



## 2018+ Ranger (New Body Style) 4" Lift # S3148



### INSTALLATION INSTRUCTIONS

# 2018+ Ranger 4" Lift



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## PARTS LIST

| ITEM | PART #     | DESCRIPTION                        | QTY |
|------|------------|------------------------------------|-----|
|      |            | Driver Side Front Upper A arm      | 1   |
|      |            | Driver Side Front Lower A arm      | 1   |
|      |            | Passenger Side Front Upper A arm   | 1   |
|      |            | Passenger Side Front Lower A arm   | 1   |
|      |            | Driver Side Rear Lower A arm       | 1   |
|      |            | Passenger Side Rear Lower A arm    | 1   |
|      |            | Heavy Duty Sway Bar Links (11.75") | 2   |
|      | Ranger-SSK | Steering Stop Kit                  | 1   |
|      | SSS-1.375  | Spring Spacers                     | 2   |
|      | J0014945   | 7/16 – 20 Male Heim Joint          | 2   |
|      | BOLT KIT   | S3BK-PRAN-900-5LK                  | 1   |

- 1.) Start by placing Ranger on flat ground and in Park (P).
- 2.) Jack the machine up and support with jack stands. Remove tires.
- 3.) Remove front sway bar. This can be done without removing the front bumper or fascia. First remove the links, then remove the (2) T40 torx bolts on the bottom of the front fascia. Next, remove the bushing bolts and bushings. Slide the sway bar out.
- 4.) Remove the rear sway bar links only. Leave the sway bar bolted in place on the rear.
- 5.) Remove the front shocks.
- 6.) Remove the front control arms. (TIP: before removing any hardware, loosen the lower ball joint nut. Either install the factory nut back onto the ball joint once or use another nut, thread it onto the end of the ball joint and use a hammer to hit the bottom of the ball joint and loosen it from the knuckle. Be careful not to damage the threads on the ball joint)
- 7.) Leave the axles installed in the front diff (if you are installing new axles, go ahead and remove the factory axles and install the new axles at this point).



## 2018+ Ranger (New Body Style)

4" Lift # S3148

- 8.) If installing aftermarket axles (or HL Editions), a small portion of the front lower frame tab needs to be removed. (See pic.) This is to allow adequate clearance of the axle bands.
- 9.) Leave the tie rods connected to the rack and leave brake lines connected to calipers. Move them out of the way for now.
- 10.) Remove rear shocks.
- 11.) Remove rear lower control arms. You do NOT need to remove the upper control arms.
- 12.) Install the steering stops. First, cut the inner zip ties on the rack boots and pull the rack boots back towards the outside of the machine. This will show the worm gear of the rack. Snap the stops onto each worm gear shaft. (Image-)
- 13.) Slide the boots back over the stops and place supplied zip ties where the factory zip ties were. Remove excess zip tie.
- 14.) Make sure both steering stop kits are fully seated by turning the wheel back and forth in both directions.
- 15.) Install front spring spacers onto front shocks. (If you have the HD Springs, these are not necessary, but you can use them. Please call or email us to find out where to install them based on your machine type). Spring spacers will go on the bottom of the shock. **\*\*Spring compressor required\*\***
- 16.) Remove the factory bushings and ball joints from the factory a arms. Use a "blind hole bearing puller" or a blunt punch and hammer to remove the bushings. Pressing the ball joints out is the best way to remove these.
- 17.) Remove any excess powder coat from ball joint cups on the new a arms. We recommend an abrasive wheel. Make sure to only remove the powder coat as removing any metal material can result in a ball joint failure or damage to the a arm.
- 18.) Install ball joints, circlips and bushings in the new a arms.
- 19.) Use a vise (or similar method) to press the nylon bushings and brass caps into the bushing tubes.
- 20.) **\*\*All (4) ball joints should be facing downward. The threaded ball joints go on the arched a arms.**
- 21.) Install (4) front a arms first.
- 22.) Install spindles onto lower ball joints and leave ball joint nut "hand tight".
- 23.) Slide the axle into the bearing located in the center of the spindle. Do not install the hub and axle nut yet.
- 24.) Install the upper a arms, making sure the brake lines are under the arm. Slide the upper ball joint into the spindle. Double check the brake line to make sure the brake line is under the a arm but above axle bar. The caliper should be hanging on the front side of the a arms.
- 25.) Install the ball joint pinch bolt in the upper part of the spindle and tighten.
- 26.) Install the tie rod ends onto the spindle and hand tighten the nut for now.
- 27.) Install the hub and rotor next. Tighten the axle nut with an impact. (We recommend using ed Loctite).
- 28.) Install brake calipers, ensuring the pads are on each side of the rotor. We recommend using blue Loctite on the caliper bolts.
- 29.) Tighten lower ball joint bolts and install shocks.



