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Revisions			
Rev.	Description	Date	Approved
A	Initial Release Per ECO 21-047	9/10/21	KB



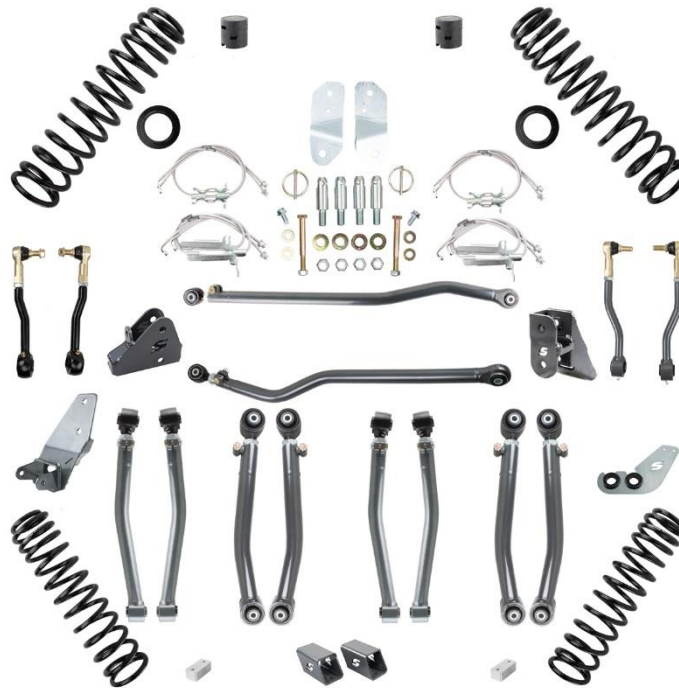
Jeep Wrangler 3-4" Lift Stage 3 Suspension System

Installation Instructions

Applications:

2018+ Jeep Wrangler 2 Door (JL)

2018+ Jeep Wrangler 4 Door (JLU)



TITLE:
**JEEP WRANGLER STAGE 3 SYSTEM
INSTALLATION INSTRUCTIONS**

SIZE	DWG NO:	REV
A	JL-STAGE3-INST	A
SCALE: N/A		PAGE 1 OF 13



JEEP WRANGLER STAGE 3 SYSTEM INSTALLATION INSTRUCTIONS

Thank you for purchasing the best aftermarket products available for your vehicle. We strongly feel that the parts you are about to install should meet or exceed your expectations for performance. Proper assembly is critical to the performance of these components and the vehicle as a whole. Please take the time to carefully read these instructions and familiarize yourself with the installation procedure before working on your vehicle. If you have any questions, PLEASE contact Synergy Manufacturing BEFORE beginning installation. Thanks again for supporting Synergy – enjoy the performance benefits of the best aftermarket products available for your vehicle!

Synergy Manufacturing

Phone: (805) 242-0397

Email: support@synergymfg.com

Modifying or otherwise altering vehicle components may cause the vehicle to handle differently than originally designed. It is the driver's responsibility to familiarize themselves with the performance and handling characteristics of the modified vehicle. Vehicles with larger diameter than stock tires must be driven carefully and cannot be expected to perform as stock or meet OEM performance with regard to handling, braking or crash performance. Ensure all replacement components are compatible with vehicle capacities so as not to overload components, especially tires. It is up to the individual to ensure that the vehicle and all components are compatible with the intended vehicle use, including load ratings, road conditions, and driver abilities. Thorough and frequent vehicle inspections are recommended to ensure a safe and reliable state of readiness, especially after off-highway use.

GENERAL NOTES

- These instructions are also available on our website; www.synergymfg.com. Check the website before you begin for any updated instructions and additional photos and videos for your reference.
- These instructions are intended as a supplement to the instructions included with each of the components in this kit. These instructions describe the best way to install all of these components together. For specific instructions, reference the instructions included with each product.
- This system is designed to improve the off-road and on-road performance of the Jeep while allowing for larger tires to be installed. This is considered a Stage 3 System. For improved performance, many additional options are available from Synergy Manufacturing. See www.synergymfg.com for additional systems and upgrade paths.
- Synergy Manufacturing coil springs are much longer than the stock springs to allow for additional wheel travel. Because of this, spring installation can be challenging without proper tools and experience. We recommend a coil spring compressor with interchangeable yokes such as the Fairmount 31655 or similar.



