



## **INSTALLATION INSTRUCTIONS**



### **2011-16 GM C/K2500HD & C/K3500HD w/4" BUDGET 4" MULTIPLE FRONT SHOCK SYSTEM**

**FTS21112**

**Fabtech Motorsports** | 4331 Eucalyptus Ave. Chino, CA 91710

**Tech Line:** 909-597-7800 | **Fax:** 909-597-7185 | **Web:** [www.fabtechmotorsports.com](http://www.fabtechmotorsports.com)

**- PARTS LIST -**

<b>FTS21112 GM FRONT DUAL SHOCK SYSTEM</b>		
1	FT20514BK	DUAL SHOCK HOOP (DRIVER)
1	FT20515BK	DUAL SHOCK HOOP (PASSENGER)
1	FT20547BK	DUAL LOWER SHOCK MOUNT (DRIVER)
1	FT20548BK	DUAL LOWER SHOCK MOUNT (PASSENGER)
1	FT20570BK	SHOCK HOOP BRACKET (DRIVER)
1	FT20571BK	SHOCK HOOP BRACKET (PASSENGER)
1	FT20551	HARDWARE KIT
1	FT20552	HARDWARE SUBASSEMBLY

<b>FT20552 HARDWARE SUBASSEMBLY</b>		
2	FT20553	SWAY BAR SPACERS
1	FT50308	REAR LONG NUT TAB
1	FT20526	NUT TAB FRT CLEAR ZINC
2	FT20525	NUT TAB RR CLEAR ZINC
2	FT188	SLEEVE 1.000 X .625 X .960
8	FT107	SLEEVE .630 X .501 X 1.480
2	FT20481	SMALL RTS BUSHING
1	FTREGCARD	REGISTRATION CARD
1	FTAS16	DRIVER WARNING DECAL
2	FT21112i	INSTRUCTIONS

4	FTS7163	PERFORMANCE SHOCK
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<b>FT20551 - HARDWARE KIT</b>		<b>LOCATION</b>
8	7/16"-14 X 1" HEX BOLT	Shock Hoops & Support Brackets
8	7/16"-14 C-LOCK NUT	
16	7/16" SAE WASHER	
4	1/2"-13 X 1-1/2" HEX BOLT	
4	1/2" SAE WASHER	
2	1/2"-13 X 6-1/2" HEX BOLT	Upper Shock Mount Pivot
4	1/2" SAE WASHER	
2	1/2"-13 C-LOCK NUT	
2	1/2"-13 X 6" HEX BOLT	Lower Shock Mount Pivot
4	1/2" SAE WASHER	
2	1/2"-13 C-LOCK NUT	
2	1/2"-13 X 3 HEX BOLT G8 ZINC	Lower mount
6	1/2"-13 X 1-1/2" COUNTERSUNK	
10	1/2 SAE WASHER G8 ZINC	
8	1/2-13 C-LOCK NUT ZINC	



## - TOOL LIST -

### *Required Tools (Not Included)*

Floor Jack  
Jack Stands  
Assorted Metric and S.A.E sockets, and Allen wrenches  
Torque Wrench  
Drill & Drill Bits  
Die Grinder w/ Cut Off Blade

## - PRE-INSTALLATION NOTES -

For technical assistance call: **909-597-7800** or e-mail: **info@fabtechmotorsports.com**

### *Read this before you begin installation-*

Check all parts to the parts list above before beginning installation. If any parts are missing contact Fabtech at 909-597-7800 and a replacement part will be sent to you immediately.

Read all instructions thoroughly from start to finish before beginning the installation. If these instructions are not properly followed severe frame, driveline and / or suspension damage may occur.

Check your local city and state laws prior to the installation of this system for legality. Do not install if not legal in your area.

Prior to the installation of this suspension system perform a front end alignment and record. Do not install this system if the vehicle alignment is not within factory specifications. Check for frame and suspension damage prior to installation.

The installation of this suspension system should be performed by two professional mechanics.

This suspension must be installed with Fabtech shock absorbers.

Use the provided thread locking compound on all hardware.

**WARNING-** Installation of this system will alter the center of gravity of the vehicle and may increase roll over as compared to stock.

Vehicles that receive oversized tires should check ball joints, uniballs, tie rods ends, pitman arm and idler arm every 2500-5000 miles for wear and replace as needed.

Verify differential fluid is at manufactures recommended level prior to kit installation. Installation of the kit will reposition the differential and the fill plug hole may be in a different position. (For example, if the manufacture recommends 3 quarts of fluid, make sure the diff has 3 quarts of fluid). Check your specific manual for correct amount of fluid.

### **FOOTNOTES -**

- Requires previous installation of Fabtech 4" suspension system.

