TRAIL FORTRESS

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Rough Country 25970 Installation Instructions

6-Inch Lift Kit with V2 Shocks for Silverado & Sierra 4WD (1999–2006)

Part number: 25970

trailfortress.com/rough-country-6-inch-lift-kit-25970

Scan for fitment, price and install help

92129700A

1297BAG8

01-10 GM 2500HD / 01-06 1500HD & 07 1500HD CLASSIC 6″ SUSPENSION KIT

Thank you for choosing Rough Country for your suspension needs.

Rough Country recommends a certified technician installs 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 all the instructions before beginning the installation. Check the kit hardware against the parts list. Be sure you have all the needed parts and understand where they go. Also please review the tools needed list and make sure you have needed tools.

PRODUCT USE INFORMATION

⚠WARNING As a general rule, the taller a vehicle is the easier it will roll. We strongly recommend, because of roll-over possibility, that seat belts and shoulder harnesses should be worn at all times. Avoid situations where a side roll-over may occur.

Braking performance and capabilities are decreased when significantly larger/heaver tires and wheels are used. Take this into consideration while driving. Also, speedometer recalibration is necessary when larger tires are installed.

Do not add, alter, or fabricate any factory or after-market parts which increase vehicle height over the intended height of the Rough Country product purchased. Mixing component brands, lifts, and/or combining body lift with suspension lifts voids all warranties. 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.

This kit is packaged as a leveling kitð raising the front 6ò and the back 4ò If you desire a different look or if the vehicle has a tool box or added weight in the rear, please consult with your sales representative about other block and u-bolt options.

Due to differences in manufacturing, dimension and inflated measurements, tire and wheel combinations should be test fit prior to installation. For this application we recommend a wheel not to exceed 9òin width with 4.5 ñof backspacing.. Additionally a quality tire of radial design is recommended, not exceeding 35òtall and 12.5òwide. Please note that use of a 35òx 12.5òtire may require modification to the front valance. If this vehicle was equipped from the factory with 17ò wheels and if purchasing new wheels, the wheel size must not be below 17òbut can be larger than 17òdue to the vehicle being equipped with larger calipers /rotor.

⚠NOTICE Gas models may require modification to exhaust crossover pipe. We recommend an exhaust professional perform this modification.

An optional kicker Bars Part #1297Box6 is available for this kit. Please contact you local Rough Country Dealer for more information.

⚠NOTICE

NOTICE TO DEALER AND VECHICLE OWNER

Any vehicle equipped with any Rough country product must have the ñWarning to Driverò decal installed on the sun visor or dash. The decal is to act as a constant reminder for whoever is operating the vehicle of its unique handling characteristics. **INSTALLING DEALER**ð It is your responsibility to install the warning decal and to forward these installation instructions on too the vehicle owner for review and to be kept in the vehicle for its service life.

We hope installing your Rough Country lift kit is a positive experience. Please note that variations in construction and assembly in the vehicle manufacturing process will virtually ensure that some parts may seem difficult to install. Additionally, the current trend in manufacturing of vehicles results in a frame that is highly flexible and may shift slightly on disassembly prior to installation. The use of pry bars and tapered punches for alignment is considered normal and usually does not indicate a faulty product. However, if you are uncertain about some aspect of the installation process, please feel free to call our tech support department at 800-222-7023. We do not recommend that you modify the Rough Country parts in any way as this will void any warranty expressed or implied.

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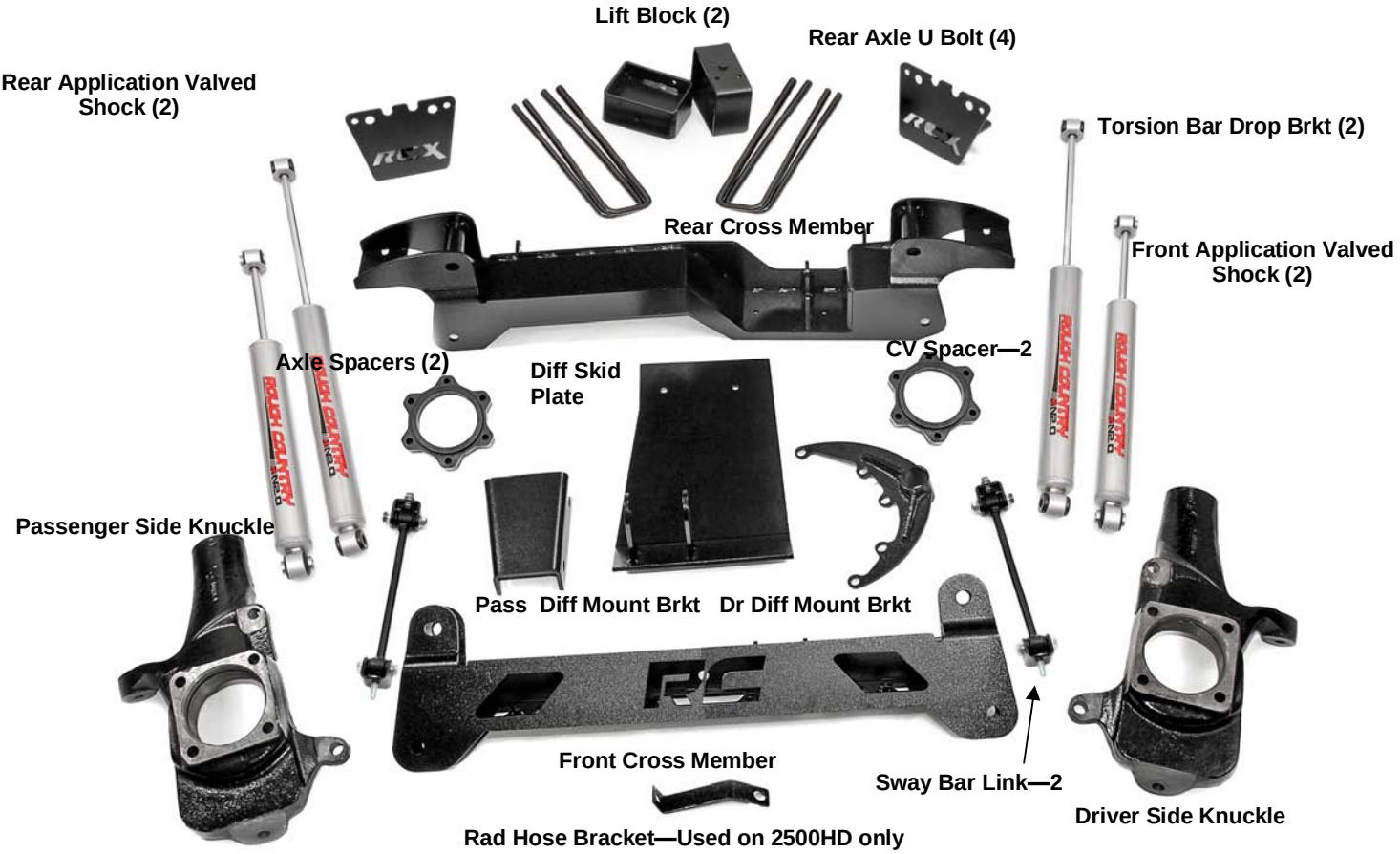
KIT COMPONENTS



