



# INSTALLATION INSTRUCTIONS

Part # FORD-FSR-002(i)

## Notice to Dealer / Consumer

**Important! Read all instructions before attempting any work on the vehicle.**

**Disclaimer Notice:** Installing this suspension system on any vehicle implies that you are in agreement with the following term and conditions with respect to that vehicle, the vehicle owner, and any or all occupants of said vehicle at any time:

- Sky's Offroad Design is not responsible and cannot be held responsible for any conditions of said vehicle, including but not limited to the following: 1) Any and all adverse behavior, premature failure, or breakage caused by oversized tires and wheels, improper installation, failure to follow instructions, or any general negligence caused by installer or owner of said vehicle. 2) Any breakage or premature failure caused by racing or driver negligence. 3) Any incident determined to be caused by an increase height in said vehicle's center of gravity. 4) Any incident determined to be caused by improper installation. 5) Any incident determined to be caused by a failure of materials.
- Sky's Offroad Design is to be held harmless by the installer of this suspension component, owner of said vehicle, and any parties related directly or indirectly to said vehicle or owner of said vehicle. Sky Manufacturing is to be held harmless by all parties mentioned during the course of any and all circumstances or incidence resulting from the installation of this suspension component.

It is not the intention of Sky's Offroad Design that said vehicle be modified for use on public highways sanctioned by the Department of Transportation, or any state or local governing body. Vehicle owner accepts sole responsibility for ensuring that said vehicle is not in violation of local, state, or federal laws or vehicle code. Please check local vehicle laws and regulations before modifying your vehicle.

**By installing this kit or having this kit installed on your vehicle, you are implying that you agree to the above terms and conditions. Please do not install this system if you do not agree.**

### WARNING:

**Vehicles modified for Off-road use may handle differently and vehicle may roll-over.**

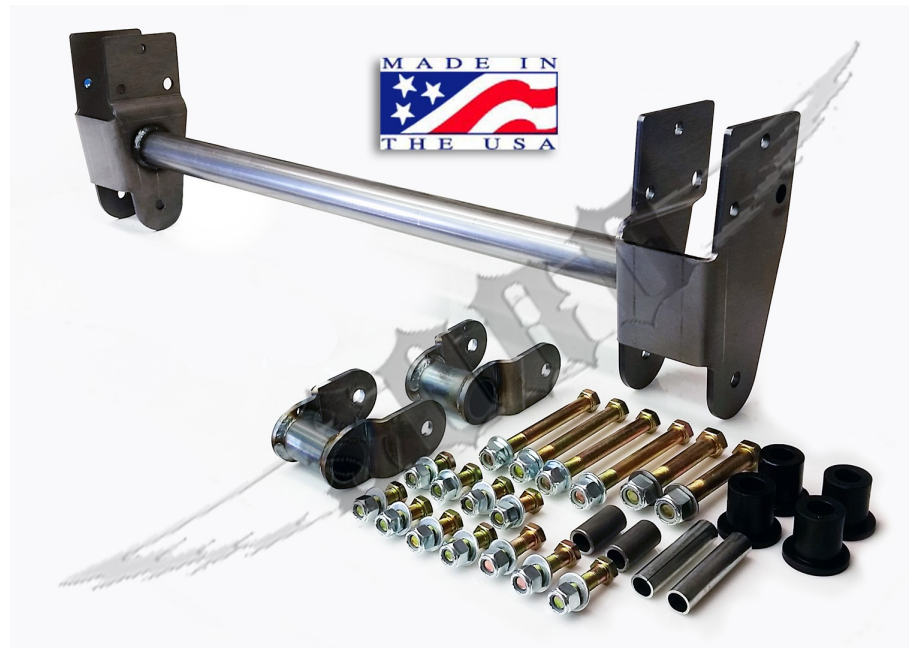
Vehicles modified for off-road use are generally do not improve in cornering or maneuverability on the highway, therefore it is imperative to familiarize yourself and all operators with the specific driving characteristics of the vehicle. Failure to operate in a safe and conservative manner may cause you, your passengers, and/or third parties to suffer serious injury or even death if control is lost.

Always wear your seatbelt and shoulder harness. Seatbelts not only help to protect occupants from injury but also keep the driver behind the wheel and in control when operating in rough terrain. Always remain on trails and observe conservation techniques while operating your vehicle.

