



D R I V E T R A I N S P E C I A L I S T S

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Mercedes / Freightliner DT12

BASIC TRANSMISSION INSTALLATION GUIDE

See the installation video:
<https://www.youtube.com/watch?v=jut4vDK3lpl>

DO NOT TOW / PUSH VEHICLE WITH DRIVESHAFT INSTALLED

For Questions or Comments Call 1-800-231-4005

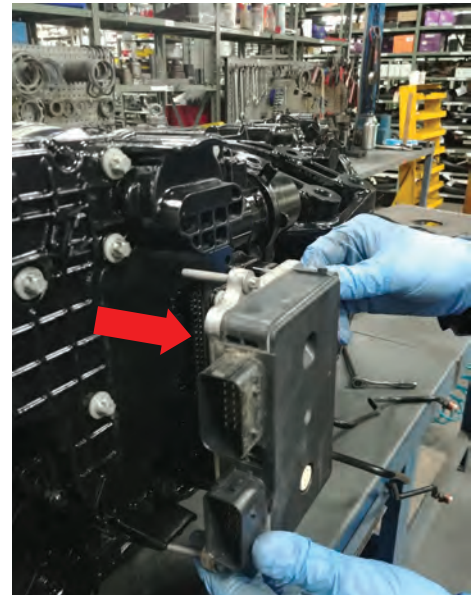
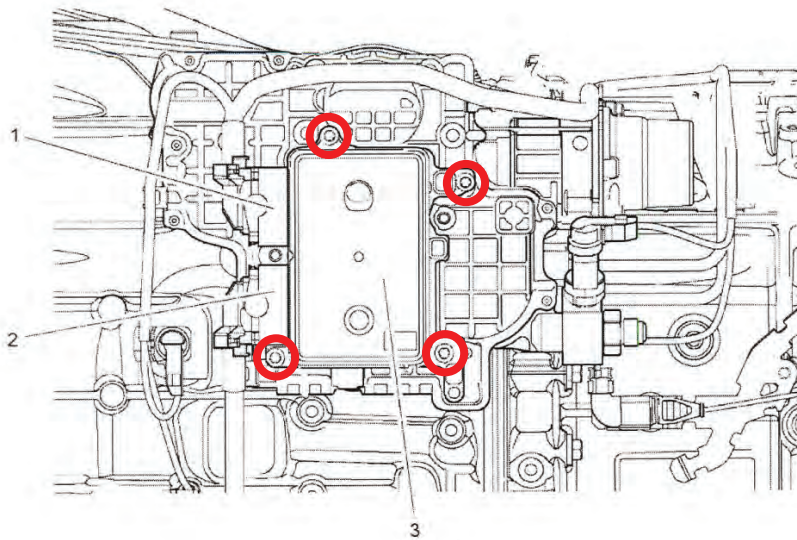
REMOVAL OF THE TRANSMISSION CONTROL MODULE

Park the vehicle on a level surface, shut down the engine, and set the parking brake. Chock the tires.

Disconnect the batteries at the negative post, including the batteries for the auxilliary Heating Ventilation and Air Conditioning (HVAC), if equipped.

Remove the transmission. **If present, the transmission cooler must be flushed or replaced.**

Disconnect the Transmission harness connector (1) and chassis harness connector (2) from the Transmission Control Module (TCM) (3).