# - INSTRUCTIONS -

## FRONT SUSPENSION

1. Disconnect the negative terminal on the battery. Jack up the front end of the truck and support the frame rails with jack stands. **NEVER WORK UNDER AN UNSUPPORTED VEHICLE!** Remove the front tires.
2. Remove the Driver and Passenger front factory fender wells. Save for reinstall at a later point. If you have the OEM position shock mounted, remove and discard at this time.
3. Using a die grinder, remove driver side factory shock bucket parallel to the rear upper control arm pocket. Use care not to cut into the control arm pocket. Repeat this step on the passenger side. **SEE FIGURE 1.**



FIGURE 1 - STEP 3

4. Remove the two rear most steering box bolts. Save for reinstall at a later point. **SEE FIGURE 2.**

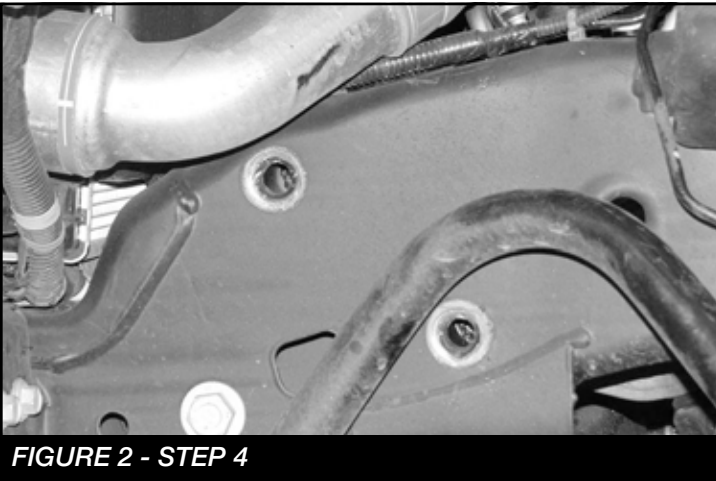


FIGURE 2 - STEP 4

5. Locate the driver side shock hoop (FT20514BK).

Temporarily install the hoop lining it up with the steering box bolts and the upper control arm pockets.

**SEE FIGURE 3.**



FIGURE 3 - STEP 5

6. Using the shock hoop as guide mark the upper control arm pocket mounts and the rear hoop mount. **SEE FIGURE 4-5.**

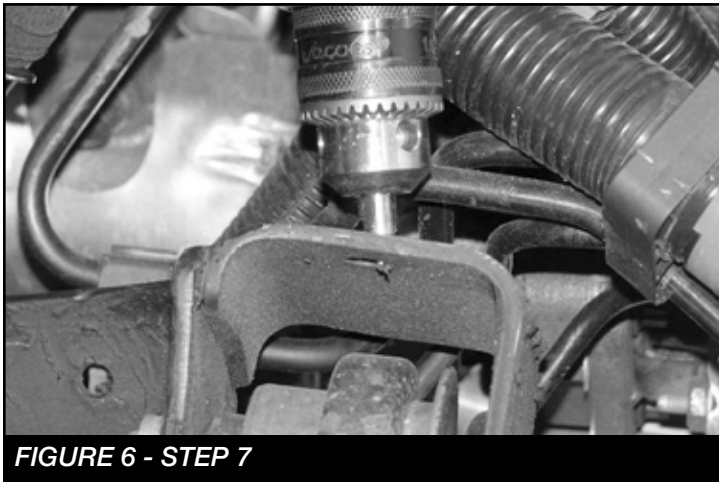


FIGURE 4 - STEP 6



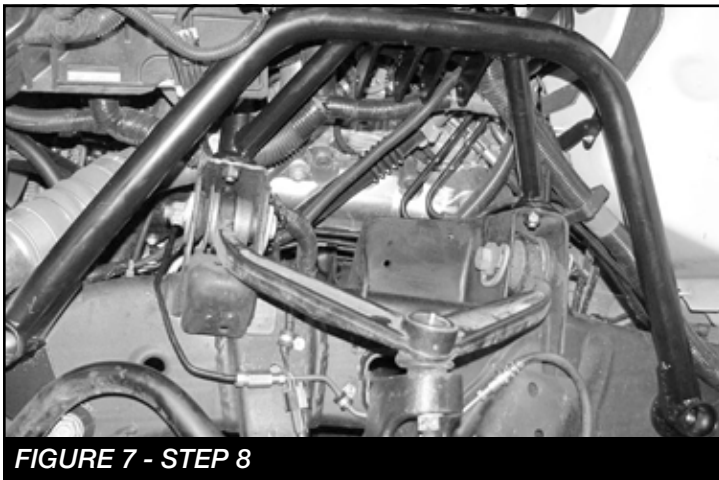
FIGURE 5 - STEP 6

7. Using the points marked in step 6, drill the upper control arm mounts to accept a 7/16" bolt and the rear hoop mount to accept a 1/2" bolt. **SEE FIGURE 6.**



