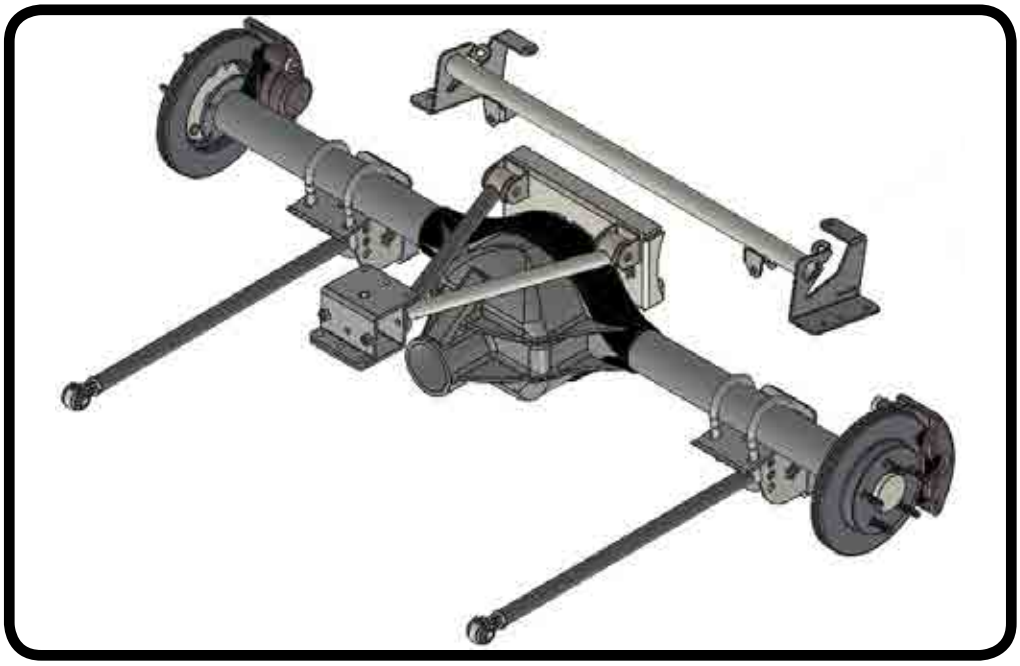
ridetech

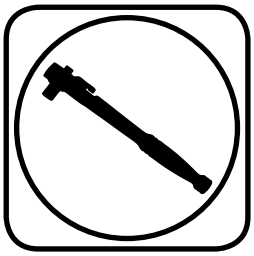
Installation Instructions

Part # 11397199

1982-2002 S10/S15 Rear Bolt-On Wishbone Suspension System



Recommended Tools



1982-2002 S10/S15 Rear Suspension

Installation Instructions

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NOTE: Due to the various locations of the emissions equipment, etc. over the years, you may need to relocate items such as the charcoal canister, fuel lines, brake lines, and electrical wiring. A little thought and care goes a long way here! Typically the fuel lines, brake lines and wiring can be simply moved aside if they are in the way, while the charcoal canister may need to be repositioned entirely.

