



Part # 14045
2004 - 2006 GM Colorado / Canyon
4" Suspension system

Parts list:

<u>Part #</u>	<u>Description</u>	<u>Qty.</u>
14045-01	Driver side knuckle	1
14045-02	Passenger side knuckle	1
14045-03	Front cross member	1
14045-04	Rear cross member	1
14045-05	Front lower skid plate	1
14045-06	Driver side differential relocation bracket	1
14045-07	Passenger side differential relocation bracket	1
14045-09	Front driver and passenger side sway bar relocation brackets	2
14045-10	Front driver and passenger side extended bump stops	2
14045-11	Front drive shaft spacer	1
95130	Front extended brake line kit	1
TCI-R26	Rear add-a-leaf's	2
14045NB	Hardware bag	1
14045NB1	Hardware bag	1
14045SL	Sleeve bag	1
14045INST	Instruction manual (customer)	1
14045INST	Instruction manual (installer)	1
MIRRORHANGER	Rear view mirror hanger	1
WARNINGDECAL	Warning decal	1
DECAL	Window sticker	1

Congratulations on your selection to purchase a Tuff Country EZ-Ride Suspension System. We at Tuff Country are proud to offer a high quality product at the industries most competitive pricing. Thank you for your confidence in us, and our product.

Before installation begins, it is the customers/installers responsibility to make sure that all parts are on hand. If any parts are missing, please feel free to call one of our customer service representatives @ (801) 280-2777.

Tuff Country EZ-Ride Suspension packages (2) sets of instruction sheets with this box kit. (1) is for the installer and (1) is for the customer. The (1) for the customer has some post installation procedure literature and it is the installers responsibility to make sure that the customer receives a copy of the installation manual along with the literature.

Installation manual
4" Suspension system
2004 - 2006
GM Colorado / Canyon
Part # 14045

sj030107rev.02

Important customer information:

Tuff Country EZ-Ride Suspension highly recommends that a qualified and/or certified mechanic performs this installation.

If you desire to return your vehicle to stock, it is the customers responsibility to save all stock hardware.

This vehicles reaction and handling characteristics may differ from standard cars and/or trucks. Modifications to improve and/or enhance off road performance may raise the intended center of gravity. Extreme caution must be utilized when encountering driving conditions which may cause vehicle imbalance or loss of control. DRIVE SAFELY! Avoid abrupt maneuvers, such as sudden sharp turns which could cause a roll over, resulting in serious injury or death.

It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with this suspension system after the first 100 miles of installation. It is also the customers responsibility to do a complete re-torque after every 3000 miles or after every off road use.

After the original installation, Tuff Country EZ-Ride Suspension also recommends having the alignment checked every 6 months to ensure proper tracking, proper wear on tires and front end components. Tuff Country EZ-Ride Suspension takes no responsibility for abuse, improper installation or improper suspension maintenance.

It is the responsibility of the customer or the mechanic to wear safety glasses at all times when performing this installation.

It is the customers/installers responsibility to read and understand all steps before installation begins. OEM manual should be used as a reference guide.

Make sure to use locktite on all new and stock hardware associated with this installation.

The Tuff Country EZ-Ride Suspension product safety label that is included in your kit box must be installed inside the cab in plain view of all occupants.

Limited lifetime warranty

Notice to all Tuff Country EZ-Ride Suspension customers: It is your responsibility to keep your original sales receipt! If failure should occur on any Tuff Country EZ-Ride Suspension component, your original sales receipt must accompany the warranted unit to receive warranty. Warranty will be void if the customer can not provide the original sales receipt. Do not install a body lift in conjunction with a suspension system. If a body lift is used in conjunction with any Tuff Country EZ-Ride Suspension product, your Tuff Country EZ-Ride Suspension WARRANTY WILL BE VOID. Tuff Country Inc. ("Tuff Country") suspension products are warranted to be free from defects in material and workmanship for life if purchased, installed and maintained on a non-commercial vehicle; otherwise, for a period of twelve (12) months, from the date of purchase and installation on a commercial vehicle, or twelve thousand (12,000) miles (which ever occurs first). Tuff Country does not warrant or make any representations concerning Tuff Country Products when not installed and used strictly in accordance with the manufacturer's instructions for such installation and operation and accordance with good installation and maintenance practices of the automotive industry. This warranty does not apply to the cosmetic finish of Tuff Country products nor to Tuff Country products which have been altered, improperly installed, maintained, used or repaired, or damaged by accident, negligence, misuse or racing. ("Racing is used in its broadest sense, and, for example, without regards to formalities in relation to prizes, competition, etc.) This warranty is void if the product is removed from the original vehicle and re-installed on that or any other vehicle. This warranty is exclusive and is in lieu of any implied warranty of merchantability, fitness for a particular purpose or other warranty of quality, whether express or implied, except the warranty of title. All implied warranties are limited to the duration of this warranty. The remedies set forth in this warranty are exclusive. This warranty excludes all labor charges or other incidental of consequential damages. Any part or product returned for warranty claim must be returned through the dealer of the distributor from whom it was purchased. Tuff Country reserves the right to examine all parts returned to it for warranty claim to determine whether or not any such part has failed because of defect in material or workmanship. The obligation of Tuff Country under this warranty shall be limited to repairing, replacing or crediting, at its option, any part or product found to be so defective. Regardless of whether any part is repaired, replaced or credited under this warranty, shipping and/or transportation charges on the return of such product must be prepaid by the customer under this warranty.

Important information that needs to be read before installation begins:

The stock wheels will not work in conjunction with this suspension system. New wheels with a 4.5" back spacing is required. Tuff Country recommends a 285/70/16 tire and wheel package. If larger than a 285/70 tire is installed on your vehicle in conjunction with part # 14045; Tuff Country assumes no liability and the warranty will be VOID. Also, 15" wheels will not work in conjunction with this suspension system.

Before installation begins, Tuff Country EZ-Ride Suspension highly recommends that the installer performs a test drive on the vehicle. During the test drive, check to see if there are any uncommon sounds or vibrations. If uncommon sounds or vibrations occur on the test drive, uncommon sounds or vibrations will be enhanced once the suspension system has been installed. Tuff Country EZ-Ride Suspension highly recommends notifying the customer prior to installation to inform the customer of these issues if they exist.

New longer front and rear shocks are needed after this suspension system has been installed and the front and rear shocks need to be ordered as a separate part #. If you have not already ordered your front and rear shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your front and rear shocks. Tuff Country recommends installing a 21" fully extended nitrogen gas shock in the front and a 26" fully extended nitrogen gas shock in the rear.

Torque settings:

5/16"	15—18 ft lbs.
3/8"	28—32 ft lbs.
7/16"	30—35 ft lbs.
1/2"	65—85 ft lbs.
9/16"	85—120 ft lbs.
5/8"	95—130 ft lbs.
3/4"	100—140 ft lbs.

Hardware bag 14045NB includes:

<u>Description</u>	<u>Quantity</u>
5 mm x 12 mm hex cap bolts	4
5 mm flat washers	4
10 mm x 40 mm bolts	4
10 mm split lock washers	4
10 mm x 26 mm sock head cap screws	4
14 mm x 50 mm bolts	4
14 mm flat washers	4
14 mm lock washers	4
3/8" x 3/4" bolts	4
3/8" x 1" bolts	2
5/16" USS flat washers	8
3/8" split lock washers	6
3/8" nylock nuts	2
7/16" x 2" bolts	2
7/16" x 2 1/2" bolts	4
3/8" USS flat washers	10
7/16" unitorque nuts	6
1/2" x 1 1/4" bolts	6
1/2" x 2 1/4" bolts	2
7/16" USS flat washers	12
1/2" unitorque nuts	8
9/16" x 3 1/2" bolts	4
1/2" USS flat washers	8
9/16" unitorque nuts	4
5/8" x 4 1/2" bolts	2
9/16" USS flat washers	4
5/8" unitorque nuts	2
Sert fitting	2
S10107 (Over size washers)	4

Hardware bag 14045NB1 includes:

<u>Description</u>	<u>Quantity</u>
14045-08 (ABS relocation brackets)	2
S10116 (Heim joints)	4
SUW-12 (1/2" harden washers)	2
PB8297 (Poly bushings)	4
PB6199 (Poly bump stops)	2
PB6052 (Poly bushings)	2
PB2456 (Poly bushings)	4
P98 (rear shock clevis mounts)	2
CB5162 (rear centering bolts)	2
516FN (5/16" fine nuts)	2

Hardware bag 14045SL includes:

<u>Description</u>	<u>Quantity</u>
S10115 (.875" x .635" x 3.360" sleeve)	2
S10117 (.750" x 7.500" tapped sleeve)	2
S10118 (.750" x .510" x .310 sleeve)	4
S10123 (spacer sleeve)	2
S10124 (milled sleeve)	2

Special note: Before installation begins, it is the customers/installers responsibility to make sure that all parts are on hand. If any parts are missing, please feel free to call one of our customer service representatives @ (801) 280-2777.