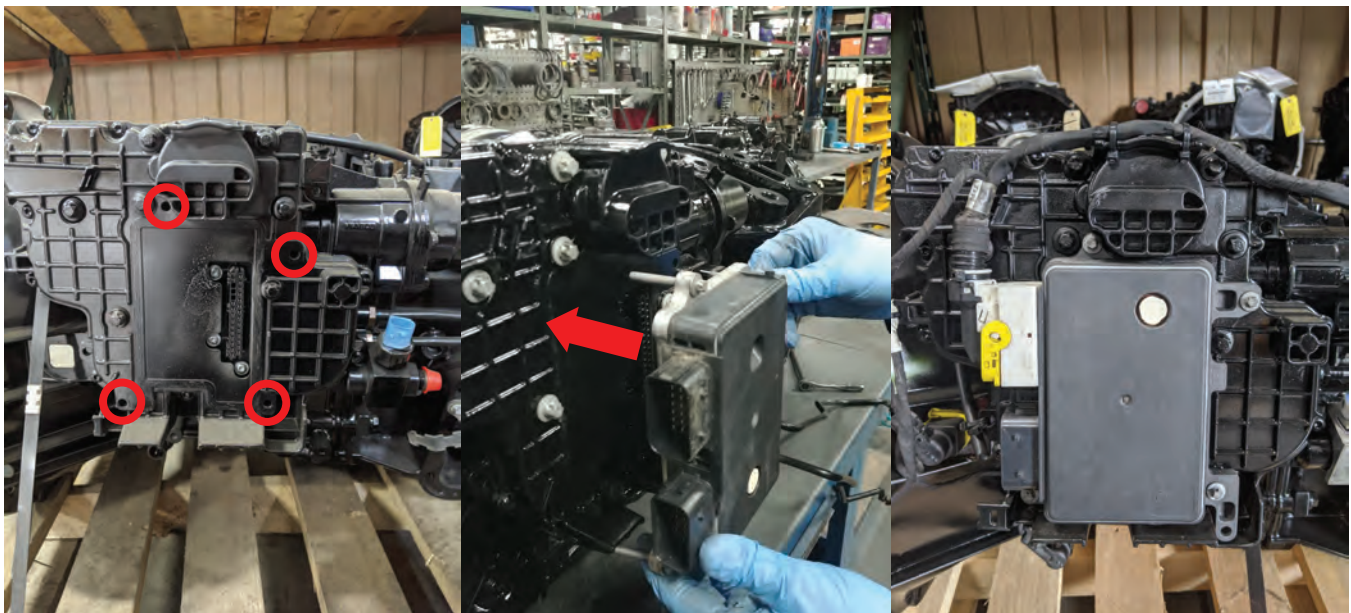
Remove the screws (E8 Torx) that attach the TCM to the shift controller. Remove the TCM.

Note: The TCM Gasket must be saved and reused from the previous unit.

Note: Use care when installing the Transmission Control Module (TCM) on the shift controller. The pins can be bent easily.

Installation of the Transmission Control Module

1. Align the TCM with the connectors on the shift controller, then press it into position.
2. Install the TCM mounting screws (E8 Torx). Torque to 10 Nm (90 lb in)
3. Connect the transmission harness connector and the chassis harness connectors to the TCM.
4. Connect DiagnosticLink. Under the Actions tab, perform the "Transmission Learn Procedure."



CLUTCH ACTUATOR REMOVAL PROCEDURE

Remove the air inlet connection.



Remove the retainer clip from the clutch actuator cable.



Thread the actuator cable end through the hole in the bell housing.



Remove the 3 bolts (E12 Torx Socket) holding the clutch actuator to the transmission.



Actuator Removed.



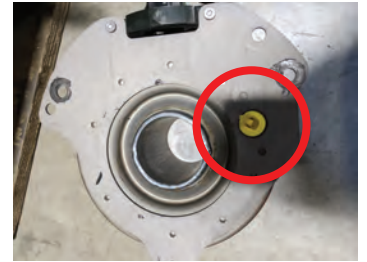
LIMITED WARRANTY: All warranties offered by Camerota Truck Parts for new, rebuilt, and used parts are warranted against defects in material and workmanship under normal use and service. The exclusive remedy under the warranty shall be the repair or replacement of the defective part at Camerota's Option. In no event shall Camerota be liable for special, incidental, direct, indirect, or consequential damages of any kind, including but not limited to lost profits, downtime, labor, or towing charges. For additional warranty information refer to the warranty schedule at www.camerota.com

CLUTCH ACTUATOR INSTALLATION PROCEDURE

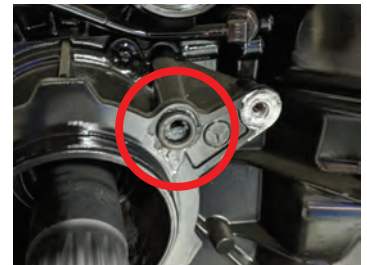
Prepare the new unit.



