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BD AS69RC Transmission

For 2013-2018 Ram 2500-5500 w/ 6.7L Cummins

	Year Range	Transmission Only	Transmission + Torque Converter
TOWMASTER TRANSMISSION (600HP)	2WD	1064272	1064272SS
	4WD	1064274	1064274SS
ROADMASTER TRANSMISSION (500HP)	2WD	1064372	1064372SS
	4WD	1064374	1064374SS

Please read the instructions and warranty disclaimer before beginning installation.
WARRANTY VOID UNLESS ALL INSTALLATION PROCEDURES ARE FOLLOWED
All learn procedures should be performed at the operating power setting of the vehicle.

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Maintenance

BD recommends the first transmission oil and filter change to occur at the 3 month or 5,000 miles/8,000 km interval. This quick interval will not only give you piece of mind, but will also rid the transmission of any prior debris dislodged from the cooler. After this, OE service intervals are acceptable.

Use only MOPAR ASRC or aftermarket equivalent transmission fluid (Mobil 3309). These are the only acceptable fluids for use in this transmission.

Fluid Capacity (Drain and Fill): approximately 10.7 qts

Fluid Capacity (Dry Fill): approximately 17.2 qts

Introduction

BD Diesel AS69RC transmissions incorporate many upgrades and updates to improve transmission longevity and performance. See our website for up-to-date sales features.

Special Tools Required

Scanner

Chrysler Scanners

SCANNER	YEAR
WiTech	**2007-Current**
Star Mobile	**2007-Current**
StarScan	**2007-2009**

Aftermarket Scanners

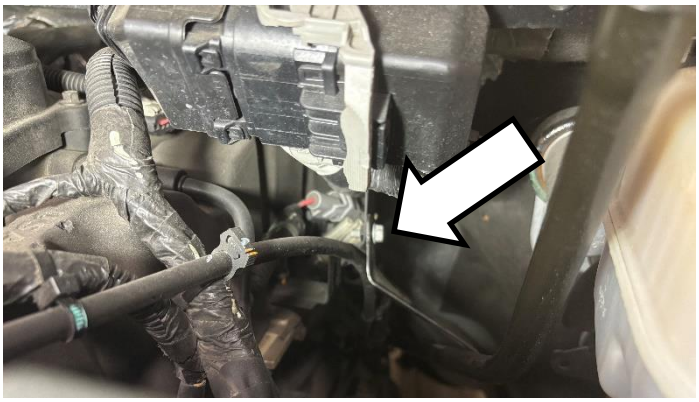
SCANNER	YEAR
Snap-On Modis	**All**
Auto Enginuity (with EI04 enhanced Dodge coverage)	**All**
Other scanners with FULL OE coverage (not code readers)	

Installation

Transmission Removal

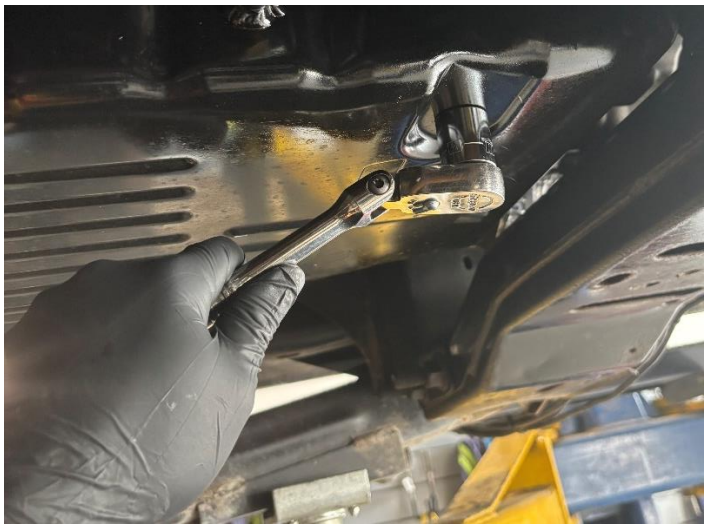
Disconnect negative battery terminals.

Remove bolt holding on upper dipstick tube and remove from transmission.

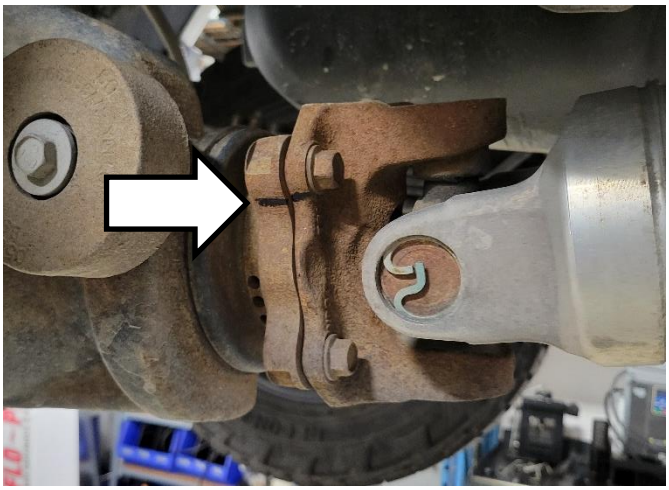


Raise and support the vehicle.

Remove any skid plates if equipped. Drain fluid from transmission.



Mark the driveshaft and respective flanges to retain alignment.