Spherical rod end links are a precision part and require frequent cleaning and lubricating to enhance proper maximum performance. Failure to do this could cause failure of Spherical rod end links.

Recommended tools selection;

Cut off wheel
Sawzall
Torque wrench
Standard socket set
Standard wrench set
Metric socket set
Metric wrench set
Tape measure
Hydraulic floor jacks

Please follow instructions carefully:

Before installation begins, measure from the center of the hub, to the bottom of the fender well, and record measurements below.

Pre-installation measurements:

Driver side front: _____

Passenger side front: _____

Driver side rear: _____

Passenger side rear: _____

At the end of the installation take the same measurements and compare to the pre-installation measurements.

Post installation measurements:

Driver side front: _____

Passenger side front: _____

Driver side rear: _____

Passenger side rear: _____

Front end installation:

1. To begin installation, block the rear tires of the vehicle so that the vehicle is stable and can't roll backwards. Safely lift the front of the vehicle and support the frame with a pair of jack stands. Place a jack stand on both the driver and the passenger side. Next, remove the front wheels and tires from both sides.

2. Working on the driver side, remove the torsion bar adjusting bolt and block and set aside for later re-installation. Repeat procedure on the passenger side.

Photo # 1

3. Working on the driver side, using white out, scribe a mark on the rear portion of the torsion bar and the torsion bar key. Also, at this time, scribe a mark on the front portion of the torsion bar and the torsion bar bracket bolted to the stock lower control arm. Repeat procedure on the passenger side. **Special note: It is also a good idea to mark the driver and passenger side torsion bars. Also mark the front of the torsion bar. This will help to make sure that the torsion bars are re-installed back into the stock location.**

Photo # 2

Photo # 3

4. Working on the driver side, push up on the stock torsion bar and remove the stock torsion bar key. Set the stock torsion bar key aside for later re-installation. Remove the driver side torsion bar from the vehicle and set aside for later re-installation. Repeat procedure on the passenger side.

Photo # 4

5. Working on the driver side, carefully remove the (2) stock

ABS line mounts that attach the stock ABS line to the stock upper control arm. Next remove the stock ABS line bracket that is attached to the stock knuckle using a 7 mm wrench. The stock hardware may be discard. Repeat procedure on the passenger side.

Photo # 5

Photo # 6

6. Working on the driver side, loosen but do not remove the stock nut holding the stock outer tie rod to the stock knuckle. Using a hammer, carefully hit the knuckle to break the taper. **Special note: Take special care not to rip or damage the stock outer tie rod dust boot.** Once the taper has been broke, remove the stock nut completely and set aside for later re-installation. Remove the outer tie rod from the stock knuckle. Repeat procedure on the passenger side.

Photo # 7

Photo # 8

Photo # 9

7. Working on the driver side, remove the stock shock from the stock upper and lower location. **Special note: To make removal of the upper nut easier, an allen head wrench maybe needed to hold the shock from spinning.** Set the stock lower hardware aside for later re-installation. The stock upper hardware and the stock shock may be discarded. **Special note: New longer front shocks are needed after this suspension system has been installed and the front shocks need to be ordered as a separate part #. If you have not already ordered your front shocks, please feel free to contact Tuff Country or your local Tuff Country dealer and order your front shocks. Tuff Country recommends installing a 21" fully extended hydraulic shock in the front.**

Photo # 10

Photo # 11

8. Working on the driver side, remove the (2) stock bolts that connect the stock brake caliper to the stock knuckle. Set the stock bolts aside for later re-installation. Carefully tie the stock brake caliper up and out of the way in the fender well. Repeat procedure on the passenger side.

Photo # 12

9. Working on the front of the vehicle, remove the stock skid plate from the stock location. Save the stock skid plate and the stock hardware for later re-installation.

Photo # 13

10. Working on the driver side, remove the stock sway bar end link from the stock lower control arm. The stock hardware may be discarded. Repeat procedure on the passenger side.

Photo # 14

11. Working on the driver side, remove the stock sway bar from the bottom of the stock frame rail. The stock hardware may be discarded. Repeat procedure on the passenger side. Set the stock sway bar aside for further instructions.

Photo # 15

12. With the stock sway bar out of the vehicle, remove the stock driver and passenger side end links from the stock sway bar and discard the stock end links and hardware. Set the stock sway bar aside for later re-installation.

13. Working on the driver side, remove the stock CV axle nut that connects the stock CV axle to the stock knuckle. Set the stock CV axle nut and washer aside for later re-installation.

Photo # 16

14. Working on the driver side, loosen but do not remove the stock upper ball joint nut that connects that stock upper control arm to the stock knuckle. Repeat procedure on the passenger side.

Photo # 17

15. Working on the driver side, loosened but do not remove the stock lower ball joint nut that connects the stock lower control arm the stock knuckle. Repeat procedure on the passenger side.

Photo # 18

16. Working on the driver side and using a hammer, carefully hit the knuckle to brake the taper on the upper control arm ball joint. **Special note: Take special care not to rip or damage the stock upper control arm dust boot.** Repeat procedure on the passenger side.

Photo # 19

17. Working on the driver side and using a hammer, carefully hit the knuckle to brake the taper on the lower control arm ball joint. **Special note: Take special care not to rip or damage the stock lower control arm dust boot.** Repeat procedure on the passenger side.

Photo # 20

18. Working on the driver side, push the stock ABS line bracket out of the stock location in the fender well. Disconnect the stock ABS line from the quick disconnect. Repeat procedure on the passenger side.

Photo # 21

Photo # 22

19. Working on the driver side, move back to the stock nuts holding the upper and lower control arm to the knuckle and remove completely. Set the upper and lower hardware aside for later re-installation. Carefully remove the knuckle from the vehicle and set aside for further instructions. Repeat procedure on the passenger side.

Photo # 23

20. Working on the driver side, remove the stock hardware that connects the stock lower control arm into the stock rear mounting location. Set the stock bolt aside for later re-installation. Remove the stock hardware that connects the stock lower control arm into the stock front mounting

location. Set the stock hardware aside for later re-installation. Also set the stock lower control arm aside for later re-installation. Repeat procedure on the passenger side.

Photo # 24

Photo # 25

Photo # 26

21. Place a pair of hydraulic floor jacks under the front differential. Carefully raise up on both hydraulic floor jacks at the same time until they come into contact with the front differential.

22. Working on the driver side, remove the (2) stock bolts that connect the stock differential to the bottom of the stock frame rail. The stock hardware may be discarded. Repeat procedure on the passenger side. Carefully lower down on both hydraulic floor jacks at the same time allowing enough room for the new driver and passenger side differential relocation bracket to be installed.

Photo # 27

23. Locate the new driver and passenger side differential relocation brackets. Locate (4) 14 mm x 50 bolts, (4) 14 mm flat washers and (4) 14 mm lock washers from hardware bag 14045NB. Working on the driver side, install the new differential relocation bracket to the bottom side of the stock frame rail and secure using the new 14 mm x 50 mm bolts and hardware. **Do not tighten at this time. Special note: the taller portion of the new differential relocation bracket needs to be installed towards the front of the vehicle.** Repeat procedure on the passenger side.

Photo # 28

24. Locate (4) 9/16" x 3 1/2" bolts, (8) 1/2" USS flat washers and (4) 9/16" unitorque nuts from hardware bag 14045NB. Carefully raise up on both hydraulic floor jacks until the stock front differential can be attached to the newly installed differential relocation brackets. Working on the driver side, secure the stock differential to the newly installed differential relocation bracket using the new 9/16" x 3 1/2" bolts and hardware. **Do not tighten at this point.** Repeat procedure on the passenger side.

Photo # 29

25. Working on the driver side, apply some thread locker or lock tite to the new 14 mm x 50 mm bolts and torque to **85 ft lbs.** Apply some thread locker or lock tite to the new 9/16" x 3 1/2" bolt and torque to **85 ft lbs.** Repeat procedure on the passenger side. Carefully remove the hydraulic floor jacks from under the vehicle.

26. Working on the driver side front lower control arm pocket, measure 1" from the leading edge towards the inside of the vehicle and scribe a mark from the front of the vehicle to the rear. Repeat procedure on the passenger side.

Photo # 30

27. Working on the driver side, using a die grinder, carefully cut the stock front cross member as indicated in photo # 31 & 32. Repeat procedure on the passenger side. **Special note: Tuff Country highly recommends NOT using a torch when making this cut.**

Photo # 31

Photo # 32

28. Locate the new driver and passenger side front sway bar relocation bracket. Also, locate (4) 10 mm x 26 mm socket head cap screws from hardware bag 14045NB. Working on the driver side, install the new driver side sway bar relocation bracket to the stock sway bar location on the bottom side of the stock frame rail. Make sure to use thread locker or lock tite and torque to **25 ft lbs.** Repeat procedure on the passenger side.

