approved lists can be found directly on the DTNA Connect Lubricants / Fuels / Coolants website under "DT12 Oil Approved List". [Link to DT12 List](#)

There are two approved lists. The MB 235.16 list, which has the latest DT12 factory fill oil (75W-85) and the MB 235.11 list, which is the historical DT12 factory fill (75W-90) and is still used in service. These specifications are aligned with Mercedes-Benz Trucks Transmission specifications. When comparing the list of approved products between the MB Bevo site and DTNAConnect, you will notice the DTNAConnect lists is much shorter and only displays oils available for purchase markets where DTNA products are sold. If a customer needs to reference the global list of approved products, please visit the MB Bevo website for MB 235.16 or MB 235.11.

### 2.02 Transmission Fluid Applications Factory Fill and Service Fill

Reference the following tables for information regarding transmission fluid fills.

Factory Fill : Transmission Fluid Specifications for Detroit® Transmissions		
Specification	MB 235.16 (75W-85)	MB 235.11 (75W-90)
Applications	MY 2017 & Newer	MY 2016 & Older
Available on DTNA Aftermarket	Yes (*New as of May 2020*)	Yes

Service Fill: Transmission Fluid Specifications for Detroit® Transmissions		
Specification	MB 235.16 (75W-85)	MB 235.11 (75W-90)
MY 2017 and Newer	Allowed for Service Fill	Allowed for Service Fill
MY 2016 and Older	*Not Approved for Use in MY 2016 and Older DT12's	Allowed for Service Fill
Available in DTNA Aftermarket	New to DTNA Aftermarket - EXM 130070 - EXM 130075 - EXM 130076	EXM EG5080 EXM EG5081 EXM EG50855

\*Note: It is important to only use approved Detroit® Transmission Fluids in DT12 applications. It is also important to only use the correct and approved Detroit® Transmission Fluid, and the correct viscosity grade(s) as specified in this table for your application.

### 2.03 Transmission Fluid Viscosity

Viscosity is a measure of an oil's resistance to flow at various temperatures. The SAE Viscosity Grade system is defined in SAE Standard J306 for gear oils such as transmission fluid that designates a viscosity range with a grade number. Lubricants with two grade numbers separated by a "W," such as 75W-90, are classified as multigrade. Lubricants with a single number are monograde. The higher the number, the higher the viscosity. The lower the number, the lower the viscosity.

Use only Detroit® approved transmission fluids. For optimal fuel economy, use the lowest recommended viscosity for an application. (See Section "Transmission Fluid Applications Factory Fill and Service Fill").

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### **3. Applications**

#### **3.01 Application Bins and Descriptions**

**Efficient Long Haul:** (over-the-road transport) service applies to vehicles that annually travel more than 60,000 miles (96,000 kilometers) with minimal city stop-and-go operation and minimum idle. (C-Box application only) (US & Canada Only)

Examples of Efficient Long Haul are line haul applications less than 80,000 lbs.

**Long Haul:** (over-the-road transport) line haul service applies to vehicles that annually travel more than 60,000 miles (96,000 kilometers) with minimal city stop-and-go operation and minimum idle.

Examples of Long Haul are line haul applications less than 80,000 lbs.

**Short Haul:** service applies to vehicles that annually travel up to 30,000-60,000 miles (48,000-96,000 kilometers).

Examples of Short Haul are line haul applications between 80,000 lbs to 140,000 lbs or short haul and transfer refuse applications less than 140,000 lbs.

**Severe Haul:** service applies to vehicles that annually travel up to 30,000 miles (48,000 kilometers) or that operate under severe conditions.

Examples of Severe Service are: Construction-site, farm, construction, logging, mining, refuse, or heavy haul operations or any applications with greater than 140,000 lbs. Only one of these conditions needs be met to categorize an application as Severe Service.

#### **3.02 Maintenance System**

##### **What is the Maintenance System?**

The Maintenance System is an onboard maintenance monitoring system that computes optimal maintenance intervals based on the actual operating conditions of a vehicle. The system utilizes existing powertrain data to more accurately determine maintenance intervals.

##### **Why is Maintenance System Important?**

Current maintenance intervals (tables) are based on mileage rather than duty cycle (load). By improving maintenance recommendations based on engine and transmission load, the Maintenance System can...

- Reduce total repair and maintenance costs
- Reduce vehicle downtime
- Optimize maintenance intervals
- Improve Real Cost of Ownership

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**4. Transmission Fluid Drain Intervals****4.01 US and Canada - Transmission Fluid Drain Intervals**

This section outlines transmission fluid drain intervals for United States (US) and Canada, model years 2017 and newer.