R-JOINT

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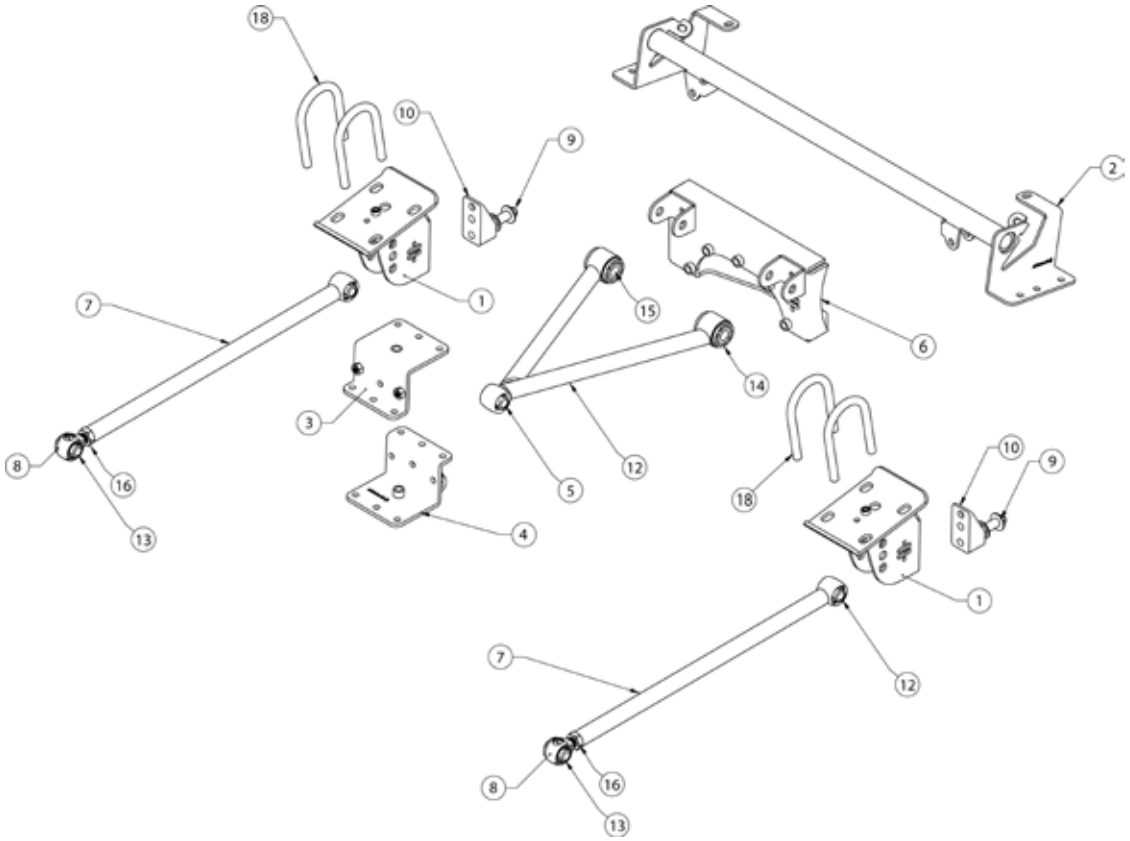
Major Components .....In the box

Item #	Part #	Description	QTY
1	90002901	Lower Axle Bracket	2
2	90002902	Rear Upper ShockWave/CoilOver Mount Crossmember	1
3	90000387	Upper Wishbone Crossmember Bracket - Front Half	1
4	90002904	Upper Wishbone Crossmember Bracket with Mount - Rear Half	1
5	90002870	Rear Upper Wishbone	1
6	90002903	Rear Upper Control Arm Differential Mount	1
7	90002869	Lower Bars - Set to 26 1/4"	2
8	70013364	RH R-Joint Threaded Housing	2
9	90001617	5/8" Shock Stud	2
10	90001624	Aluminum Lower Shock Mount	2
11	90002067	Lower Shock Bearing Spacers	4
12	70013540	Narrow R-Joint Spacers (680" Long) - upper control arm and rear lower bar	6
13	70013768	Wide R-Joint Spacer (1.240" Long) - Lower Bars - front lower	4
14	70010759	Delrin Bushings - installed in upper control arm	4
15	90002895	Delrin Bushing Inner Sleeves - installed in upper control arm	2
16	99752004	3/4"-16 Jam Nut - Installed on Upper Control Arm	2
17	90001083	Short Bumpstops with Hardware	2
18	99566004	U-Bolt- 9/16-18 x 3.13 x 5 w/2" Thread	4
R-Joint Components - (Installed in bar ends and front of wishbone)			
	70013279	Retaining Ring	5
	70013280	Wavo Wave Spring	5
	70013275	R-Joint Center Ball	5
	70013276	R-Joint Composite Center Ball Cage	5

New R-Joints will be quite stiff (75-90 in/lbs breakaway torque) until they "break in" after a few miles of use. After the break in period they will move much more freely. Because the composite bearing race contains self lubricating ingredients, no additional lubrication is needed or desired. Any additional lubrication will only serve to attract more dirt and debris to the R-Joint and actually shorten its life.