Photo # 33

29. Locate the (4) 3/8" x 3/4" bolts, (4) 5/16" USS flat washers and (4) 3/8" lock washers from hardware bag 14045NB. Also locate the stock front sway bar. Install the driver side of the stock sway bar to the newly installed sway bar relocation bracket and secure using the new 3/8" x 3/4" bolt and hardware. Repeat procedure on the passenger side. Do not tighten fully but tighten enough so that the sway bar can be pushed up and out of the way. These bolts will be torqued once the new sway bar end links have been installed.

Photo # 34

30. Locate the stock skid plate and the stock hardware. Install the stock skid plate into the stock location and secure using the stock hardware. Make sure to install thread locker or lock tite and torque to **18 ft lbs.**

31. Locate the new front cross member and the stock front lower control arm hardware. Install the new front cross member into the stock front lower control arm pockets and secure using the stock lower control arm hardware. **Do not tighten at this point.**

Photo # 35

32. Locate the new rear cross member. Also, locate (2) new grease sert fitting from hardware bag 14045NB. Install the new grease sert fitting into the new rear cross member. Take special care not to damage the new grease sert fitting during installation.

Photo # 36

33. Locate (4) PB2456 poly bushings from hardware bag 14045NB1. Also, locate (2) S10115 sleeves from sleeve bag 14045SL. Install the new bushings and sleeves into the new rear cross member. **Special note: Make sure to use a lithium or moly base grease prior to inserting the new bushings and sleeves into the new rear cross member. This will increase the life of the bushing as well as prevent squeaking. Installer note: It is recommended to inform the customer that these bushings need to be lubed regularly. A suggestion is to make sure that**

these bushings are lubed through the sert fitting every time the customer has their oil changed. Failure to lube the bushings properly could cause the bushing to fail prematurely.

Photo # 37

34. Locate (4) 7/16" x 2 1/2" bolts, (8) 3/8" USS flat washers and (4) 7/16" unitorque nuts from hardware bag 14045NB. Working on the driver side, install the new rear cross member into the rear lower control arm pocket and secure using the new 7/16" x 2 1/2" bolts and hardware. **Do not tighten at this point.** Repeat procedure on the passenger side.

Photo # 38

35. Due to some inconsistencies, the stock rear lower control arm mounting points may need to be dremelled so that the new rear cross members can be installed. If this is the case on the vehicle that are working on, refer to photo # 39 & 40 and open up the stock holes so that the new rear cross member can be installed.

Photo # 39 / driver side

Photo # 40 / passenger side

36. Locate the new lower skid plate. Also, locate (6) 1/2" x 1 1/4" bolts, (12) 7/16" USS flat washers and (6) 1/2" unitorque nuts from hardware bag 14045NB. Install the new lower skid plate to the newly installed front and rear cross member and secure using the new 1/2" x 1 1/4" bolts and hardware. **Do not tighten at this point.**

Photo # 41

37. Move back to the (4) 7/16" x 2 1/2" bolts securing the new rear cross member into the rear lower control pocket and add some thread locker or lock tite and torque to **45 ft lbs.**

38. Locate the driver and passenger side stock lower control arms. On the longer leg of the rear portion of the control arms, measuring 3" from the leading edge of the control arms and scribe a mark. Now measure 1/4" from the inside towards the outside of the lower control arms and scribe a mark. On the shorter leg of the control arms, measure 2" from the leading edge of the stock lower control arms and scribe a mark. Now measure 1/4" from the inside towards the outside of the lower control arms and scribe a mark.

Photo # 42 / longer leg

Photo # 43 / shorter leg

39. Using a die grinder carefully cut out the material that was measured in step # 38 on both the driver and passenger side control arms. **Special note: Tuff Country highly recommends NOT to use a torch when performing this step.**

Photo # 44

40. Working on the driver side lower control arm and referring to photo # 45, remove just one stock torque head

mounting hardware that connects the stock torsion bar bracket to the stock lower control arm. Set the stock hardware aside for later re-installation. Repeat procedure on the passenger side lower control arm.

Photo # 45

41. Locate (2) new 5/8" x 4 1/2" bolts, (4) 9/16" USS flat washers and (2) 5/8" unitorque nuts from hardware bag 14045NB. Also, locate the stock rear mounting hardware that was removed in step # 20. Working on the driver side, install the modified stock lower control arm into the newly installed front and rear cross members. Secure the front portion of the lower control arm to the front cross member using the new 5/8" x 4 1/2" bolts and hardware. **Do not tighten at this point.** Secure the rear portion of the lower control arm to the rear cross member using the stock hardware. Make sure to use thread locker or lock tite and torque to **133 ft lbs.** Repeat procedure on the passenger side.

Photo # 46

42. Working on the driver side, remove the stock bump stop from the stock bump stop cup and discard. Repeat procedure on the passenger side.

Photo # 47

43. Locate (2) 3/8" x 1" bolts, (2) 5/16" USS flat washers and (2) 3/8" lock washers from hardware bag 14045NB. Also locate (2) new bump stop relocation brackets. Working on the driver side, install the new bump stop bracket into the stock bump stop cup and secure using the new 3/8" x 1" bolt and hardware. Make sure to use thread locker or lock tite and torque to **22 ft lbs.** **Special note: the recess on the new bump stop bracket will slide up into the stock bump stop cup.** Repeat procedure on the passenger side.

Photo # 48

Photo # 49

44. Locate (2) new PB6052 poly bump stops from hardware bag 14045NB1. **Special note: There are (2) different sizes of bump stops in hardware bag 14045NB1, the PB6052 is the taller of the (2) bump stops.** Working on the driver side, install the new bump stop to the newly installed bump stop bracket. Make sure to use thread locker or lock tite and hand tighten. Repeat procedure on the passenger side.

Photo # 50

45. Locate the stock torqued head torsion bar mounting bolt that was removed in step # 40. Working on the driver side, re-install the stock torqued head torsion bar mounting bolt into the stock location and secure using the stock nut. Make sure to use thread locker or lock tite and torque to **45 ft lbs.** Repeat procedure on the passenger side.

Photo # 51

46. Locate the driver and passenger side stock knuckles. Remove the (4) stock bolts that connect the stock knuckle

to the stock hub assembly. Save the stock hardware for later re-installation. Carefully remove the stock hub assembly from the stock knuckle. **Special note: Take special care not to damage the stock hub assembly during removal. Also, notice the placement of the stock ABS sensor ring and wire.** The stock knuckle may be discarded. Repeat procedure on the passenger side stock knuckle.

Photo # 52 / bolt removal

Photo # 53 / hub removal

46. Locate the new driver and passenger side knuckles. Install the stock hub assemblies into the new knuckles and secure using the stock hardware that was removed in step # 45. Make sure to use thread locker or lock tite and torque to **92 ft lbs.** **Special note: Take special care not to damage the stock hub assembly during installation. Also, make sure that the stock ABS sensor ring and wire is installed back into the stock position.**

Photo # 54

47. Working on the new knuckles and the stock hub assemblies, remove the stock ABS retaining mounting bracket from the stock ABS line and discard.

Photo # 55

48. Locate the stock upper and lower control arm mounting hardware that was removed in step # 19. Working on the driver side, install the new driver side knuckle into the stock upper and lower control arm and secure using the stock hardware. Do not tighten at this point. Repeat procedure on the passenger side.

49. Locate (2) new ABS line clips from brake line bag 95130. Locate (2) 14045-08 ABS line clips from hardware bag 14045NB1. Also, locate (4) 5 mm x 12 mm hex cap bolts and (4) M5 flat washers from hardware bag 14045NB. Working on the driver side, install the new ABS line clips and ABS lines to the new knuckles and secure using the new 5 mm x 12 mm hex cap bolts and hardware. Make sure to use thread locker or lock tite. **Special note: Using a hammer, carefully hammer the upper ABS line clip closed so that the ABS line will not come out of the bracket.** Repeat procedure on the passenger side.

Photo # 56

Photo # 57

50. Working on the driver side, torque the lower control arm ball joint nut to **107 ft lbs.** and the upper control arm ball joint nut to **55 ft lbs.** Repeat procedure on the passenger side.

51. Locate the stock CV axle nuts and washers that were removed in step # 13. Working on the driver side, secure the stock CV axle to the new knuckle and stock hub assembly using the stock CV axle nut and washer. Make sure to use thread locker or lock tite and torque to **184 ft lbs.** Repeat procedure on the passenger side.

Photo # 58

52. Locate the stock brake caliper mounting hardware that was removed in step # 8. Working on the driver side, secure the stock brake caliper to the new knuckle and secure using the stock hardware. Make sure to use thread locker or lock tite and torque to **129 ft lbs.** Repeat procedure on the passenger side.

53. Working on the driver side, attach the stock ABS line back to the stock location on the stock upper control arm. Now re-connect the stock ABS line back to the quick release clip and secure the stock ABS line bracket to the back side of the stock fender well. Repeat procedure on the passenger side.

54. Working on the driver side and using a pair of vise grips, clamp off the stock brake line. Repeat procedure on the passenger side.

