

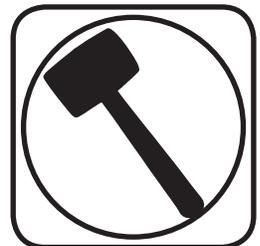


**Part # 11387199**

### 1999-2006 Silverado Rear Bolt-On Wishbone Suspension System



#### Recommended Tools



## 1999-2006 Silverado Rear Suspension Installation Instructions

#### Table of contents

- Page 2-3..... Included Components
- Page 4..... Hardware List & Disassembly
- Page 5..... Disassembly
- Page 6-11..... C-Notch & Wishbone Crossmember Installation
- Page 11..... Crossmember & Lower Axle Mount Installation
- Page 12..... Installing Lower Axle Mount & Lower Bars
- Page 13..... Wishbone Axle Mount Installation
- Page 14..... Wishbone and Shockwave/CoilOvers Installation
- Page 15..... Shockwave/CoilOvers & Carrier Bearing Mount
- Page 16..... Carrier Bearing Mount, E-Brake Cable Relocation
- Page 17-18..... E-Brake Cable Relocation
- Page 18-19..... Bed Modification





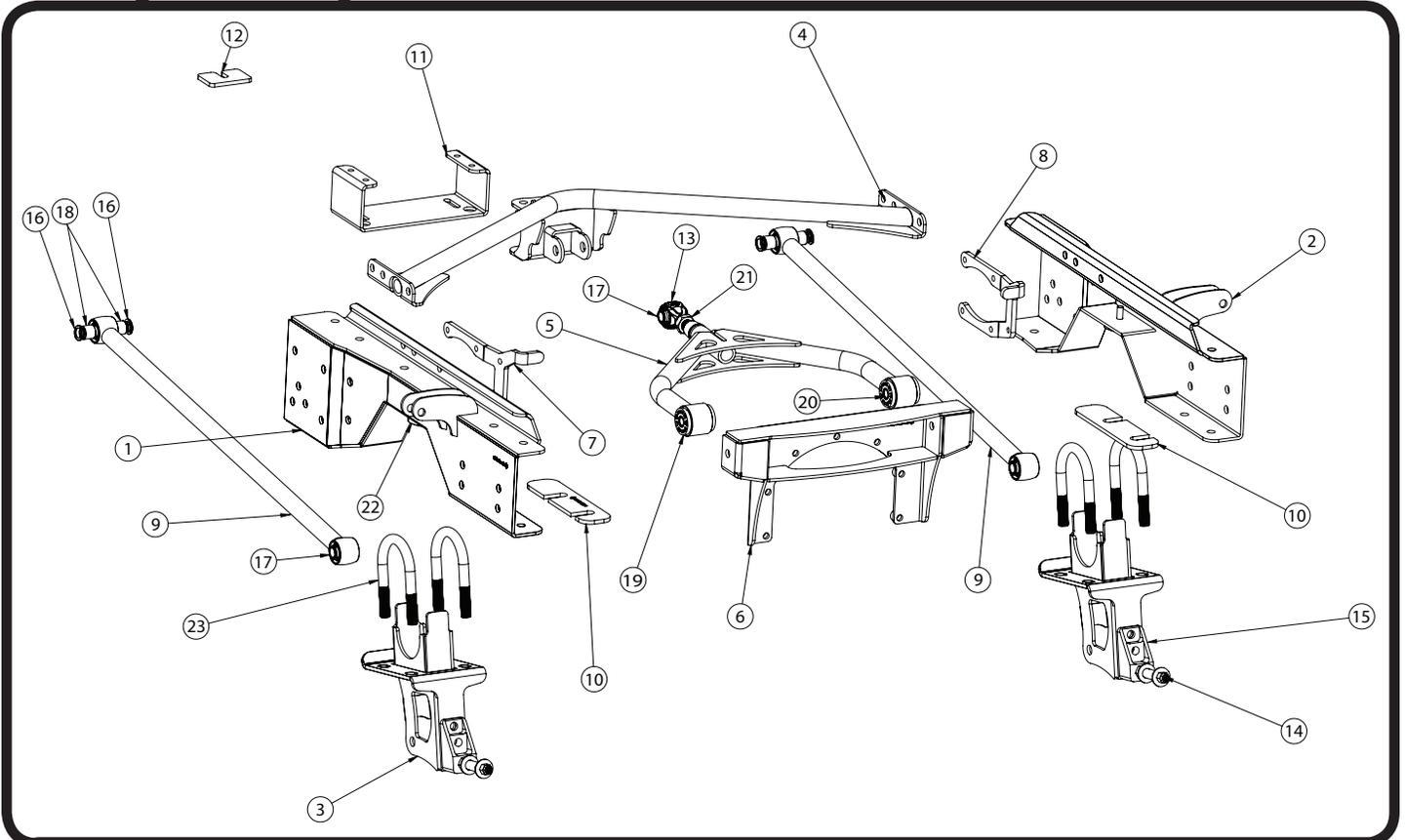
### Major Components .....In the box

Item #	Part #	Description	QTY
1	90000207	Driver C-Notch	1
2	90000208	Passenger C-Notch	1
3	90002776	Lower Axle Bracket	2
4	90002779	Rear Upper Control Arm Mount Crossmember	1
5	90002780	Rear Upper Wishbone - Set to 16 5/8"	1
6	90002781	Rear Upper Control Arm Differential Mount	1
7	90002804	C-Notch Nut Plate - Driver	1
8	90002805	C-Notch Nut Plate - Passenger	1
9	90001038	Lower Bars	2
10	90000311	C-Notch Spacer Plate - <b>1999 &amp; 2000 Trucks</b>	2
11	90000209	Carrier Bearing Spacer - used on carrier bearing equipped trucks	1
12	90000310	Transmission Spacer	1
13	70013364	RH R-Joint Threaded Housing	1
	90001617	5/8" Shock Stud	2
	90001624	Aluminum Lower Shock Mount	2
	90002067	Lower Shock Bearing Spacers	4
	90002883	Lower 4 Link Bar Front T-Bushing	4
	70013334	R-Joint Spacers - upper control arm and rear lower bar	6
	70013769	R-Joint Spacer - Lower Bars - Front	4
	70010827	Delrin Bushings - installed in upper control arm	4
	90000549	Delrin Bushing Inner Sleeves - installed in upper control arm	2
	99752004	3/4"-16 Jam Nut - Installed on Upper Control Arm	1
	90001082	Short Bumpstops with Hardware	2
	70013497	U-Bolt- 5/8-18 x 3.13 x 5 w/2" Thread	4
<b>R-Joint Components - (Installed in bar ends and front of wishbone)</b>			