PARTS LIST

8823-3000 JEEP JL 2 DOOR STAGE 3 SYSTEM		
QTY	Part Number	Description
1	8863-20	Jeep JL Front Lift Springs W/Lower Isolators – 3.0” 2 Door (Pair)
1	8864-20	Jeep JL Rear Lift Springs – 3.0” 2 Door (Pair)
1	8057-10	Jeep Bump Stop Spacer Kit (2-4”)
1	8858-30	Jeep JL/JK/JT Rear Bump Stop Spacer – 3.0”
1	8860-11	Jeep JL Rear Sway Bar Links
1	8886-02	Jeep JL Rear Sway Bar Drop Brackets
1	8859-10	Jeep JL/JT Front Sway Bar Links with Disconnects
1	8856-01	Jeep JL Rear Track Bar Relocation Bracket
1	8818-01	Jeep JL Rear Parking Brake Cable Bracket
1	8851-01	Jeep JL/JT Adjustable Front Lower Control Arms
1	8853-01	Jeep JL/JT Adjustable Front Upper Control Arms
1	8854-01	Jeep JL/JK Adjustable Rear Upper Control Arms
1	8052	Jeep JL/JK Adjustable Rear Lower Control Arms
1	8875-01	Jeep JL/JT Heavy Duty Adjustable Front Track Bar
1	8800-01	Jeep JL/JT Heavy Duty Drag Link Kit
1	8855-11	Jeep JL/JT Front Track Bar Relocation Bracket
1	8862-01	Jeep JL Heavy Duty Adjustable Rear Track Bar
1	8866-01	Jeep JL Front and Rear Brakeline Kit

8843-3000 JEEP JLU 4 DOOR STAGE 3 SYSTEM		
QTY	Part Number	Description
1	8863-30	Jeep JLU Front Lift Springs W/Lower Isolators – 3.0” 4 Door (Pair)
1	8864-30	Jeep JLU Rear Lift Springs – 3.0” 4 Door (Pair)
1	8057-10	Jeep Bump Stop Spacer Kit (2-4”)
1	8858-30	Jeep JL/JK/JT Rear Bump Stop Spacer – 3.0”
1	8860-11	Jeep JL Rear Sway Bar Links
1	8886-02	Jeep JL Rear Sway Bar Drop Brackets
1	8859-10	Jeep JL/JT Front Sway Bar Links with Disconnects
1	8856-01	Jeep JL Rear Track Bar Relocation Bracket
1	8818-01	Jeep JL Rear Parking Brake Cable Bracket
1	8851-01	Jeep JL/JT Adjustable Front Lower Control Arms
1	8853-01	Jeep JL/JT Adjustable Front Upper Control Arms
1	8854-01	Jeep JL/JK Adjustable Rear Upper Control Arms
1	8052	Jeep JL/JK Adjustable Rear Lower Control Arms
1	8875-01	Jeep JL/JT Heavy Duty Adjustable Front Track Bar
1	8800-01	Jeep JL/JT Heavy Duty Drag Link Kit
1	8855-11	Jeep JL/JT Front Track Bar Relocation Bracket
1	8862-01	Jeep JL Heavy Duty Adjustable Rear Track Bar
1	8866-01	Jeep JL Front and Rear Brakeline Kit



