TRAIL FORTRESS

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Rough Country 50650 Installation Instructions

4.5-Inch Lift Kit with Vertex Shocks for Ford Super Duty 4WD, Part 50650

Part number: 50650

trailfortress.com/rough-country-4-5-inch-lift-kit-50650

Scan for fitment, price and install help

921550020

ROUGH COUNTRY SUSPENSION SYSTEMS®

55002BAG

Ford 2017-20 F250 Transfer Case Clocking Ring

Thank you for choosing Rough Country for all your suspension needs.

⚠WARNING Rough Country recommends a certified technician install this system. In addition to these instructions, professional knowledge of disassemble/reassembly procedures as well as post installation checks must be known. Attempts to install this system without this knowledge and expertise may jeopardize the integrity and/or operating safety of the vehicle. Please read instructions before beginning installation. Check the kit hardware against the kit contents. Be sure you have all needed parts and know where they go. Also please review tools needed list and make sure you have needed tools.

PRODUCT USE INFORMATION

⚠WARNING Do not add, alter, or fabricate any factory or after-market parts to increase vehicle height over the intended height of the Rough Country product purchased. Mixing component brands is not recommended. Rough Country makes no claims regarding lifting devices and excludes any and all implied claims. We will not be responsible for any product that is altered. We will be happy to answer any questions concerning the design, function, and correct use of our products by calling our toll free number @ 800-222-7023.

⚠WARNING **DEALER AND VEHICLE OWNER**

Install the supplied "Warning to Driver" decal installed on the inside of the windshield or on the vehicle's dash. The decal should act as a constant reminder for whoever is operating the vehicle of its unique handling characteristics.

Tools Needed:

Wheel Chocks
Ratchet
6mm Allen Socket
8mm Socket
12mm 12pt Socket
13mm Socket
18mm Socket
21mm Socket
Pliers
7/16" Socket & wrench
9/16" Socket
5/8" Socket
11/16" Socket
Torque Wrench

Torque Specs:

Size	Grade 5	Grade 8
3/8"	30 ft/lbs	35 ft/lbs
7/16"	45 ft/lbs	60 ft/lbs
1/2"	65 ft/lbs	90 ft/lbs
9/16"	95 ft/lbs	130 ft/lbs

	Class 8.8	Class 10.9
6MM	5 ft/lbs	9 ft/lbs
8MM	18ft/lbs	23 ft/lbs
10MM	32ft/lbs	45ft/lbs
12MM	55ft/lbs	75ft/lbs

INSTALLATION INSTRUCTIONS

1. Chock the wheels.
2. Using a 13mm socket, remove the 4 bolts from the transfer case skid plate. **See Photo 1.**
3. Mark the front driveshaft and pinion yoke. **See Photo 2**.

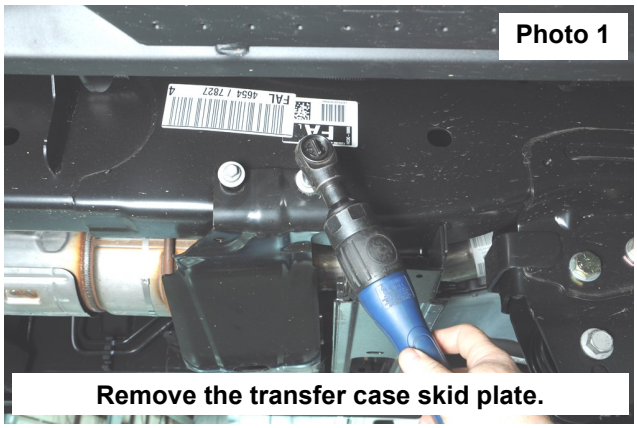


Photo 1

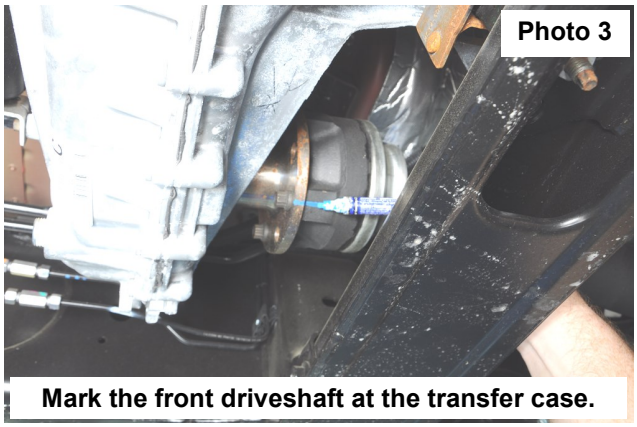
Remove the transfer case skid plate.