Photo # 59

55. Working on the driver side, remove the stock brake line from the stock upper mounting location and at the stock brake caliper. Save the stock lower mounting hardware. Repeat procedure on the passenger side. **Special note: Once the stock brake line has been removed, brake fluid is going to leak out. It is a good idea to have something to catch the fluid so it does not leak out all over the floor.**

56. Locate the new brake lines from bag 95130. Working on the driver side, install the new brake line into the upper location and use the new brake line clip to hold it into the upper location. Next, secure the lower portion of the brake line to the stock brake caliper using the stock hardware. Repeat on passenger side.

Photo # 60 / upper location

Photo # 61 / lower location

57. Working on the driver side, carefully drill out the stock sway bar bracket that is attached to the stock lower control arm to 1/2". Repeat procedure on the passenger side.

Photo # 62

58. Working on the driver side, carefully dremel out the stock sway bar so that it will accept a 7/16" bolt. Repeat procedure on the passenger side.

Photo # 63

59. Locate (4) S10116 heim joints from hardware bag 140045NB1. Also locate (2) S10117 sway bar end links from hardware bag 14045SL. Install the new heim joints into each end of the new sway bar end links. Tighten the heim joints all the way down until there is no more threads.

60. Locate (2) new 1/2" x 2 1/4" bolts and (2) 1/2" unitorque nuts from hardware bag 14045NB. Locate (4) S10118 spacer sleeves from hardware bag 14045SL. Also, locate (2) SUW-12 from hardware bag 14045NB1. Working on the driver side, attach the new sway bar end link heim joint to the stock sway bar bracket that is attached to the stock

lower control arm. Do not tighten at this point. Please refer to photo # 64 for proper installation. Repeat procedure on the passenger side.

Photo # 64

61. Locate (2) new 7/16" x 2" bolts, (2) 3/8" USS flat washer and (2) 7/16" unitorque nuts from hardware bag 14045NB. Also, locate (2) S10123 spacer sleeves and (2) S10124 taper spacer sleeve from hardware bag 14045SL. Working on the driver side, secure the top heim joint on the new sway bar end link to the stock sway bar using the new 7/16" x 2" bolts, hardware and spacer sleeves. Do not tighten at this point. Please refer to photo # 65 for proper installation. Repeat procedure on the passenger side.

Photo # 65

62. Working on the driver side, torque the lower 1/2" sway bar bolt to **65 ft lbs.** and the upper 7/16" sway bar bolt to **45 ft lbs.** Repeat procedure on the passenger side.

Photo # 66

63. Working on the driver side, place a hydraulic floor under the driver side lower control arm. Carefully raise up on the lower control arm until the upper control arm clears the stock upper bump stop. Locate (2) new PB6199 poly bump stops from hardware bag 14045NB1. **Special note: There are (2) different sizes of bump stops in hardware bag 14045NB1, the PB6199 is the shorter of the (2) bump stops.** Also, locate (2) 3/8" nylock nuts and (2) 5/16" USS flat washers from hardware bag 14045NB. Working on the driver side, install the new bump stop to the stock upper bump stop bracket (hole is already provided) and secure using the new hardware. **Torque to 28 ft lbs.** Repeat procedure on the passenger side.

Photo # 67

64. Locate the stock outer tie rod end hardware that was removed in step # 6. Working on the driver side, rotate the stock outer tie rod 180 degrees from the stock location and install the stock outer tie rod into the new knuckle and secure using the stock hardware. Make sure to use thread locker or lock tite and torque to **45 ft lbs.** Repeat procedure on the passenger side.

Photo # 68

65. Remove the stock front drive shaft from the transfer case mounting mount. The stock hardware may be discarded.

Photo # 69

66. Locate the new drive shaft spacer. Also, locate (4) new 10 mm x 40 mm bolts and (4) 10 mm lock washers from hardware bag 14045NB. Install the new driver shaft spacer between the stock drive shaft and the stock transfer case and secure using the new 10 mm x 40 mm bolts and hardware. Make sure to use thread locker or lock tite and torque to **35 ft lbs.**

Photo # 70

67. Working on the driver side, install a fair amount of grease into the stock torsion bar bracket attached to the stock lower control arm. Repeat procedure on the passenger side.

Photo # 71

68. Locate the stock driver side torsion bar. Install the driver side torsion bar into the stock torsion bar bracket attached to the stock lower control arm. **Special note: Make sure that our marks that were scribed earlier line up with each other. This will ensure that the stock torsion bar is installed into the stock location. Also, it is important that the stock driver side torsion bar is installed on the driver side and the stock passenger side torsion bar is installed on the passenger side. If this does not happen, problems may occur.**

Photo # 72

69. Move back to the new hardware securing the new skid plate to the front and rear cross member and add some thread locker or lock tite. Working on the front portion of the skid plate that attaches to the front cross member first, torque the new hardware to **65 ft lbs.** and then torque the rear hardware to **65 ft lbs.**

70. Working on the driver side, move back to the stock mounting hardware holding the new front cross member into the stock location and add some thread locker or lock tite and torque to **122 ft lbs.** Repeat procedure on the passenger side.

71. Working on the driver side, move back to the new 5/8" x 4 1/2" bolt holding the stock lower control arm to the new front cross member and add some thread locker or lock tite and torque to **115 ft lbs.** Repeat procedure on the passenger side.

Photo # 73

72. Locate the stock driver and passenger side torsion bar keys that were removed in step # 4. Working on the driver side, install the stock torsion bar key to the stock torsion bar. **Special note: Make sure that our marks that were scribed earlier line up with each other. This will ensure that the stock torsion bar is installed into the stock location. Also, it is important that the stock driver side torsion bar is installed on the driver side and the stock passenger side torsion bar is installed on the passenger side. If this does not happen, problems may occur.** Repeat procedure on the passenger side.

73. Locate the stock torsion bar adjusting blocks and bolts that were removed in step # 2. Working on the driver side, install the stock torsion bar block and bolt into the stock location and tighten adjusting bolt until there is 2 3/16" of thread sticking out of the torsion bar adjusting block. Repeat procedure on the passenger side.

Photo # 74

74. Locate the new front shocks. **Special note: New**

longer front shocks are needed, if you have not already ordered shocks, please contact Tuff Country or your local Tuff Country dealer and order the proper shocks. Tuff Country recommends using a 21" fully extended hydraulic shock. Locate (4) PB8297 upper shock bushings from hardware bag 14045NB1. Also, locate (4) S10107 upper shock washers from hardware bag 14045NB. Install the new shock boot onto the new shocks. **Special note: Tuff Country EZ-Ride Suspension highly recommends that the shocks are installed with shock boots. If shock boots are not installed, damaged my occur to the piston of the new shock.** Working on the driver side, install the new shock into the stock lower mounting location using the stock hardware that was removed in step # 7. Make sure to use thread locker or lock tite and torque to **65 ft lbs.** Install the new shock into the stock upper location using the new upper shock bushings, over size washers and the new nut that was packaged with the new shocks. Torque to **18 ft lbs.** Repeat procedure on the passenger side.

75. Check and double check to make sure that all steps for the front end were performed properly and then check again.

76. Install the tires and wheels and carefully lower the vehicle to the ground.

77. To begin installation, block the front tires of the vehicle so that the vehicle is stable and can't roll forward. Safely lift the rear of the vehicle and support the frame with a pair of jack stands. Place a jack stand on both the driver and passenger side. Next, remove the wheels and tires from both sides. Repeat procedure on the passenger side.

78. Working on the driver side, remove the stock shock from the stock upper and lower mounting points and save the stock hardware for later re-installation. The stock shocks may be discarded. **Special note: New longer rear shocks are needed, if you have not already ordered shocks, please contact Tuff Country or your local Tuff Country dealer and order the proper shocks. Tuff Country recommends using a 26" fully extended hydraulic shock.** Repeat procedure on the passenger side.

79. Place a pair of hydraulic floor jacks under the rear differential and carefully raise up on both hydraulic floor jacks at the same time until they come into contact with the rear differential.

80. Working on the driver side, remove the stock emergency brake cable from the stock bracket attached to the stock rear spring. Save the stock hardware and let the stock emergency brake cable hang.

Photo # 75

81. Working on the driver side, remove the stock u-bolts from the stock location and save the stock u-bolts and

hardware for later re-installation. Set the stock lower u-bolt plate aside for later re-installation. Repeat procedure on passenger side.

82. Carefully raise up on both hydraulic floor jacks until the stock spring assemblies separate from the stock rear axle.

83. Locate (2) new rear add-a-leaf. Also, locate (2) 5/16" x 6" centering bolts and (2) 5/16" fine nuts from hardware bag 14045NB1. Install the new rear add-a-leaf into the stock spring assembly. Secure the new rear add-a-leaf to the stock spring assembly using the new 5/16" center bolt and nut. Torque to **22 ft. lbs.** **Special note: If the new add-a-leaf that you are installing into the stock spring assembly has an offset center hole location, place the longest side of the add-a-leaf towards the rear of the vehicle. Also the new add-a-leaf should be installed into the stock spring assembly in progression in order, from longest to shortest. Also, Tuff Country EZ-Ride Suspension recommends not using any air tools when installing the new add-a-leaves into the stock spring assembly. If air tools are used the centering bolt may strip, causing the stock spring assembly to come apart.** With a suitable cutting tool, cut off the extra thread from the new centering bolt. Repeat procedure on passenger side.

