IF POSSIBLE, PLEASE CONFIRM BEFORE INSTALLATION

Tuning Configuration

Please confirm the transmission tuning is setup per our recommendations found below. MPT prefers to confirm proper tuning configuration before our transmission is installed. However, we realize that is not always possible. Please compare your monitor test sheet with this table. If there are **ANY** discrepancies from our guidelines, there is **NO WARRANTY ELIGIBILITY.** If you would like to submit your tuning for MPT approval, please email info@muldoonsdiesel.com a live data recording from your snap on scan tool.

Video explanation of how to take a live recording with snap on scan tool;

Gear	Line Pressure (Maximum allowed)	Line Pressure Gain	TCC Lockup
Exhaust Brake	120 PSI	N/A	
TCC Gain Rate	N/A	0.448	
Drive, foot on brake at idle	60 PSI		
First	160 PSI		Unlocked
Second	160PSI		Unlocked
Third	160 PSI		Unlocked
Fourth	180 PSI		Lockup AFTER 4th gear has been applied
Fifth	225 PSI		Lockup with partial lockup on upshift
Sixth	225 PSI		Lockup with partial lockup on upshift
Reverse	OEM		

Gear Ratio & Tire Size

Please confirm that the gear ratio and tire size match our defined acceptable limits. Failure to configure the appropriate gear ratio to tire size will result in premature overdrive clutch failure. If tire size is 35” or larger, proof of differential gear change must be provided for warranty eligibility.

Tire Size	Acceptable Differential ratios
Below 35”	3.42 - 3.73
35” to 37”	3.73 - 4.10
37”to 39”	4.10 - 4.56
39” to 42”	4.56 - 4.88

Transmission Installation Instructions

- Before installing your new MPT transmission, make sure you have access to a professional grade scan tool that can perform and monitor the following; **RELEARN PROCEDURE, LINE PRESSURE, TORQUE CONVERTER CLUTCH STATUS AND CVI VALUES. FAILURE TO PROPERLY DOCUMENT THESE READINGS WILL RESULT IN NO WARRANTY ELIGIBILITY.**
- MPT recommends the use of a Snap on scan tool for installation of your 68RFE and to confirm tuning is properly configured.
- 2010-2018 Models - Ensure that the vehicle's OEM transmission thermostat valve has been replaced with a bypass. MPT transmissions generate more line pressure, which will lead to higher transmission temperatures. Thermo-bypass is required on all vehicles that are equipped with an OEM transmission thermostat. If equipped, 2010-2012 trucks will have a thermostat near the fuel filter housing above the starter.
- Transfer your alignment dowels from your old transmission to the new transmission. Failure to do so **WILL** result in damage to your new transmission and will not be covered under warranty.
- Fill the torque converter with at least 2 quarts of fluid (preferably 4). Using a transmission specific funnel aids in this process and makes less of a mess if the funnel protrudes down past the converter hub (fill slowly). Lubricate torque converter o ring with assembly lube or ATF.
- **Transmission fluid recommendation is Dexron III**, commonly referred to as **Dexron/Mercon**. Any brand that meets the Dexron III specification is compatible. **ATF+4** is also compatible in our 68RFE transmissions.
- Prior to installing the torque converter, make sure to apply a coating of assembly lube to the snout of the input shaft. Make sure that the torque converter is completely seated in the oil pump, and that once the transmission is installed that there is at least 1/4" free play between the torque converter and flexplate.
- **Hot flush transmission coolers, or have them replaced**. Please note that transmission coolers must be hot flushed. If a hot flush machine is not available, **IMAGE PROOF and INVOICE** of **all transmission cooling components** and **front cooler** must be provided with warranty registration. **FAILURE TO INCLUDE THIS INFORMATION WILL VOID ANY WARRANY ELIGIBILITY.**
- Do not use the spacer in between crank bolts and flexplate, unless otherwise noted.
- Flexplate to crank bolts torque 110 foot pounds + Red thread locking compound.
- Converter to flexplate bolts torque 35 foot pounds + Red thread locking compound.
- Set parking brake/ chock wheels.
- Before you start your engine, connect your scan tool and clear any active transmission codes.
- Fill the transmission with 10 quarts of fluid, start the engine and put vehicle shift lever in neutral.
- Dry fill capacity is 17-25 quarts depending on cooler configuration and pan depth.
- **Transmission MUST be filled with engine running in neutral.**
- **Fill in neutral slowly with engine running**. Once remaining transmission fluid is filled, cycle through the gears, place shifter in neutral and check fluid level.
- **BEFORE NEXT STEP, LET VEHICLE RUN IN NEUTRAL FOR 10 MINUTES. FLUID LEVEL WILL SETTLE IN THE 68RFE AND ALWAYS DROPS. WHAT WAS ONCE A FULL DIPSTICK DOES NOT REGISTER ON THE DIPSTICK AFTER RUNNING FOR 10 MINUTES.**
- **CHECK FLUID LEVEL BEFORE PERFORMING NEXT STEP.**
- Perform relearn procedure with scan tool.
- Check fluid level after relearn has been performed.
- Have scan tool setup to complete transmission monitor test.