Photo 2

Mark the front driveshaft at the axle.

3. Mark the front driveshaft at the transfer case and the transfer case yoke. **See Photo 3.**
4. Mark the rear driveshaft at the rear end. **See Photo 4**

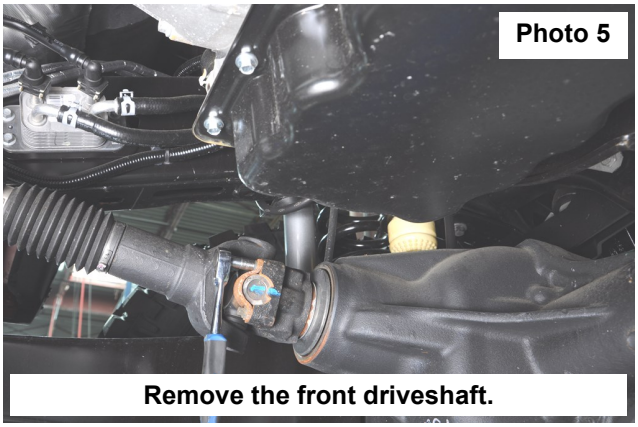


Mark the front driveshaft at the transfer case.

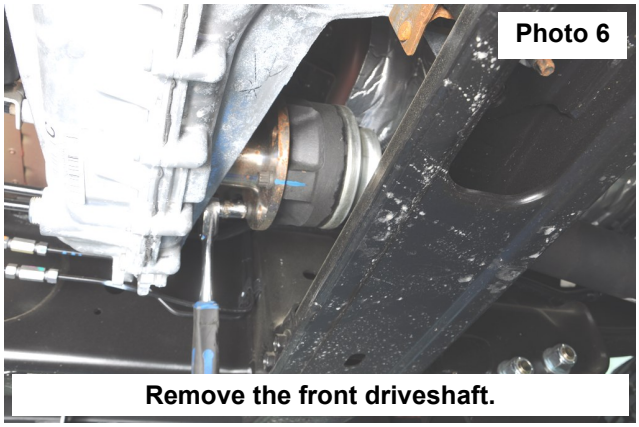


Mark the rear driveshaft at the axle.

5. Using a 8mm socket, remove the front driveshaft from the front axle. **See Photo 5.**
6. Using a 12mm 12-point socket, remove the front driveshaft from the transfer case. **See Photo 6**.



Remove the front driveshaft.

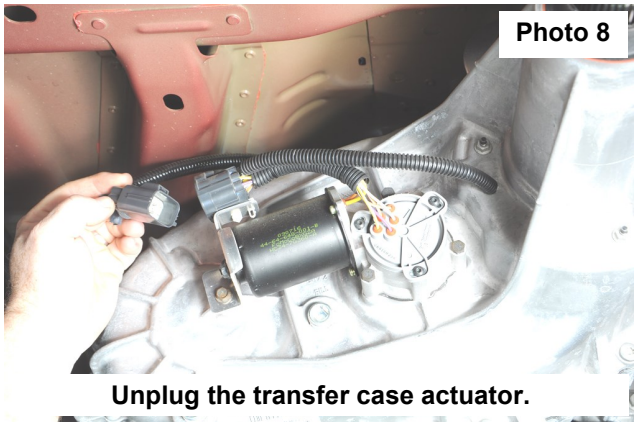


Remove the front driveshaft.