	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.



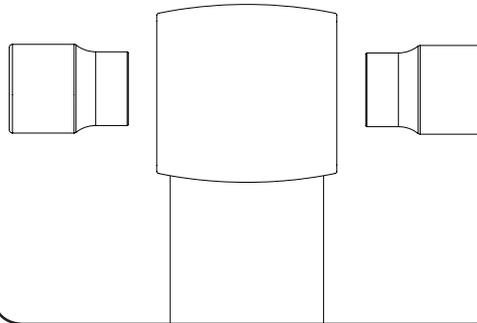
### Major Components .....In the box



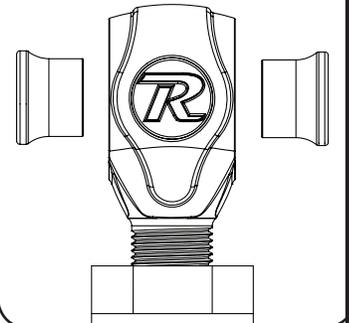
#### R-JOINT SPACER INSTALLATION

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



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.



### Hardware List ....In the box (Kit# 99010080)

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	QTY	Part Number	Description
<b>LOWER 4LINK BARS</b>			<b>UPPER CONTROL ARM DIFFERENTIAL MOUNT</b>		
2	99621007	5/8" x 5" SAE GR8 Bolt	7	99081006	M8 x 35mm Gr10.9
2	99621004	5/8"x 3" SAE Gr. 8 Bolt	7	99083001	M8 Flat Washer
4	99622006	5/8" SAE Nylok Jam Nut	7	99083002	M8 Split Lock Washer
8	99623001	5/8" SAE Flat Washer	<b>UPPER SHOCK MOUNTING</b>		
<b>UPPER CONTROL ARM CROSSMEMBER</b>			2	99501064	1/2" x 2 3/4" USS Bolt Gr. 8
6	99431021	7/16" x 1 1/4" USS Bolt	2	99502009	1/2" USS Nylok Nut Gr. 8
12	99433005	7/16" SAE Flat Washer	4	99503012	1/2" SAE Flat Washer Gr. 8
6	99432010	7/16" USS Nylok Nut	<b>UPPER CONTROL ARM MOUNTING</b>		
2	99501063	1/2"-13 X 4 1/4" Hex Bolt	1	99621004	5/8"x 3" SAE Gr. 8 Bolt
2	99502009	1/2"-13 Nylok Nut	1	99622006	5/8" SAE Nylok Jam Nut
4	99503012	1/2" SAE Flat Washer	2	99623001	5/8" SAE Flat Washer
<b>"C" NOTCH MOUNTING -</b>			2	99501025	1/2"-13 x 3 1/4" Hex Bolt
38	99431021	7/16" x 1 1/4" USS Bolt	2	99502009	1/2"-13 Nylok Nut
26	99432010	7/16" USS Nylok Nut	4	99503012	1/2" SAE Flat Washer
64	99433005	7/16" SAE Flat Washer	<b>CARRIER BEARING MOUNT</b>		
12	99433003	7/16" Split Lock Washer	4	99371003	3/8"-16 X 1" Hex Bolt
<b>LOWER SHOCK MOUNT</b>			4	99372002	3/8"-16 Nylok Nut
2	99501019	1/2"-13 x 1 1/4" Hex Bolt	8	99373003	3/8" SAE Flat Washer
2	99501046	1/2"-13 x 1 3/4" Hex Bolt	<b>AXLE BRACKET TO AXLE</b>		
4	99502001	1/2"-13 Nylok Nut	8	99622013	5/8" SAE High Nut
4	99503001	1/2" SAE Flat Washer	8	99623010	5/8" 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: C-notches to give your suspension the travel it needs at the lowered height, 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, 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.**