US and Canada – DT12 - MY 2017 and Newer Transmission Fluid Intervals				
	Efficient Long Haul	Long Haul	Short Haul	Severe
Transmission Type	C Box Only	A, B Box	A, B, C Box	A, B, C, D Box
Applications/ Weight	Line Haul Up to and including 80,000 lbs.		Line Haul Greater than 80,000 lbs. and up to and including 140,000 lbs.	Line Haul Greater than 140,000 lbs.
			Pick Up and Delivery (Short Haul) or Transfer Refuse Up to and including 140,000 lbs.	Heavy Haul Service and Other Severe Applications (See Descriptions)
Drain Intervals* & ***	400,000 miles or (5 years)***		300,000 miles (5 years)***	180,000 miles (3 years)***
Maintenance System*	Up to 600,000 miles*	Up to 400,000 miles*		Up to 180,000 miles*
<p>* Maintenance System will automatically adjust maintenance intervals depending on application (transmission type, cooler type, field conditions, driving style, etc.).</p> <p>**Please see section “Application Bins and Descriptions” for application descriptions.</p> <p>***Whichever comes first.</p>				

**4.02 Mexico - Transmission Fluid Drain Intervals**

This section outlines transmission fluid drain intervals for Mexico, model years 2017 and newer.

<b>Mexico – DT12 - MY 2017 and Newer Transmission Fluid Intervals</b>			
	<b>Long Haul</b>	<b>Short Haul</b>	<b>Severe</b>
Transmission Type	A, B, C Box	A, B, C, D Box	
Applications/Weight	Line Haul Up to and including 80,000 lbs.	Line Haul Greater than 80,000 lbs. and up to 140,000 lbs.	Line Haul Greater than 140,000 lbs.
		Pick Up and Delivery (Short Haul) or Transfer Refuse Up to and including 140,000 lbs.	Heavy Haul Service and Other Severe Applications (See Descriptions)
Drain Intervals* & ***	640,000 kms or (5 years)***	480,000 kms (5 years)***	300,000 kms (3 years)***

Mexico – DT12 - MY 2017 and Newer Transmission Fluid Intervals		
Maintenance System*	Up to 640,000 kms*	Up to 300,000 kms*
<p>* Maintenance System will automatically adjust maintenance intervals depending on application (transmission type, cooler type, field conditions, driving style, etc.).</p> <p>**Please see section "Application Bins and Descriptions" for application descriptions.</p> <p>***Whichever comes first.</p>		

### 4.03 Australia and New Zealand- Transmission Fluid Drain Intervals

This section outlines transmission fluid drain intervals for Australia and New Zealand, model years 2017 and newer.

Australia and New Zealand - DT12 Transmission Fluid Intervals (MY 2017 and Newer)					
Australia Application Decoder	Single Trailer, High Idle, City or Port Haul, Local Distribution Up to and including 100,000 kms/year	B/Double or Single Trailer Line Haul Greater than 100,000 kms/year	Road Train Double Greater than 100,000 kms/year	Road Train or Multi Trailer Heavy Greater than 100,000 kms/year	
Transmission Type	C Box (DH, OH, OV)		C or D Box (DH, OH, OV, OVX)	D Box (OVX)	
Weight (kgs) (lbs)	All Gross Combined Mass (GCM)	Between 42,500 and 63,500 kgs (Between 94,000 and 140,000 lbs)	Between 63,500 and 68,500 kgs (Between 140,000 and 151,000 lbs)	Between 68,500 and 90,000 kgs (Between 151,000 and 198,000 lbs)	Greater than 90,000 kgs (Greater than 198,000 lbs)
Drain Interval Whichever comes first	150,000 kms (3 years)	320,000 kms (3 years)	300,000 kms (3 years)		

### 4.04 Latin America (Chile, Columbia, Peru and Costa Rica) - Transmission Fluid Drain Intervals

This section outlines transmission fluid drain intervals for Latin America, model years 2017 and newer.

Latin America – DT12 Transmission Fluid Drain Intervals			
	Long Haul	Short Haul	Severe
Transmission Type	A, B, C Box	A, B, C, D Box	
Applications/Weight	Line Haul Up to and including 80,000 lbs.	Line Haul Greater than 80,000 lbs. and up to 140,000 lbs.	Line Haul Greater than 140,000 lbs.
		Pick Up and Delivery (Short Haul) or Transfer Refuse Up to and including 140,000 lbs.	Heavy Haul Service and Other Severe Applications (See Descriptions)

Latin America – DT12 Transmission Fluid Drain Intervals			
Drain Intervals* & ***	640,000 kms or (5 years)***	480,000 kms (5 years)***	300,000 kms (3 years)***
Maintenance System*	Up to 640,000 kms*		Up to 300,000 kms*
* Maintenance System will automatically adjust maintenance intervals depending on application (transmission type, cooler type, field conditions, driving style, etc.). **Please see section “Application Bins and Descriptions” for application descriptions. ***Whichever comes first.			