7. Using a 12mm 12-point socket remove the rear driveshaft from the rear axle. **See Photo 7.**
8. Unplug the transfer case actuator. **See Photo 8.**

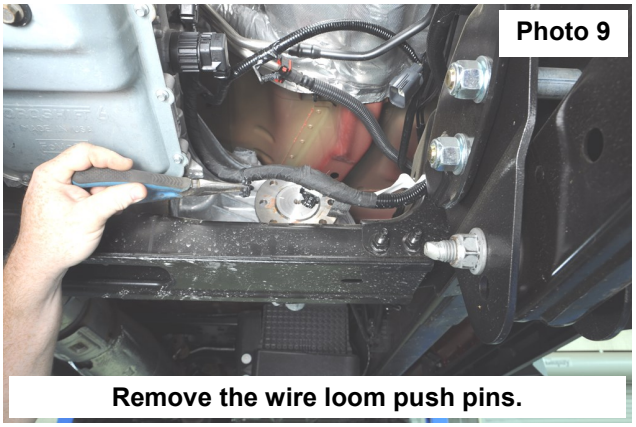


Remove the rear driveshaft.

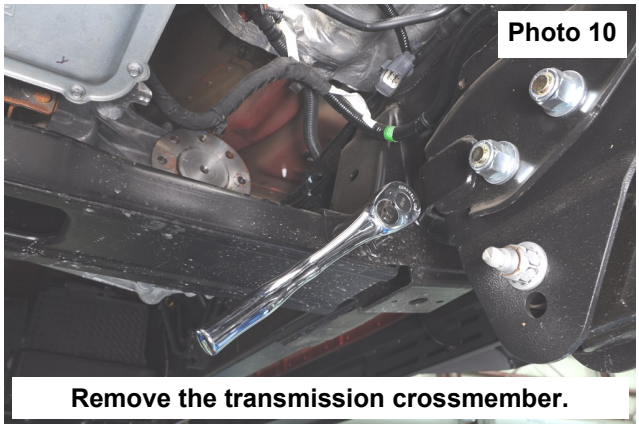


Unplug the transfer case actuator.

9. Using a pair of pliers, remove the push pin clip holding the wire to the transfer case and the transmission crossmember and remove the vent tube from the transfer case. **See Photo 9.**
10. Support the transmission and use a 18mm wrench and 21mm socket to remove the transmission crossmember bolts from the frame. **See Photo 10.**



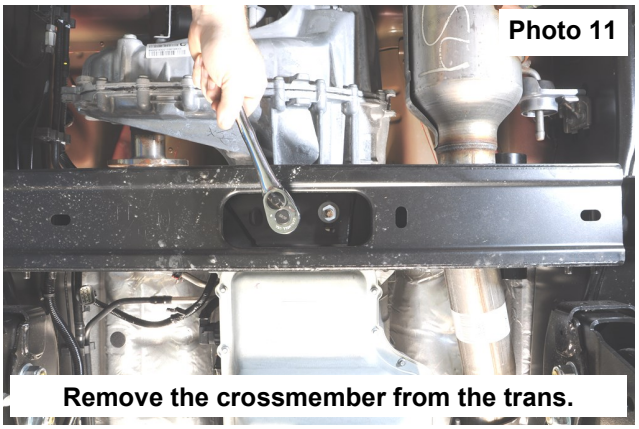
Remove the wire loom push pins.



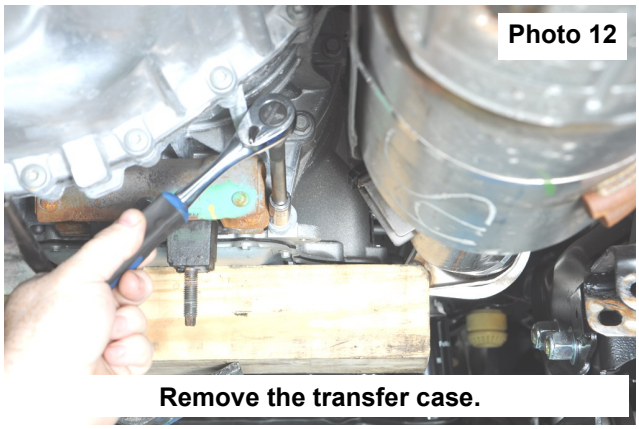
Remove the transmission crossmember.