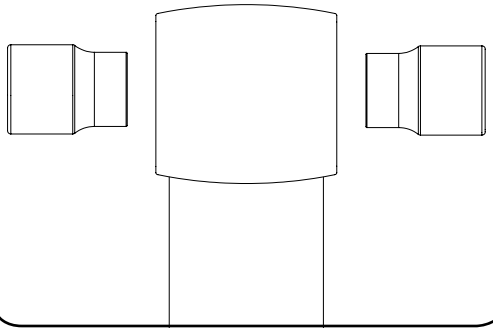
Major Components .....In the box



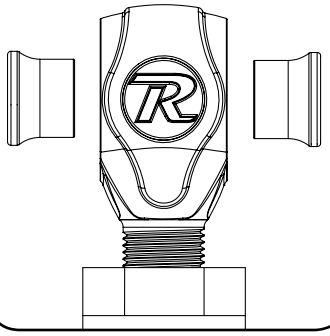
R-JOINT SPACER INSTALLATION

Install the Spacers by inserting the SMALL side of the SPACER into the Center Pivot Ball. Push them in until they bottom out and stop.

LOWER FRONT R-JOINT



ALL OTHER R-JOINTS



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Hardware List .....In the box (Kit# 99010082)

The Hardware Kit contains bags to help aid in selecting the correct hardware for the component being installed. The hardware list shows how the hardware is bagged.

QTY	Part Number	Description
WISHBONE FRONT CROSSMEMBER MOUNT		
6	99371004	3/8"-16 x 1 1/4"
12	99373003	3/8" Flat Washer
6	99372002	3/8"-16 Nylok Nut
4	99431001	7/16"-14 x 1"
UPPER WISHBONE DIFFERENTIAL MOUNT		
5	99311022	5/16-18 x 1 3/4" Hex Bolt
5	99313001	5/16" Flat Washer
5	99313005	5/16" Split Lock Washer
UPPER SHOCK MOUNTING		
2	99501050	1/2" x 2 1/2" USS Bolt Gr. 8
2	99502009	1/2" USS Nylok Nut Gr. 8
4	99503012	1/2" SAE Flat Washer Gr. 8
UPPER CONTROL ARM MOUNTING		
1	99621004	5/8"x 3" SAE Gr. 8 Bolt
3	99622006	5/8" SAE Nylok Jam Nut
6	99623001	5/8" SAE Flat Washer
2	99621005	5/8 x 3 1/2" Hex Bolt
AXLE BRACKET TO AXLE		
8	99562010	9/16" SAE High Nut
8	99566003	9/16" SAE Flat Washer

QTY	Part Number	Description
LOWER 4LINK BARS		
2	99561012	9/16" x 4 1/2" SAE GR8 Bolt
4	99566003	9/16" SAE Flat Washer
2	99562003	9/16" SAE Nylok Nut
2	99621004	5/8"x 3" SAE Gr. 8 Bolt
2	99622006	5/8" SAE Nylok Jam Nut
4	99623001	5/8" SAE Flat Washer
UPPER CROSSMEMBER		
10	99371004	3/8"-16 x 1 1/4" Hex Bolt
20	99373003	3/8" Flat Washer
10	99372002	3/8"-16 Nylok Nut
BRAKE LINE JUNCTION BLOCK		
1	99311003	5/16"-18 x 1 1/2" Hex Bolt
2	99313002	5/16" Flat Washer
1	99312003	5/16"-18 Nylok Nut
LOWER SHOCK MOUNT		
2	99501019	1/2"-13 x 1 1/4" Hex Bolt
2	99501046	1/2"-13 x 1 3/4" Hex Bolt
4	99502001	1/2"-13 Nylok Nut
4	99503001	1/2" SAE Flat Washer

Disassembly

Congratulations on your purchase of the Ridetech Rear Wishbone System. This system has been designed to give your truck excellent handling along with a lifetime of enjoyment. Some of the key features of this system: 3Link setup to replace the leaf spring and provide better control of the rear axle, upper wishbone to eliminate the side-to-side movement of the differential, R-joints for excellent wear and quiet operation, and the biggest feature of all, it allows the use of ShockWaves or CoilOvers.