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5. Legacy Transmission Fluid Drain Intervals

5.01 Legacy - Transmission Fluid Drain Intervals

This section outlines DT12 Classic Transmission fluid intervals, for MY 2016 and Older.

Legacy - DT12 Classic – MY 2016 and Older Transmission Fluid Drain Intervals			
	Long Haul**	Short Haul**	Severe**
Transmission Type	A, B Box		
Weight	Less than 80K lbs.	Greater than 80K lbs.	N/A
Drain Intervals with Air to Oil Cooler***	400,000 miles (3 years)	300,000 miles (2 years)	N/A
Drain Intervals with other cooler configurations***	300,000 miles (3 years)	200,000 miles (2 years)	N/A
**Please see section “Application Bins and Descriptions” for application descriptions. ***Whichever comes first.			

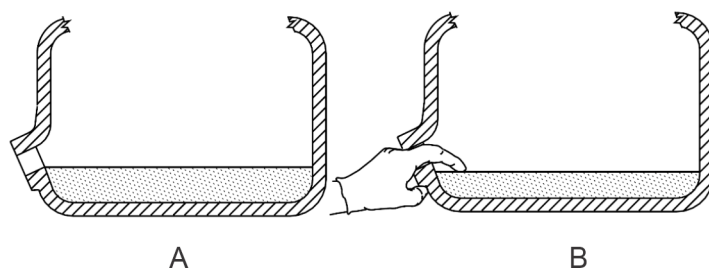
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## 6. Transmission Fluid Maintenance Information

### 6.01 Transmission Fluid Fill Volumes and Information

Reference the following table for DT12 fill volumes.

Transmission Fluid Fill Volumes and Information			
Transmission Variant	MY 2020 DT12 Refill Capacity: qt (L)*	MY 2017 DT12 Refill Capacity: qt (L)*	MY 2016 and Older Refill Capacity: qt (L)*
C-Box (DC / OC) D-Box (OD)	8.9 (8.4)**		
B-Box DB/OB		8.5 (8.0)**	11.6 (11.0)**
A-Box DA/OA		12.7 (12.0)**	15.9 (15.0)**
<b>* Notes:</b> Quantities listed are approximate. Fill transmission until lubricant is level with the bottom of the fill hole with vehicle in normal operating position. (see Figure below) Please refer to TechLit on DTNA Connect (with login) for more information.			
<b>** Other Additions:</b> <u>Cooler Lines:</u> • Add between 1.0 and 1.1 L (1.0 and 1.1 qt) if cooler and lines are drained. <u>PTO Variants:</u> • Add between 0.5 and 0.6 L (0.5 and 0.6 qt) if equipped with rear mounted PTO. • Add 1.6 L (1.7 qt) if equipped with side PTO (small). • Add 3.5 L (3.7 qt) if equipped with side PTO (large). <u>Notes:</u> A small volume of Classic DT12's were produced in 2017. Contact your Detroit representative to understand which model DT12 transmission you have.			



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A = Full  
B = Low

### 6.02 Transmission Fluid Sampling

Detroit® does not have transmission fluid sample kits. If your fleet has interest in performing sample analysis for transmission fluid, please contact your Detroit representative or District Service Manager (DSM) for more information.

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**7. Detroit™ Warranty Statement****7.01 Detroit® Warranty Statement**

Detroit® is not responsible for maintenance costs nor for any repairs needed because of failure to perform required maintenance services or failure to use fluids meeting Detroit® recommended specifications. Performance of required maintenance and use of proper fluids are the responsibility of the owner.

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**8. Appendix A – How to Select the Right Transmission Fluid for Your Fleet****8.01 How to Select the Correct Transmission Fluid for a Fleet**

If unsure about how to identify the types of Detroit® Transmissions you have, please contact your Detroit representative for more information.

**Shop Strategy # 1 – One Transmission Fluid for All Detroit® Transmissions**

	MY 2017 & Newer	MY 2016 & Older	Recommended Shop Oil
Example A	X		MB 235.16 75W-85
Example B		X	MB 235.11 75W-90
Example C	X	X	MB 235.11 75W-90 Note* for optimal fuel economy in newer transmissions, please consider oil shop strategy #2 listed below.

**Shop Strategy # 2 – Two Transmission Fluids for All Detroit® Transmissions**

	MY 2017 & Newer	MY 2016 & Older	Recommended Shop Oil
Example A	X		MB 235.16 75W-85
Example B		X	MB 235.11 75W-90
Example C	X	X	Carry both transmission fluid types for the different models. 2017 & Newer MB 235.16 75W-85  2016 & Older MB 235.11 75W-90



## **CONTACT INFORMATION**

For questions, please create a Service Technical Request using the DTTS Application on the DTNA Portal.