11. Using a 13mm socket, remove the transmission crossmember from the mount then remove the mount from the transmission . **See Photo 11.**
12. Support the transfer case using a jack or jackstand. Using a 13mm socket, remove the 11 mounting bolts and remove the transfer case. **See Photo 12.**

⚠NOTICE **After removing the transfer case, Remove the Roll Pin from the transfer case or transmission. Inspect each part insuring each mounting surface mates flush with the clocking ring.**



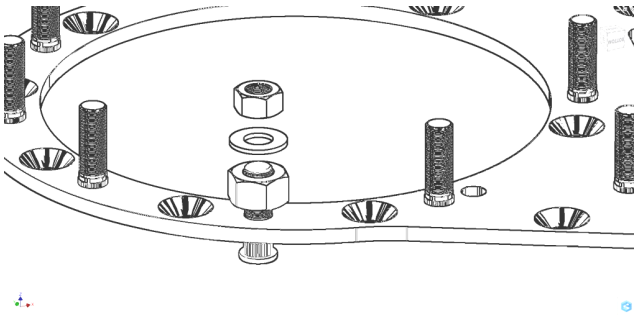
Remove the crossmember from the trans.



Remove the transfer case.

13. Place the stud into the clocking ring and the supplied 9/16” nut over the stud, then the supplied 7/16” washer and finally the supplied 7/16” non-locking nut. Using a 11/16” socket & **ratchet** to tighten the 7/16” nut, pulling the stud into the clocking ring **See Photo 13**.
14. Repeat this process to install the remaining 10 studs into the clocking ring making sure that all studs are flush with the clocking ring. Test fit on the transfer case to make sure the clocking ring sits flush on the transfer case **See Photo 14.**

Photo 13

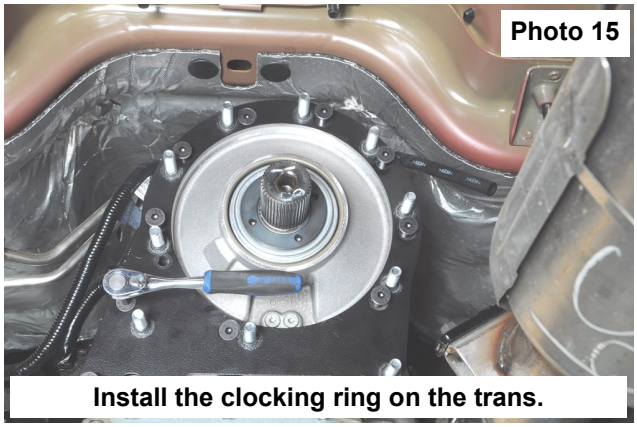


Install the studs in the clocking ring.

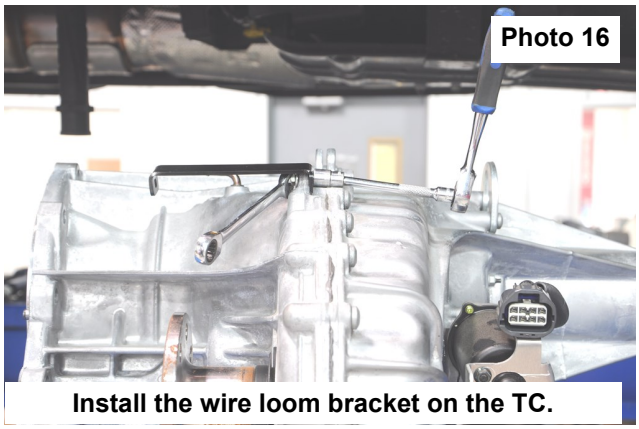


11 studs installed into the clocking ring.

15. Install the clocking ring on the transmission using the 11 supplied 10mm x 25mm flat head Allen bolts and a mild thread locker. Torque to 32ft-lbs using a 6mm Allen socket. **See Photo 15.**
16. Attach the supplied wire loom bracket to the top of the transfer case using the supplied 1/4" x 1" bolt washer and nut. Tighten using a 7/16" socket and wrench. **See Photo 16.**

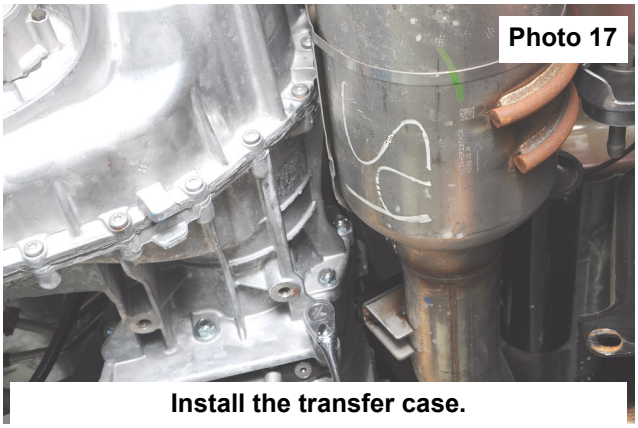


Install the clocking ring on the trans.