This kit is packaged in 5 boxes. Please confirm that you have all the needed parts and know where they go prior to beginning installation.

KIT CONTENTS:

1297BOX1- Driver side knuckle
1297BOX2- Pass side knuckle
1297BOX3
- 1-Rear Cross Member
- 1-Driver side Diff Bracket
- 1-Pass side Diff Bracket
- 2 -Sway Bar Link
- 2 -CV Spacers
- 4ï Sway Bar Brackets

***1297BOX4* for2500 or *1259* 1500HD**
- 1-Front Cross Member
- 1-Dr side torsion bar drop bracket
- 1-Pass side torsion bar drop brkt
- 1-Rad hose bracket-**2500HD**
- 1ï Differential Skid Plate

1297BOX5
- 2-Fr Part # 651997 Shock
- 2-Rr Part # 658556 Shock
- 2ï 4òLift Blocks
- 4- U Bolts 5/8òx 2 5/8òx 14òSquare
- 9/16òLock Nut (8)
- 9/16òWasher (8)

HARDWARE BAGS

1297BAG1

For Rear Cross Member
- 16mm x 130mm Bolt (2)
- 16 mm Lock Nut (2)
- 16mm Washer (4)

For Front Cross Member
- 16mm x 120mm Bolt (2)
- 16 mm Lock Nut (2)
- 16mm Washer (4)
- 1/2òX 4 1/2òBolt
- 1/2òWasher
- 1/2òNut

For Driver Side Diff. Drop Bracket
- Bushing (2)
- Sleeve
- 10mm x 55mm Bolt (5)
- 10mm Washer (5)

For Pas Side Differential Brkt
- 1/2òx 1 1/2ò Bolt (2)
- 1/2òWasher (4)
- 1/2òNut (2)

For Skid Plate Installation
- 3/8òSelf Tap Bolt (2)

1297BAG2

For Radiator Hose Bracket
- 1/2òSelf Tap Bolt

For Torsion Bar C-Member Bracket
- Bushings (4)
- Sleeves (2)
- 1/2òx 1 1/4òBolt (8)
- 1/2òFlat Washer (16)
- 1/2òNut (8)

For Front CV Axle Spacers
- 10mm x 65mm Allen Bolt (12)

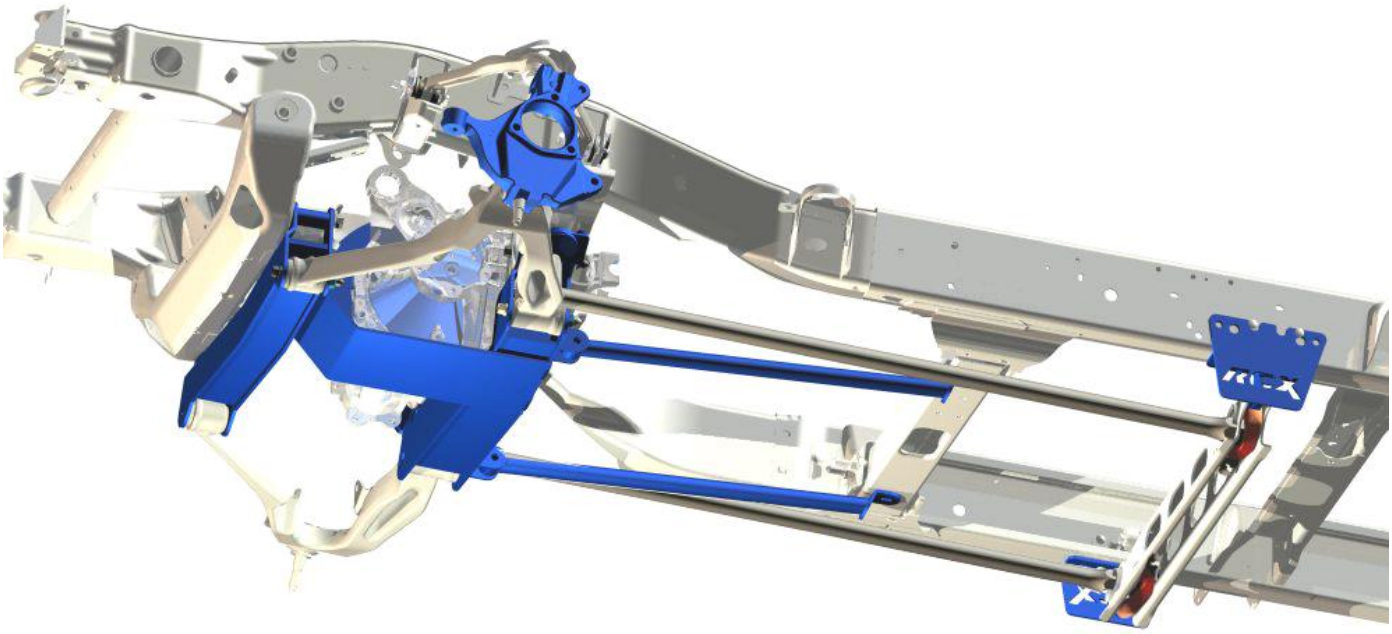
1297BAG 3:

For Front Shock Absorber
- Stem Bushings (4)
- Bushing Retainer (4)
- Stem Nut (2)
- Shock Sleeve (14mm X1.25)-2
- Large ID Eye-ring Bushing (2)

For Rear Shock Absorber
- Eye-ring Bushings (4)
- Sleeve (4)

LINK BAG 1
- *12mm x 65mm Bolts (4)*
- *12mm Flange Nut (8)*
- *12mm x 35mm Bolt (4)*

KIT ILLUSTRATION



Tools Needed:

Assorted Metric wrenches
Assorted Standard wrenches
Reciprocating saw
Floor Jack
Jack stands
Torsion bar tool
Hand grinder w/ cutoff & grinding disk
Thread Locker

Torque Specs:

Size	Grade 5	Grade 8
5/16ò	15 ft/lbs	20 ft/lbs
3/8ò	30 ft/lbs	35 ft/lbs
7/16ò	45 ft/lbs	60 ft/lbs
1/2ò	65 ft/lbs	90 ft/lbs
9/16ò	95 ft/lbs	130 ft/lbs
5/8ò	135 ft/lbs	175 ft/lbs
3/4ò	185 ft/lbs	280 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
14MM	85ft/lbs	120ft/lbs
16MM	130ft/lbs	165ft/lbs
18MM	170ft/lbs	240ft/lbs

INSTALLATION INSTRUCTIONS

1 Make sure you have all of the proper tools and understanding of these directions before you proceed.
2 Measure the front and rear of the truck from center hub to top of fender. Keep measurement for later step. Driver Front Measurement_____, Pass Front_____, Driver Rear Measurement_____, Pass Rear_____
3 Place the truck on a clean level surface and set the parking brake. Chock the rear wheels and using a floor jack raise the front of the truck and support the frame rails with approved jack stands. **NEVER WORK UNDER AN UN-SUPPORTED VEHICLE.** Using a 21mm deep well socket remove the front wheels.
4. Locate the torsion bar adjuster bolt on the bottom of the rear cross member, measure the threads showing on the torsion bar adjuster bolt. Mark the position of the torsion bars on the control arm and torsion bar key. Mark both the drivers side and passenger side. **Warning:** Be extremely careful when loading and unloading the torsion bars; there is a tremendous amount of stored energy in the bars. Keep your hands and body clear of the adjuster arm assembly and the puller tool in case anything slips or breaks.
5. Using GM approved torsion bar tool relieve the pressure from the torsion bar adjuster bolt. Remove the bolt and threaded block from cross-member. Repeat for opposite side. **See Photo 1**.

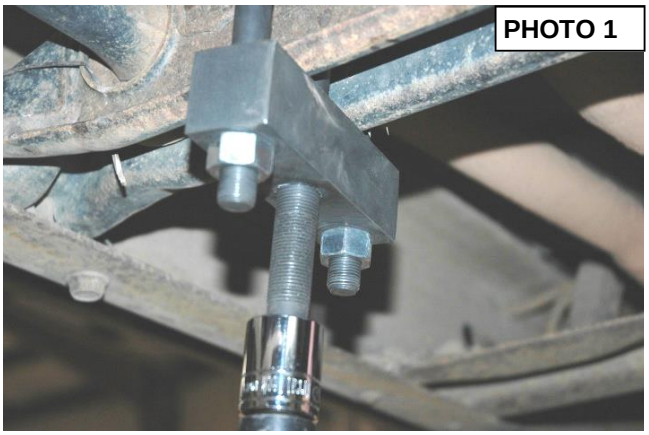


PHOTO 1


PHOTO 2

6. Using a 15 mm socket remove the factory upper and lower skid plates.
7. Starting on the drivers side use a 10mm wrench to remove the brake line from the upper control arm. Unplug the ABS wire from the frame.
8. Using a 21 mm socket remove the caliper bracket, pads, rotor and set aside.
9. Remove the bearing cap using a flat head screw driver remove the CV nut from the knuckle using a 35 mm socket.
10. Using a 18 mm deep well socket loosen but do not remove the tie rod nut. Hit the knuckle as shown in **Photo 2** until the tie rod pops out. Remove nut.
11. Using a 24 mm deep well socket loosen but do not remove the lower ball joint nut. Using a hammer, strike the knuckle as shown in **Photo 3** until the ball joint is free. The nut will keep the knuckle from falling out. Remove nut.
12. Using a 18 mm deep well socket, loosen the upper ball joint nut . Using a hammer hit the knuckle until the ball joint breaks free. Remove the nut and remove the knuckle from the vehicle. Repeat for opposite side.
13. Remove the four factory bolts that hold the wheel bearing. Remove the wheel bearing, dust cover & o-ring. Take caution not to damage the o-ring when removing from the stock knuckle. Install o-ring in new knuckle.
14. Using lock tight install the dust cover and bearing on the new knuckle. As shown in **Photo 4.** Tighten Hardware**.**