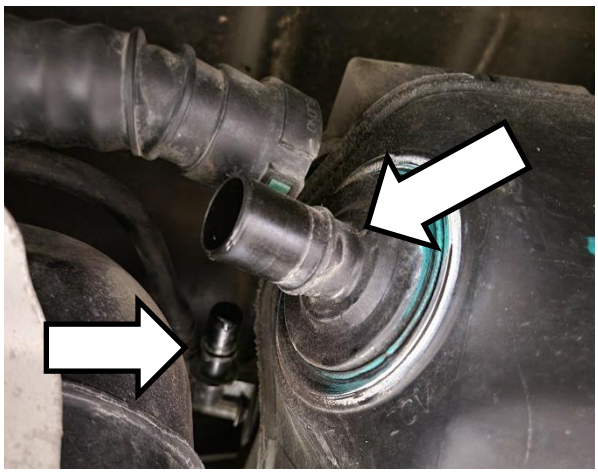


Remove the 4 bolts holding the rear u-joint flange in place and remove the rear driveshaft.

4WD Only

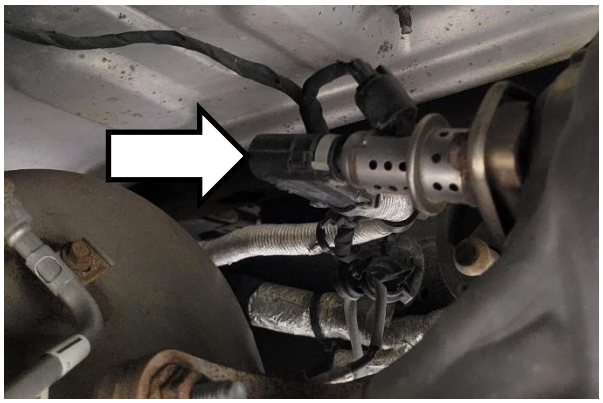
Mark the front driveshaft for alignment on both flanges and remove the front driveshaft.

Disconnect the 2 quick connect lines leading to the DEF Tank.



Disconnect the electrical connector and DEF line attached to the DEF injector in the exhaust.

Squeeze tabs in to remove.



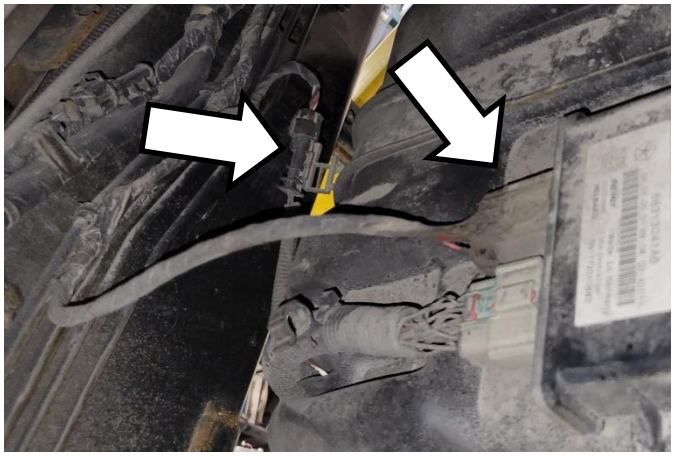
Remove the 6 bolts holding the DEF tank crossmember.

(4 Drivers side, 2 Passenger side)

Slowly lower the DEF tank to allow access to the electrical connectors.

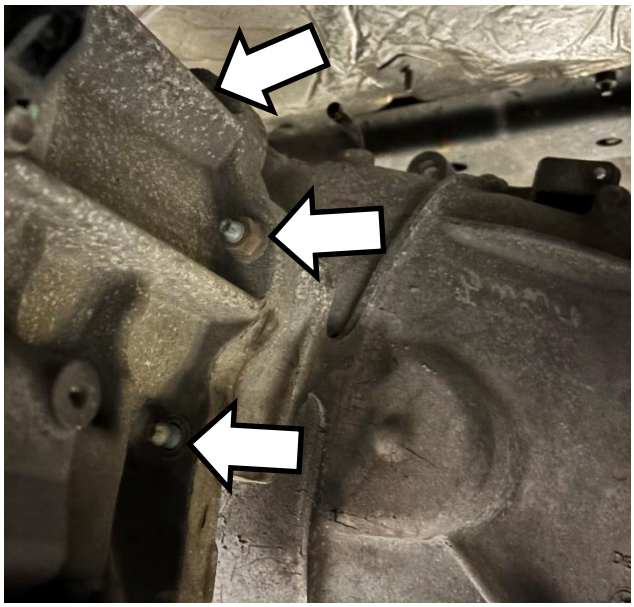
Disconnect the 2 electrical connectors.

Remove the DEF tank and crossmember.



4WD Only

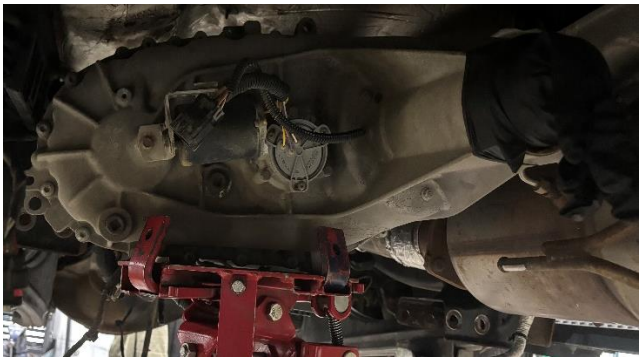
Disconnect transfer case electrical connector and breather line.