IF INSTALLING A 2019+ 68RFE, FOLLOW THESE ADDITIONAL INSTRUCTIONS

2019+ PI CURVE INPUT

In addition to the installation steps listed above, 2019 and up trucks require a different relearn procedure and code input for the torque converter clutch solenoid. This procedure requires a dealer level diagnostic tool.

The solenoid has an engraved 2D barcode, that when scanned will produce a PI curve code.

This code is unique to the solenoid's flow rating. If these codes are not entered, premature torque converter / transmission failure will occur.

Below are the codes that pertain to your variable force solenoid.

FAILURE TO ENTER THE PI CODE CAN LEAD TO TRANSMISSION FAILURE THAT WILL NOT BE COVERED UNDER WARRANTY

CODE: _____

2019+ UD PULSE AIRCHECK DISABLE

In 2019, FCA implemented an air bleed/pulse to the drive function of their 68RFE transmissions. Under stock line pressure, the underdrive balance spring has enough opposing force to keep pack from applying. However, with 225 PSI line pressure the pulse momentarily applies and bind while in overdrive. Ensure your transmission tuning is setup to have this pulse turned off, or immediate transmission failure will ensue.

***THE AFOREMENTIONED ASPECTS MUST NOT BE OVERLOOKED WHEN INSTALLING A 2019+ 68RFE TRANSMISSION. ***

68RFE Test Drive Monitor Test

When test driving your 68RFE transmission, there are a few monitors we need to check to ensure the tuning is configured properly. All of the requested parameters can be monitored with a professional grade scan tool.

PRESSURE READINGS AT IDLE

Please record your desired and actual line pressures at idle during the following conditions;

Desired Line Pressure	Actual Line Pressure
Park at idle with foot on brake _____ PSI	Park at idle with foot on brake _____ PSI
Reverse at idle with foot on brake_____PSI	Reverse at idle with foot on brake_____PSI
Neutral at idle with foot on brake_____PSI	Neutral at idle with foot on brake_____PSI
Drive at idle with foot on brake_____PSI	Drive at idle with foot on brake_____PSI

PRESSURE READINGS WHILE DRIVING

For these readings, we will need to have the accelerator pedal depressed to 2.0V of throttle position. – This is just under half throttle. Throttle position can be monitored via the OBD port. Since the transmission is in relearn, please exercise this test for the shortest duration possible. Please record your desired and actual line pressures during the following conditions;

Desired Line Pressure	Actual Line Pressure
1st gear at 2.0V Throttle position _____PSI	1st gear at 2.0V Throttle position _____PSI
2nd gear at 2.0V Throttle position_____PSI	2nd gear at 2.0V Throttle position_____PSI
3rd gear at 2.0V Throttle position_____PSI	3rd gear at 2.0V Throttle position_____PSI
4th gear at 2.0V Throttle position_____PSI	4th gear at 2.0V Throttle position_____PSI
5th gear at 2.0V Throttle position_____PSI	5th gear at 2.0V Throttle position_____PSI
6th gear at 2.0V Throttle position_____PSI	6th gear at 2.0V Throttle position_____PSI