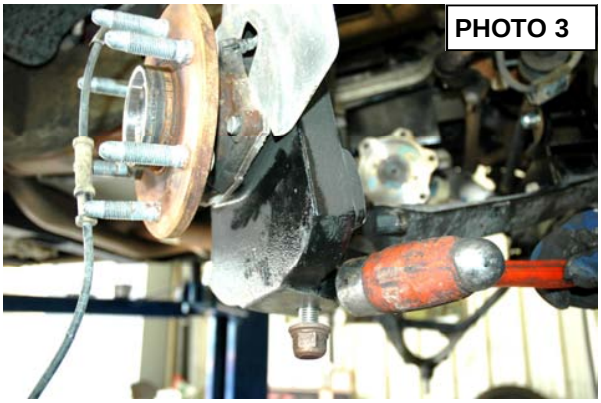


PHOTO 3

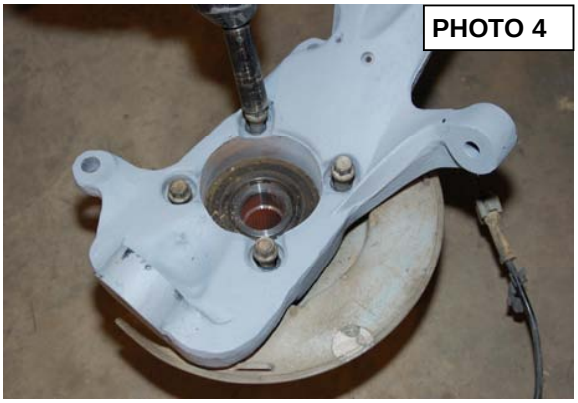


PHOTO 4

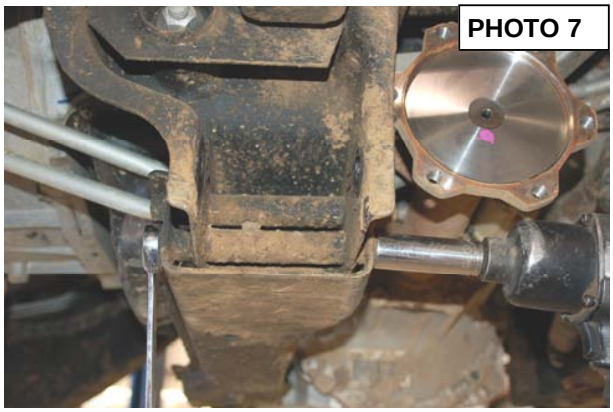
15. Using a 9/16òwrench remove the sway bar link.
16. Using a 15 mm wrench remove the upper shock nut. Using a 21 mm socket and 21 mm wrench remove the lower shock bolt. Remove the shock.
17. Using a 19mm wrench and a 24 mm socket remove the lower control arm nuts. Remove the bolts, lower control arm, and torsion bar. Retain the hardware for reuse.

18. Using an 15 mm socket remove the 6 inner CV bolts. Set CV half-shaft aside.
19. Repeat steps 7-18 for opposite side.
20. Unplug connector at differential as shown in **Photo 5**. Also remove the differential vent hose from the differential. Using a 11mm wrench, remove the drive shaft bolts as shown in **Photo 5.** Secure the driveshaft out of harms way.





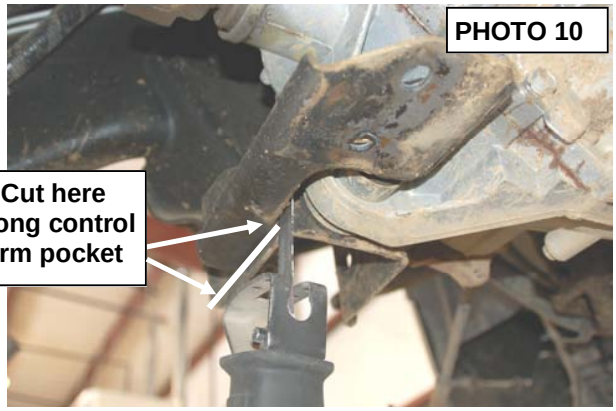
21. Using a 18mm wrench remove the bolts from the stock rear cross-member. **See Photo 7 & 8.**





22. Using a 21mm wrench remove the lower side driver differential bolt as shown in **Photo 9**. The rest of the hardware will be removed after the frame is trimmed. Retain the fasteners for reuse.
23. Trim the frame as shown in **Photo 10** beside the lower control arm pocket**. Take care not to cut into the control arm pocket.** Note:The frame must be trimmed to allow the installation of the new cross-members and to allow the differential to be lowered.





24. While supporting the differential, remove the upper driver side bolt and remove the two nuts with a 21mm wrench on the passenger side that secure the differential to the frame. Retain the two passenger side nuts as they will be re-used. Also remove the factory bump-stop using a 15mm wrench, retain for reuse.

25. Lower the differential with the floor jack. Place the differential on a flat surface to allow grinding of the fins as shown in **Photo 11**. **It may be necessary to trial fit the differential after the cross members have been installed to check for clearance on cooling fins.** Using a reciprocating saw, cut the top of the differential mount as shown in **Photo 12** .

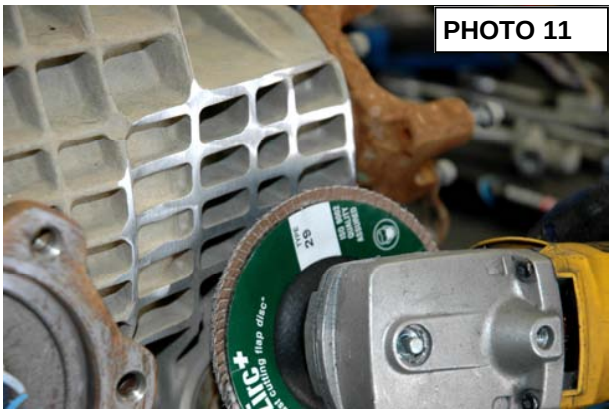


PHOTO 11

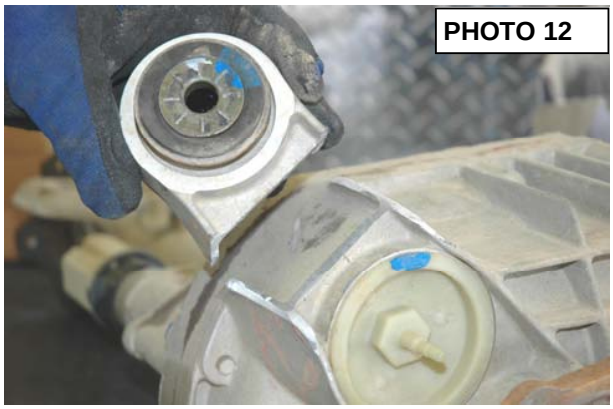


PHOTO 12

26. Install bump stops onto new rear cross-member as shown in **Photo 13** and tighten using factory hardware.
27. Install the rear cross-member as shown in **Photo 14** with supplied 16mm x 130mm hardware in 1297BAG1 using a 24mm wrench. Do not tighten at this time.