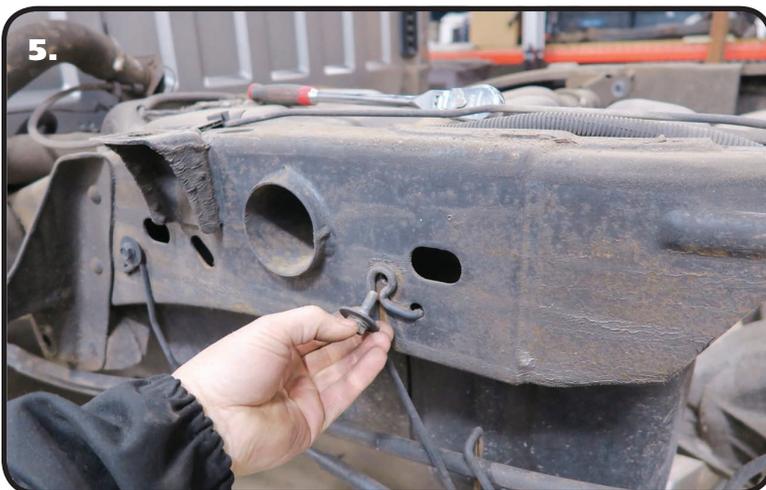


### Disassembly

1. Raise the vehicle to a safe and comfortable working height and support it by the frame. You will need to be able to move the rear differential up and down. Use a jack under the rear axle 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. The bed requires minor modifications before reinstalling it.**
3. Remove the leaf springs and shock absorbers. Refer to the factory service manual for proper disassembly procedures.



4. The Brake Line Bracket will need to be removed from the top of the driver side frame rail. This will be reattached later.



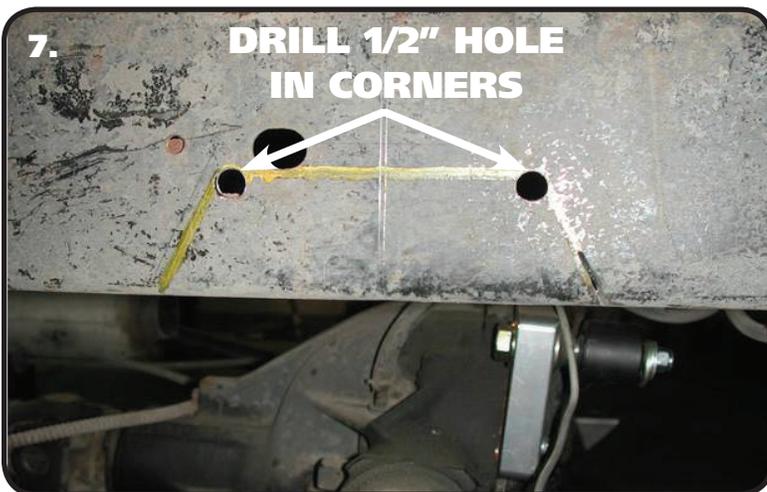
5. Unbolt the emergency brake cable bracket from the driver side frame rail. It is located between the axle and the front leaf spring hanger. Retain the hardware for reassembly.



### "C" Notch Installation



6. To allow maximum drop on this truck, the frame must be notched. The template for the notch will locate off of the 2 large oval holes. Use the supplied "C" Notch template to mark out the frame for cutting. Before cutting out the frame, support the frame in front of and behind the "C" Notch area. We suggest doing one side at a time. The tall end of the template is located to the front of the truck.



7. Use the supplied Template to mark the cut lines on the frame, then drill out the two corners with a 1/2" drill bit. This will give the cut a round edge and eliminate the possibility for stress fractures. Then cut the notch with a saw-z-all, cutoff wheel, or plasma cutter. Grind all edges smooth. Check the inside of the frame for wires or lines before drilling or cutting.