4WD Only

Remove the nuts holding the transfer case onto the back of the transmission.

To improve access to the upper nuts, remove rear cross member temporarily and lower the transmission slightly.



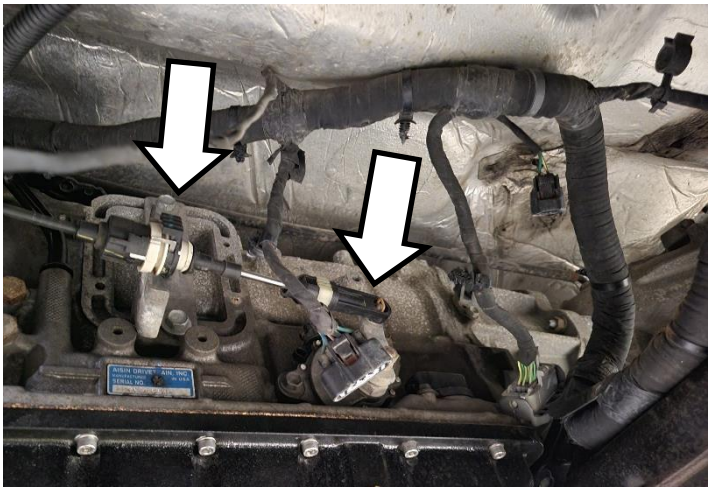
4WD Only

Remove the transfer case from the transmission.

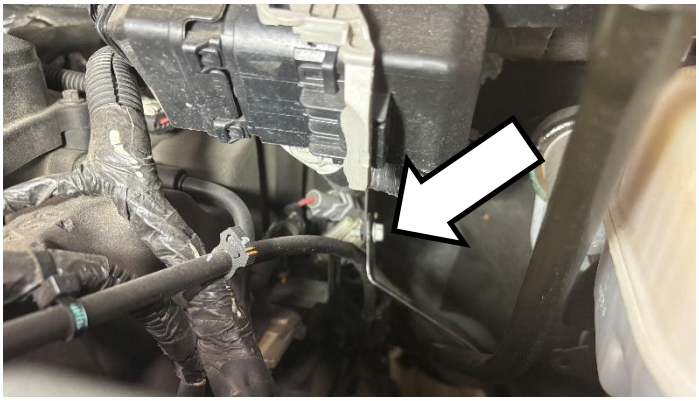
Disconnect the transmission harness plug, trans cooler temperature sensor and range sensor electrical connectors.

Unclip harness from transmission and confirm harness is loose

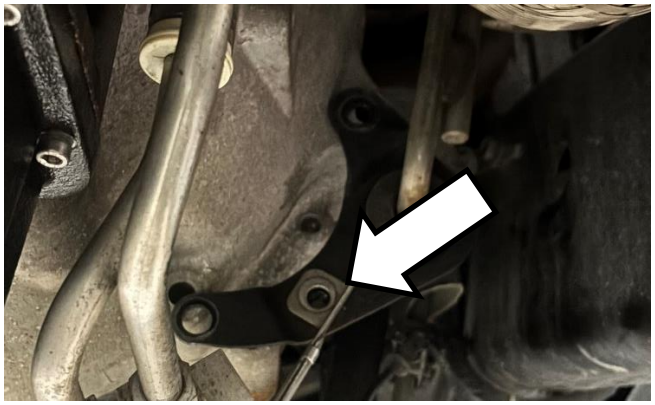
Disconnect the shift cable from the shift lever. Release metal locking tabs on cable and remove from bracket.



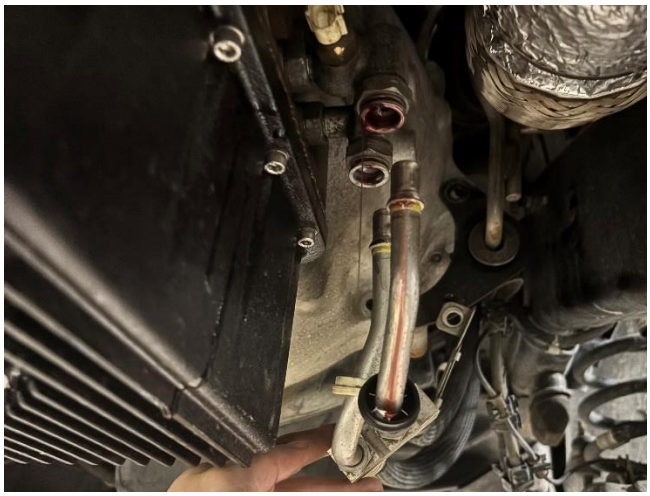
Remove bolt holding on upper dipstick tube and remove from transmission.



Remove the cooler line support bracket from exhaust bracket on the passenger side of the converter housing.



Unclip cooler lines from cooler fittings and secure out of the way.



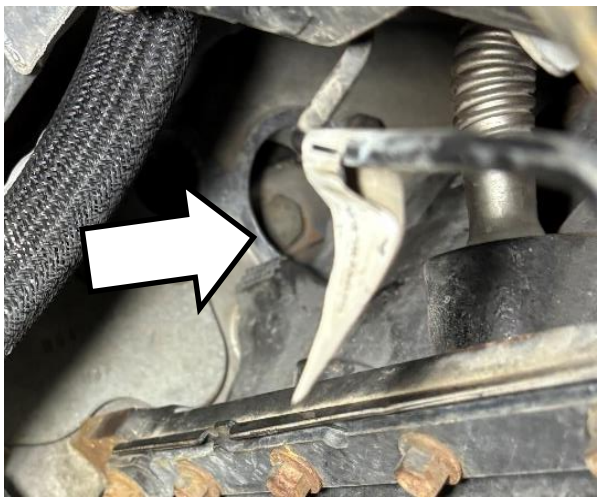
Remove vent hose from transmission.