84. Carefully lower down on both hydraulic floor jacks at the same time until the stock rear axle seats properly with the newly modified stock rear springs.

85. Locate the stock lower u-bolt plates, the stock u-bolts and the stock u-bolt hardware that were removed in step # 81. Working on the driver side, install the stock u-bolts into the stock location and secure using the stock hardware. Repeat procedure on the passenger side. Torque the stock u-bolts to **70 ft lbs.**

86. Locate the new rear shocks. **Special note: New longer rear shocks are needed, if you have not already ordered shocks, please contact Tuff Country or your local Tuff Country dealer and order the proper shocks. Tuff Country recommends using a 26" fully extended hydraulic shock.** Also, locate (2) P98 shock clevis mounts from hardware bag 14045NB1. Working on the new shocks, install the new shock bushing into the upper and lower eyelets of the new shocks. Next, install the new proper shock sleeves into the previously installed lower shock bushings. Install the new shock boots onto the new shocks. **Special note: Tuff Country EZ-Ride Suspension highly recommends that the shocks are installed with shock boots. If shock boots are not installed, damage may occur to the piston of the new shock.** Next, install the new P98 shock clevis mounts into the upper eyelet's of each shock. **Special note: Make sure to use a lithium or moly base grease prior to inserting the new shock bushings, sleeves and clevis mounts into the new shock eyelets. This will increase the life of the bushing as well as prevent squeaking.** Working on the driver side,

install the new shock into the stock upper and lower location and secure using the stock hardware that was removed in step # 78. **Special note: Make sure to use thread locker or lock tite and torque the upper mounting hardware to 28 ft lbs and the lower stock mounting hardware to 75 ft lbs.** Repeat procedure on the passenger side.

87. Locate the stock emergency brake cable mounting hardware that was removed in step # 80. Working on the driver side, install the stock emergency brake cable to the stock bracket and secure using the stock hardware. Make sure to use thread locker or lock tite and torque to **18 ft lbs.**

88. Remove both hydraulic floor jacks from under the vehicle.

89. Install the tires and wheels and carefully lower the vehicle to the ground.

90. Check and double check to make sure that all steps were performed properly for the rear end and check again.

Congratulations, installation complete!

Special note: After the completion of the installation, Tuff Country EZ-Ride Suspension recommends taking the vehicle to an alignment shop and having a proper front end alignment performed.

Tuff Country EZ-Ride Suspension recommends that a complete re-torque is done on all bolts associated with this suspension system. It is the customers responsibility to make sure that a re-torque is performed on all hardware associated with this suspension system after the first 100 miles of installation. It is also the customers responsibility to do a complete re-torque after every 3000 miles or after every off road use. Neglect of following these steps could cause brackets to come loose and cause serious damage to the suspension system and to the vehicle.

Tuff Country EZ-Ride Suspension packages (2) sets of instruction sheets with this box kit. (1) is for the installer and (1) is for the customer. The (1) for the customer has some post installation procedure literature and it is the installers responsibility to make sure that the customer receives a copy of the installation manual along with the literature.

If you have any questions or concerns, please feel free to contact Tuff Country or your local Tuff Country dealer.