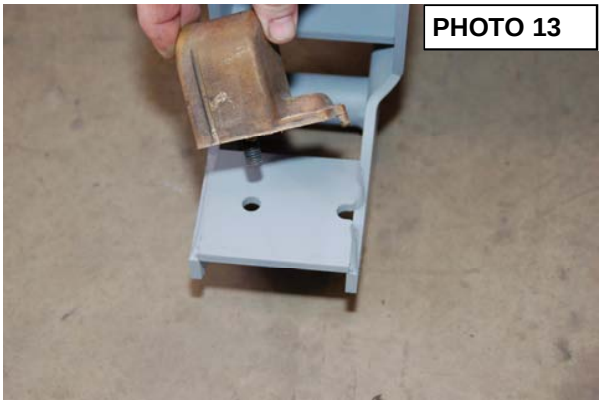


PHOTO 13

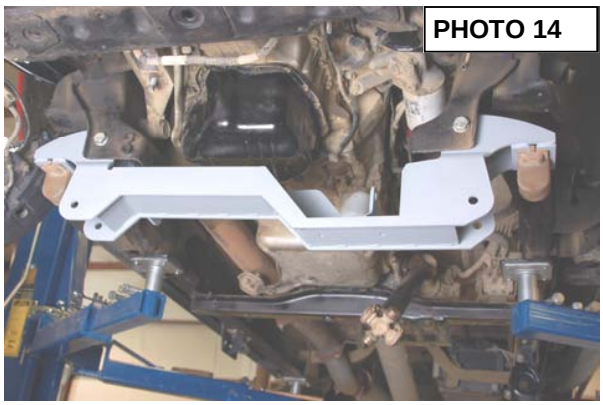


PHOTO 14

28. Install the passenger side differential bracket at this time with the slotted holes to the top and center brace as shown in **Photo 15** using factory hardware. Do not tighten at this time.
29. Locate and install the supplied 2.4òsleeve and bushings for the driver side differential bracket in 1297BAG1. Remove front bolts out of differential using 15mm socket and install front differential bracket with supplied 10mm x 55mm bolts in 1297BAG1 and using a 17mm socket to tighten as shown in **Photo 16**. Note on 07-08 models it may be necessary to grind away part of casting around lower bolt mount to allow bracket holes to align.

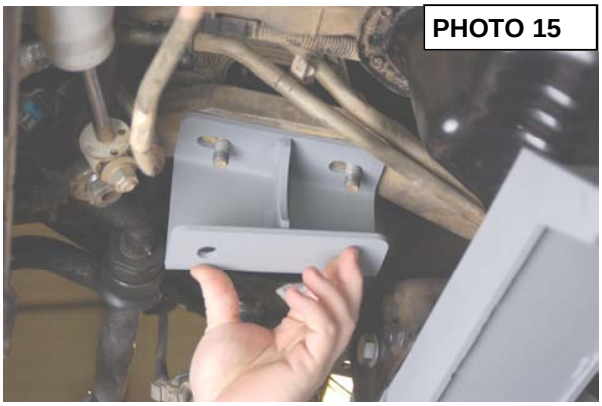


PHOTO 15

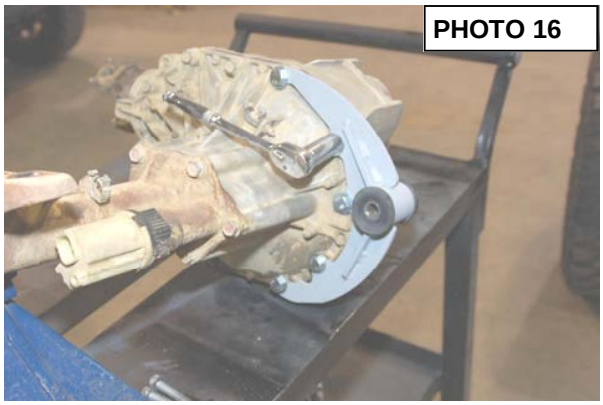


PHOTO 16

30. Install the differential as shown with stock hardware in the rear lower hole and using the supplied 1/2òx 1 1/2òhardware on the passenger side in 1297BAG1 as shown in **Photo 17.**
31. Install the front cross-member as shown in **Photo 18** with the supplied 16mm x 120mm hardware in 1297BAG1 and using a 24mm wrench. Do not tighten at this time.

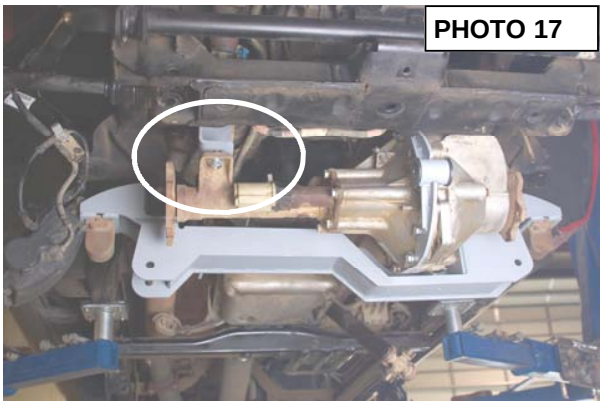


PHOTO 17

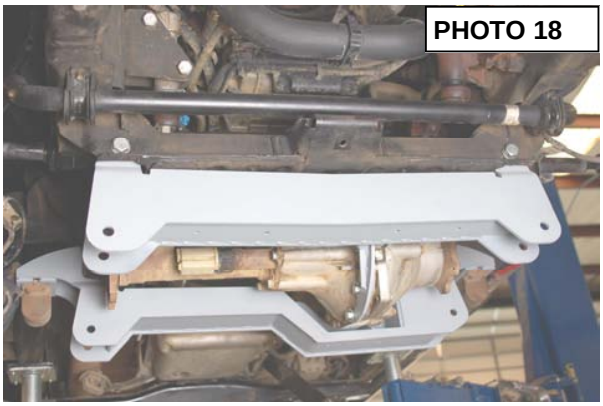


PHOTO 18

32. Install skid plate and front differential mount to front cross-member with the supplied 9/16òx 4 1/2òbolt, washers & nut using a 7/8òwrench in 1297BAG1. See **Photo 19**. Install the skid plate to the rear cross-member as shown in **Photo 20** with supplied 3/8òself tapping bolts in 1297BAG1with a 9/16òwrench. Do not over tighten the self tapping bolts. Do not tighten diff mounts at this time. It may be necessary to install the rear bolts on the cross-member first then swing the bracket up to install the front differential bolt.