Removal of the bellhousing support bracket is not necessary but allows for easier access to flex plate bolts.

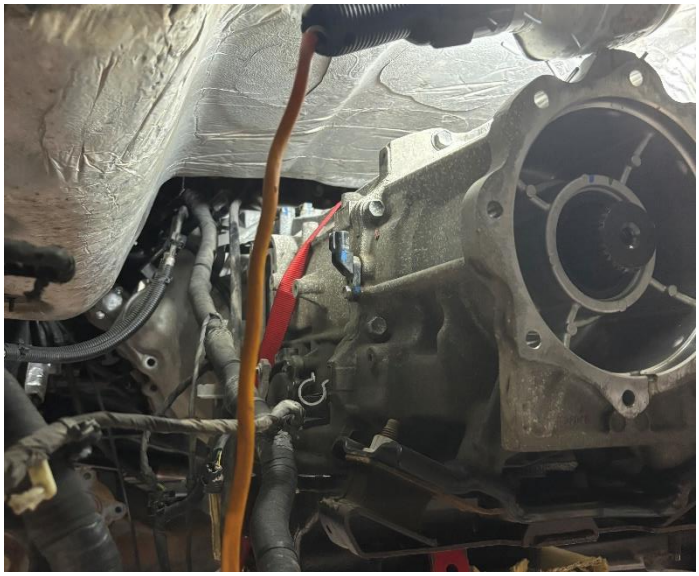
Remove the torque converter access panel on the passenger side of the engine.

Remove inspection cover located on the bottom of the bellhousing to gain access to the flexplate.

Manually rotate the crankshaft to spin the flex plate and gain access to the converter bolts. Remove all 6 bolts from the flex plate.

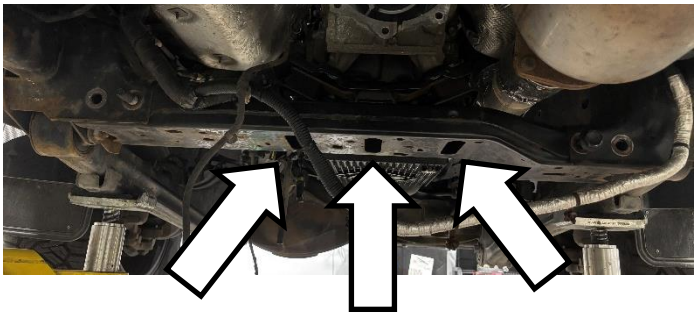


Confirm all wires, hoses, and cables are disconnected from the transmission.



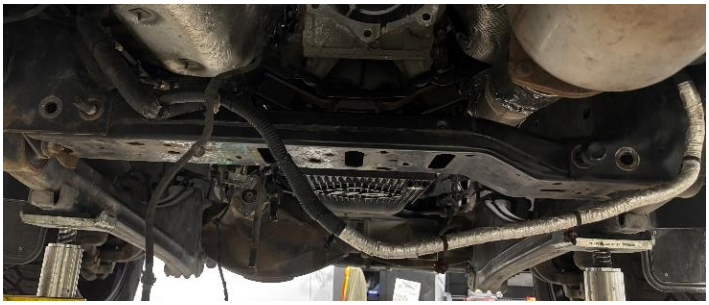
Support transmission with transmission jack.

Remove the 3 nuts holding the transmission mount to the crossmember.

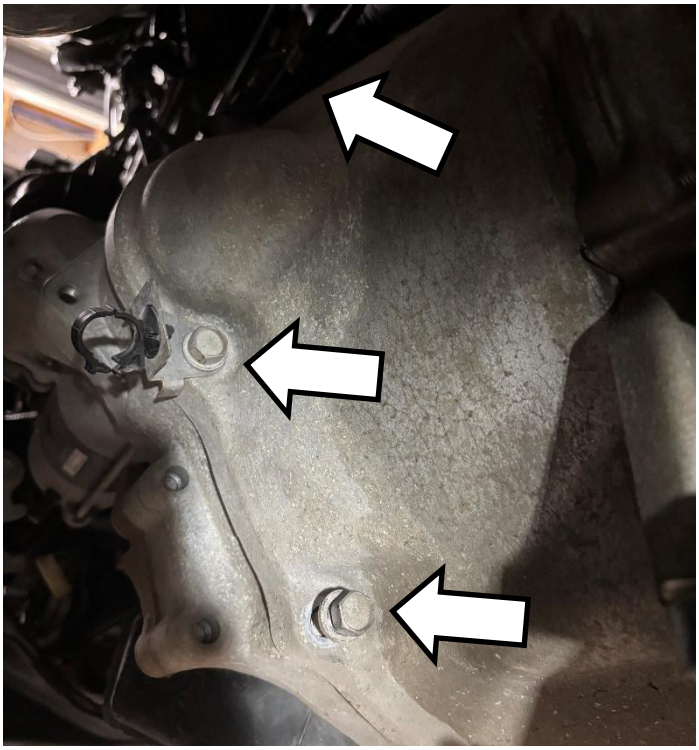


Remove the 4 transmission crossmember bolts and electrical harness from crossmember.