**FIGURE 6 - STEP 7**

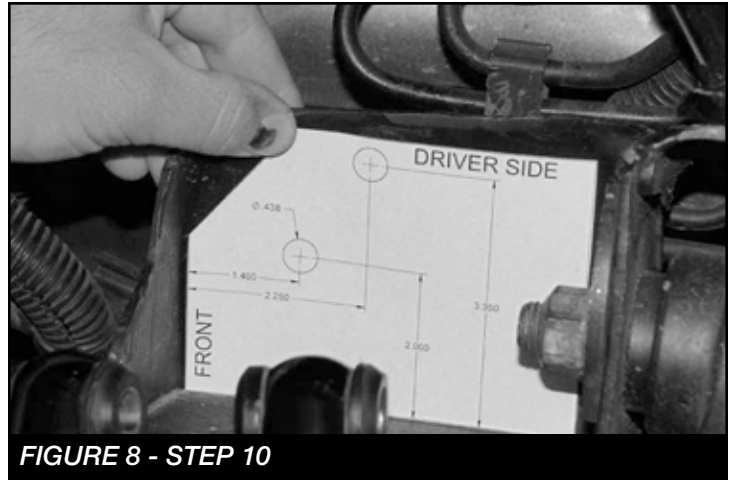
8. Reinstall the hoop. Install the front steering box mount with the factory bolts and leave loose at this time. Install two 7/16"-14 x 1" bolts, washers and c-lock nuts into the upper control arm mounts. Leave loose at this time. Install a 1/2" -13 x 1" bolt, washer and the (FT20525) rear nut tab. Tighten all the bolts evenly with thread locking compound at this time using the torque specs below. 1/2" to 127 ft-lbs, 7/16" to 83 ft-lbs, steering box bolts to 160 ft-lbs. **SEE FIGURE 7.**



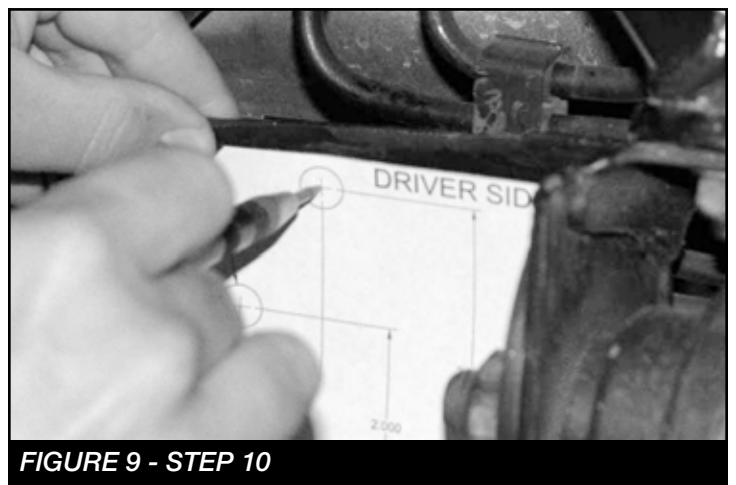
**FIGURE 7 - STEP 8**

9. Locate the FT20570BK driver side hoop support bracket, two 7/16"-14x 1" bolts, nuts and washers.

10. Locate the drilling template figure 8-1. Cut out the template and place on the factory shock mount. Using the template mark and center punch the two holes for the 7/16"-14x 1 bolts. **SEE FIGURE 8-9.**

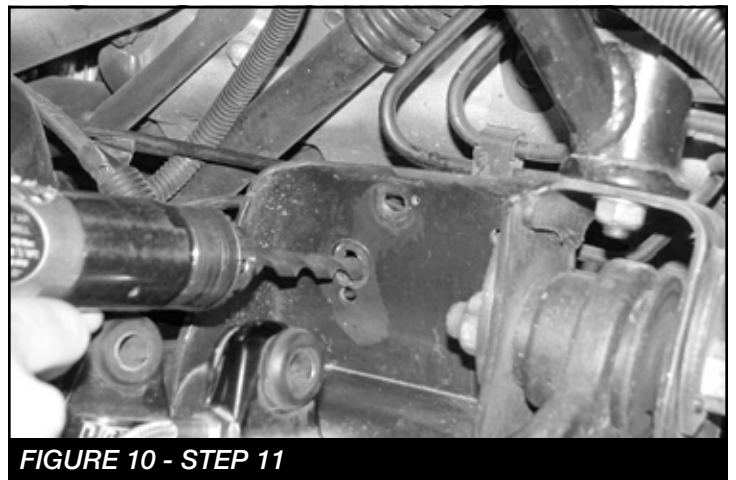


**FIGURE 8 - STEP 10**



**FIGURE 9 - STEP 10**

11. Using a 7/16" bit, drill the two holes previously marked and punched in step 10. **SEE FIGURE 10.**



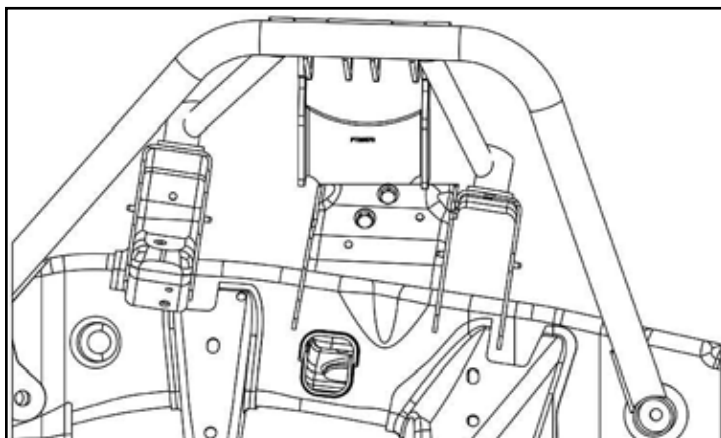
**FIGURE 10 - STEP 11**

12. Install the FT20570BK driver side hoop support bracket, two 7/16"-14x 1" bolts, nuts and washers. Leave the 7/16"-14x 1 bolts loose until installing shocks and 1/2" -13 x 6-1/2" upper pivot bolt shown step 16.