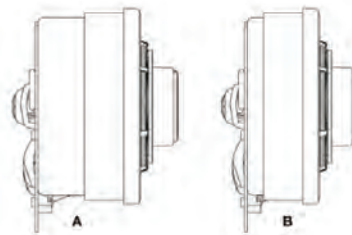
Remove the plug from the new actuator.



Adhere the Clutch Actuator O-Ring (022 997 95 48) into place on the transmission using grease. Then move the Clutch Actuator into position. Ensure the Actuator is fully seated before proceeding.



Collapse the actuator before torquing the mounting bolts. Install the clutch actuator in the new transmission using 3 bolts (E12 Torx Socket) tightened to 55 Nm / 40 ft lbs.



Thread the actuator cable end through the hole in the bell housing. Then use a zip tie to secure the cable to the hole in the actuator mounting plate.



Replace the retainer clip onto the clutch actuator cable.



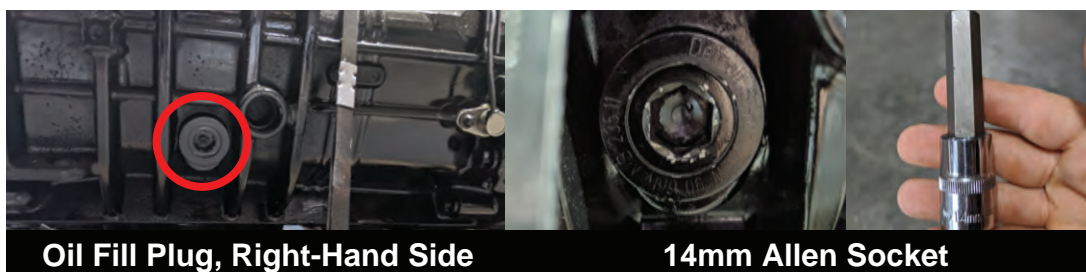
Reattach the air inlet connection.



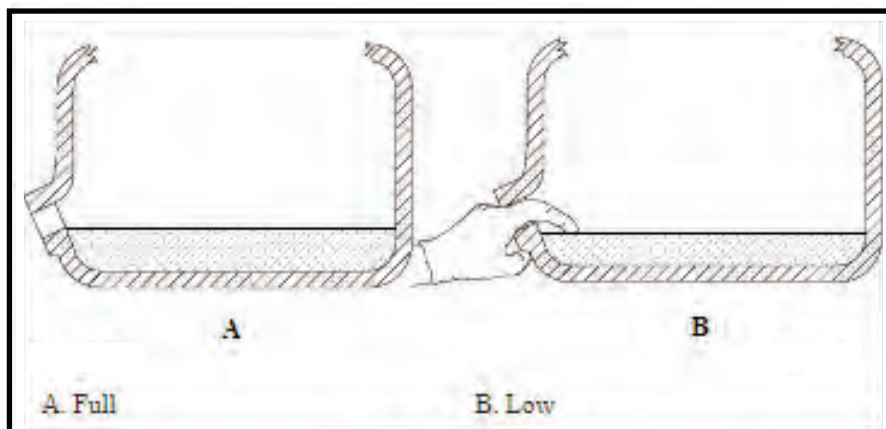
TRANSMISSION FLUID FILL PROCEDURE

Specification	Example
MB 235.11	Detroit Synth 75W-90

Operating a transmission with the fluid level higher or lower than recommended can result in transmission damage. Do not overfill the transmission. Overfilling will force fluid out of the case through the main shaft openings. Do not mix types or brands of fluid, because of possible incompatibility. Do not use fluid additives, friction modifiers, or extreme-pressure gear fluids. With the transmission at operating temperature, and the vehicle on a level surface, check the fluid level in the transmission.



1. Clean the area around the fill plug, then remove it from the side of the gear case.
2. Using your finger or a bent pipe cleaner, see if the fluid is level with the fill opening.
3. If the fluid level is low, check the transmission for leaks, and correct as needed.