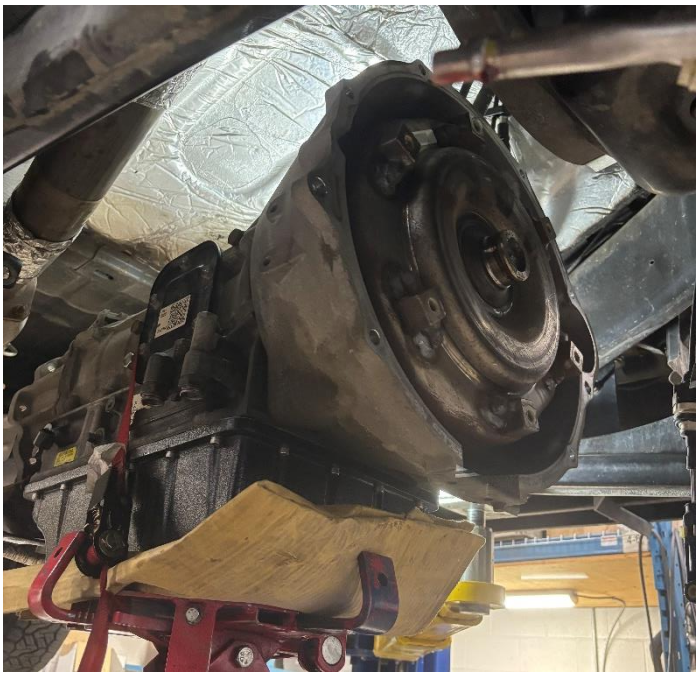
Remove transmission crossmember.



Remove the bellhousing bolts from the transmission.



Carefully wiggle and pull on the transmission to separate from the engine. Make sure torque converter doesn’t slide out. Lower transmission to ground and set aside.



Transmission Cooler Flush

Before installing your BD transmission you must flush the transmission coolers using a backflow heated transmission flushing machine. By not doing this you may void your warranty.

If the transmission you are removing failed or has an excessive amount of debris in the pan, you should replace the transmission cooler and check valve assembly.

Torque Converter Removal

To remove the torque converter from the old transmission, carefully slide torque convert out of the transmission and drain as much fluid as possible. All components and cores must be drained of fluid before sending back to BD for core credit. To ship core back, reinstall torque converter using the special retainer plate that came on the new transmission. This will prevent damage during return shipping.

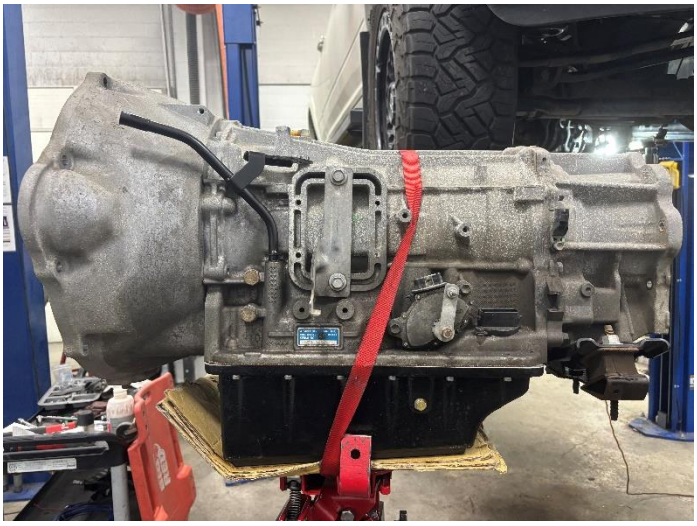
Transmission Install

Remove converter shipping bracket and take off torque converter.

Look over torque converter hub for sharp edges, burrs, or blemishes. Polish out with 600-1000 grit sandpaper if needed.

Transfer over any components front the old transmission to the new transmission. This includes:

- Shift cable bracket
- Shift lever
- Cooler elbows
- Transmission mount
- Dipstick tube
- Vent fitting
- Range sensor
- Output speed sensor
- Access plate



Place transmission onto transmission jack and secure.

Lubricate oil pump lip seal with transmission jell or ATF. Slide converter over shaft. You should hear two distinct clunks.

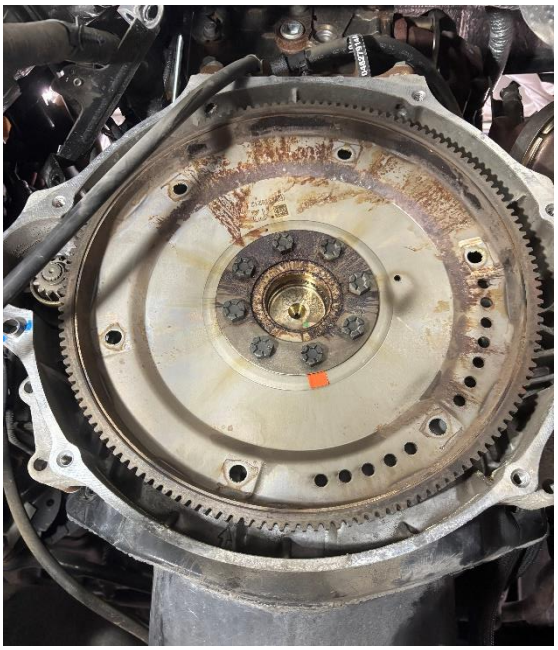
To verify converter is fully installed, check bolt pads are spaced 3/4” from bellhousing face.