Note: This system is designed for use with the Ridetech ShockWaves or CoilOvers. **The factory shocks and springs or the factory sway bar will not fit this 4Link.**

Getting Started.....

1. Raise the truck to a safe and comfortable working height and support it by the frame. You will need to be able to raise and lower the differential. Use a jack under the rear differential so it can be raised and lowered as needed during the install.

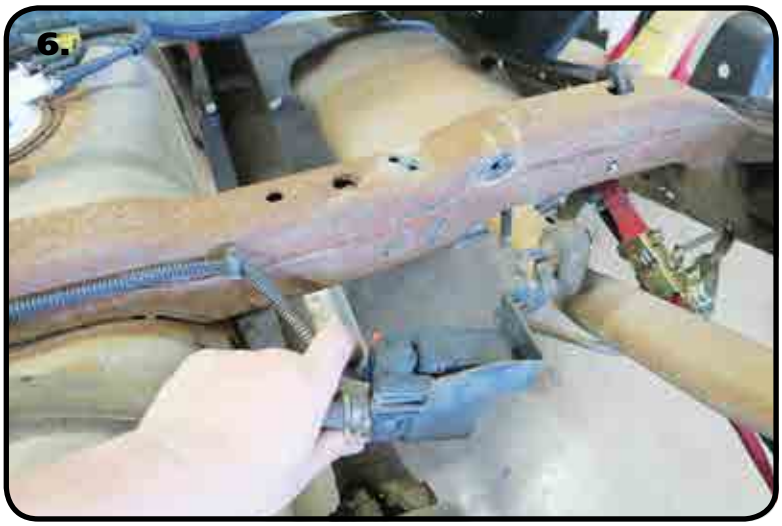
2. Remove the bed, retaining the hardware for reassembly. This kit can NOT be installed with the bed on.

3. Remove the leaf springs and shock absorbers. Refer to the factory service manual for proper disassembly procedures. If the Truck has the ZQ8 suspension package, the horizontal shock absorber will need to be removed.

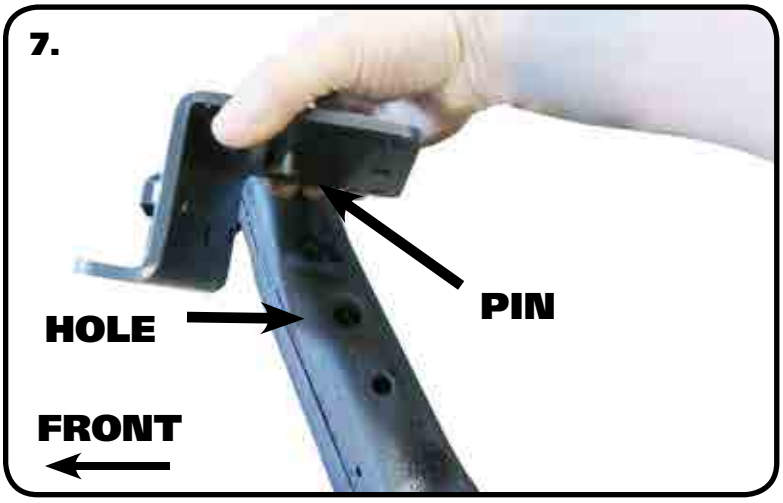
4. Remove the OEM bumpstop and bracket. A die grinder with a cutoff wheel works well for this. We use the cutoff wheel to cut the weld, taking care to not cut into the frame.

5. Grind the frame smooth after removing the bumpstop bracket. We recommend painting the area to prevent future rust.

Crossmember Wishbone Mount Installation



6. If your truck came equipped with the emissions module mounted at the center of the gas tank crossmember, it will need to be relocated. The emissions control locations vary through the years.