Photo # 1



Photo # 2



Photo # 3



Photo # 4



Photo # 5



Photo # 6

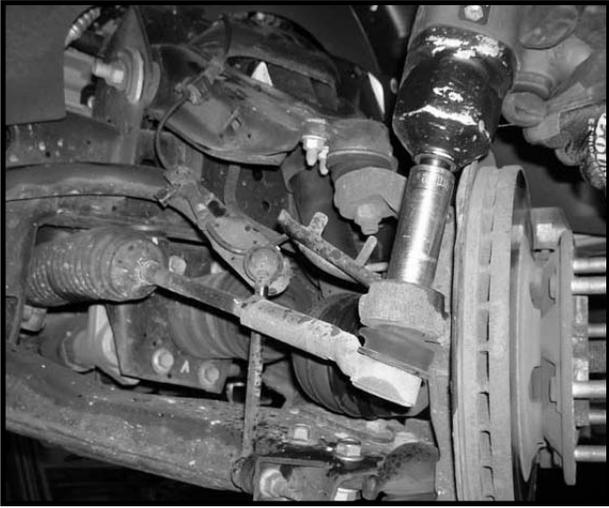


Photo # 7

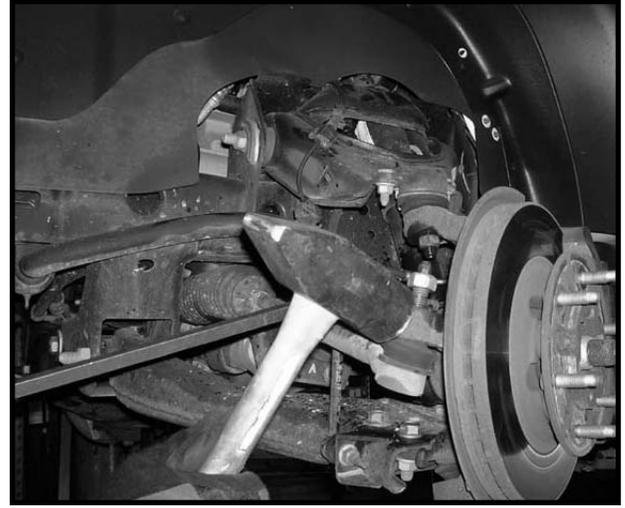


Photo # 8



Photo # 9



Photo # 10



Photo # 11



Photo # 12



Photo # 13



Photo # 14



Photo # 15



Photo # 16

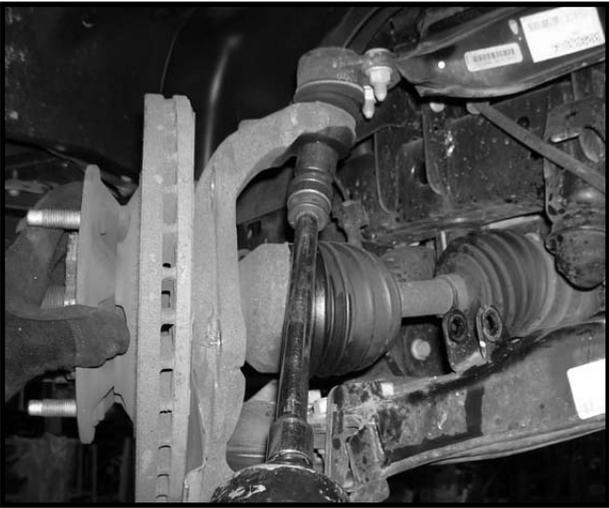


Photo # 17

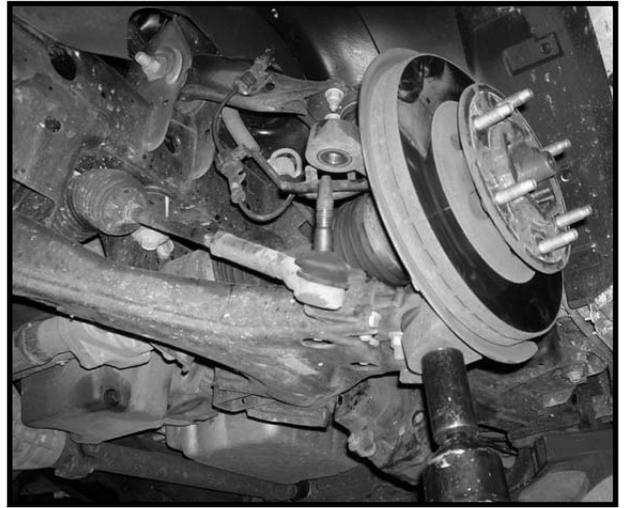


Photo # 18



Photo # 19



Photo # 20



Photo # 21

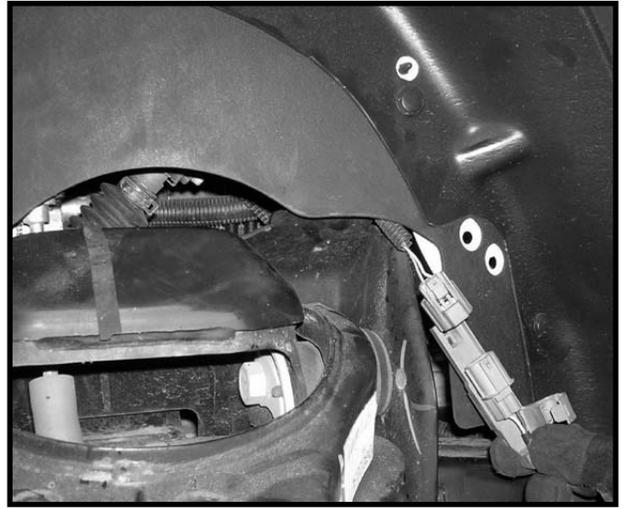


Photo # 22

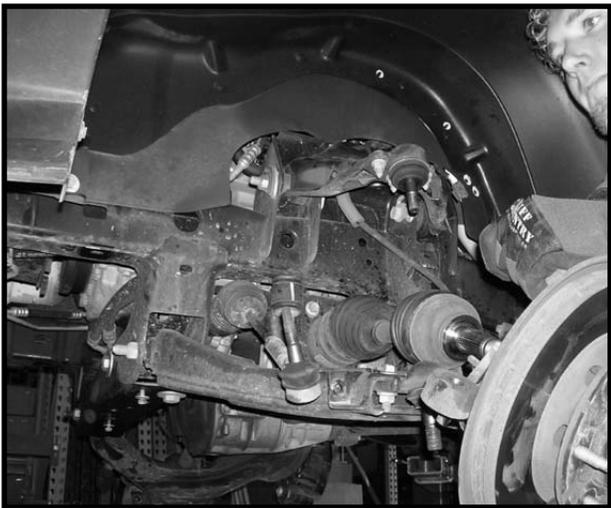


Photo # 23



Photo # 24

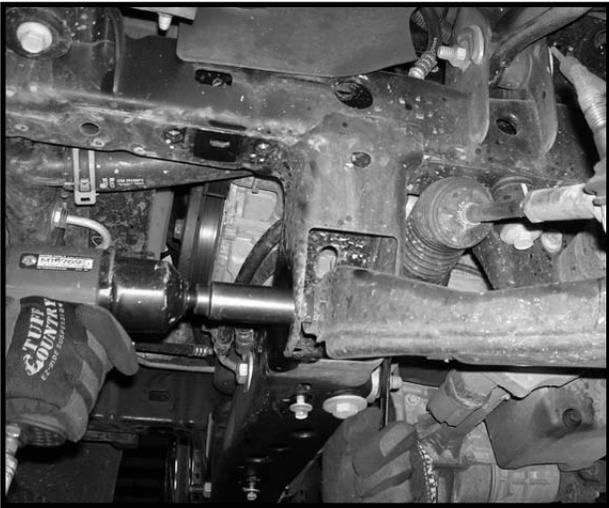


Photo # 25

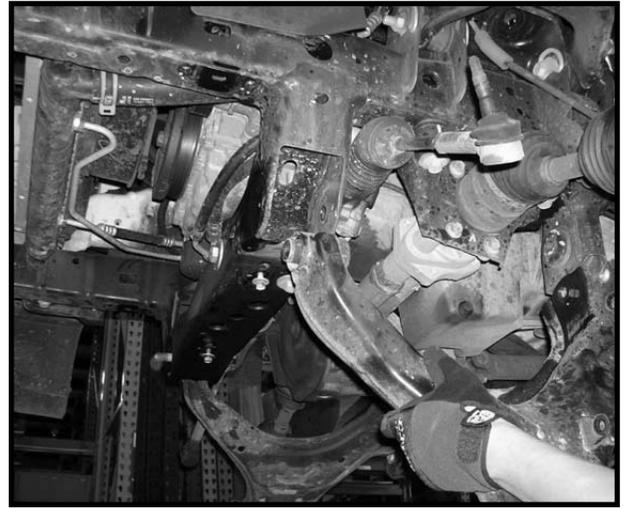


Photo # 26



Photo # 27

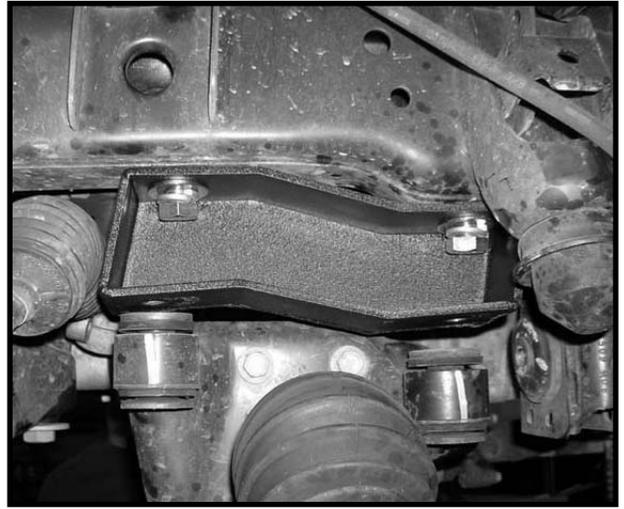


Photo # 28



Photo # 29



Photo # 30

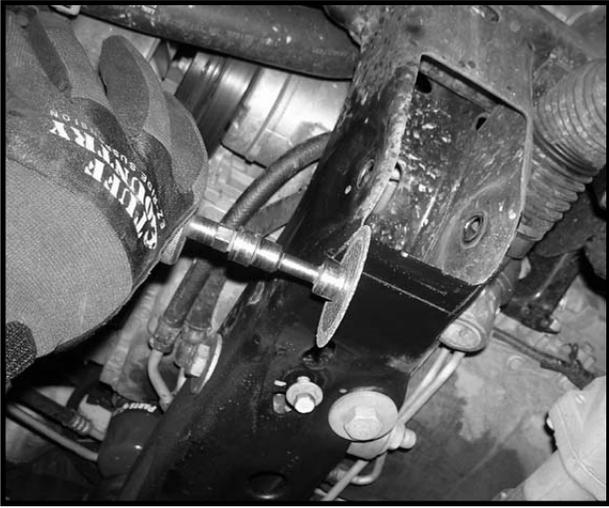


Photo # 31



Photo # 32



Photo # 33

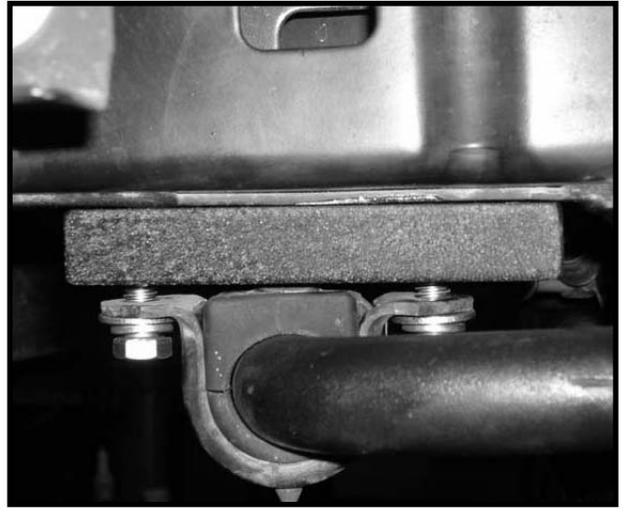


Photo # 34



Photo # 35

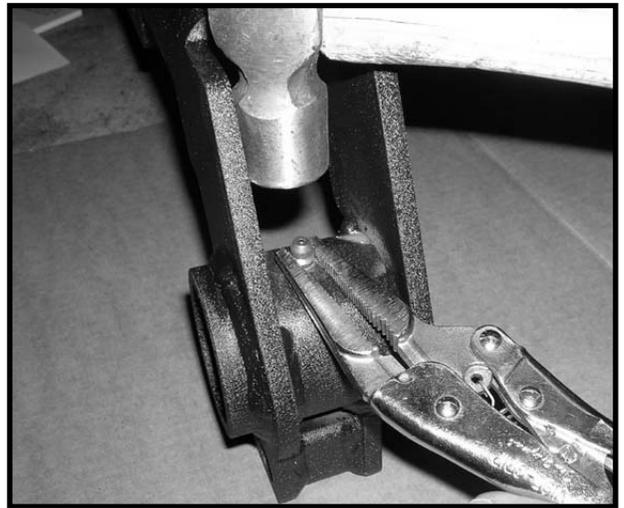