#### 99 ONLY!!!

8. We have come across some frames that have a protrusion stamped in the frame above the axle. This will need to be flattened out to get the c-notch fitting tightly. We did this by extending the horizontal cut forward to the end of the protrusion then cutting straight down to the bottom of the frame. After the frame is cut, use a hammer or vise grips to bend the protrusion flat. Refer to **Image 8**.



### "C" Notch Installation



9. After cutting, slip the c-notch over the frame to check the fitment.



10. The front edge of the C-Notch should be 4 1/2" from the oval hole in front of it. Trim the opening to move the c-notch forward or backward to achieve 4 1/2".



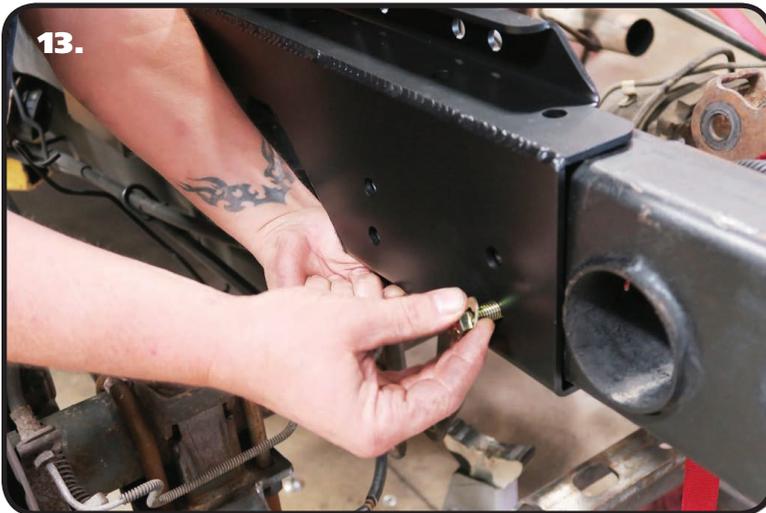
11. Use a 7/16" Drill bit to drill the holes in the side of the frame. DO NOT DRILL THE HOLES WHERE THE EMERGENCY BRAKE CABLE BRACKET BOLTED OR THE TOP AND BOTTOM OF THE C-NOTCH. There are 10 holes in the side that need to be drilled.



### "C" Notch & Upper Crossmember Installation



**12.** After drilling the holes in the side for the frame, remove the C-notch to insert the front nut plate. **Image 12** shows the Driver Nut Plate. The top tab is bent to the inside of the frame to allow it to be held in place. After inserting the nut plate, reinstall the C-notch. Install a 7/16" Lock Washer, & 7/16" Flat Washer on (6) 7/16" x 1 1/4" Bolts. Hold the nut plate in place and insert the bolts/washer through the c-notch and frame threading them into the nut plate. Repeat on the other side. LEAVE THE HARDWARE LOOSE.



**13.** Install a 7/16" Lock Washer, & 7/16" Flat Washer on (4) 7/16" x 1 1/4" Bolts. Install them in the rear 4 holes of the c-notch. Install a 7/16" Flat Washer and 7/16" Nylok Nut on each bolt sticking through the frame. Repeat on the other side. LEAVE THE HARDWARE LOOSE.

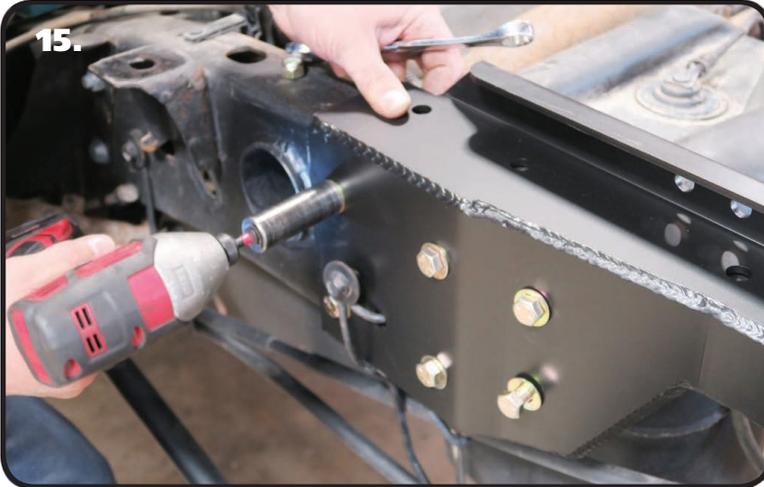
**Repeat Steps 6-13 on the other side.**



**14.** Install the Wishbone cross member. The center mount of the crossmember will slip onto the factory crossmember tube. The driver and passenger flanges will bolt to the front 3 holes of each c-notch. Install a 7/16" Flat Washer on each of (6) 7/16" x 1 1/4" Bolts. Insert (3) bolt/washers in the front (3) holes of the c-notch and through the flange of the crossmember. Install a 7/16" Flat washer and 7/16" Nylok Nut on the threads sticking through the c-notch/flange. DO NOT TIGHTEN.