TORQUE CONVERTER LOCKUP SCHEDULE

For this section, please monitor the torque converter clutch lockup schedule. This command has an assigned PID and can be monitored on 2010+ truck with a professional grade scan tool. For 2007.5-2009 trucks, we will need to monitor the TCC slip and Turbine RPM. When driving down the road, when TCC slip is zero or negative and turbine speed matches engine rpm, this indicates the torque converter is in lockup. Please check which is the earliest gear you have full converter clutch apply.

- ☐ 1st gear
- ☐ 2nd gear
- ☐ 3rd gear
- ☐ 4th gear
- ☐ 5th gear
- ☐ 6th gear

RELEARN PROCEDURE

After your test drive monitor test is completed, the transmission must be driven in a non-aggressive manner for the first **500 miles**. Do not **tow, run the vehicle in tow- haul mode or drive with throttle percentages over 50% until the relearn procedure is completed**. To properly complete the relearn procedure, the vehicle must be driven in **stop and go conditions**, where the transmission is cycling through its gearshifts. Highway miles are not applicable for relearn. At least one transmission oil cool down cycle is required for the relearn procedure to complete.

Any time you install or reflash your truck to modify the engine tuning you will also be inadvertently reflashing the transmission tuning as well. Therefore, the above drive learn procedure must be completed again anytime you upgrade, reinstall or switch tunes. Failure to do this will cause immediate transmission damage! Simply changing power levels via CSP 5 switch is not considered a full reflash, however you should drive at least 30 miles before using full engine power.

FAILURE TO PERFORM THE TRANSMISSION RE-LEARN PROCEDURE WILL RESULT IN PREMATURE TRANSMISSION FAILURE. THIS WILL NOT BE COVERED UNDER WARRANTY.

OPERATIONAL INFORMATION

Due to the increase in line pressure and clutch surface area versus the stock configuration, you may notice your new transmission runs warmer than previously. In stop and go situations where you are not towing, it is normal to see temperatures up to 200 degrees. If towing, the temps may run even higher. We recommend manual shifting the transmission when towing in stop and go traffic. In stop and go scenarios, simply putting the transmission in neutral when stopped will help keep temperatures down.

You may notice that your truck has set DTC codes P2701, 2702, 2703 or 2704 stored. This is nothing to worry about. They refer to inadequate CVI volumes. In a stock transmission this would be an issue but with a modified performance 68RFE, these codes are generated for other reasons. These codes can appear due to the fact that you are now applying the clutches 29% faster due to the 225psi of line pressure. In a performance transmission with additional clutches, you will apply even faster and this may cause one or more CVI values to get down to 0. Once at 0 these codes will appear. When the apply is quicker than the factory was looking for it to be, these codes set. These codes do not affect performance in anyway and can be disregarded.

WARRANTY REGISTRATION FORM 68RFE TRANSMISSION

- MPT Order/ Invoice # _____
- Transmission Serial #_____
- Vehicle Mileage _____
- Purchase Date _____
- If Purchased from a Dealer, Dealer Name _____
- Customer Name _____
- Make and Year _____
- Phone # _____
- Address _____
- City_____
- State _____
- Zip Code _____
- Installer Name _____
- Cooler Flow Rating (GPM) _____
- CVI Values

  2C _____ OD_____
  4C_____ UD_____
  LR_____

- *If coolers cannot be hot flushed, provide **IMAGE PROOF and INVOICES** that **all lines**, **front cooler and all other cooler components** were replaced when sending in form. *
- **FAILURE TO FULFILL AND PROVIDE DRIVE TEST MONITOR SHEET AND WARRANTY REGISTATION WILL RESULT IN NO WARRANTY ELIGIBILITY.**
- Unless agreed upon before transmission purchase, **transmission and torque converter cores must be returned to MPT**. Failure to return transmission and torque converter core will result in **NO WARRANTY**.

