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## **INSTALLATION INSTRUCTIONS FOR M.O.R.E.™ SHACKLE REVERSAL SYSTEM S.R.S.™ 7686-1** *Please read terms and Policies page 5.*

This S.R.S.™ fits 1976-1986 Jeep® CJ5, CJ-7, CJ-8 vehicles with 2" wide front leaf springs. It mounts the pivot (large eye) end of the leaf spring at the front of the frame and the shackle (small eye) end of the spring swings from a tube/bushing that is welded in a hole that you must bore through the boxed frame behind the axle. This method of shackle mounting is far superior to hanging the shackle off a bracket from the bottom of the frame. M.O.R.E.'s method retains the caster angle as close to stock as possible and allows for the most clearance under the Jeep®. This system will fit stock leaf springs or MOST aftermarket leaf springs up to four inches of lift. Improved handling and ride quality will be noticed regardless of other modifications to the suspension system. The frame of your Jeep® must be factory stock and straight. It WILL NOT FIT if it has been modified. Have it checked for trueness at a frame shop BEFORE you begin. It has been designed to fit with a Warn or Ramsey winch mounting kit and will work with stock and MOST aftermarket bumpers.

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**LEAF SPRINGS:** The springs you use MUST have a center bolt that is "centered" in the spring stack. Measure your leaf spring from large eye to center bolt, small eye to center bolt and write down these measurements. They MUST be the within 3/8". The reason for this is this kit has been designed to lengthen the wheelbase of the Jeep® aprox. one inch. This way, the tire won't hit the back of the front fender upon suspension compression. If your spring center bolt is off-set it will not lengthen the wheelbase as designed and tire to fender contact WILL OCCUR. Now, DO NOT PANIC if your springs don't have a centered center bolt. This kit will still work just call us for further instructions on how to proceed.

**PITMAN ARM:** You may need to use a stock pitman arm. If a "dropped" arm is used there is a possibility that the tie rod could contact the drag link upon suspension compression. This will depend on the amount of lift, be sure and check for any interference!

**DRIVE SHAFT:** The front drive shaft will need to have longer travel slip-yoke installed. Due to the action of the suspension movement the stock slip-yoke will not have enough length or movement. We recommend calling the following drive line shop: **Tom Wood's Custom Drive Shafts, 877-497-4238.**

**TIRE SIZE:** Stock leaf spring equipped Jeeps can use up to a 30" tall tire without fender contact. 2.5" lift spring equipped Jeeps can use a 31" tall tire, or up to a 32" tall tire if the bump stop is lowered one inch. 3.5" to 4" lift spring equipped Jeeps can run up to a 33" tall tire if the bump stop is lowered two inches. If your running a tire larger then 33" tall, plan on lowering the bump stop (a bunch), installing a body lift (minimum 1") and possibly trimming the fender.

**M.O.R.E.™ # 7686-1 S.R.S.™ contains the following items:**

Photo of contents on page 6 of this instruction sheet.

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>QTY.</u>	<u>PART NUMBER</u>
A	BRACKET-DRIVERS SIDE	1	7686-DS
B	BRACKET-PASSENGER SIDE	1	7686-PS
C	FRAME SPACER PLATE	4	7686-FS
D	SHACKLE PLATE	4	9040
E	SHACKLE TUBE	2	7686-ST20
F	BUSHING-SHACKLE	4	M02203
G	BOLT-SHACKLE (1/2" x 4")	4	13219
H	NUT-SHACKLE (1/2" CRIMP-LOCK)	4	37268
I	BOLT-BRACKET DS (7/16" x 1-1/2")	2	15159
J	BOLT-BRACKET PS (7/16 x 1-1/4")	2	15157
K	BOLT-BRACKET (5/8" x 2")	2	15311
L	NUT-BRACKET (5/8" CRIMP-LOCK)	4	37036
M	NUT BOLT-BRACKET (5/8" x 4")	2	13319
N	BOLT-SPRING PIVOT (9/16 x 4.5")	2	13271
O	NUT-SPRING (9/16 CRIMP-LOCK)	2	37270
P	TUBE SPACER-FRAME	2	S107686
Q	FLAT WASHER BRKT BOLT (7/16)	4	33084
R	LOCK WASHER BRKT BOLT (7/16)	4	33624
S	FLAT WASHER-PIVOT BOLT	4	33088
T	FLAT WASHER-MOUNTING BOLT (5/8")	8	33090
-	INSTRUCTION SHEET	1	7686-1IS