JEEP WRANGLER STAGE 3 SYSTEM INSTALLATION INSTRUCTIONS

8823-4000 JEEP JL 2 DOOR STAGE 3 SYSTEM		
QTY	Part Number	Description
1	8863-30	Jeep JL Front Lift Springs W/Lower Isolators – 3.0” 2 Door (Pair)
1	8864-30	Jeep JL Rear Lift Springs – 3.0” 2 Door (Pair)
1	8057-10	Jeep Bump Stop Spacer Kit (2-4”)
1	8858-30	Jeep JL/JK/JT Rear Bump Stop Spacer – 3.0”
1	8860-11	Jeep JL Rear Sway Bar Links
1	8886-02	Jeep JL Rear Sway Bar Drop Brackets
1	8859-10	Jeep JL/JT Front Sway Bar Links with Disconnects
1	8856-01	Jeep JL Rear Track Bar Relocation Bracket
1	8818-01	Jeep JL Rear Parking Brake Cable Bracket
1	8851-01	Jeep JL/JT Adjustable Front Lower Control Arms
1	8853-01	Jeep JL/JT Adjustable Front Upper Control Arms
1	8854-01	Jeep JL/JK Adjustable Rear Upper Control Arms
1	8052	Jeep JL/JK Adjustable Rear Lower Control Arms
1	8875-01	Jeep JL/JT Heavy Duty Adjustable Front Track Bar
1	8800-01	Jeep JL/JT Heavy Duty Drag Link Kit
1	8855-11	Jeep JL/JT Front Track Bar Relocation Bracket
1	8862-01	Jeep JL Heavy Duty Adjustable Rear Track Bar
1	8866-01	Jeep JL Front and Rear Brakeline Kit

8843-4000 JEEP JLU 4 DOOR STAGE 3 SYSTEM		
QTY	Part Number	Description
1	8863-40	Jeep JLU Front Lift Springs W/Lower Isolators – 3.0” 4 Door (Pair)
1	8864-40	Jeep JLU Rear Lift Springs – 3.0” 4 Door (Pair)
1	8057-10	Jeep Bump Stop Spacer Kit (2-4”)
1	8858-30	Jeep JL/JK/JT Rear Bump Stop Spacer – 3.0”
1	8860-11	Jeep JL Rear Sway Bar Links
1	8886-02	Jeep JL Rear Sway Bar Drop Brackets
1	8859-10	Jeep JL/JT Front Sway Bar Links with Disconnects
1	8856-01	Jeep JL Rear Track Bar Relocation Bracket
1	8818-01	Jeep JL Rear Parking Brake Cable Bracket
1	8851-01	Jeep JL/JT Adjustable Front Lower Control Arms
1	8853-01	Jeep JL/JT Adjustable Front Upper Control Arms
1	8854-01	Jeep JL/JK Adjustable Rear Upper Control Arms
1	8052	Jeep JL/JK Adjustable Rear Lower Control Arms
1	8875-01	Jeep JL/JT Heavy Duty Adjustable Front Track Bar
1	8800-01	Jeep JL/JT Heavy Duty Drag Link Kit
1	8855-11	Jeep JL/JT Front Track Bar Relocation Bracket
1	8862-01	Jeep JL Heavy Duty Adjustable Rear Track Bar
1	8866-01	Jeep JL Front and Rear Brakeline Kit



TOOLS REQUIRED

- Wrenches and Sockets, both SAE and metric
- 1 1/4" and 1 1/2" Open End Wrenches or Large Crescent Style Wrench
- Torque Wrench
- Spring Compressor (Recommended)
- Jack and Jack Stands

ESTIMATED INSTALLATION TIME

5-6 Hours

INSTALLATION

REAR OF VEHICLE

1. Start with the vehicle on flat, level ground. Make sure the vehicle is in gear or park and the front wheels are chocked. If working on the ground, raise vehicle up and place frame on jack stands. Support axle with jackstands.
2. Remove rear wheels and tires.
3. Remove the rear shocks (18mm socket and wrench).
4. Remove the sway bar end links with a 18mm socket and wrench for the lower bolt and a 18mm wrench and a 6mm allen key for the upper stud. The 6mm allen is to prevent the stud from spinning.

INSTALLING 8886-02 REAR SWAY BAR DROP BRACKETS

5. Remove the two bolts holding the driver side rear sway bar bracket to frame (15mm socket). Discard hardware.
6. Loosen, but do not remove, hardware holding the passenger side rear sway bar bracket to frame (15mm socket). The sway bar should be loose and able to move.
7. Install an 8886-02 spacer block in between the driver side frame and sway bar bracket. Loosely install the provided hardware with a washer under the bolt head.
8. Remove the passenger side bracket from frame and discard hardware.
9. Install an 8886-02 spacer block in between passenger side frame and sway bar bracket. Loosely install the provided hardware with a washer under the bolt head.
10. Make sure the brackets and sway bar are centered. Torque mounting hardware to 35 lb-ft (17mm socket).