- **Mail; Muldoon's Performance Transmissions, ATTN: Warranty, 610 South Street New Castle, DE 19720**
- **Email; muldoonsdiesel@gmail.com**

610 South Street New Castle DE 19720
(302) 276 2882

General Policy
All core returns must be,

- Like for like, no mixed models
- Drained of all fluids ($50 Deduction)
- No Part Disassembled
- No fire damage
- No Excessive Rust or Water Damage
- Transmission Core Return Sheet filled out & included ($100 Deduction)

Returned cores that fail to follow the above conditions will be disallowed and scrapped or returned at customer's expense. MPT reserves the right to deny cores as it sees fit and may deviate from its policy.

MPT TRANSMISSION / VALVE BODY CORE ACCEPTANCE POLICY

Model	Deduction
Transmissions	• Cracked / Corroded extension housing ($745.00) • Part Disassembled (50% Deduction of Core Credit) • Missing Cooler Fittings ($15 ea.) • Broken / unusable front case $1000.00 for 68RFE) • Stripped Oil pan bolts ($5 per ea.) • Broken underdrive piston spring ($60.00) • Damaged / broke hard parts ($TBD current market value) • Core caked with debris ($50.00 cleaning fee) • Aftermarket torque converter ($750.00) • Complete compromised geartrain ($1000.00)
Valve Bodies	• Excessive corrosion (No Credit) • Part disassembled (No credit) • Broken castings (No credit) • Modified valve body (No credit)

UNLESS PREVIOULY AGREED
FAILURE TO RETURN YOUR TRANSMISSION AND TORQUE CONVERTER WILL RESULT IN NO WARRANTY.

If you need to return a core transmission to us, please read the following:

- **Make sure your core transmission is well-secured.**
- **Remove these parts from your transmission before sending it in as a core, MPT is not responsible for the following parts AND THEY WILL BE SCRAPPED:**
  - Dowel pins
  - Shifter cable bracket
  - Inspection cover
- **Please include your drained torque converter (it's $750.00 of the $2,000.00 core charge). We do not need your stock flex plate.**

- Once everything is ready, please either email us at muldoonsdiesel@gmail.com or call (302) 276-2882, select option 3 (shipping). We'll need to know on what day(s) you'll be available for the pick-up. Pick-ups typically occur in the afternoon hours and we need to provide a minimum of a 2-hour window. Please be aware that freight pick-ups are not guaranteed to occur on the date scheduled but do usually occur within the 1-2 days of requested date.

- Once we receive your request for the pick-up, we will get it scheduled and you will receive an email from the shipping Courier (IE R&L, Unishippers, YRC, etc) with a Bill of Lading (BOL) attached. Please print two copies of the BOL to have ready for the driver. They will not pick up if no one is present.

Please detach next pages and return with core

MULDOON'S
Performance Transmissions

610 South Street
New Castle DE 19720

CORE RETURN

Customer Name: _____

Customer Telephone: _____

Customer Address: _____

Product Purchased: _____

□ **I am returning my core after purchasing/receiving a Muldoon's product.**

or

□ **I am sending my core in up-front prior to the shipment of a Muldoon's product.**

Core Return Policy

Core refunds are processed in the form of a check mailed to the shipping address provided.

Cores must be returned within 2 weeks of product receipt. Cores returned after 2 weeks are subject to a $25.00 refund reduction per day.

If returned core is found to be damaged, compromised or unacceptable in any way Muldoon's Performance Transmissions has the right to refuse it. It is the responsibility of the customer to properly package and secure the core for return shipment. MPT is not responsible for any subsequent damages due to improper packaging methods.

Transmissions must be complete with no missing internal parts. Please reuse the ratchet straps that were used when we sent your transmission. Deductions are further detailed on the first page of this document.