Please familiarize yourself with all of the components in the kit. The instructions will refer to the item by letter not description! Read all instructions carefully before work is started on your vehicle. In addition to basic hand tools, the following specialty tools are needed to perform this installation: Arc Welder (M.I.G. preferred), Cutting Torch (Oxy/Acetylene), Large hammer and chisel (air hammer preferred), Protractor, 15/16" Wrench & Socket, 1/2 Drive Torque Wrench, Drill (1/2" chuck), Hole Saw 1-1/4" dia., Floor jack, Jack stands (several).

**STEP 1:** Remove the plastic front frame cover.

**STEP 2:** If your Jeep® is equipped with a winch, remove it's mount plates from the side. Remove the side plates from the frame.

**STEP 3:** Remove the front bumper. Loosen but do not remove the two top bolts in the front frame crossmember that attach the steering box mounts to the crossmember. See figure 1 & 2.

**STEP 4:** Raise and support the Jeep® with jack stands under each side of the frame behind the front springs. With the front suspension un-loaded (wheels off the ground about 3") remove the tires/wheels. Remove the front shocks. Remove the front drive shaft. Place two more jack stands under the axle housing outside the springs. Remove the front leaf springs. Remove the stock front shackle brackets from under the frame just behind the front bumper. See figure 3.

**STEP 5:** Remove the rear spring brackets from the frame. The best way is to heat the rivet head with a torch and use a air hammer and chisel bit to knock the head off. If a torch is not available, a grinder can be used. Grind the one weld on the outside of the frame and use a hammer to knock the bracket off the frame. Clean-up the excess slag with a grinder (Underneath and on the side of the frame). Be careful, do not scar the frame rail. See figure 4a & b.

**STEP 6:** At the front of the frame, insert item "P" into the hole in the boxed frame. See figure 5. This keeps the frame rails from collapsing when tightening the bolts. Bolt item "A" on the drivers side frame using items "I", "R" & "Q". Thread the bolts into the same holes that the stock shackle bracket was removed from. Do not tighten at this time. Bolt item "B" to the passenger side frame rail using items "J", "R" & "Q". Do not tighten at this time. See figure 6.

**STEP 7:** If your Jeep is equipped with a winch, take it's side mount plates and insert them between the frame and the new spring brackets (items A&B). Insert items "C" between the winch side plate and brackets (items A&B). If a winch is not being installed, use two of item "C" spacers on each side between the brackets and frame. See figure 7. Install item "M" through the rear holes. Install item "K" in the front holes. Install items "L" on items "M" & "K". Do not tighten at this time. Tighten items "I" & "J" installed in step 6 to 50 lbs. ft. torque. Tighten the two top bolts you loosened in step 3 to 50 lbs. ft. torque. Install the front bumper and tighten its hardware using hand wrenches. Install the winch mount plate to the side plates and torque the nuts to 50 lbs. ft. torque. Now, torque items "K" & "M" to 110 lbs. ft. torque. See figure 8.

**STEP 8:** Install both leaf springs (large eye) end into the **M.O.R.E.**™ items “A” & “B” brackets (you must turn the leaf springs around). Use items “N” & “O” provided. Do not tighten at this time. See figure 9. On the drivers side frame rail behind the motor mount is the brake proportioning valve. Remove the two small screws that attach it to the frame and gently pull it away from the frame rail. **DO NOT REMOVE ANY BRAKE LINES FROM IT!** This will give you clearance to work on the frame rail.