Temporarily secure the converter to the transmission with either the shipping bracket or a c-clamp.

Check condition of flex plate. Replace if necessary.

Note:
Some aftermarket and dual-purpose flexplates position the torque converter closer to the engine than the factory flexplate. This may result in insufficient transmission pump engagement and could lead to transmission failure.

The BD 1041223 flexplate is recommended as a high-performance OEM-style alternative. It maintains proper pump engagement while providing increased flexplate durability.

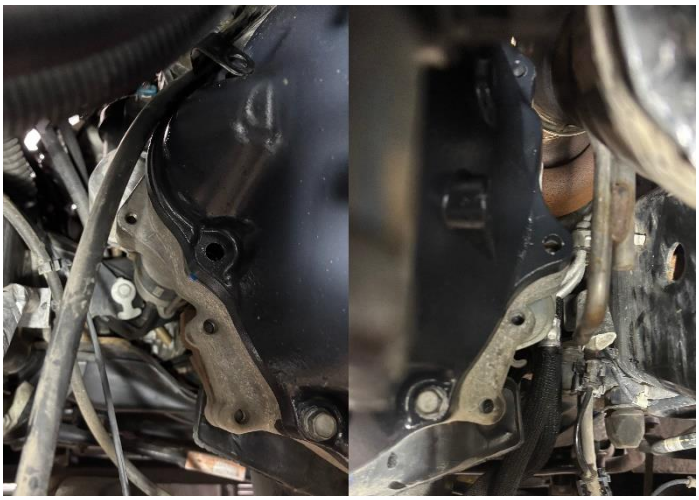


Clean and apply grease to converter hub pocket in the crankshaft. MOPAR® High Temp Grease recommended.

Raise the transmission and align the converter with the flex plate. Align the engine block and bellhousing and seat onto the engine block dowels.

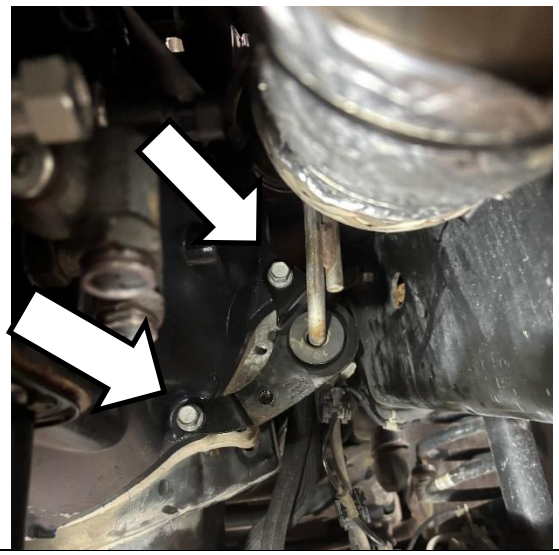
Confirm converter hub seats in crankshaft.

Note: Connect transmission vent hose as transmission is lifted into place.



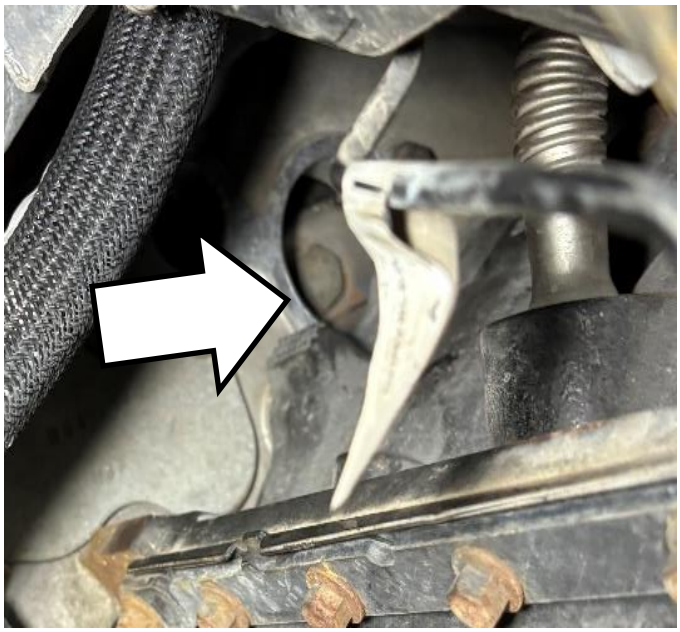
Install all bellhousing bolts and tighten to 47ft-lbs.

Note: Ensure exhaust bracket is secured with bellhousing bolts.