INSTALLING 8052 REAR LOWER CONTROL ARMS

11. Remove the brake line brackets from the upper control arm brackets on the axle with a 10mm wrench.
12. Loosen and remove the axle side track bar bolt (21mm socket). Swing the track bar down and out of the factory axle side track bar bracket.
13. Loosen, and remove, the frame side track bar bolt (21mm socket). Make sure to support the track bar as you pull the bolt out and remove the stock track bar from the vehicle.
14. Loosen, but do not remove, all control arm hardware (axle side and frame side).



15. Adjust the Synergy 8052 control arms so that they are fully collapsed (as short as they will go).
16. Remove one rear lower control arm. Save hardware.
17. Install a Synergy 8052 control arm with the fixed end at the axle side and the adjustable end at the frame side. The bend should be oriented so that there is the most ground clearance, and the pinch bolt should be oriented up. Adjust the length as necessary by rotating the silver double adjuster sleeve with a 1 1/2" open end wrench or Crescent style adjustable wrench. Once the bolt holes line up, re-install the stock hardware, but do not torque at this time.
18. Repeat steps 16 and 17 for the other side of the vehicle.

INSTALLING 8854-01 REAR UPPER CONTROL ARMS

19. Adjust the Synergy 8854-01 control arms so that they are fully collapsed (as short as they will go).
20. Remove one rear upper control arm. Save hardware.
21. Install a Synergy 8854-01 control arm with the fixed end at the frame side and the adjustable end at the axle side. The arms install with the pinch bolt down and the bend in the arms goes in towards the frame for tire clearance. Adjust the length as necessary by rotating the silver double adjuster sleeve with a 1 1/4" open end wrench or Crescent style adjustable wrench. Once the bolt holes line up, re-install the stock hardware, but do not torque at this time.
22. Repeat steps 20 and 21 for the other side of the vehicle.

INSTALLING 8858-30 REAR BUMP STOP SPACERS

23. Simply line up the holes in the bumpstop extension with the holes already in the rear axle bump pad. The bumpstop extension is angled and the overhanging portion should be towards the front of the Jeep.
24. Insert two 3/8-16UNC x 1" long bolts with washers into the holes from the top down. Install a 3/8-16UNC top lock nut and washer onto each bolt. Tighten the bolts. Torque to 60lbs-ft.

INSTALLING 8864 REAR SPRINGS

25. If the vehicle is a Rubicon model, remove the rear locker wiring harness from the differential.
26. Remove the parking brake cables from the caliper and tabs on the axle. Let the cables hang loose for now.
27. If working with the vehicle on the ground, it is easiest at this point to support the center of the axle with a floor jack and remove the jackstands from under the axle. If using a lift, lower the axle.
28. Lower the axle far enough to remove the rear springs and upper isolators. Be very careful not to damage any brake lines or electrical lines.
29. Install the upper isolators on the Synergy springs.
30. The new Synergy springs are stamped with a part number. The last two digits of the part number indicate which side of the vehicle they go on. The -01 is the driver side (left) spring. The -02 is the passenger side (right) spring.
31. Install the Synergy rear springs, making sure the upper isolators are properly seated. There is a 'nub' on the top of the upper spring isolator that must fit into a hole in the spring perch on the frame.
32. With the springs in place raise the axle back up to prevent them from falling out. Replace jack stands under axle.
33. Re-install the rear locker wiring harness.

INSTALLING 8860-01 REAR SWAY BAR LINKS

34. Install the Synergy sway bar links. The tie rod end goes into the sway bar, with the nut on the inside of the bar, towards the frame. The bushing end of the link attaches to the axle, just as the stock end link, on the outside of the axle tab (towards the wheel/tire).
35. It may be necessary to use a 14mm open end wrench on the flats on the stud to prevent the stud from turning while tightening the nut (15mm wrench).
36. Torque the sway bar link hardware. Torque lower bolts to 60 lb-ft and upper nut to 50 lb-ft.
37. Tighten the jam nut with a 19mm wrench, using an 18mm wrench to hold the tie rod end.