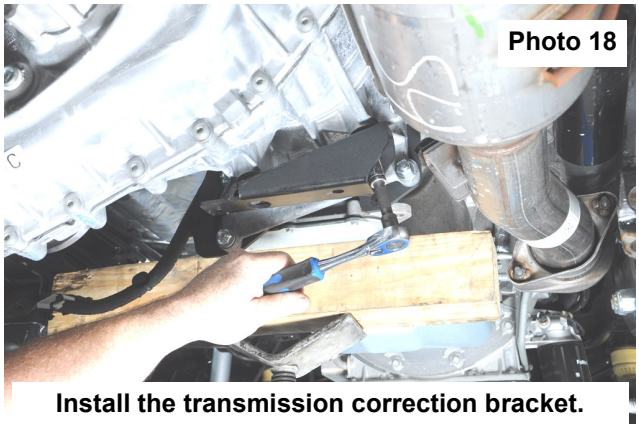


Install the wire loom bracket on the TC.

17. Install the transfer case using the supplied 7/16" nuts and lock washers. Torque to 45ft-lbs using a 11/16" socket. **See Photo 17.**
18. Install the transmission correction mount using the stock hardware. Torque to factory specs using a 13mm socket. **See Photo 18**.

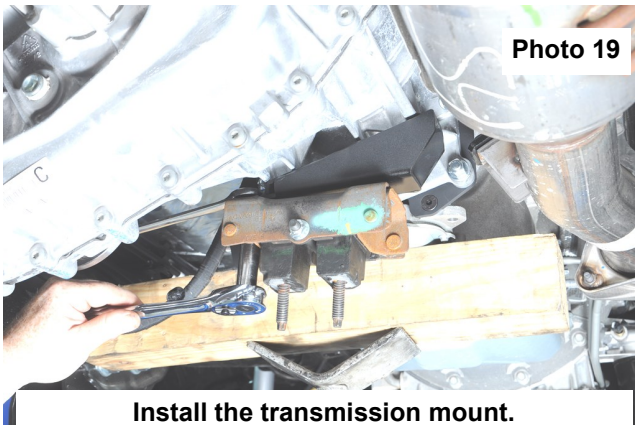


Install the transfer case.

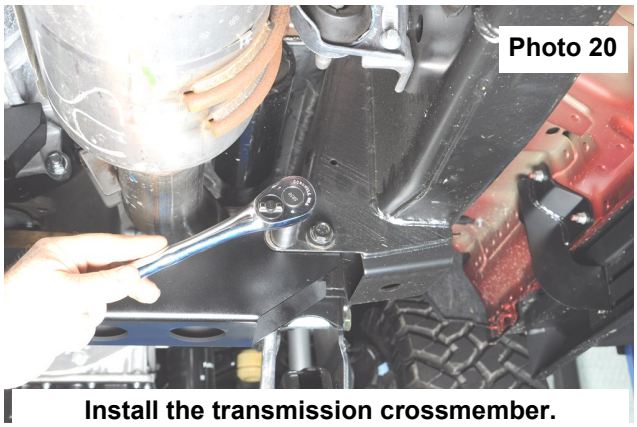


Install the transmission correction bracket.

19. Attach the transmission mount to the correction mount using the supplied 7/16" x 1" bolts, washers, and nuts. Torque to 60ft-lbs using a 5/8" and 11/16" socket. **See Photo 19.**
20. Install the New transmission crossmember (cutout in the crossmember is for driveshaft clearance) using the stock hardware. Torque to factory specs using a 18mm socket. **See Photo 20.**



Install the transmission mount.



Install the transmission crossmember.