**SEE FIGURE 11-12.**



**FIGURE 11 - STEP 12**



**FIGURE 12 - STEP 12**

13. Repeat the steps 6-8 on the passenger side of the vehicle using the (FT20515BK) shock hoop. The front mount on the passenger shock hoop will need to be marked and drilled to 1/2". The front hoop mount will be attached using 2-1/2"-13 x 1-1/2" bolts, washers, FT20526 and FT20525 nut tabs. **SEE FIGURE 13.**



**FIGURE 13 - STEP 13**

14. Locate the factory lower control arms and remove the lower shock mount bushing using a ball joint press tool. Note- This can be done with the control arm on the vehicle. **SEE FIGURE 14-15.**

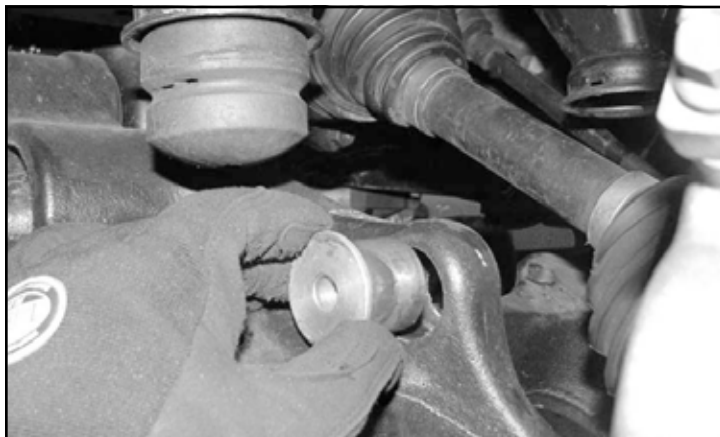


**FIGURE 14 - STEP 14**



**FIGURE 15 - STEP 14**

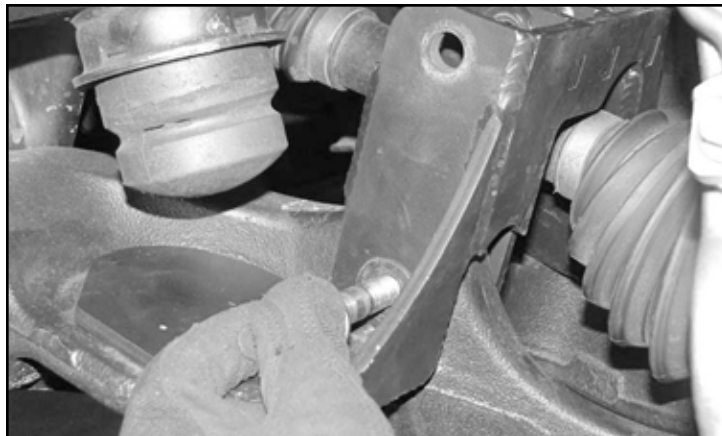
15. Locate the FT20481 sleeve and insert it into the control arm where the shock bushing was removed. The lip of the sleeve should be on the back side of the control arm. **SEE FIGURE 16.**



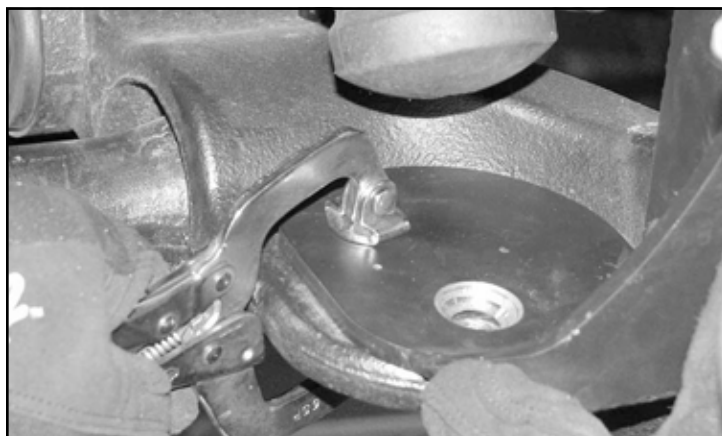
**FIGURE 16 - STEP 15**

16. Locate the FT20547BK lower shock mount and install on the lower control arm temporarily to mark the holes to drill. Install the 1/2"-13 x 3" bolt, nuts and washers through the mount and sleeve assembly to hold the mount in place. Torque the bolt to 12 ft.-lbs. It also will help to clamp the bump stop pads on the shock mount to the lower control arm. **SEE FIGURE 17-18.**

17. Use the shock mount as a guide to drill 3 holes in the lower control arm using a 1/2" drill bit. **SEE FIGURE 19.**



**FIGURE 17 - STEP 16**



**FIGURE 18 - STEP 16**

18. Install the three 1/2"-13 x 1-1/2" countersunk bolts, nuts and washers in the countersunk holes in the lower shock mount. Torque the bolts to 90 ft.-lbs. **SEE FIGURE 20-21.**