38. Install the rear shocks in the upper mounts.
39. Raise the axle up (use a tall jack stand to support the front of the vehicle if it is on a lift) or lower the vehicle down so that the rear shocks fit into the mounting brackets. Torque upper shock bolts to 80 lb-ft and lower shock mounting hardware to 75 lb-ft.
40. Re-install the brake line brackets, locker wiring and parking brake cables.

INSTALLING THE 8856-01 REAR TRACK BAR RELOCATION BRACKET

41. Slide the Synergy Rear Track Bar Relocation Bracket over the top of the factory bracket. It may be necessary to tap the bracket down with a rubber mallet. When correctly positioned the lower bolt hole on the bracket should align with the stock track bar bolt hole.
42. Insert the lower plate into the factory track bar bracket. Loctite the provided 35mm long bolt and insert it up through the plate and through the Track Bar Relocation Bracket. Install the provided nut tab on the back of the bracket and thread the bolt into the nut tab. Leave hardware hand tight.
43. Install the spacer sleeve in the factory track bar, and Loctite and install a provided 90mm long bolt and washer through the lower bolt hole. Leave hand tight.

INSTALLING THE 8862-01 ADJUSTABLE REAR TRACK BAR

44. Install the adjuster side of the Synergy Adjustable Rear Track Bar into the frame side track bar mount and reuse the factory track bar bolt and nut. Torque the bolt and nut to 89lb-ft.
45. Bring the track bar down and slide it into the Synergy Rear Track Bar Relocation Bracket. Loctite and install a 90mm long bolt through the bracket and track bar.
46. With all hardware installed, torque the bottom (35mm long) bolt and the lower 90mm bolt to 110 lb-ft.

INSTALLING THE 8818-01 PARKING BRAKE CABLE BRACKET

47. Remove the bolt holding the parking brake cables to the body above the fuel filler hoses (13mm socket).
48. Pull the cables towards the front of the Jeep, so that they no longer run above the cross member and fuel lines but instead are below them.
49. Remove the two nuts holding the rear TPMS module to the cross member (10mm socket). Slide the Synergy Parking Brake Cable Bracket over the studs and re-install the nuts.
50. Slide a rubber grommet up each parking brake cable bracket until they are in a position that allows them to fit into the Synergy Parking Brake Cable Bracket. Install both cables in the bracket.
51. Re-install the parking brake cables on the tabs on the axle housing and re-connect the cables to the arms on the brake backing plates. Test to verify the cables are operating correctly by setting the parking brake with the lever in the vehicle and making sure the axles will not spin.

INSTALLING THE 8866-04 REAR EXTENDED BRAKE LINES

52. Unclip the ABS wires that are attached to the rear brake lines and pull out the push pin ABS wire mounts in the brakeline brackets.
53. Disconnect the brackets(10mm) that hold the brake lines to the upper control arm mount on the axle and pull the spring clips that hold the brakelines to the frame.
54. On one side, loosen and remove the banjo bolt(15mm) at the caliper then loosen and disconnect the brake line at the frame(12mm and 16mm wrenches) and remove the stock brake line.
55. The Synergy Rear Extended Brakelines are side specific so make sure you have the correct side before putting the brakeline on. Install the caliper side first with new copper sealing washers and reuse the stock banjo bolt, then connect the frame side(12mm and 19mm wrenches).
56. Reinsert the spring clip that holds the frame side brakeline and reattach the bracket to the upper control arm mount.
57. Repeat steps 54-56 for the other side of the jeep.
58. Push ABS wire push pins into brake line bracket and tie up ABS wires as best you can.