Photo # 36



Photo # 37

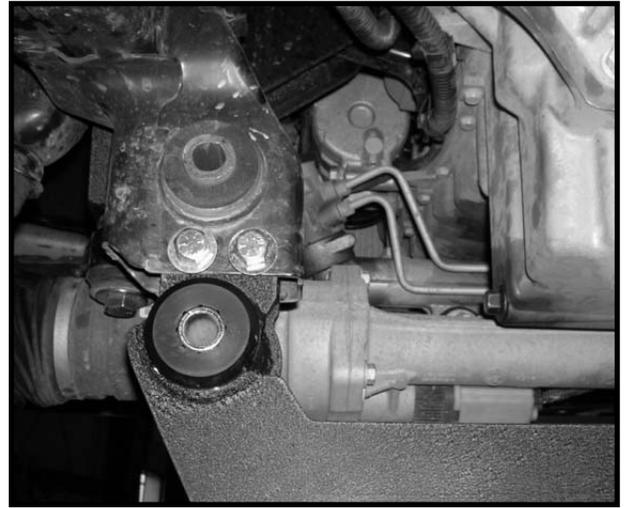


Photo # 38

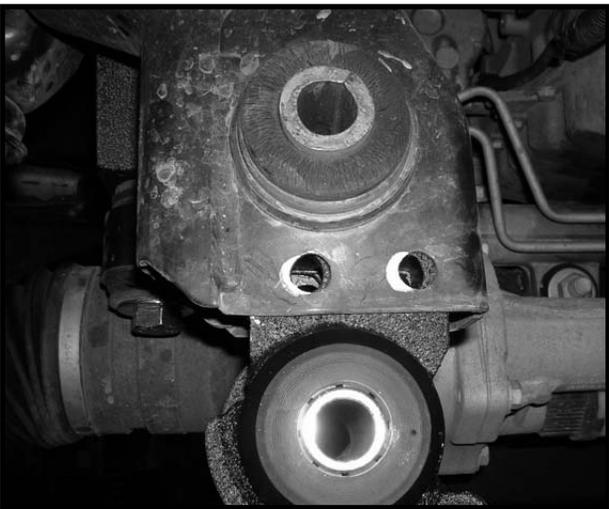


Photo # 39

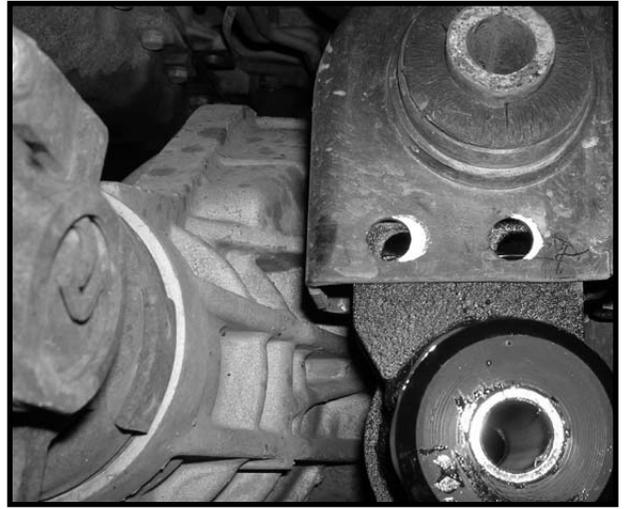


Photo # 40



Photo # 41



Photo # 42

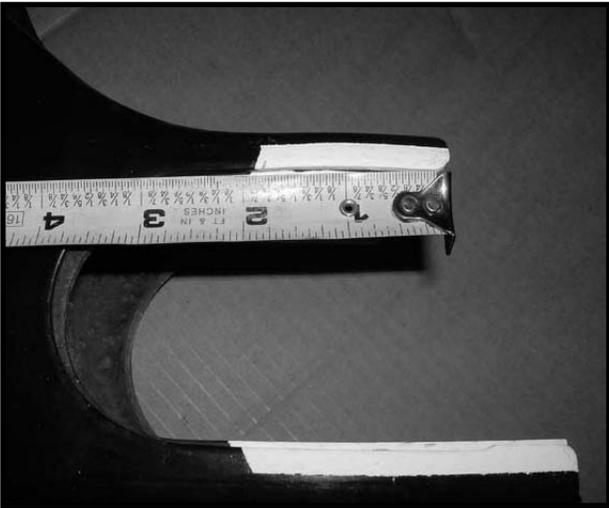


Photo # 43

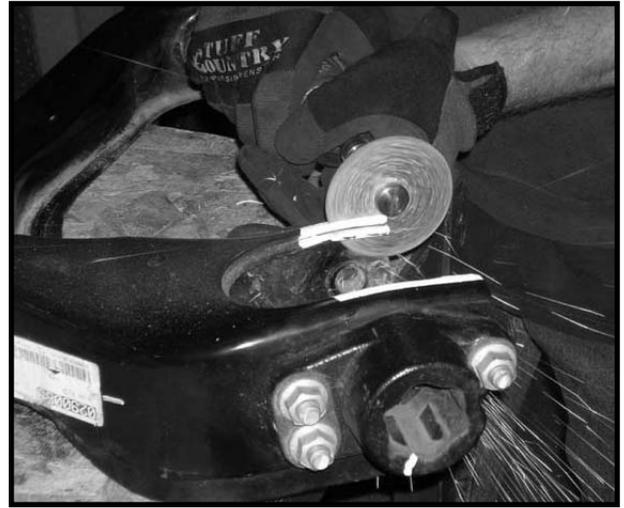


Photo # 44



Photo # 45



Photo # 46



Photo # 47



Photo # 48



Photo # 49



Photo # 50



Photo # 51

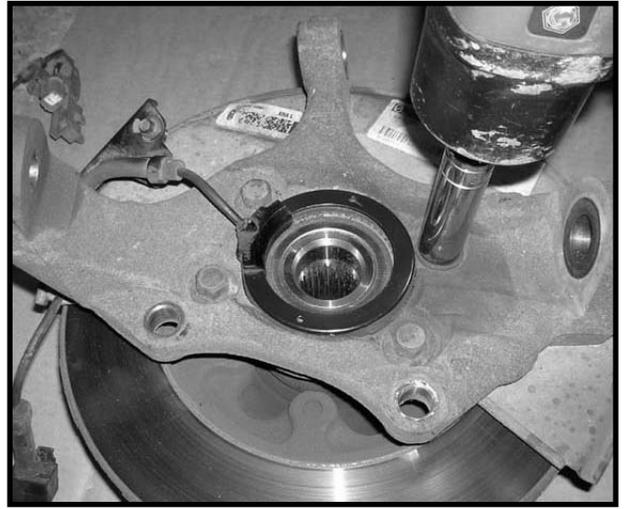


Photo # 52

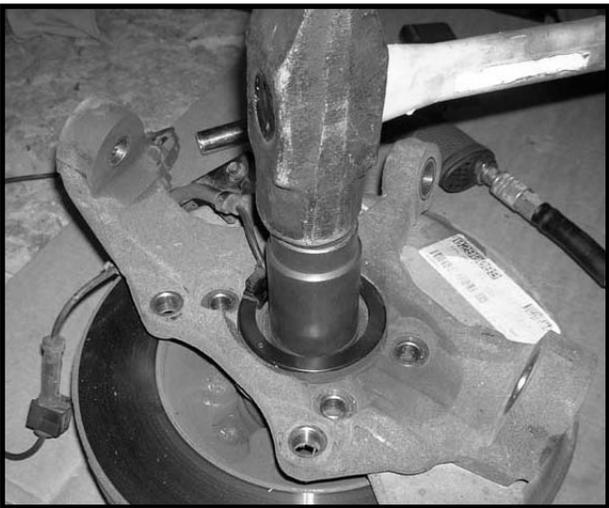


Photo # 53



Photo # 54



Photo # 55

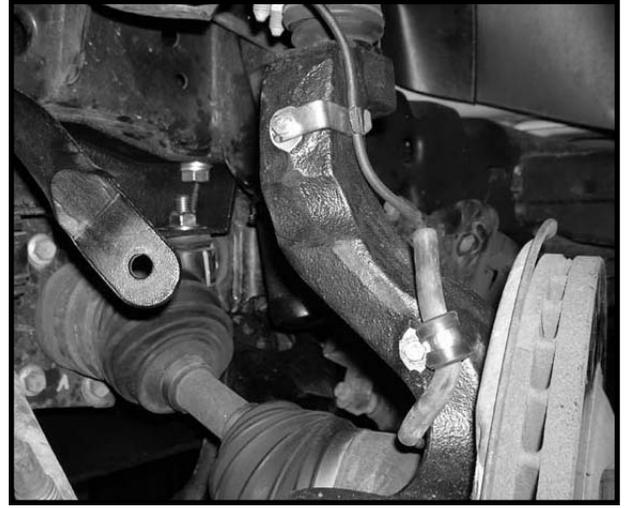


Photo # 56



Photo # 57

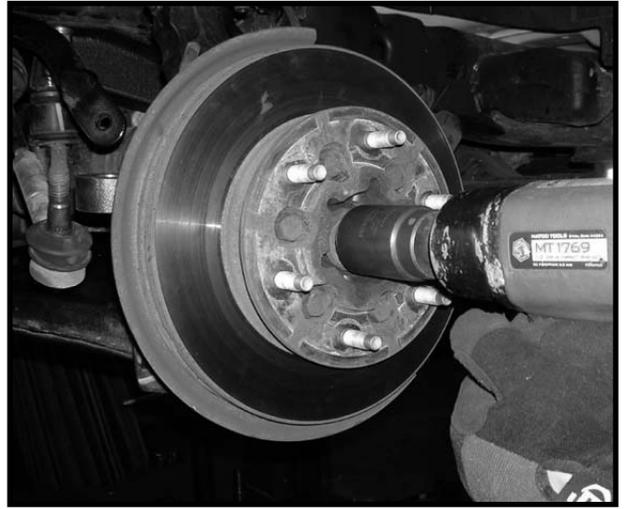


Photo # 58



Photo # 59

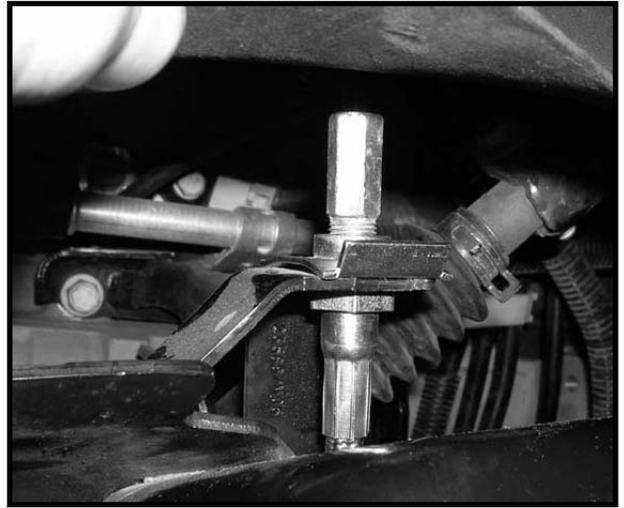


Photo # 60

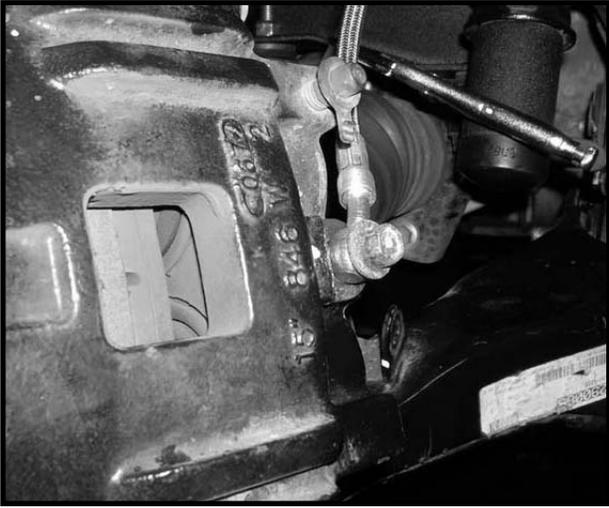


Photo # 61



Photo # 62



Photo # 63

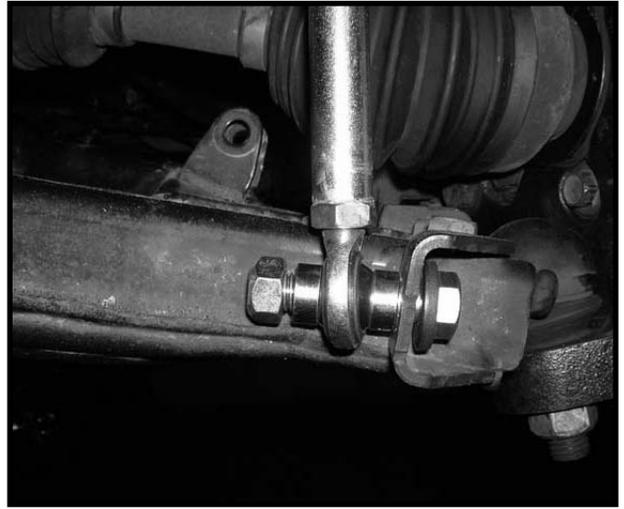


Photo # 64

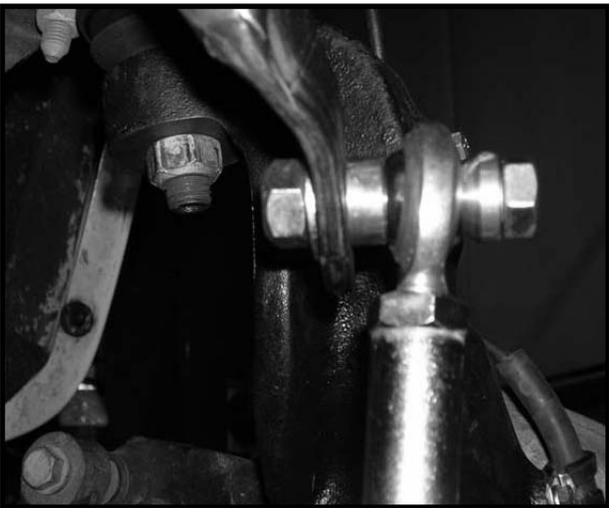


Photo # 65



Photo # 66