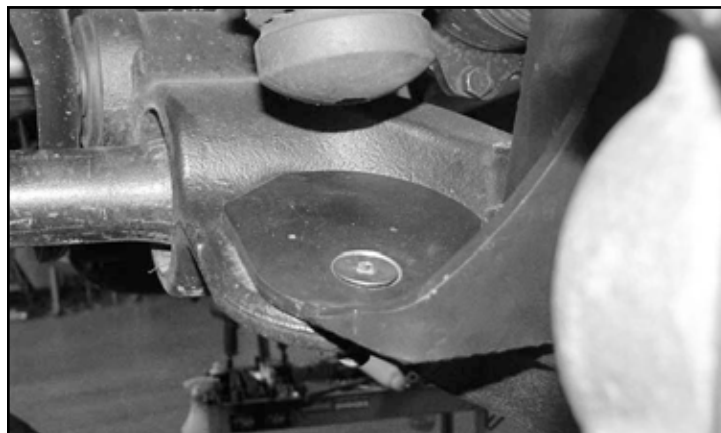


**FIGURE 19 - STEP 17**

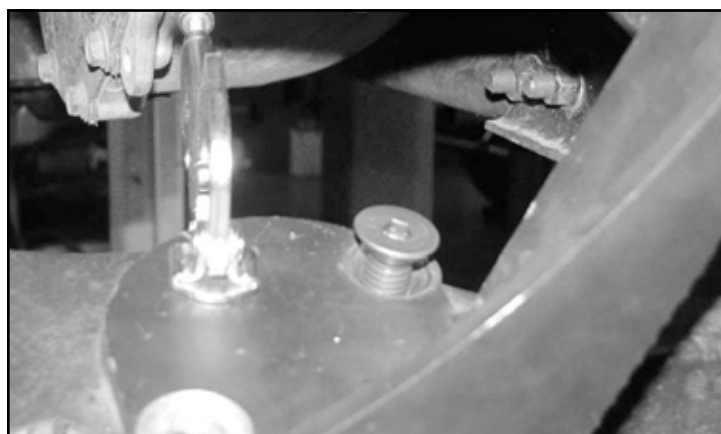
19. Locate the Driver side factory fender well that was removed earlier and trim according to the dimensions shown. **SEE FIGURE 22-25.**

20. Reinstall the factory fender well. **SEE FIGURE 26.**

21. Locate and install the chosen shock option in the upper

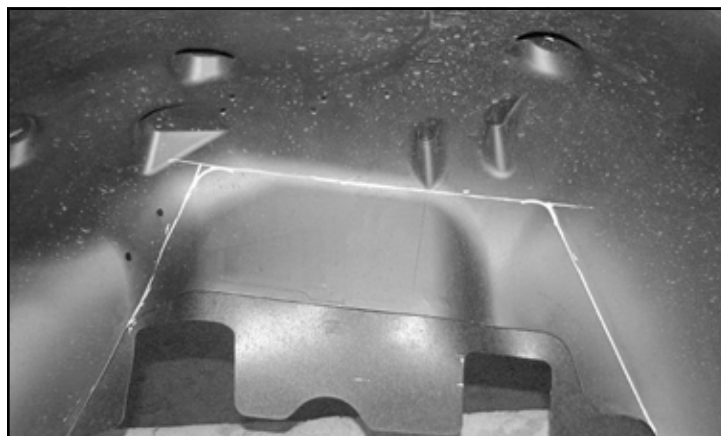


**FIGURE 20 - STEP 18**



**FIGURE 21 - STEP 18**

hoop mounts using the supplied 1/2"-13 x 6-1/2" bolt, washers and lock nut. The (FT107) spacer should be installed between the shocks on the inside two tabs. Leave loose



**FIGURE 22 - STEP 19 (2011-14 MODELS)**

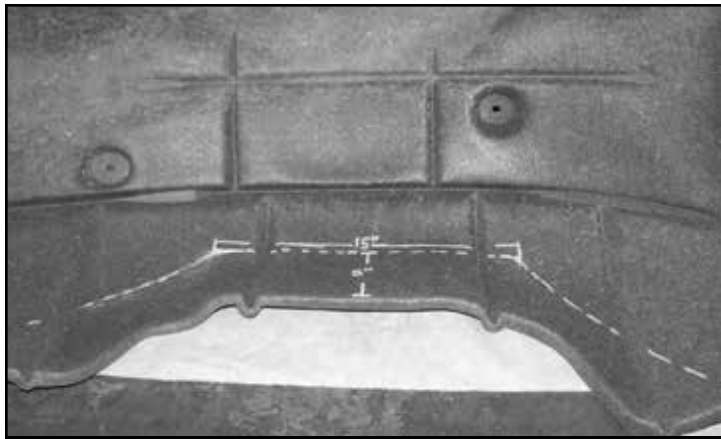


FIGURE 23 - STEP 19 (2015 MODELS)