REINSTALLING WHEELS AND FINAL TORQUE (MAY BE DONE AFTER FRONT IS DONE)

59. Re-install wheels and tires (if removed) and put vehicle back on the ground. Make sure the suspension is settled by rocking it back and forth carefully.
60. Torque the frame side track bar hardware to 110 lb-ft with the vehicle on the ground at ride height. Torque the axle side track bar hardware to 110 lb-ft with the vehicle on the ground at ride height.
61. Torque the lower control arm hardware to 90 lb-ft with the vehicle on the ground at ride height. Torque the upper control arm frame side bolts to 120 lb-ft and axle side hardware to 95 lb-ft with the vehicle on the ground at ride height.

SETTING REAR TRACK BAR LENGTH AND PINION ANGLE

62. With the vehicle back on the ground on all 4 wheels, use a straight edge up against the side of the rear tires and measure from the straight edge to the fenders. The measurement should be the same on each side. If not, then the rear track bar needs to be adjusted. To adjust the track bar, rotate the adjuster sleeve with a 1 ¼" open end wrench or large crescent type wrench. If the measurements are different by ½", then the track bar needs to be adjusted by ¼". Turning the adjuster sleeve clockwise will shorten the track bar, and make the passenger side tire to fender measurement larger.
63. Once the rear axle has been centered, torque the pinch bolt on the track bar to 90 lb-ft.
64. Next set the rear pinion angle. For a stock rear drive shaft or an aftermarket double cardon CV shaft point the rear pinion at the rear driveshaft carrier bearing. For standard u-joint driveshafts the pinion yoke or flange angle will need to match the angle at the carrier bearing yoke or flange. Adjust the double adjusters on the rear control arms with a 1 ½" open end wrench or large crescent type wrench. With the arms set to the correct lengths, torque the pinch bolts to 90 lb-ft.

FRONT OF VEHICLE

1. Start with the vehicle on flat, level ground. Make sure the vehicle is in gear or park and the front wheels are chocked. If working on the ground, raise vehicle up and place frame on jack stands. Support axle with jackstands.
2. Remove front wheels and tires.
3. Remove the sway bar end links with an 18mm socket and wrench for the lower bolt and an 18mm wrench and a 6mm allen key for the upper stud. The 6mm allen is to prevent the stud from spinning.
4. Loosen and remove the frame side and axle side track bar bolts (21mm socket). Remove the stock front track bar.
5. Remove the front draglink. Use a 21mm wrench to loosen the nut and then a large hammer or pickle fork to separate the TREs from the knuckle and pitman arm.
6. Loosen but do not remove all control arm hardware (21mm socket).
7. Remove the brake line brackets from lower control arms (15mm socket) and coil mounts (10mm socket).
8. Disconnect the electrical plug from the front axle disconnect. If the vehicle is a Rubicon model, remove the front locker harness from the differential. Loosen wiring by removing zip ties and clips.
9. Remove the front shocks (18mm socket and wrench).
10. If working with the vehicle on the ground, it is easiest at this point to support the axle with a floor jack and remove the jackstands from under the axle. Due to the differential being off to one side it may be difficult to lower the axle evenly.
11. With axle fully lowered, remove the stock springs. Remove the springs by unseating them from the lower spring perch and removing the bottom towards the rear of the vehicle.
12. Pay close attention to orientation of upper spring isolators. Do not remove from the bump stop tube.



13. Remove the lower spring isolators. These are hard plastic and clipped to the axle.

INSTALLING 8851-01 FRONT LOWER CONTROL ARMS

14. Raise the front axle back up to approximately ride height.

15. The factory brake lines are crimped to brackets which bolt to the factory lower control arms. The brake lines must be removed from these brackets. We recommend simply cutting the brackets close to the brake lines, leaving the crimped-on section of bracket on the brake lines. This eliminates the possibility of damaging the brake lines. Alternatively, the brackets may be fully removed by either carefully cutting open the bracket with a cutoff wheel or prying the brackets open with a pry bar. This may be easier to do with them still attached to the factory control arms.

16. After freeing the brake lines from the brackets, remove one of the front lower control arms.

17. The Synergy MFG control arms are left and right specific. Be sure they are installed correctly and the flex joints are aligned properly. The flex joint at the adjuster end of the control arm is angled so that the bushings are put in a zero-bind condition at ride height. The threaded shank of the flex joint should be pointing 'in' towards the center of the Jeep. Install the new control arms with the adjuster at the frame end and the fixed end at the axle. The arms are bent in for tire clearance, and up for ground clearance. The bends should be in, towards the center of the Jeep. Be sure to orient them correctly and with the pinch bolts facing up. Reuse the factory mounting bolts. It is easiest to install the frame side first, then swing the axle side up into the axle-side bracket.