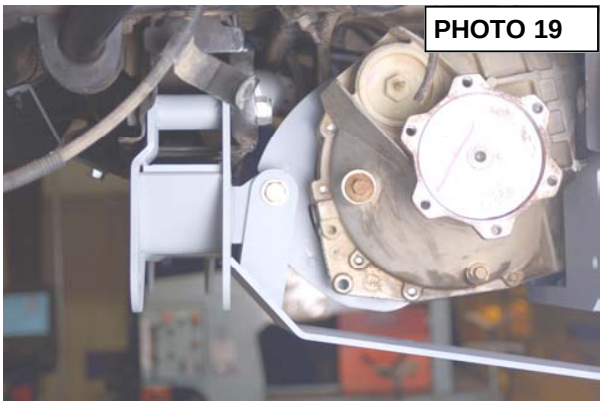


PHOTO 19

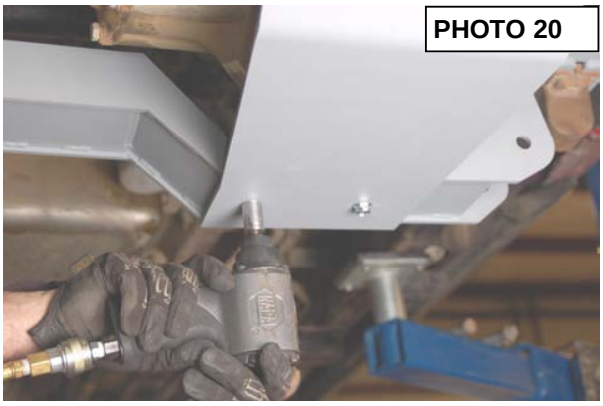


PHOTO 20

33. Reinstall the driveshaft on the differential with the factory hardware and tighten. Plug in the connector on the differential that was removed in Step 20 and the differential vent hose. It may be necessary to pull some slack from the hard line above to reach the differential.
34. Install the factory control arms with the factory hardware using a 18mm and 24mm wrench. Do tighten at this time. See **Photo 21**.
35. Tighten all cross-member hardware at this time except for the lower control arm bolts.
33. Install the knuckle assembly on the lower control arm ball joint with factory hardware using a 24mm wrench. Install the upper ball joint with factory hardware using a 18mm wrench. **See Photo 22**. Tighten stock ball joint nut. Install rotor on assembly. ****Note** if the tie rod will not fit through the hole on the knuckle drill the bottom side of the taper out using a 9/16" drill bit**.

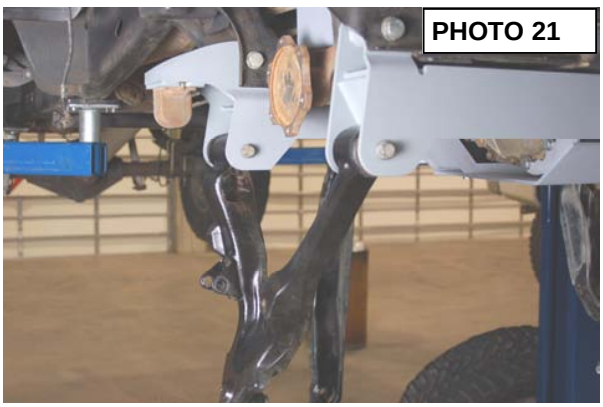


PHOTO 21

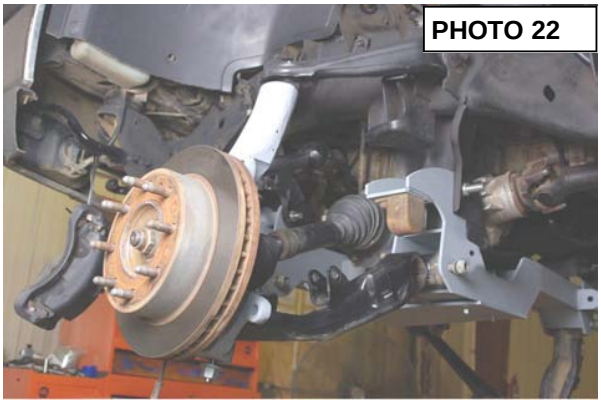


PHOTO 22

37. Locate the shaft spacers supplied with kit and install between the stock half shaft and the differential as shown in **Photo 23**. Apply thread locker to supplied 10mm x 65mm socket head cap screws in 1297BAG2 and tighten hard ware.
38. Install the factory axle nut in the knuckle using a 35mm socket and reinstall factory dust covers. Tighten nut to factory specifications.

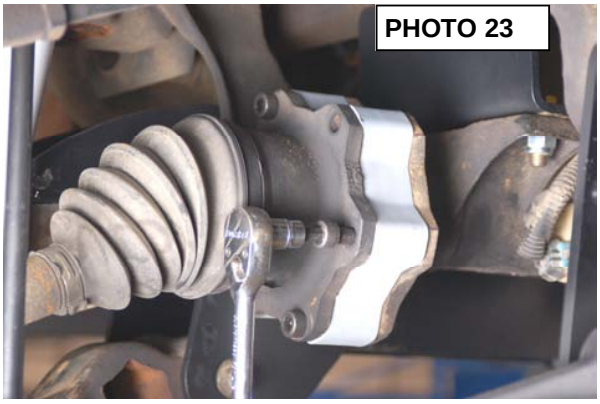


PHOTO 23

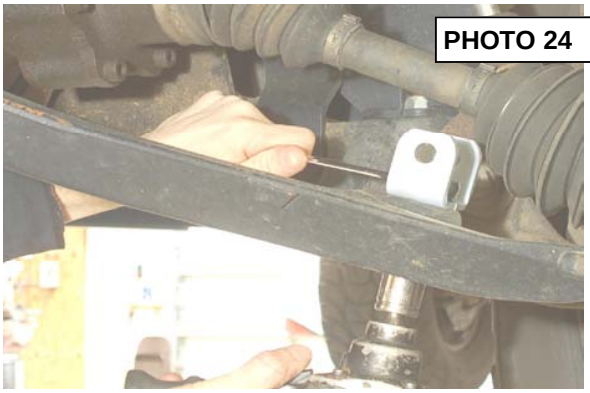


PHOTO 24

39. Install brake caliper / bracket on knuckle using factory hardware with 21mm socket.
40. Install the supplied sway bar bracket on the lower control arm and sway bar as shown with the supplied 12mm x 35mm bolts. Tighten using a 18mm & 19mm wrench. **See Photo 24**
41. Install the sway bar link in the sway bar bracket and lower control arm bracket using the supplied 12mm x 65mm bolts and flange locking nuts. Tighten using an 18mm & 19mm wrench. **See Photo 25 & 26** *T*
The bolt will need to be installed as shown with the threads pointing forward.