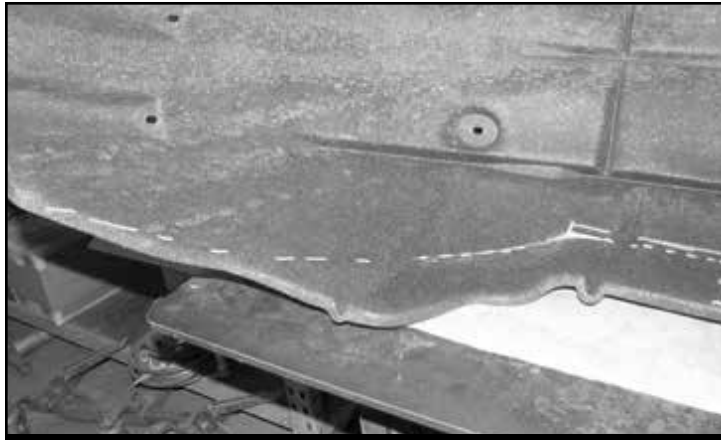


FIGURE 24 - STEP 19 (2015 MODELS)

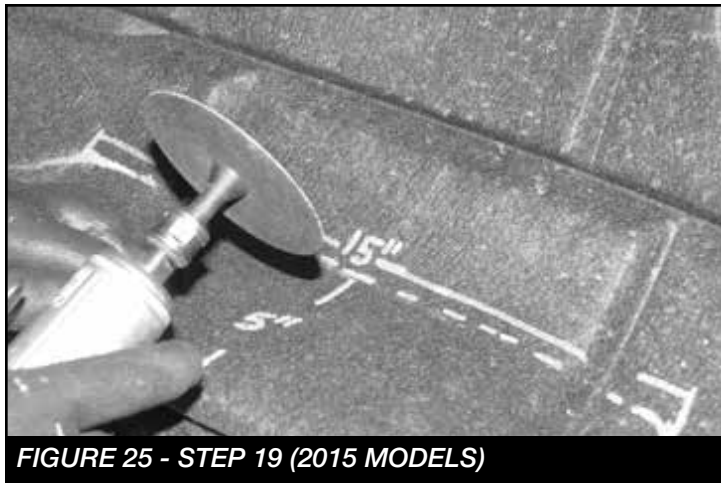


FIGURE 25 - STEP 19 (2015 MODELS)

at this time. Torque the 7/16"-14x 1" bolts in the FT20570 driver side hoop support bracket to 83 ft-lbs. Torque the 1/2"-13 x 6-1/2" bolt to 127 ft-lbs. If you have the Dirt Logic shock option, mount the reservoir as shown. **SEE FIGURE 27-29.**



FIGURE 26 - STEP 20

22. Locate the lower rod ends of the shocks and install into the existing tabs on the lower sock mount. **SEE FIGURE 30.**
23. Repeat steps 14 through 22 on the passenger side of the vehicle.
24. **NOTE: This step is for 6" kit only.** Bleed the brakes. Use only GM approved brake fluid.

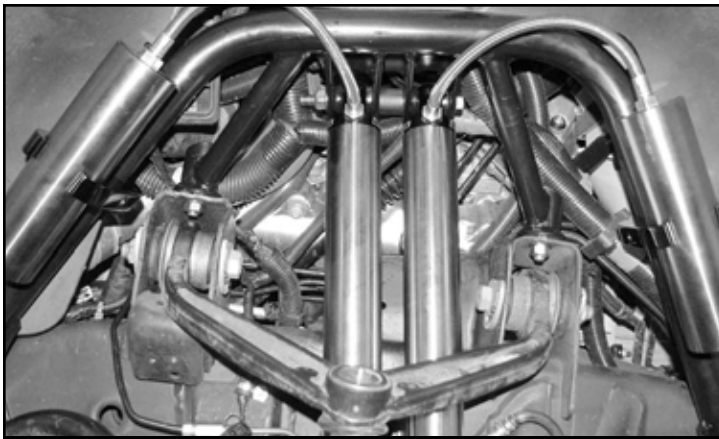


FIGURE 27 - STEP 21



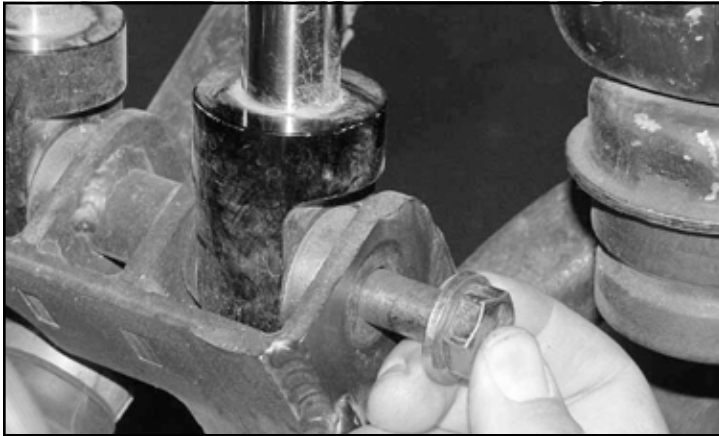
FIGURE 28 - STEP 21





**FIGURE 29 - STEP 21**

25. Check the brake lines for proper clearance. The brake lines should not rub on any part of the vehicle. **NOTE: CHECK CLEARANCE OF THE AIR CONDITION LINE ON THE PASSENGER SIDE. IT SHOULD NOT CONTACT THE FABTECH HOOP. GENTLY BEND AWAY IF MAKING CONTACT.**



**FIGURE 30 - STEP 22**

26. Install tires and wheels and torque lug nuts to wheel manufacturer's specifications. Turn front tires left to right and check for appropriate tire clearance. **Note - Some oversized tires may require trimming of the front bumper & valance.**
27. Check front end alignment and set to factory specifications. Readjust headlights.
28. Recheck all bolts for proper torque.
29. Recheck brake hoses, ABS wires and suspension parts for proper tire clearance while turning tires fully left to right.