### "C" Notch Installation



**15.** Tighten all of the c-notch side bolts. After tightening the side bolts, tighten the crossmember bolts. Torque to 50 ftlbs.



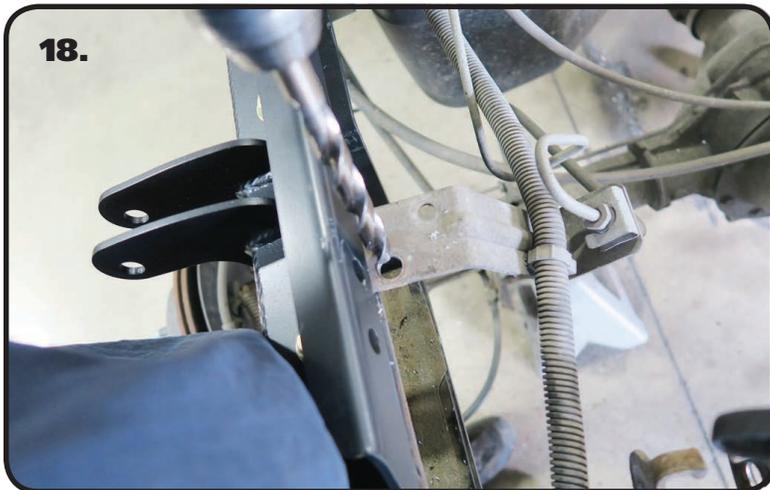
**16.** Reinstall the emergency brake cable bracket using the OEM hardware.



**17.** Use a 7/16" Drill bit to drill the remaining holes in the top and bottom of the frame. Install a 7/16" Flat Washer on the remaining 7/16" x 1 1/4" Bolts. Insert bolt/washers in the drilled holes of the c-notch. Install a 7/16" Flat washer and 7/16" Nylok Nut on the threads sticking through the c-notch/frame. DO NOT TIGHTEN.



### "C" Notch & Crossmember Installation



**18.** Use a 7/16" drill bit to drill out the rear hole of the OEM Brake Line Bracket.



**19.** Remove the nut and washer from the 2nd from rear top bolt of the driver side c-notch. Install the brake line bracket on the bolt and reinstall the nut and washer. **If 1999 - 2000, continue on step 20.** If your truck is 2001 and newer, tighten the top and bottom c-notch hardware to 50 ftlbs then skip to step 21. If 1999 - 2000, continue on step 20.



#### **1999-2000 ONLY**

**20.** The 1999 & 2000 model year trucks have a slightly shorter frame rail height than the newer trucks. The kit includes (2) spacers to fill the gap that is on the bottom rear of the c-notch. Insert a spacer in the gap of the driver and passenger side c-notches. Tighten the top and bottom hardware to 50 ftlbs.



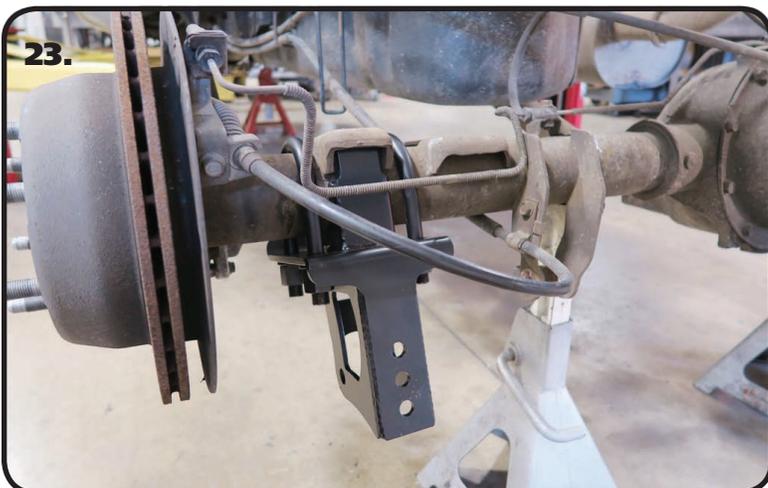
### Crossmember & Lower Axle Mount Installation



**21.** Drill the front 2 Crossmember holes using a 1/2" Drill bit. It is best to drill the top holes from the top and the bottom holes from the bottom. This will insure they line up.



**22.** Install a 1/2" Flat Washer on each of (2) 1/2"-13 x 4 1/4" Bolts. Insert the (2) Bolt/washer in the drilled holes **FROM THE BOTTOM WITH THE THREADS STICKING UP**. Install a 1/2" Flat Washer and 1/2"-13 Nylok Nut on the threads sticking up of each bolt. Torque to 50 ftlbs.