4. If needed, add the recommended fluid until it is level with the lower edge of the fill opening.
5. Clean the fill plug and install a new seal on it. Install the plug in the side of the gear case, then tighten it 45 lbf·ft (60 N·m).

NOTE: In all cases, the correct fluid level is established by checking at the fill opening.

Operate the engine for five minutes after filling the transmission, then check the fluid level again. Install a new seal on the fill plug, then install the plug and tighten it 45 lbf·ft (60 N·m). Operate the vehicle to check for correct operation.

POSSIBLE PARTS NEEDED



022 997 95 48
CLUTCH ACTUATOR O-RING

CLUTCH AND TRANSMISSION CALIBRATION

The TCM must be swapped from the core to the reman transmission.
A clutch and transmission calibration must be completed.

To complete the transmission installation; the clutch and transmission MUST be calibrated (learned). This step is mandatory. To calibrate the clutch and transmission, an appropriate scan tool or OEM software must be used that has the ability to perform these tasks, e.g. Detroit Diagnostic Link , Autel HD Jaltest, or Texa. With the purchase of a Camerota Unit within our market area, a Camerota employee may be able to calibrate the clutch and transmission in your vehicle. Please contact the Camerota Truck Parts location that delivered the transmission to set an appointment for programming assistance.

Before starting the calibration, the following steps must be completed:

The batteries must be fully charged. Have a battery charger hooked up to the batteries if needed.

The air system must be charged with a minimum of 105 psi. A shop air line attached to the air tanks is the best option. The air line should be connected to the air tanks until the calibration has been completed. There is a possibility the truck will not start until the calibration has been completed.

Connect to the transmission with the scan tool and follow the steps to complete a clutch and transmission calibration. Once the calibration is successful, check for active codes. Clear any codes.

INITIAL ROAD TEST

Before driving, if vehicle has a transmission cooler, the vehicle must be taken on a series of short (1000 ft) road tests.

WARNING! DO NOT exceed 1000 feet for initial road tests.

Doing so could result in overheating and damage to the transmission.

After each test, check the oil level and fill as necessary until the correct oil level is maintained. Finally, perform a longer road test (10 miles) and check the oil level and refill as necessary until the correct oil level is maintained.

Clear codes before road testing.

All codes and modules MUST clear to proceed.

When using the scan tool during the road test, check for:

- Proper TPS function
- Proper charging system voltage
- Proper brake switch function
- Any engine skip codes

If any engine codes become present during the road test, do not operate the vehicle until the proper diagnostics, corrections and repairs are made.

Re-check the fluid level and top off as needed. Re-check for any leaks.

A NEW TRANSMISSION AIR SYSTEM AIR FILTER IS REQUIRED WHEN THE TRANSMISSION IS REPLACED.

LUBRICATION RECOMMENDATIONS

Factory Fill Overview:

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

Service Fill Options Overview

Which Transmission Fluids can be used in different model years of DT12's?

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

DT12 Transmission Oil Approved List (75W-90) MB 235.11 Approved Products in North America:

Applications: Approved for Use In All Model Years

- DETROIT TRANSMISSION FLUID-SYNTH (75W-90)
- EMGARD MTF 7011
- CHEVRON DELO SYN-AMT XDT 75W-90
- MOBIL DELVAC 1 TRANSMISSION FLUID MBT 75W-90
- SHELL TRANSMISSION MA 75W-90
- VALVOLINE SYN GARD MDT 75W-90

DT12 Transmission Oil Approved List (75W-85) MB 235.16 Approved Products in North America: Applications: Only Approved For Use In Model Years 2017 and Newer:

- DETROIT TRANSMISSION FLUID-SYNTH 75W-85

Detroit transmissions use synthetic lubricant that meets the requirements of the MB 235.11 specification, such as Detroit Synth 75W-90. Using lubricant that does not comply with this specification will result in damage to the transmission. If needed, add the recommended fluid until it is level with the lower edge of the fill opening. Clean the fill plug and install a new seal on it. Install the plug in the side of the gear case, then tighten it 45 lb-ft (60 Nm).