30. Check the fluid in the front and rear differential and fill if needed with factory specification differential oil. **Note - some differentials may expel fluid after filling and driving. This can be normal in resetting the fluid level with the new position of the differential/s.**
31. Install Driver Warning Decal. Complete product registration card and mail to Fabtech in order to receive future safety and technical bulletins on this suspension.
32. Have vehicle properly aligned to factory specs.

**Vehicles that will receive oversized tires should check ball joints, uniballs and all steering components every 2500-5000 miles for wear and replace as required.**

**RETORQUE ALL NUTS, BOLTS AND LUGS AFTER 50 MILES AND PERIODICALLY THEREAFTER.**

For technical assistance call: **909-597-7800**

## - Product Warranty and Warnings -

Fabtech provides a Limited Lifetime Warranty to the original retail purchaser who owns the vehicle, on which the product was originally installed, for defects in workmanship and materials.

The Limited Lifetime Warranty excludes the following Fabtech items; bushings, bump stops, ball joints, tie rod ends, limiting straps, cross shafts, heim joints and driveshafts. These parts are subject to wear and are not considered defective when worn. They are warranted for 60 days from the date of purchase for defects in workmanship.

Dirt Logic and Performance Coilover take apart shocks are considered a serviceable shock with a one year warranty on leakage only. Service seal kits are available separately for future maintenance. All other shocks are covered under our Limited Lifetime Warranty.

Fabtech does not warrant any product for finish, alterations, modifications and/or installation contrary to Fabtech's instructions. Alterations to the finish of the parts including but not limited to painting, powder coating, plating and/or welding will void all warranties. Some finish damage may occur to parts during shipping, which is considered normal and is not covered under warranty.

Fabtech products are not designed nor intended to be installed on vehicles used in race applications or for racing purposes or for similar activities. (A "RACE" is defined as any contest between two or more vehicles, or any contest of one or more vehicle against the clock, whether or not such contest is for a prize). This warranty does not include coverage for police or taxi vehicles, race vehicles, or vehicles used for government or commercial purposes. Also excluded from this warranty are sales outside of the United States of America.

Installation of most suspension products will raise the center of gravity of the vehicle and will cause the vehicle to handle differently than stock. It may increase the vehicle's susceptibility to a rollover, on road and off road, at all speeds. Extreme care should be taken to operate the vehicle safely at all times to prevent rollover or loss of control resulting in serious injury or death. Fabtech front end Desert Guards may impair the deployment or operation of vehicles equipped with supplemental restraining systems/air bag systems and should not be installed if the vehicle is equipped as so.

Fabtech makes every effort to ensure suspension product compatibility with all vehicles listed on the website, but due to unknown auto manufacturer's production changes and/or inconsistencies by the auto manufacturer, Fabtech cannot be responsible for 100% compatibility, including the fitment of tire and wheel sizes listed. The Tire and Wheel sizes listed in Fabtech's website are only a guideline for street driving with noted fender trimming. Fabtech is not responsible for damages to the vehicle's body or tires. Fabtech is not responsible for premature wear of factory components due to the installation of oversized tires and wheels.

Fabtech's obligation under this warranty is limited to the repair or replacement, at Fabtech option, of the defective product only. All costs of removal, installation or re-installation, freight charges, incidental or consequential damages are expressly excluded from this warranty. Fabtech is not responsible for damages and/or warranty of other vehicle parts related or non related to the installed Fabtech product. This warranty is expressly in lieu of all other warranties expressed or implied. This warranty shall not apply to any product that has been subject to accident, negligence, alteration, abuse or misuse as determined by Fabtech.

Fabtech suspension components must be installed as a complete system including shocks as shown on our website. All warranties will become void if Fabtech parts are combined and/or substituted with other aftermarket suspension products. Combination and/or substitution of other aftermarket suspension parts may cause premature wear and/or product failure resulting in an accident causing injury or death. Fabtech does not warrant products not manufactured by Fabtech.

Depending on the condition of the factory suspension components retained after the installation of a Fabtech suspension not all vehicles may have the same ride stance front to rear as described in the website. The blue color of suspension components shown in all Fabtech photographs are for display purposes only. Majority of all Fabtech components will be black specifically where noted with part numbers ending in BK.

Installation of Fabtech product may void the vehicles factory warranty; it is the consumer's responsibility to check with their local vehicle's dealer for warranty disposition before the installation of the product. Some state laws may prohibit modification of suspension to a vehicle in whole or in part. It is the responsibility of the installer and consumer to consult local laws prior to the installation of any Fabtech suspension product to comply with such written laws.