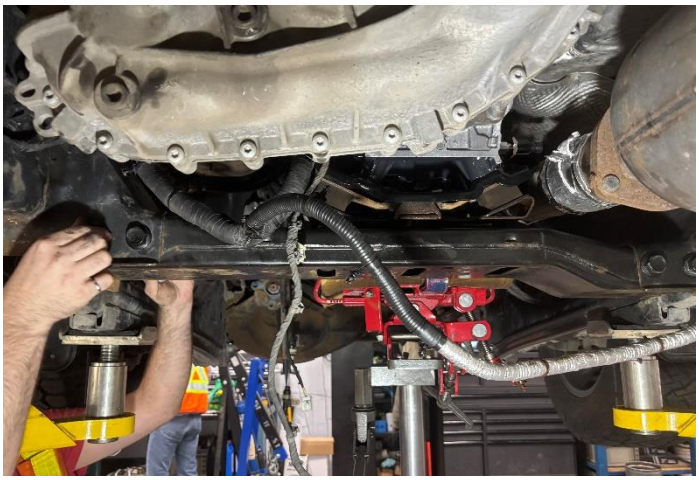
To install converter bolts:

1. Install a converter bolt into the converter through the flex plate and tighten to 15ft-lb, then back off ½ turn.
2. Rotate the crankshaft 180° and install another converter bolt to 74ft-lb.
3. Rotate crankshaft 60° clockwise and install another converter bolt to 74ft-lb. Repeat this step with another bolt.
4. Install the final two converter bolts to 74ft-lbs, rotating the crankshaft 60° clockwise each time.
5. Reinstall the converter access cover.



Reinstall the bellhousing support bracket if removed.

Reinstall the rear transmission cross member. Torque bolts to 80ft-lb and nuts to 45ft-lb.



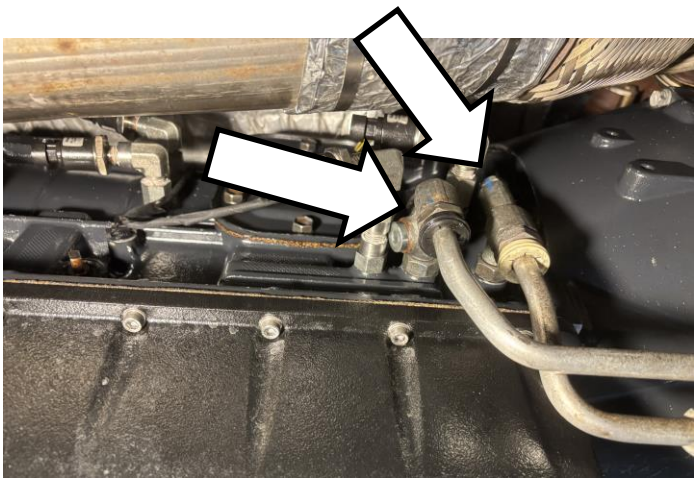
If equipped, re-install skid plate. Torque all hardware to 13ft-lb.

Connect range sensor plug, main harness plug, output speed sensor plug, and temperature sensor plug.

Reinstall the shift cable bolts and torque to 9ft-lb. Clip in ball socket.

Note: Cable adjustment may be necessary, refer to FSM or visit your local dealership.

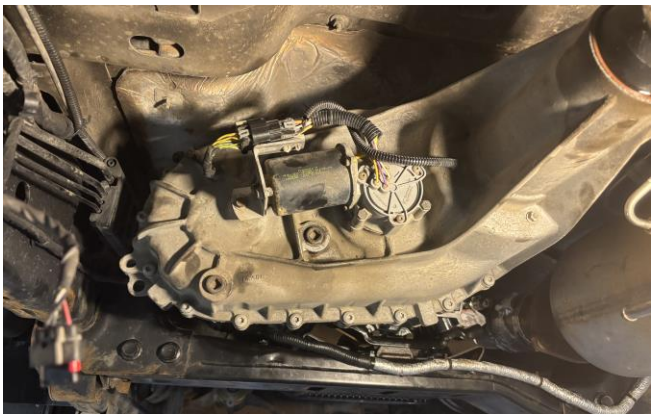
Connect cooler lines to transmission.



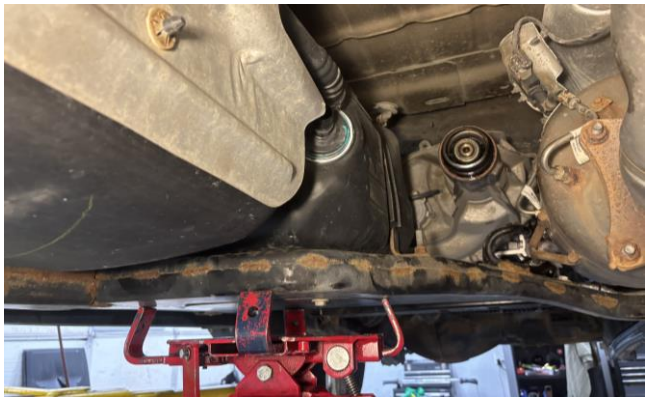
Slide the upper drain tube into the lower drain tube and install hardware in engine compartment.

Install the transfer case (if equipped) and tighten mounting nuts to 30ft-lb. Reconnect electrical connector and breather line.

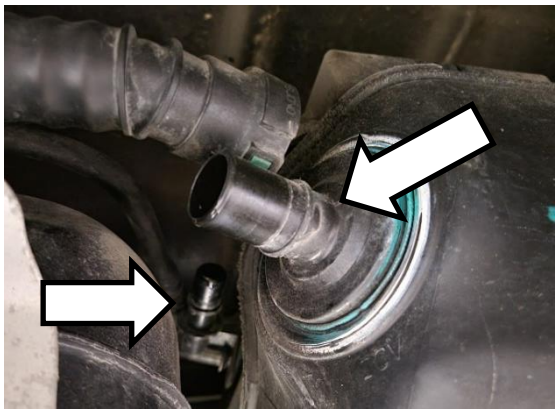
Note: Transmission may need to be lowered slightly to access top mounting nut.