There are no specific directions to install this product due to the number of combinations of springs, axles, lifts etc. possible. Professional installation is recommended. This kit requires knowledge of suspension design, fabrication and welding skills.

**If you lack those, do not purchase this kit!**

QTY	HARDWARE KIT CONTENTS
2	5/8-18 X 5" Bolt
6	9/16-18 X 5" Bolt
2	5/8"-18 Nylock Nut
4	5/8" Flat Washer
6	9/16"-18 Nylock Nut
12	9/16" Flat Washer
8	1/2-20 X 1.5" Bolt
8	1/2"-20 Nylock Nut
16	1/2" Flat Washer
4	MO2221 Bushing
2	Bushing Sleeve
2	FSR Frame Spacer



1. Remove front bumper



2. Remove stock panhard (trac) bar.





3. Jack up the front of the truck. Put jack stands under the frame at the rear of the leaf springs or lift and support the truck with a 2 post lift if available.

4. Remove front tires.

5. Support front axle with jack and jack stands.



6. Remove front spring bolts.

7. Lower front axle enough to remove front shackles.



8. Install new front hanger, lining up the 5/8" bolts in hanger with factory bolt holes. Install spacer into frame opening and insert 5/8" bolt through holes in frame, new bracket, and spacer. Tighten bolts snug at this time; you will torque all hardware at the end of installation.

*\*frame rails are often spread on these trucks and will need to be pulled together to install hanger. Stiffening up the front frame is a side benefit of this kit.*





9. To locate front hanger after installing 5/8" pilot bolts, Measure 51.5" from center of rear spring bolt to center of new front spring bolt hole, clamp front hanger in place so it doesn't move. If using shorter than 52" factory length springs this dimension will need to be changed in order to fit correctly.

The front hanger can be rolled back to shorten this distance slightly, and our lo-pro hangers (available at [SkysOffroadDesign.com](http://SkysOffroadDesign.com)) will move the shackle mount forward 1" as well.



*\*note the truck used to illustrate this install had 4" lift springs and we removed them to install this kit with stock springs.*



10. Center punch and drill 1/2" inch holes into frame through front cross member locations as marked by 1/2" inch holes in shackle reversal. Install 1/2" inch bolts ,nuts , flat washers . Be sure to use red Loctite and torque to nominal specifications. Now is the time to replace the spring bushings if you plan to do so.





\*\*\*If you do not follow step 11, you will have a 2.5" kit. We recommend skipping to step 12 first and completing the instructions. (Especially with the Dana 50 TTB.) Check how the truck sits, if you want the front 1/2" lower for a true 2" lift, follow step 11.\*\*\*



11. Move rear of front spring hanger mounting hole (where your shackle will hang from) up 1" and clearance bracket as necessary.

*Template is at the end of these instructions, and on the product page.*



12. Using factory bolts install spring shackle in rear frame hanger. Use new hardware to install springs and tighten. These will be torqued to specs under vehicle weight.





13. Check to make sure brake lines are not stretched. You may have to bend the hard line at the calipers toward the frame and/or bend down the tab that holds lines at frame.

Extended brake lines are available at [SkysOffroadDesign.com](http://SkysOffroadDesign.com)

14. Install front bumper.

15. Install tires , raise the front of the vehicle and remove the jack stands place vehicle on ground and torque wheels to manufacture specs. Torque leaf springs and shackles to spec. Torque all fasteners.

14. Install adjustable panhard bar. Install the bar adjusted to align with the holes in a neutral position, not with the axle pushed to one side or the other. You don't want to put a bunch of preload on that bar, it's meant to keep the axle from shifting side to side, it's not meant to push or pull it one way or the other.