21. Torque the transmission mount to factory specs using a 21mm socket. **See Photo 21.**
22. Reinstall all wiring push pins (one push pin will go in the supplied wire loom bracket), plug in the transfer case actuator, and the vent tube.
23. Install the front and rear drive shafts, making sure to align the marks made before disassembly. Torque all hardware to factory specs.
24. Install the transfer case skid using the stock hardware on the passenger side and the supplied drop bracket on the driver side using the stock hardware and the supplied 3/8" x 1" bolts, washers and nuts **(Refer to Photo 23 to determine correct drop bracket, 2020 models will utilize the shorter bracket)**. **See Photos 22 & 23.**

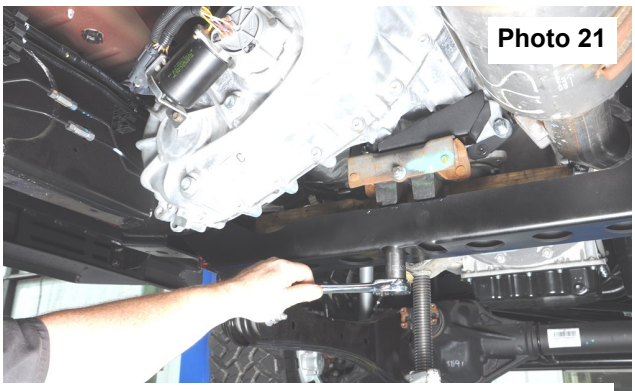


Photo 21

Tighten trans mounting bolts.

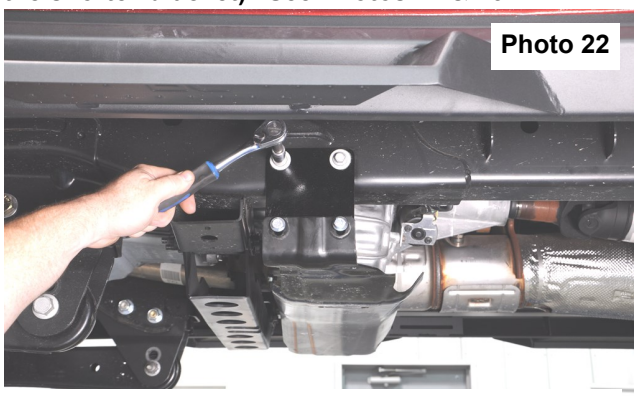
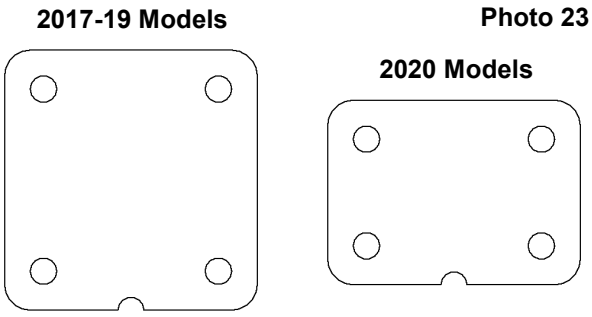


Photo 22

Install the TC skid bracket.

25. Torque the factory hardware to factory specs using a 13mm socket and the supplied 3/8" hardware to 30ft-lbs using a 9/16" socket and wrench. **See Photo 24.**

Photo 23



2017-19 and 2020 drop brackets

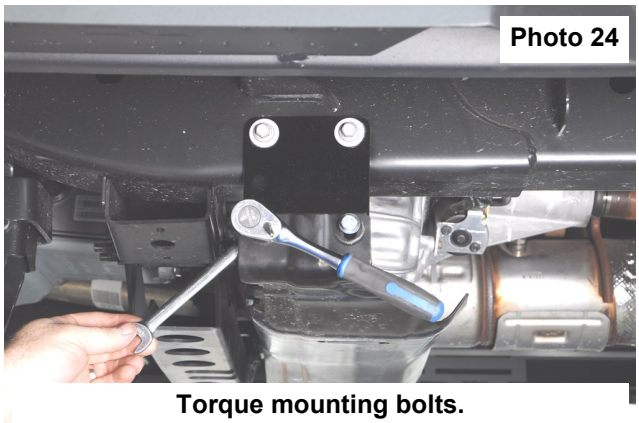


Photo 24

Torque mounting bolts.