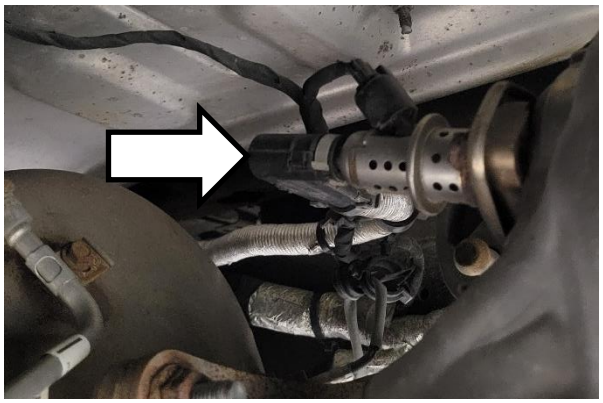
Install DEF tank and cross member. Ensure 2 connectors are connected prior to fully lifting DEF tank into position.



Connect quick connect lines leading to the DEF tank.

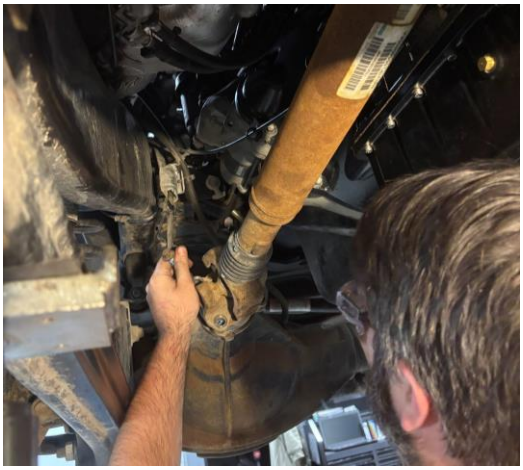


Connect electrical connector and DEF line to DEF injector in the exhaust.



Install rear driveshaft ensuring alignment marks made during removal are aligned.

Install front driveshaft (if applicable) ensuring alignment marks made during removal are aligned.



Fill with MOPAR® ASRC fluid or equivalent.

Fluid Capacity (Dry Fill): approximately 17.2 qts

Proceed to Transmission Learning Procedure. Make sure to verify fluid level after transmission has reached operating temperature.

Transmission Learning Procedure

The truck must go through a transmission learning procedure before it can be returned to normal use.

Transmission Quick Learn

Connect a Chrysler or equivalent aftermarket scan tool to the vehicle. Clear all existing fault codes from the previous transmission.

Let the truck run until fluid temperature reaches 46°C (115°F).

Before beginning the quick learn, record the existing clutch fill volume indices (CVIs) on the provided warranty sheet.

Select the quick learn function from the special function menu on the scan tool. If your scan tool does not have this function, stop the installation. You cannot drive the vehicle before a capable scan tool can initiate the quick learn, or damage to the transmission will occur.

Follow the instructions on the scan tool. The transmission will engage the clutches to determine base CVI values and will clear its adaptive learning history.

Before the first test drive, record the updated CVI values on the warranty sheet. The truck is now ready for the drive learning process.

Pressure Check

Prior to leaving for the road test, verify the transmission pressures. If they do not measure as expected, do not drive the truck.

RoadMaster Mainline Pressures (PSI)	
Idle	**Wide Open Throttle (WOT)**
95-136psi	270-300psi

Tow/TorqueMaster Mainline Pressures (PSI)	
Idle	**Wide Open Throttle (WOT)**
95-136psi	270-300psi

Line pressure varies depending on load and operating state of the transmission. At idle, in park, with foot off the brake, 130-150psi is expected.

Applying the brakes or shifting into gear will yield approximately 130-150psi after 10 seconds.

Do not allow the truck to shift at full throttle when obtaining the WOT line pressure check as the relearn is not complete. Use the factory tap-shifter buttons to prevent shifting above 4th gear. Lightly accelerate until 4th gear has been reached and the converter is locked. Then accelerate to WOT in 4th gear to get the pressure reading.

Drive Learn Procedure

Operate the vehicle in a manner that will allow at least 20 upshifts through all of the gears. Stay below 70km/h (45mph) with a constant throttle input of 20-25%, and do not exceed 2000RPM.

Once 15-20 shifts are complete, feel for consistent shift feel. Also check that CVI values are not varying more than 1-2 points from shift to shift. If either condition is not met, continue driving the truck under 70km/h and under ¼ throttle until it becomes consistent.

With the truck below 40km/h (25mph), perform a throttle kick-down into 1st gear. Do this 5-10 times below 40km/h (25mph).

With the scan tool check for any DTCs. If no DTCs are set, the initial drive learn is complete.

Final Check

After the drive learn and pressure checks are complete, remove the pressure gauge from the transmission.

Use the scan tool to view the CVI values and record these on the transmission warranty sheet. Record the pressure readings from the gauge or scan tool as appropriate.

Verify the fluid level a final time.

Returning the Vehicle to the Customer/Final Procedure

The drive learn cycle is completed with continued driving of the truck. The truck is not to be used for towing or hauling until a minimum of 300mi (500km) of stop and go driving has been completed. Highway driving is **not** to be counted as part of this interval or damage may occur. **During this interval do not exceed 50% throttle input.**

The transmission requires a 5000mi/8000km first fluid change after installation. Ensure you and the customer are aware of this.

Go over the warranty statement with the customer a final time and that the terms are fully understood.