Photo 25

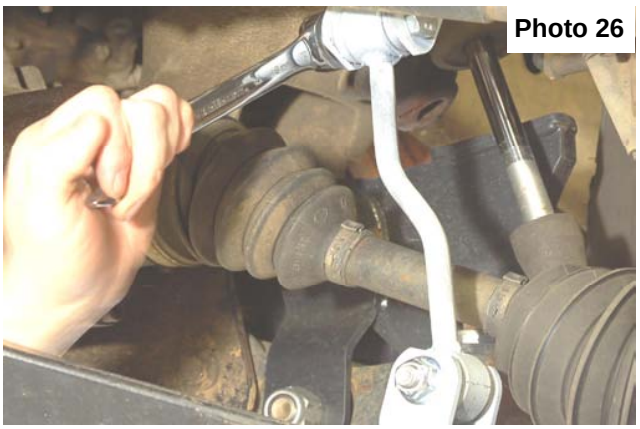


Photo 26

42. Reinstall the ABS sensor wire and brake line bracket using factory hardware to the knuckle and the upper control arm as shown in **Photo 27.**
43. If installing lift on a 2500HD diesel equipped vehicle; Install the new radiator hose support bracket as shown in **Photo 28** with the supplied 1/2òself threading bolt in 1297BAG2 with a 3/4òwrench in the factory hole on the factory

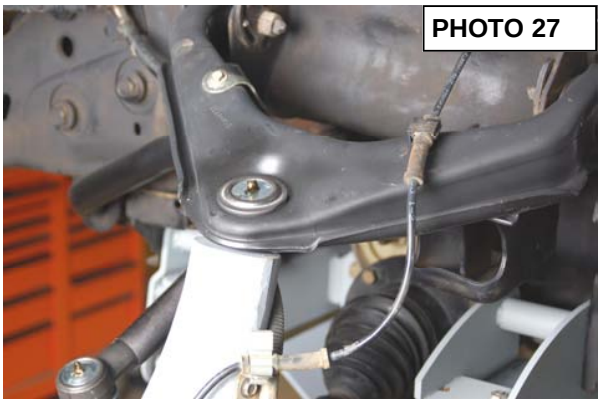


PHOTO 27


PHOTO 28

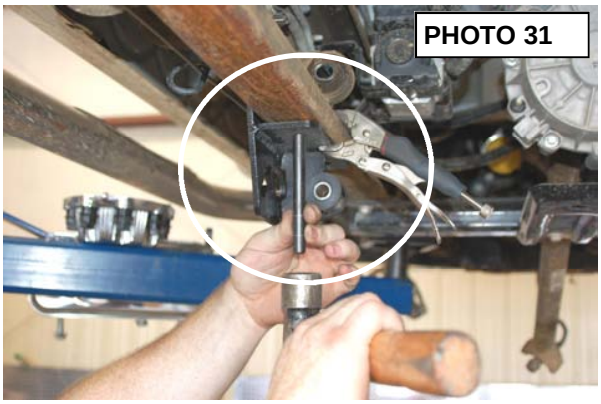
FOR USE WITH DIESEL EQUIPPED 2500HD ONLY

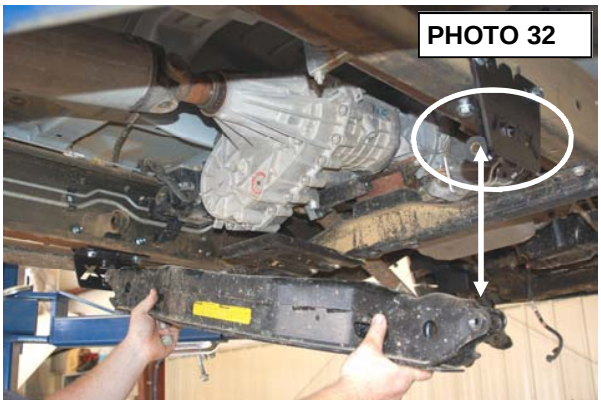
44. Remove the torsion bar cross-member as shown in **Photo 29 & 30** by removing the two cross-member bolts using a 21mm wrench. Retain the factory hardware for reuse. Install the supplied bushings and sleeves in the new torsion bar cross-member drop brackets in 1297BAG2.



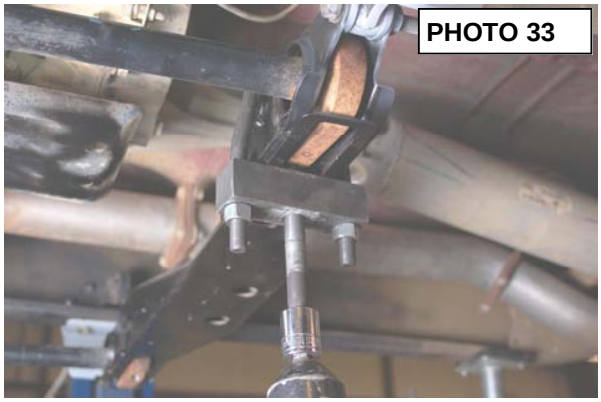


45. To ease installation, install the factory torsion bars in the lower control arms and slide forward slightly. Locate new torsion bar drop bracket over the factory rivets on the side of the frame rail as shown in **Photo 31** and clamp in place. Using the bracket as a guide, drill holes using a 17/32ò drill bit.
46. Using supplied 4-1/2ò x 1 1/4ò bolts, washers & nuts in 1297BAG2, secure the bracket to the frame rail, but do not fully tighten to allow the installation of the factory torsion bar cross-member.
47. Install the factory torsion bar cross-member to the drop brackets using the factory hardware with a 21mm wrench. **See Photo 32**. **Note**: Be sure to slide the torsion bars back into the cross-member as the cross-member is installed. Install stock keys in torsion bar cross-member on torsion bars. Tighten all cross-member hardware.