Pivot the leaf spring by hand up to the frame and measure one inch (1”) between the spring end and bottom edge of the frame. Use a jack stand to hold the spring at this distance. See figure 10. Insert item “G” through item “D” and into the spring bushing on the outside of the spring/frame. Swing the shackle plate (item “D”) up, so it passes on the outside of the frame, With a protractor on the front edge of the shackle plate, place the pointer of the protractor on 60 degrees. See figure 11. The top of the shackle plate should be behind the spring eye (tilted back at the top). With a scribe, trace a mark on the frame rail through the upper hole in the shackle plate. **The steps above are for springs that are OEM or up to 2.5” of lift.** If you have a spring with more arch you should set up the angle with weight on the springs so you end up with the shackle angle at 90 degrees or bottom edge back no more than 5 degrees. Call if you need assistance.

Center punch the center of the traced mark. See figure 12. Now, transfer this center mark to the inside frame rail by carefully measuring. Drill the punch mark with a 1-1/4” hole saw and centering bit. See figure 13a & 13b. Use cutting oil for this procedure. After the outside frame rail is drilled make sure the hole saw is level up and down and 90 degrees from the side of the frame rail. Have a friend 'eyeball' your drill to get it as accurate as possible. Now, drill the inside frame rail to 1-1/4". Do not snag the hole saw on any brake lines as it comes through the inside frame. Repeat this procedure on the other side of the frame.

Next, insert item “E” into the hole in the frame. Center it so that equal amounts are protruding in and outside the frame rails (approx. 1/8” per side). See figure 14. Weld the tubing to the frame inside and out, full circle. See figure 15. After the frame has cooled to room temperature, wire brush the welds and paint the area.

**STEP 9:** Install the urethane bushings items “F” into the tubes in the frame. Using a lubricant (Permatex anti-seize works well), coat items “G” and insert them into items “D” and install them on the springs and into the bushings items “F” in the frame. Install items “H” on items “G” and just “snug” them up. Do not tighten! The springs are hanging in their new position now. Good Job! It's down hill from here! See figure 16a, 16b, 16c.

**STEP 10:** Re-attach the brake proportioning valve to the frame. It will be necessary to bend the brake lines slightly to clear the shackle plate. Use caution doing this! Bolt the axle housing to the springs using the U-bolts removed earlier and tighten them to 75 lbs. ft. torque. Install the shocks and hand tighten the nuts.

**Step 11:** Test fit the front drive shaft. Chances are, it is too short. We have found that in most cases, the slip yoke needs to have more travel. Call Tom Wood's Custom Drive Shafts at, 877-497-4238 about how you should proceed. **DO NOT TRY TO SHORT CUT THIS STEP OR DAMAGE WILL OCCUR TO YOUR DRIVE TRAIN.**

**Step 12:** Check the front brake hoses. Make sure there is plenty of slack for suspension movement. Have a helper turn the steering wheel from lock to lock and watch them. If questionable, longer hoses must be installed. We have longer hoses available, please call for more info.

**Step 13:** Install the wheels/tires and remove the jack stands. With the Jeep® on the ground, jump up and down on the front bumper several times to "seat" the suspension. Now, tighten items "M" & "O" to 30 lbs. ft. torque. Tighten items "G" & "H" to NO MORE THEN 10 lbs. ft. TORQUE! (It is very common to over-tighten the shackle bolts, don't do it!!!).

**Step 14:** Test drive the Jeep. It may be necessary to center the steering wheel by adjusting the drag-link. Re-check all hardware for proper torque after 50 miles and EVERY off-road use. If you have any questions, please call **M.O.R.E.™** at 970-625-0500. Business hours are 8:00am to 5:00pm M-F mountain time.

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## TERMS-POLICIES:

**FIT and TOLERANCES:** All parts in this system are the results of countless hours of research, testing, fitting and refining. Jeep® frames have a wide tolerance on bolt hole centers from frame to frame. This is why M.O.R.E.™ has installed several "slots" in which to mount our bracketry. In addition to the factory tolerances, most people install other than factory equipment such as bumpers, springs etc. M.O.R.E.™ has done the best job we can to insure that our parts fit with all of the possibilities. However, you may find it necessary to grind, elongate, bend, or force the parts in this system to fit on your rig. Please use common sense when installing these parts.