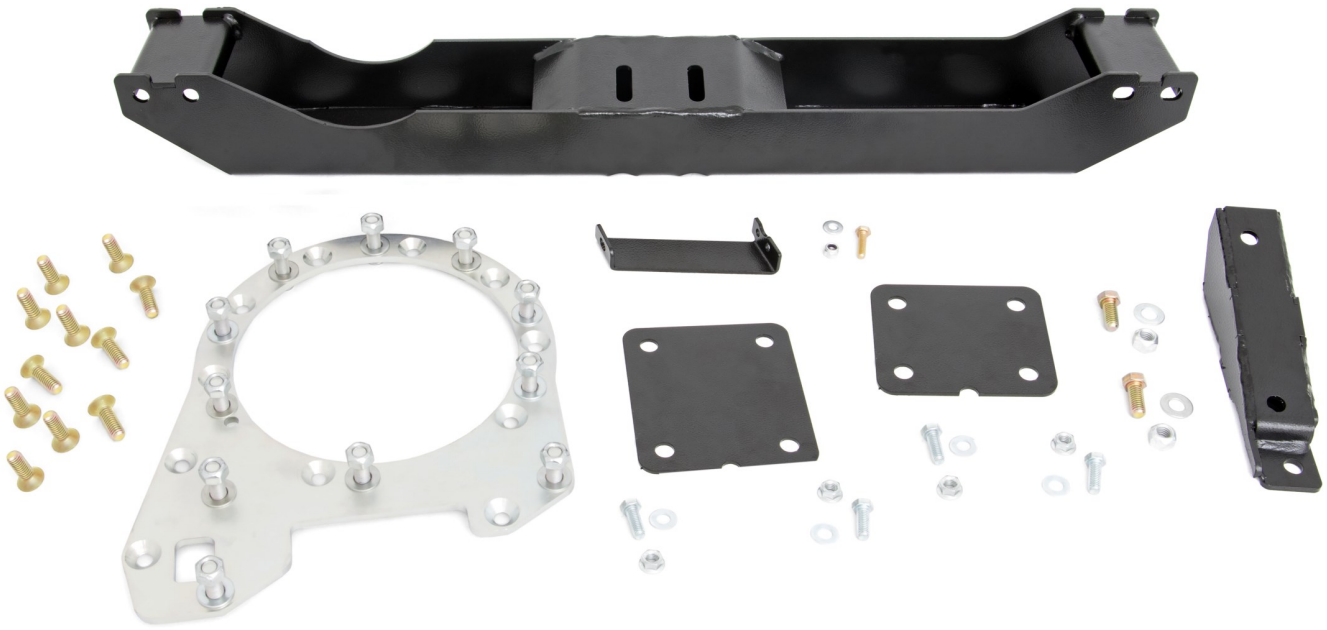
POST INSTALLATION INSTRUCTIONS

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all components.
2. Check and retighten wheels at 50 miles and again at 500 miles. Periodically check all hardware for tightness.
3. Install "Warning to Driver" decal on sun visor.

Kit Picture

Kit Contents:
1-Transfer Case Clocking Ring
1-Transmission Crossmember
1-Transfer Case Mount Relocation Bracket
1-Transmission Skid Drop Bracket
1-Wire Loom Bracket
1-55000BAG1

55000BAG1:
For Clocking Ring:
1-9/16” Nut
12-7/16”-20 Hex Nut
11-7/16”-20 x 1.5” Studs.
11-7/16”- Lock Washers
3-7/16” Flat Washers
11-10mm Flat Head Bolts
For Wire Loom Bracket:
1-1/4” x 1” Bolt
1-1/4” Flat Washer
1-1/4” Nylock Nut
For Correction Mount:
2-7/16” x 1” Bolts
2-7/16” Flat Washers
2-7/16”Top Lock nuts
For Transmission Skid:
2-3/8” x 1” Bolts
2-3/8” Flat Washers
2-3/8” Flange Lock Nuts



By purchasing any item sold by Rough Country, LLC, the buyer expressly warrants that he/she is in compliance with all applicable , State, and Local laws and regulations regarding the purchase, ownership, and use of the item. It shall be the buyers responsibility to comply with all Federal, State and Local laws governing the sales of any items listed, illustrated or sold. The buyer expressly agrees to indemnify and hold harmless Rough Country, LLC for all claims resulting directly or indirectly from the purchase, ownership, or use of the items.