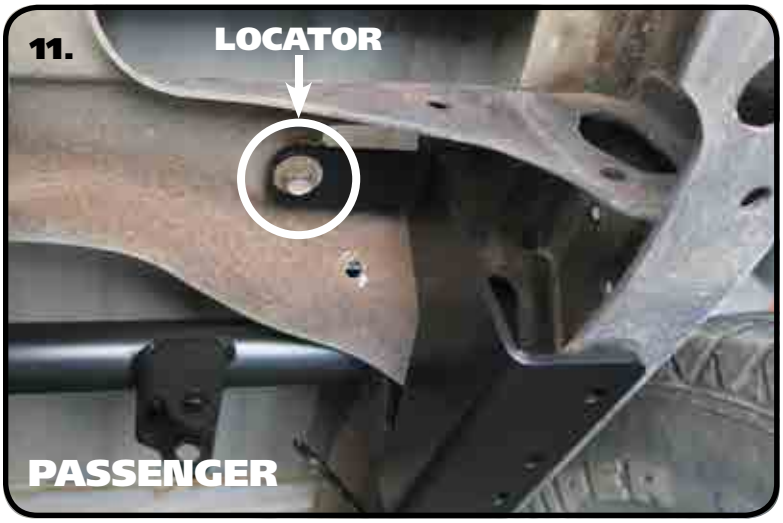
7. The Wishbone Crossmember Mount uses the Hardware Bag labeled "Wishbone Front Crossmember Mount". Use **Images 7 - 10** as a reference for installing the front Wishbone Mount. It sits on top of the gas tank crossmember with the **PIN** engaged into the **CENTER HOLE** of the crossmember. The Wishbone Mounting Point is to the REAR of the truck. In **Image 7**, the installer is lining up the pin with the locating hole in the crossmember.

8. The Front portion of the Wishbone Mount sits on top of the gas tank crossmember.

Crossmember Wishbone Mount Installation

9. The Rear half of the Wishbone Mount is installed against the bottom of the gas tank crossmember with the PIN ENGAGED IN THE HOLE. The Rear Half has the Wishbone Mounr built into it. The 2 halves are bolted together using (6) 3/8"-16 x 1 1/4" Hex bolts, (6) 3/8"-16 Nylok Nuts, & (12) 3/8" SAE Flat Washers. Install a Flat Washer on each on the (6) Bolts. Hold the front half of the Wishbone Mount in place and insert a bolt/washer in each of the (6) holes. Install a 3/8" SAE Flat Washer and Nylok Nut on each of the Bolts. Torque to 30 ftlbs.

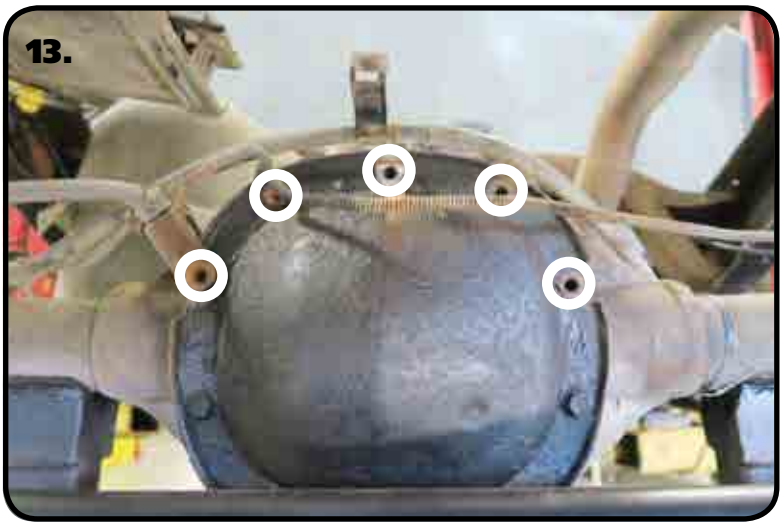
10. The Wishbone Mount has (2) 7/16"-14 Threaded Holes, front and rear. These are used if the Wishbone Mount fits the crossmember loosely. If it is loose, install a 7/16"-15 x 1" Bolt into each hole. Tighten the Bolts until the Mount is fitting tightly on the crossmember.