Transmission for setting the correct model type when reprogramming

Trans S/N First 6 - Germany	Trans S/N First 6 - Detroit	Torque Rating	Trans Type - US	Trans Type - Germany
715354	716300	1450	DT12-DB	G211
715364	716310	1650	DT12-OB	G230
715374	716320	1750	DT12-DA	G281
715384	716330	2050	DT12-OA	G330

D= DIRECT DRIVE
O=OVERDRIVE
A=LARGE BODY TRANSMISSION
B=SMALL BODY TRANSMISSION
715=GERMANY BUILT TRANSMISSION
716=DETROIT BUILT TRANSMISSION

MERCEDES / FREIGHTLINER DT12

Complete Unit

*Parts in Green Included with Unit
Installation-Ready*

New Clutch Control Actuator

*Two-Year Unlimited Mile Warranty on Parts and Labor**

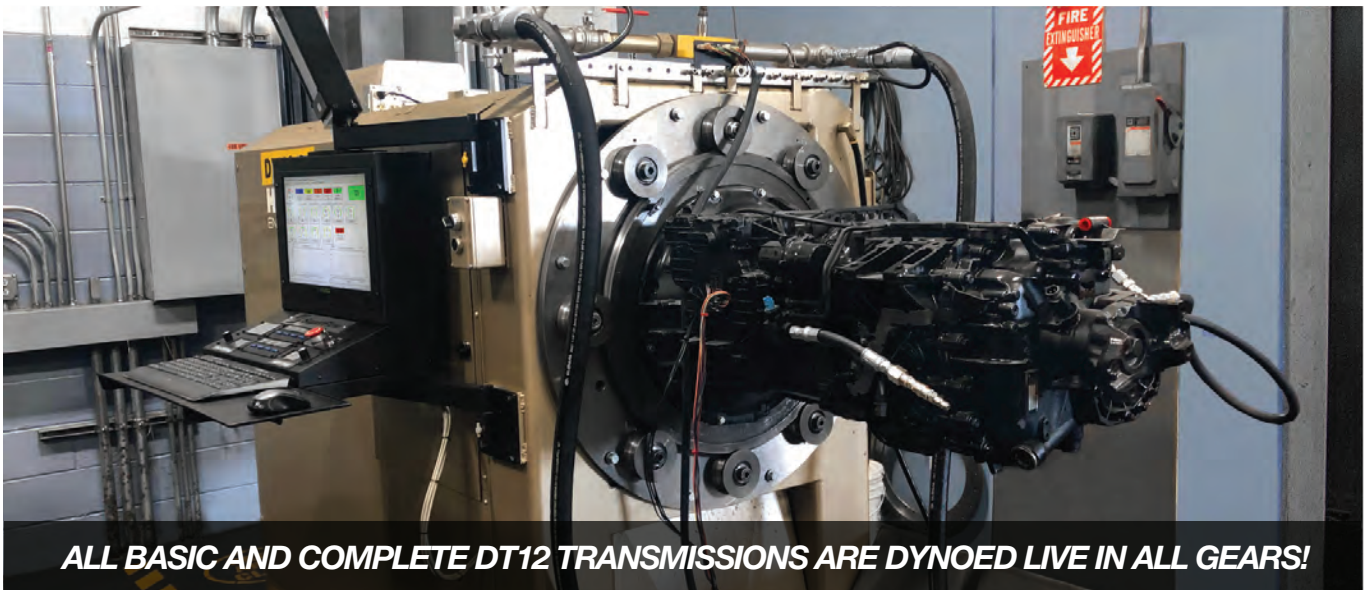


Basic Unit

TCM Computer NOT Included

Without Clutch Control Actuator

*Two-Year Unlimited Mile Warranty on Parts and Labor**



ALL BASIC AND COMPLETE DT12 TRANSMISSIONS ARE DYNOED LIVE IN ALL GEARS!

**When installed by an authorized Mercedes / Freightliner Dealer or Camerota Service Facility.*

Celebrating Over 55 Years of Serving the Northeast

Please call for pricing and availability

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