**23.** The Axle Mounts are the same for driver and passenger sides. Install a supplied 5/8" U-bolt on each side of the OEM leaf spring pad. Slide an Axle Mount on the U-bolts with the top tabs inserted into the leaf spring pad. Hold the mount in place and install a 5/8" Flat Washer and 5/8" High Nut on the threads of the u-bolts sticking through the axle mount. Tighten the nuts evenly in a criss-cross fashion making sure the tabs of the axle mount are touching the leaf spring pad evenly. Torque the nuts in a criss-cross fashion to 60 ftlbs. Repeat on the other side.



### Installing Lower Shock Mount & Lower Bars



**24.** 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 Washer, & (2) 1/2"-13 Nylok Nuts. The Lower Mount gets attached to the 2nd and 3rd hole up from the bottom of the Axle Mount. When the Shock Mount is installed correctly, the bottom of the Lower Shock Mount is 1/8" above the bottom 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 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.



**25.** Insert 2 narrow R-Joint Spacers 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 of 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.



**26.** The Kit includes (4) T-busings for the front leaf spring mount. Insert a t-bushing in each front leaf spring mounting hole with the large OD to the outside.



### Wishbone Axle Mount Installation



**27.** Insert the long R-Joint Spacers 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 5/8" Flat Washer on to a 5/8"-18 x 5" 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.



**28.** Insert the rear of the Wishbone into the Axle Bracket lining up the holes. Install a 1/2" Flat Washer on each of (2) 1/2"-13 x 3 1/4" Bolts. Insert them into each Bracket/Bushing hole from the outside with the threads pointing to the center. Install a 1/2" Flat Washer and 1/2"-13 Nylok Nut on the threads of each bolt and tighten to 50 ftlbs.



**29.** Remove the top (7) bolts of the differential cover leaving in the bottom (3). The emergency cable will NOT be reattached to the top bolt of the axle. It will get relocated later.

**IF THE DIFFERENTIAL COVER HAS A GASKET BETWEEN IT AND THE HOUSING, IT WILL NEED TO BE REMOVED AND SEALED WITH RTV SEALANT.** Be sure to refill the differential with the correct gear oil before driving.



### Wishbone & Shockwave/Coilover Installation



**30.** Position the Axle Bracket/Wishbone in place with the wishbone to the front of the truck. Install a 8M Lock Washer & 8M Flat Washer on each of (7) M8 x 40mm bolts. Line up the (7) holes in the axle bracket with the (7) threaded holes of the Differential. Thread the (7) Bolt/washers into each of the holes. Torque to 333 inlbs



**31.** Insert (2) Narrow R-Joint Spacers into each side of the Wishbone's R-Joint with the small OD inserting into the R-Joint. Insert the Wishbone's Front R-Joint into the mount on the crossmember. Line the through hole of the R-Joint with the of holes of the crossmember. Install a 5/8" Flat Washer on to a 5/8"-16 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. Tighten the Bolts/Nuts enough to eliminate any gaps.



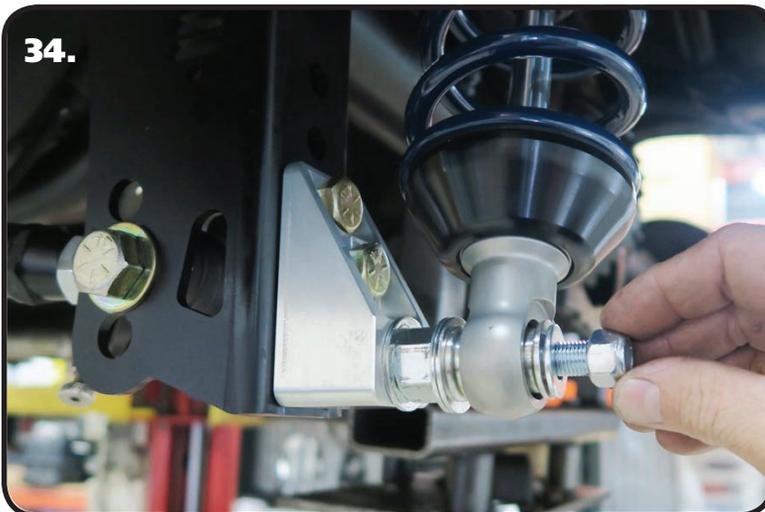
**32.** Insert the 1/2" ID Shock Bearing Spacers into the Bearing of the ShockWave/CoilOver. Install a 1/2" Flat Washer on a 1/2"-13 x 2 3/4" Bolts. Insert the top of the shock into the shock mount on the c-notch with the adjusting knob to the outside. Line up the holes and insert the bolt/washer. Install a 1/2" Flat Washer and 1/2"-13 Nylok Nut on the threads and tighten to 50 ftlbs.