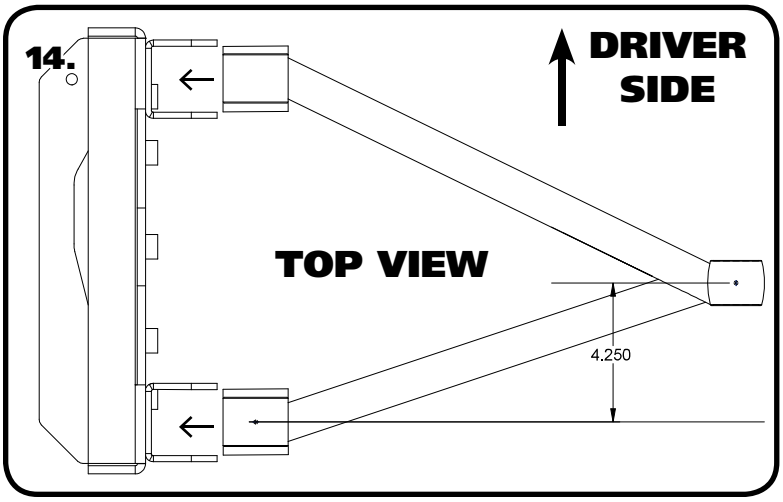
11. Upper Crossmember Installation. The Upper Crossmember uses the Hardware Bag labeled "Upper Crossmember". The Upper Crossmember locates off the OEM upper shock holes. Remove the OEM u-nuts from the shock mounting holes, if equipped. Holding the Crossmember in position, bolt the locating tabs to the shock mounting holes using (1) 3/8"-16 x 1 1/4" Bolt, (2) 3/8" Flat Washers, & (1) 3/8"-16 Nylok Nut in each locating tab. Snug the hardware down, but do not tighten at this time.

Upper Crossmember Installation

12. You will need to drill the (3) bottom holes & (1) top hole using the crossmember as a template. Use a drill with a 3/8" Drill Bit. The top holes will need to be drilled from the top side. Drill the (4) holes in the driver and passenger sides. Install a 3/8" Flat Washer on each of the (8) remaining 3/8"-16 x 1 1/4" bolts. Insert each of them into one of the drilled holes. Install a 3/8" Flat Washer and 3/8"-16 Nylok Nut on each bolt. Torque to 30 ftlbs. Also, Torque the (2) that were installed into the shock holes.



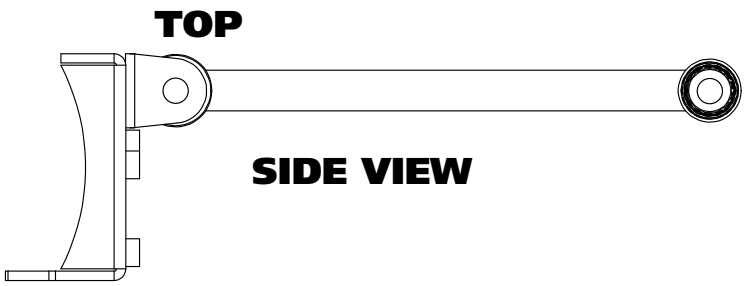
13. Remove the **TOP 5** Bolts from the differential cover. These are Circled in **Image 13**. Also remove the mounting bracket from the brake line distribution "T".



14. The Upper Wishbone front R-Joint is offset to the passenger side. Use **Images 14 & 15** as a reference for assembling the Upper Wishbone to the Wishbone Axle Mount. Slip the wishbone into the Mount with the Front R-Joint offset to the passenger side.

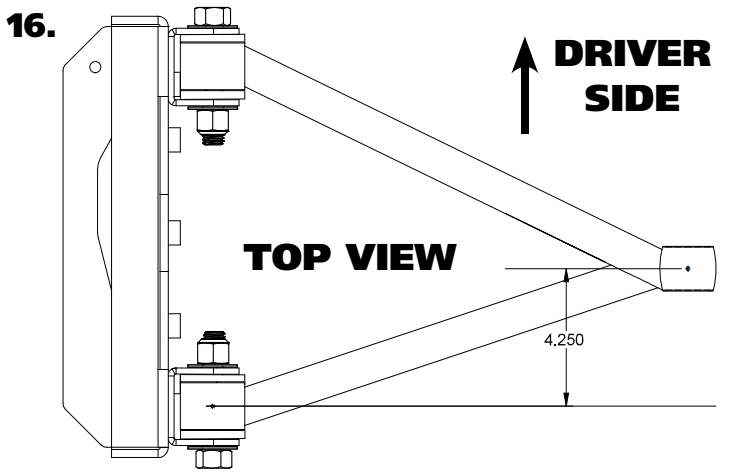
Wishbone Installation

15.