**DAMAGE CLAIMS:** All orders are carefully packed, however, mishandling by the carrier can result in damage. The carrier has the responsibility for the shipment from the time it leaves our warehouse until it is delivered to you. All claims for lost or damaged goods should be reported to the carrier, not to **M.O.R.E.™** LLC.

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**WARRANTY:** All merchandise is warranted to be free from defects in materials and workmanship prior to installation. Any alteration or improper use will void this warranty. Because all parts we sell are intended for use in heavy-duty applications it is not possible to warrantee or guarantee the performance of any items. **M.O.R.E.™** LLC. products and the products manufactured by others, which we sell may be subject to an infinite variety of conditions due to the manner in which they are used, serviced and/or installed. Purchasers and users of such products rely upon their own judgment as to the suitable use selection, service and installation of such products.

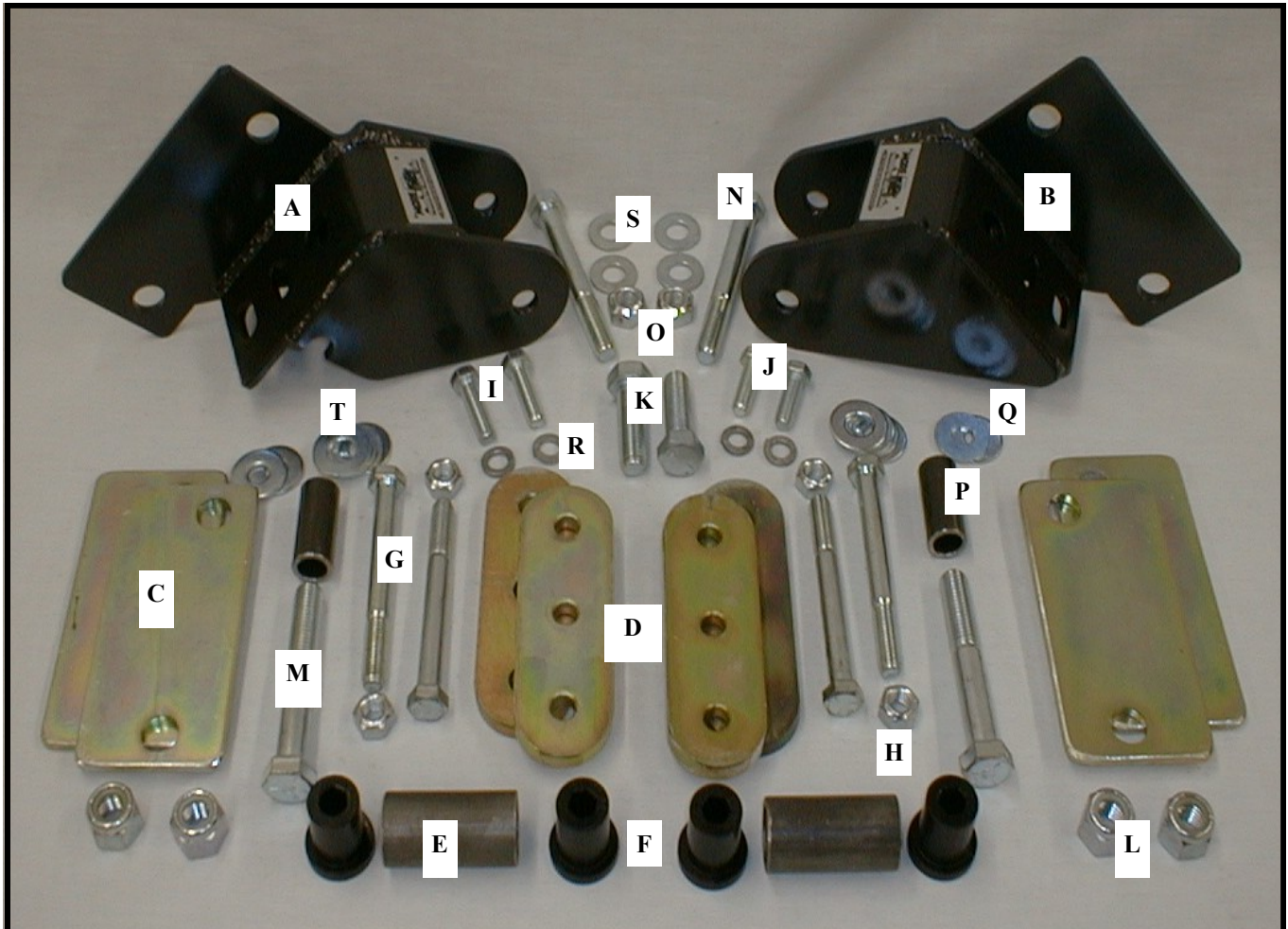
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NOTES:

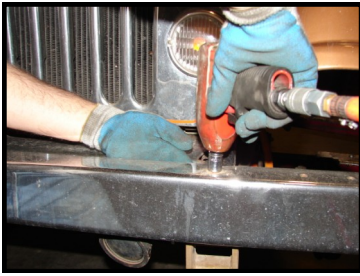


FIGURE 1



FIGURE 2

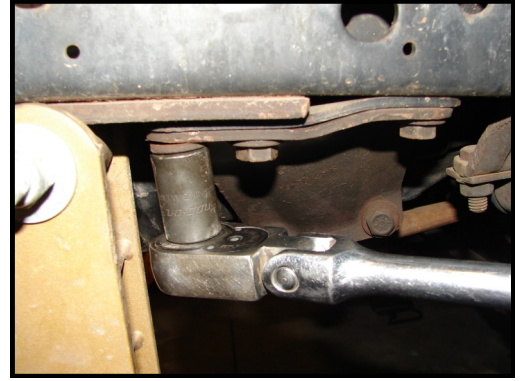


FIGURE 3



FIGURE 4a



FIGURE 4b

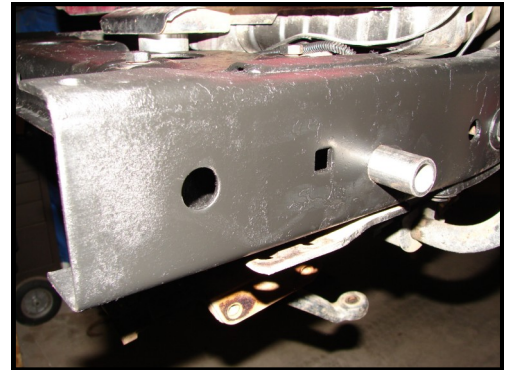


FIGURE 5



FIGURE 7



FIGURE 6



FIGURE 8





FIGURE 9

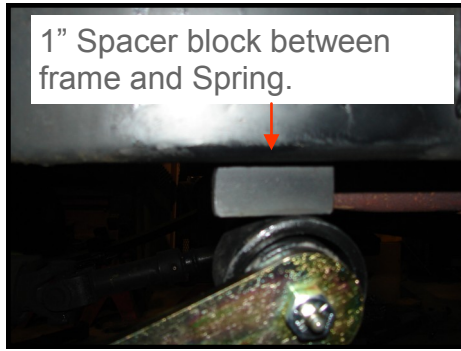


FIGURE 10



FIGURE 11



FIGURE 12



FIGURE 13a



FIGURE 13b



FIGURE 14



FIGURE 15

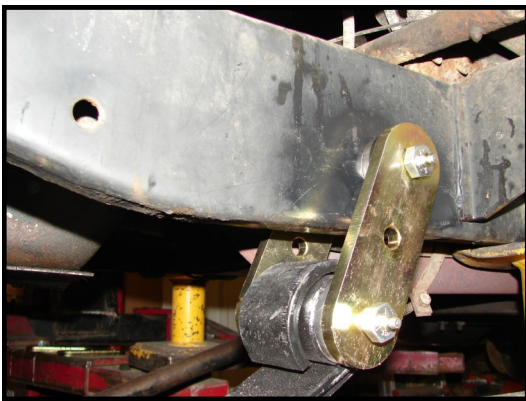


FIGURE 16a



FIGURE 16b



FIGURE 16c