### Shockwaves/Coilovers & Carrier Bearing Mount



**33.** The Shock Stud requires 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 rearend up to Slide the Shock onto the Stud.



**34.** 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.

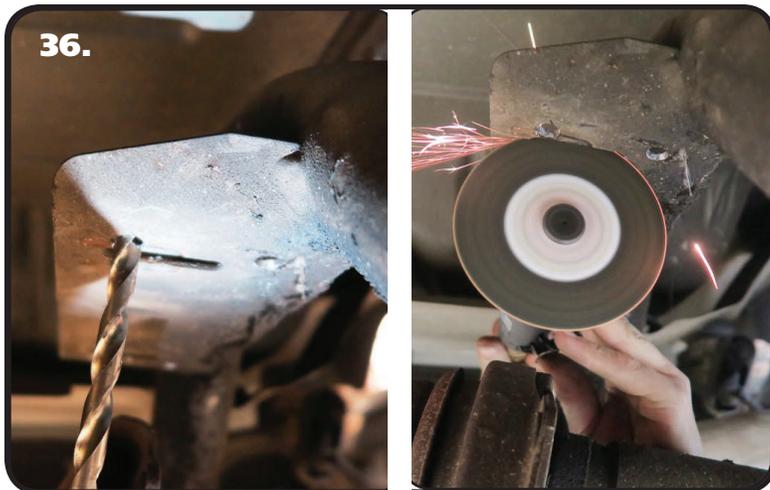


**TRUCKS WITH CARRIER BEARINGS ONLY!  
IF YOUR TRUCK DOESN'T HAVE A CARRIER BEARING, SKIP TO STEP 38**

**35.** The driveshaft carrier bearing will need to be relocated to optimize driveline angles at your new lower ride height. Refer to steps 35-37 for carrier bearing mount installation. Unbolt the carrier bearing retaining the OEM hardware. Center the new mount on the OEM mount. Use the OEM slots as a reference. Mark the holes and the inner edge of the mount.



### Carrier Bearing, Emergency Brake Cable Relocation



**36.** Image 36 illustrates drilling and cutting the OEM carrier bearing mount. Drill the (4) marked holes using a 3/8" drill bit. Cut along the line that was marked along the inner edge of the new mount. This will remove the center of the OEM mount.



**37.** The new carrier bearing bracket is then bolted onto the remaining tabs. Attach the bracket using 3/8"-16 x 1" Bolts, Flat Washers, & 3/8"-16 Nylok Nuts. The carrier bearing mount is rotated 180 degrees and attached to the supplied bracket with the OEM hardware as shown in the picture in **Image 37**. The kit includes a Transmission Spacer that will need to be used in conjunction with the carrier bearing mount. Install it by loosening the hardware that attaches the transmission mount of the transmission crossmember. Jack up the rear of the transmission just enough to slide the spacer in and tighten the hardware.



**38.** Steps 38-43 cover the emergency brake cable relocation. The cables need to be relocated to gain Shockwave/CoilOver clearance. Start by removing the bolt that clamps the passenger side cable to the driver side axle tube. Spread out the clamp to remove it from the cable. Retain the bolt and clamp, they will be reinstalled.



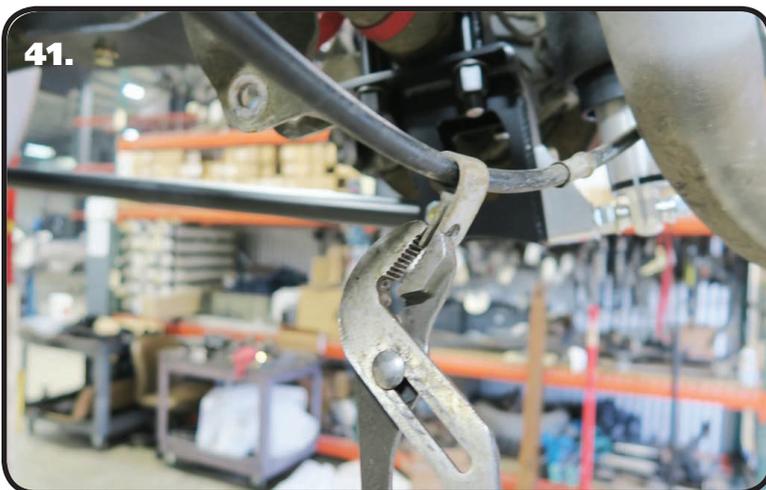
### Emergency Brake Cable Relocation



**39.** Disconnect the top cable from the cable yoke. This can be done by twisting the top of the yoke to the rear enough to get the cable out.