15. The Wishbone Mounts are to the TOP of the Axle Mount. Insert the Wishbone into the Mount lining up the holes in the mount with the Inner Bushing Sleeves.

16.



16. Using the Hardware Bag "Upper Wishbone Mounting", install a 5/8" Flat Washer on each of (2) 5/8"-18 x 3 1/2" Bolts. Install each Bolt/Washer from the outside. With the bolts installed, install a 5/8" Flat Washer & 5/8"-18 Nylok Nut on each bolt. Tighten the Bolts/Nuts enough to eliminate any gaps.

17. Line the 5 holes in the Axle bracket with the 5 holes the bolts were removed from in Step 11. Using the Hardware Bag "Upper Wishbone Differential Mount", install a 5/16" Lock Washer, followed by a 5/16" Flat Washer on each of the (5) 5/16"-18 x 1 3/4" Bolts. Thread a Bolt into each of the 5 holes. Torque the bolts to 25 ftlbs.

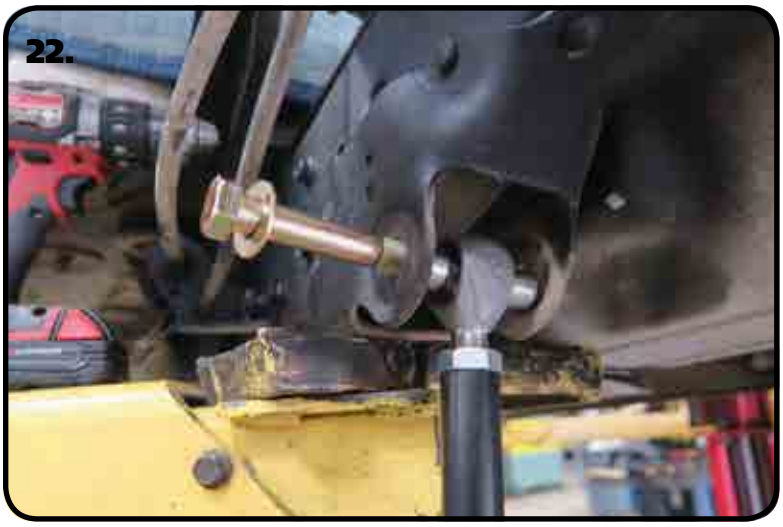
Wishbone & Lower Mount Installation

18. Using the Hardware Bag "Brake Line Junction Block", install a 5/16" Flat Washer on a 5/16"-18 x 1 /2" Bolts. Insert the bolt/washer through the junction block and mounting hole in the differential bracket. Install a 5/16" Flat Washer & 5/16"-18 Nylok Nut on the threads of the bolt. The brake lines will need to be tweaked to get the distrubution block in posistion. Torque the bolts to 25 ftlbs.

19. Insert a Narrow R-Joint Spacer (.680") into each side of the front R-joint of the Wishbone. Using the Hardware Bag "Upper Wishbone Mounting", install a 5/8" Flat Washer on a 5/8"-18 x 3" Bolt. Line up the R-Joint with the Front Wishbone Mount. Insert the bolt/washer in the lined up r-joint/mount. With the bolt installed, install a 5/8" Flat Washer & 5/8"-18 Nylok Nut on the bolt. Tighten the Bolts/Nuts enough to eliminate any gaps.