15. Get an alignment done.



#### ***Installation Notes:***

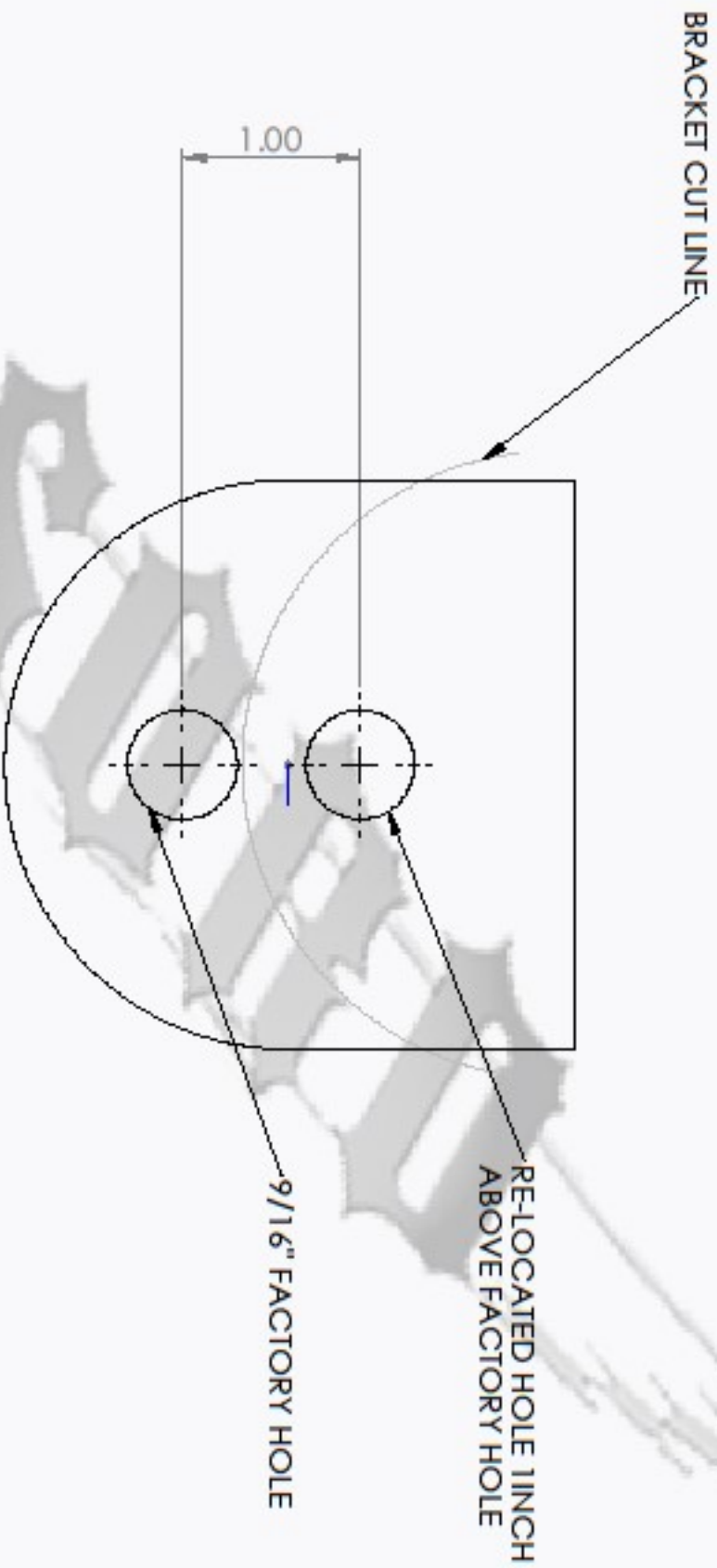
Sway bar will need to be deleted, or will need end links extended. Our 3" Sway bar end link extensions are available at [SkysOffroadDesign.com](http://SkysOffroadDesign.com)

We have had a few customers with worn out spring bushings and sliders have issues with clearing the shackles on the 2" FSR kits with the military wrap. You need quality, to spec parts to make this work.

It is common for the front frame horns to be spread due to age as the only thing holding the front of the frame together is the rivets at the engine cross member. You may need to pull the frame together to get the hanger on.

These trucks were not built to a high level of precision. Some of the rivet holes may need to be opened up with a die grinder as the holes may not line up perfectly.

When installing this kit with lift springs, the springs are often shorter than stock as they are re-arched stock springs to get more lift. We recommend drilling just one hole for the spring hanger and holding it in place with one bolt until you are able to set it down and check to see that the shackle angle is satisfactory. Then drill the remaining holes.



NOTES:  
 DRILL RE-LOCATED HOLE, THEN CUT ALONG 'BRACKET CUT LINE' ENSURING SHACKLE DOES NOT BIND WHEN BOLTED IN.

FORD SHACKLE TEMPLATE	
MATERIAL: N/A	SCALE: 1:1
SKY'S OFFROAD DESIGN	6/20/2016 A-SIZE