Photo # 67



Photo # 68

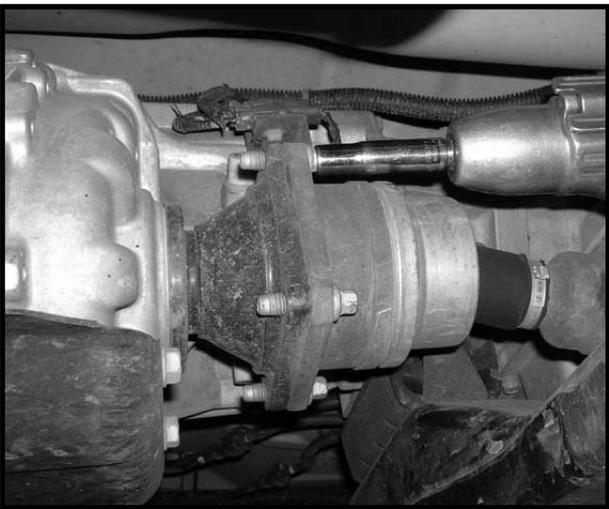


Photo # 69



Photo # 70



Photo # 71



Photo # 72



Photo # 73



Photo # 74



Photo # 75



14045-01 (1)
Driver side knuckle



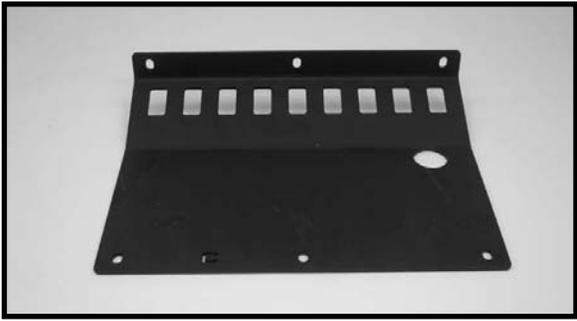
14045-02 (1)
Passenger side knuckle



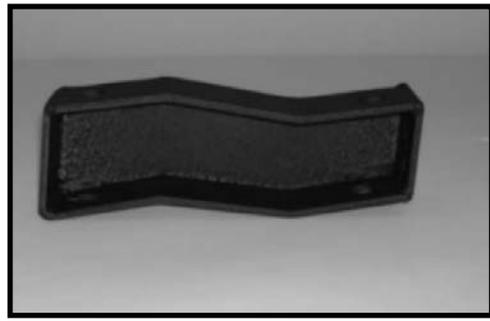
14045-03 (1)
Front cross member



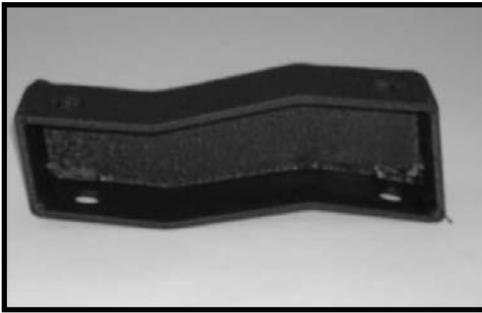
14045-04 (1)
Rear cross member



14045-05 (1)
Front lower skid plate



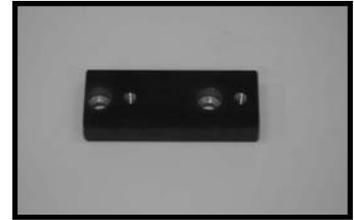
14045-06 (1)
DS differential relocation bracket



14045-07 (1)
PS differential relocation bracket



14045-08 (2)
ABS brackets



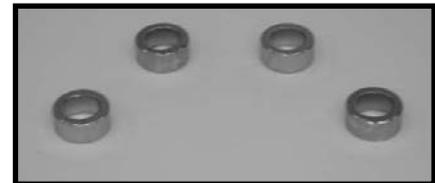
14045-09 (2)
Sway bar brackets



14045-10 (2)
Bump stop brackets



14045-11 (1)
Front drive shaft spacer



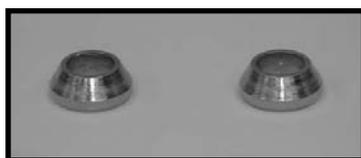
S10118 (4)
Spacer sleeves



TCI-R26 (2)
Rear add-a-leaves



S10116 (4)
Heim joints



S10123 (2)
Spacer sleeve



S10124 (2)
Milled sleeves