20. The Axle Mounts are the same for driver and passenger sides. Install the supplied 9/16" U-bolts on each side of the OEM leaf spring pads. Slide an Axle Mount on the U-bolts with the center pin inserted into the leaf spring pad. The hardware bag is labeled "Lower Axle Bracket to Axle". Hold the mount in place and install a 9/16" Flat Washer and 9/16" High Nut on the threads of the u-bolts sticking through the axle mount. Tighten the nuts evenly in a crisscross fashion making sure the center pin is engaged into the leaf spring pad. Torque the nuts in a crisscross fashion to 60 ftlbs. Repeat on the other side.

Lower Mount & Lower Bar Installation



21. The Hardware Bag for the Lower Shock Mount is labeled "Lower Shock Mounting". The Lower Shock Mount attaches with (1) 1/2"-13 x 1 1/4" Hex Bolt, (1) 1/3"-13 x 1 3/4" Hex Bolt, & (2) 1/2" Flat Washers, & (2) 1/2"-13 Nylok Nuts. The Lower Mount gets attached to the TOP 2 holes of the Axle Mount. Insert the Bolts through the Aluminum Shock Mount with the 1 1/4" long bolt in the top hole, 1 3/4" in the bottom hole. Insert the bolts through the TOP 2 holes of the Axle Mount and install the Flat Washers & Nylok Nuts on the Threads sticking through. Repeat on both sides and torque the Bolts/Nuts to 75 ftlbs. Install a 5/8" Flat Washer onto the 5/8"-18 threads of the shock stud. Apply Red Loctite to the 5/8" threads of the stud. Thread the Shock Stud into the threaded hole of the Lower Mount. Repeat on both sides and torque the Shock Stud to 65-75 ftlbs.

22. The hardware bag for the lower bars is labeled "Lower Link Bars". Insert the long R-Joint Spacers (1.240" long) into the front of the lower bar with the small OD inserted into the R-joint. Insert the Front Lower Bar R-Joint into the Front Leaf Spring Mount. Line the through hole of the R-Joint with the holes of the leaf spring mount. Install a 9/16" Flat Washer on to a 9/16"-18 x 4 1/2" Hex Bolt, insert into the lined up holes. Install a 9/16" Flat Washer followed by a 9/16"-18 Thin Jam Nylok Nut. Repeat on both sides and tighten the Bolts/Nuts enough to eliminate any gaps.

23. The rear of the Lower Bar gets bolted into the center set of holes. Insert 2 narrow R-Joint Spacers (.680" long) into the R-Joint of one end of each Lower Bars. Insert the Rear Lower Bar R-Joint into the Lower Axle Bracket. Line the through hole of the R-Joint with the holes of the Axle Bracket. Install a 5/8" Flat Washer on to a 5/8"-18 x 3" Hex Bolt, insert into the lined up holes. Install a 5/8" Flat Washer followed by a 5/8"-18 Thin Jam Nylok Nut. Repeat on both sides and tighten the Bolts/Nuts enough to eliminate any gaps.

ShockWave/CoilOver Installation

24. Insert the 1/2" ID Shock Bearing Spacer into each side of the ShockWave/CoilOver Bearing. Install a 1/2" Flat Washer on a 1/2"-13 x 2 3/4" Bolt. Insert the top of the shock into the shock mount on the upper crossmember with the adjusting knob to the inside. Line up the holes and insert the bolt/washer. Install a 1/2" Flat Washer and 1/2"-13 Nylok Nut on the threads and tighten to 50 ftlbs.

25. The Shock Stud requires Bearing Spacers that are .400" long (90002067). Install a 5/8" ID 90002067 spacer **(Small side towards shock body)** onto the lower Shock Stud. Slide the bottom of the Shock onto the Stud. Install a second 5/8" ID 90002067 Spacer onto the Stud **(small side towards shock)**. You may need to jack the rear end up to Slide the Shock onto the Stud. Install the 7/16" Flat washer and 7/16" Nylok nut. Tighten the upper and lower shock bolts. Torque the Upper Bolt to 50 ftlbs and the Lower Nut to 40 ftlbs. The designed ride height of the CoilOver/Shockwave is 14 1/2" center to center.

26. This particular truck had the emissions canister mounted right behind the gas tank. We had to trim the rear corner off for clearance of the new lowered suspension.