48. Using a torsion bar tool as shown in **Photo 33**, load the torsion bars and install the threaded factory adjuster block / adjuster bolts. Using the measurement recorded in Step 4, tighten the torsion bar adjuster bolt to recorded length.
49. Assemble the Rough Country shock absorber **Part # 651997** with the supplied 14mm x 1.25 sleeve in 1297BAG3 and install as shown in **Photo 34** with factory hardware on the lower mount and the supplied bushings/cup washers / nut on the upper shock mount.

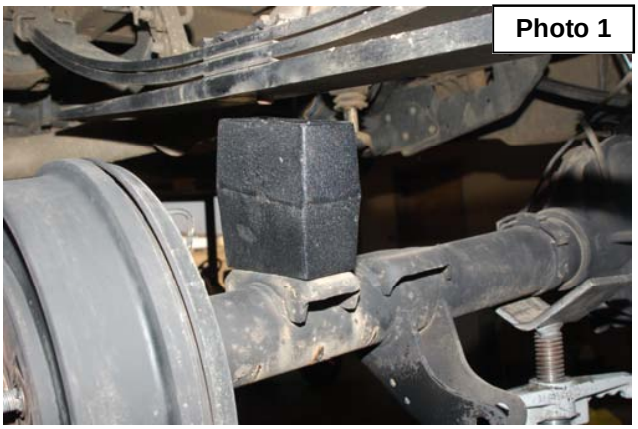


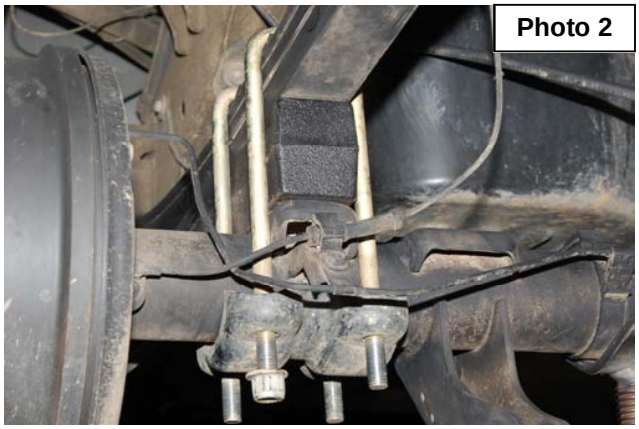


50. Install the wheels and tires. Lower to the ground and tighten the lower control arms bolts with a 18mm & 24mm wrench. Tighten the kicker bars at this time with a 21mm & 22mm wrench.

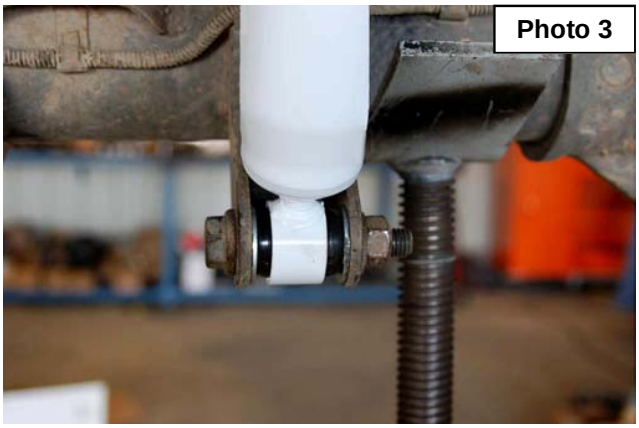
REAR BLOCK INSTALLATION INSTRUCTIONS

1. Chock the front wheels and jack up the rear of the vehicle. Secure with jack stands under the frame rail just forward of the leaf springs. Lower the vehicle on the jack stands, leaving the floor jack under the differential.
2. Remove the stock shock absorbers. Retain hardware for reuse.
3. Remove the stock u-bolts and lower the axle down with a floor jack.
4. Install the supplied 4òblock on the axle spring pad with the center pin centered on the axle. **See Photo 1.**
5. Jack up the axle to meet the leaf springs making sure the center pin in installed in the block.
6. Install the new 5/8òx 14òu-bolts and tighten with the supplied 5/8ònuts & washers. **See Photo 2.**





7. Assemble new Rough Country shock absorbers **Part# 658556** with supplied bushings/sleeves in 1297BAG3 and install in the factory shock mounts with factory hardware and tighten. **See Photo 3.**
8. Install tires / wheels and lower the vehicle to the floor.
9. If add-a-leafs are being installed with this kit, please refer to instructions included with add-a-leaf kit.



AN OPTIONAL KICKER BRACE KIT IS AVAILABLE FROM ROUGH COUNTRY. PLEASE CALL FOR DETAILS
1297BOX6-OPTIONAL KICKER BAR KIT



POST INSTALLATION INSTRUCTIONS

1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.
2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/ replacement may result in component failure.
3. On some vehicles the front lower skirting will need to be trimmed if using certain wheel /tire combinations and with heavy offset wheels. Trim only as needed.
4. Activate four wheel drive system and check front hubs for engagement.
5. Have a qualified alignment center align the vehicle immediately. Realign to factory specifications. The following are the recommended specifications:
   Caster in degrees 4.5 +-1.0
   Camber in degrees 0.0ð .3
   Toe In in degrees 0.1 +-.2
6. Perform head light check and adjustment to proper settings.
7. Check and retighten wheels at 50 miles and again at 500 miles.
8. All kit components must be retightened at 500 miles and then every three thousand miles after installation. Periodically check all hardware for tightness.
9. Install ñWarning to Driverò decal on sun visor

Note: Installation of larger tires will require speedometer recalibration.

MAINTENANCE INFORMATION

It is the ultimate buyers responsibility to have all bolts/nuts checked for tightness after the first 100 miles and then after every 1000 miles. Wheel alignment steering system, suspension and driveline systems must be inspected by a qualified professional mechanic at least every 3000 miles.

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.