**40.** Disengage the cable from the frame mount and pull it out. The cable runs over the top of the axle from the factory, it needs to be pulled out and rerouted under the axle. Reroute the cable under the axle and reinsert in into the frame mount and connect to the yoke.



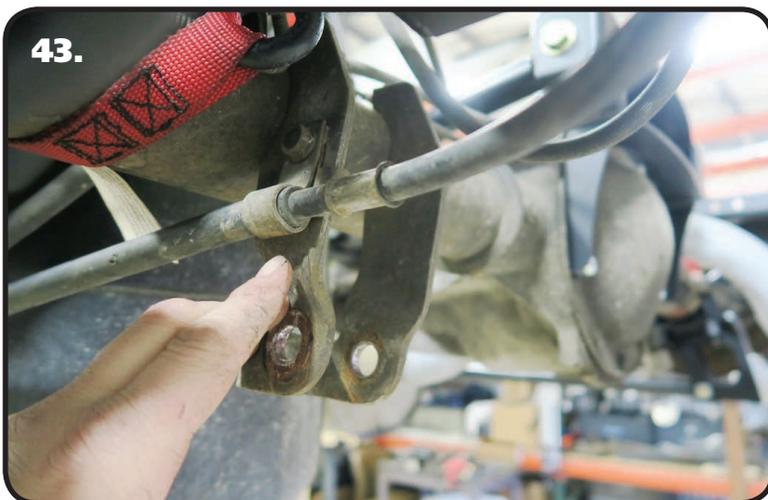
**41.** Reinstall the removed clamp with the ears pointing upward. Install the clamp on the cable and close it with a pair of pliers. Reattach the clamp to the OEM mount using the OEM hardware.



### Emergency Brake Cable Relocation, Bed Modification



**42.** Use the supplied clamp to attach the cable to a differential cover bolt. The clamp will wrap around the metal sheath and attach to the bolt furthest to the right that isn't being used by the differential mount. Remove the bolt from the cover and stick it through the holes in the clamp. Reinstall the bolt in the cover and tighten.



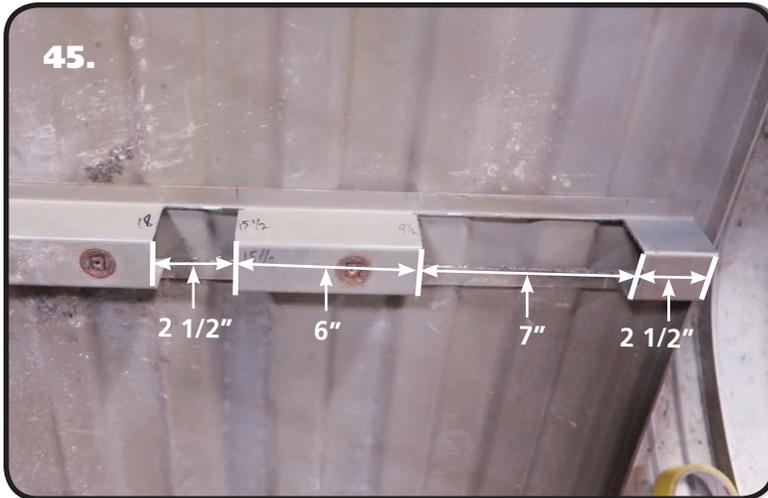
**43.** The Driver side emergency brake cable only requires the clamp be moved on the cable. Remove the attaching bolt and spread out the clamp enough to allow it to be moved. Move the clamp from the metal area to the rear edge of the plastic sheath. The rear edge of the clamp will line up with the rear edge of the sheath. Use the OEM bolt to reattach it.



**44.** The heat shield will need to be removed from the bottom side of the bed.



### Bed Modification



**44.** Trimming of the bed brace that is in between the wheel wells is necessary to clear the c-notches and wishbone. We cut ours with a diegrinder. **Image 45** shows the passenger side, the dimensions are the same for both driver and passenger. The first notch starts 2 1/2" from the end of the brace. The notch is 7" long. The second is 6" from the end of the first notch, or 15 1/2" from the end. The second notch is 2 1/2" wide. Trim the driver and passenger side using these dimensions. **Image 46** shows the driver and passenger sides cut out.



**46.** Your bed brace should look like **Image 46** after cutting.



**47.** Install the Bumpstops into the C-Notch above the axle using the 3/8" Flat Washer and 3/8"-16 Nylok Nut supplied. A bumpstop will need to be installed in each c-notch.

**48.** Reinstall the bed.

**49.** Set ride height on the truck. The ride height of the Shockwave/CoilOver is approximately 14 1/2". If you are using Shockwaves, this is done by changing the air pressure in the Shockwaves. If you are using CoilOvers, the ride height is done by using the adjuster nut for the coil spring. The coil spring on the CoilOver will have some preload in the spring to get ride height, this is normal.