## 2018+ Ranger (New Body Style)

4" Lift # S3148

- 30.) Zip tie the brake lines to the tabs on the bottom side of the upper control arm. If additional slack is needed, you can adjust the brake lines near the frame. Also adjust them to make sure they are not rubbing on the axle. Make sure the factory clip above the differential is still connected. (See Pic)
- 31.) Recheck all hardware and install tires. Set unit on the ground and set alignment.  
\*\*Make sure your axle cotter pins are installed\*\*
- 32.) Install the factory bushings into the new rear a arms. Remove the bushings on the factory a arms.
- 33.) While the rear shocks are removed, set the adjustment cam to your desired position. \*\*Lowest setting is recommended. The springs are very soft and shouldn't negatively affect ride quality. \*\*
- 34.) Install the rear shocks the rear shocks into the outer holes on the frame and let hang.
- 35.) Next, install the lower a arms into the frame tabs first and slide the bolts through. Thread nuts on the ends of the bolts and leave loose.
- 36.) Now raise the lower a arm upwards and slide the shock into the shock tabs as and the a arm onto the spindle. Slide the bolts through but leave the nuts loose.
- 37.) \*\*It may be necessary to loosen the upper control arm/spindle bolt to allow more movement of the spindle\*\*
- 38.) Now tighten the shock bolts, bushing bolts, and spindle bolts. \*\*We recommend using red Loctite. Remove the gold washer on the lower spindle bolt to achieve full penetration of the nylock nut.
- 39.) Install the jam nuts onto the 7/16" heims for the sway bar and run the jam nuts all the way down to the head of the heim, then back down one complete turn.
- 40.) Now thread the heim joint into one of the ends of the HD sway bar link. Make sure the heims are the same length on both links.
- 41.) Take the 4 factory sway bar bushings (rubber cups) off the factory sway bar links.
- 42.) Remove factory washers and nuts from the bushings. (See Pic)
- 43.) Now install the supplied 7/16" flat washers into the bushings (See bolt kit).
- 44.) Now install the sway bar links onto the sway bar using the (2) 7/16"-20x1.5" bolts. There are 2 bushings per link. Make sure the bushings are orientated like shown. Hand thread the bolts in.
- 45.) Next, install the (2) 7/16"-14 x 1.5" bolts through the sway bar tab on the control arm and the heim. Install (1) 7/16" flat washer and nut per side (See pic). Tighten these bolts now.
- 46.) Now tighten the upper 7/16"-20x 2.5" bolts ensuring equal tightening on top of the sway bar links.
- 47.) Once completed, tighten the heim jam nut on the bottom of the sway bar links.
- 48.) Reinstall tires and lower the unit to the ground. \*\*Make sure all jack stands or safety stops are removed from under the machine.\*\*
- 49.) Check over all hardware.



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4" Lift # S3148

- 50.) Align Ranger.
- 51.) Once you have gone over all the bolts and nuts to make sure everything is tight, the alignment will begin.
- 52.) Loosen jam nuts on the tie rods and make sure that the steering wheel is straight and at "center steer".
- 53.) Recommended method for setting the alignment is to get a long string and tie it around all 4 wheels/tires. Make sure the string is tight and that it is in the center of the wheel at all four corners.
- 54.) Now twist the tie rods until the tires are even with the string. (String sits flat on the tire/wheel.)
- 55.) Ensure steering wheel stays straight.
- 56.) We recommend toe setting at 1/8" toed out. This is achieved by having 1/16<sup>th</sup> of gap between the tire and the string on the back side of the front tire.
- 57.) Once you achieve the desired toe setting, place red Loctite on the jam nuts for the tie rods and lock down the jam nut.
- 58.) Test drive the unit. Recheck all hardware and axle nuts.
- 59.) If you have any questions or concerns, please email us at [Info@s3powersports.com](mailto:Info@s3powersports.com) or call us at 855-221-7097.







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