It is the responsibility of the distributor and/or the retailer to review all warranties and warnings of Fabtech products with the consumer prior to purchase.

Fabtech reserves the right to super cede, discontinue, change the design, finish, part number and/or application of parts when deemed necessary without written notice. Fabtech is not responsible for misprints or typographical errors within the website or price sheet. For the most recent Product Warranty and Warnings visit our website [www.fabtechmotorsports.com](http://www.fabtechmotorsports.com)

# DRILLING TEMPLATES

FIGURE 8-1

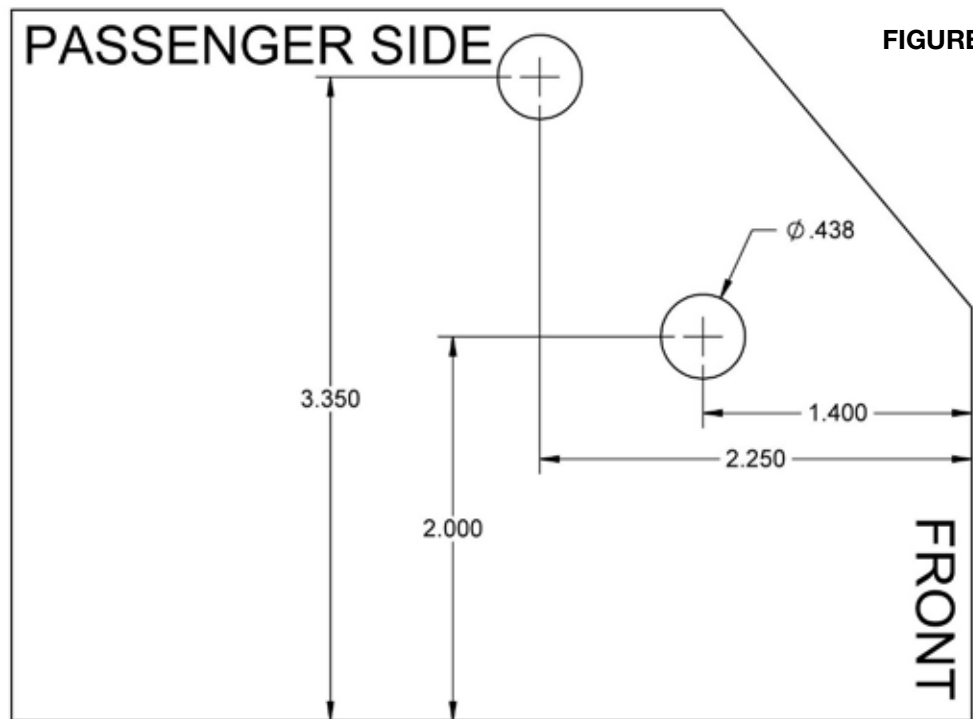
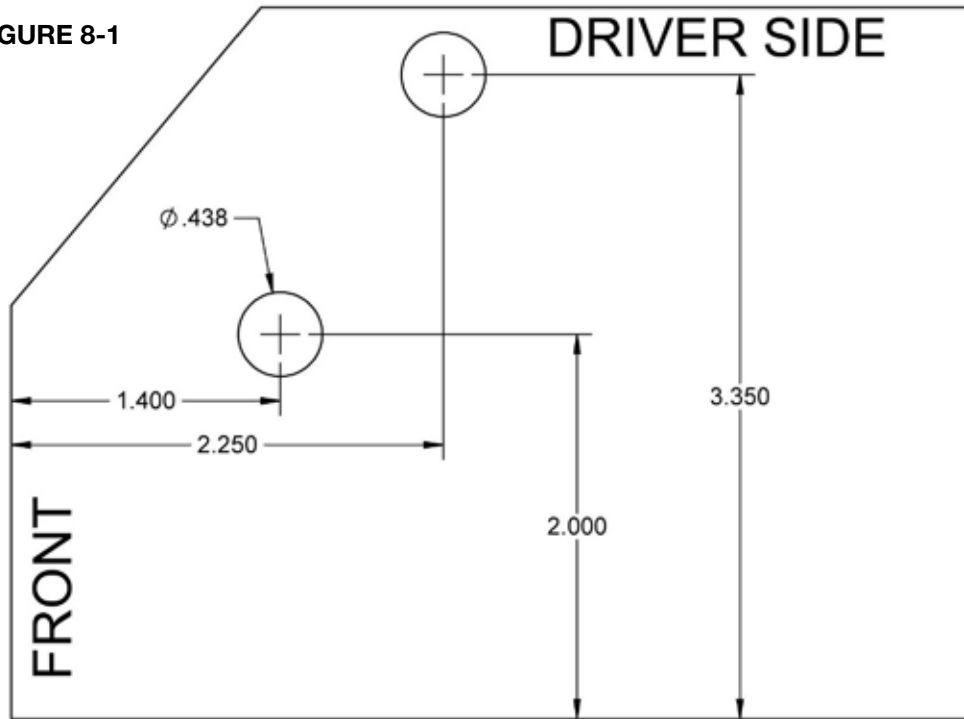


FIGURE 8-2