18. With one control arm installed, remove the other factory control arm and replace with a Synergy MFG control arm.

19. With both lower control arms installed lower the axle back down.

INSTALLING 8853-01 FRONT UPPER CONTROL ARMS

20. Remove the heat shields covering the frame side upper control arm bolts (10mm head). Depending on engine configuration, it may not be possible to access both upper and lower bolts holding the heat shields to the mount. In this case, it is possible to only remove the lower bolt and bend the heat shield out of the way.

21. Remove the factory right side upper control arm (18mm head). The frame side uses a flag nut that goes through the frame. Certain engine configurations may not allow the bolt to come fully out without removing or moving other nearby components.

22. The Synergy MFG control arms are right and left specific. Be sure they are installed correctly with the pinch bolt facing up and the bend facing in and down, towards the center of the Jeep. The bends are to clear the frame and the motor mounts. Reuse the factory mounting bolts. Install the right-side Synergy MFG control arm and snug hardware.

23. Repeat steps 24 and 25 for the left side upper control arm.

INSTALLING 8863 FRONT SPRINGS

24. Install the new Synergy lower spring isolators.

25. The new Synergy springs are stamped with a part number. The last two digits of the part number indicate which side of the vehicle they go on. The -01 is the driver side (left) spring. The -02 is the passenger side (right) spring. The flat end of the spring is the bottom.

26. Install a single lower bump stop spacer through the hole in the center of the axle side spring pad. Torque hardware to 35 lb-ft. Accessing the driver side nut can be done from either the front or the back of the spring perch. The passenger side can only be accessed from the rear.

27. Install the new Synergy springs, being careful to ensure the upper spring isolators are correctly oriented. There is a 'nub' on the top of the upper spring isolator that must fit into a hole in the spring perch on the frame.

28. With the springs in place, raise the axle back up to prevent them from falling out. Replace jack stands under axle.



29. Install a cap on each of the bump stop spacers for a total of 2" of bump stop spacing (minimum required, see table for recommended bump stop spacing). The cap can be 'snapped' on to the lower spacer with a mallet or a large prybar.

INSTALLING 8855-11 FRONT TRACK BAR RELOCATION BRACKET

30. Slip the 8855-11 bracket over the stock track bar mount on the front axle. Insert a spacer inside the track bar bracket between the bracket and stock mount and use an M14 x 80mm bolt, nut and washers in the stock track bar bolt location to hold it all together. Do not torque yet.
31. Install a 1/2" x 3.0" bolt and washer through the side where the stock sway bar links attach to the axle and use the supplied nut tab inside the track bar relocation bracket to secure the bolt.
32. Unscrew the two screws holding the Front Axle Disconnect skid on the left side of the skid. Do not loose the screws. Install the U-bolt around the axle and through the 8855-11 bracket and use the supplied 3/8 washers and lock nuts to secure in place. Be careful when tightening the U-bolt nuts! Reinstall the Front Axle Disconnect skid screws.
33. Install the Synergy sway bar relocation bracket on the driver's side of the axle. The bracket has a radius to accommodate the axle tube. Insert the relocation bracket in between stock axle side sway bar link brackets and coil mounts. It may be necessary to tap the bracket into place with a mallet.
34. Loosely install an M12 bolt through the stock sway bar mount and the Synergy sway bar link relocation bracket. Use a washer under the head of the bolt and under the nut. We recommend installing the hardware with the bolt head facing 'out' towards the wheel/tire.
35. Align the inner Synergy sway bar link relocation bracket hole with the hole in the lower spring perch. Loosely install an M12 bolt through the spring perch and the Synergy sway bar link relocation bracket. Use a washer under the head of the bolt and under the nut. We recommend installing the hardware with the bolt head facing 'out' towards the wheel/tire.
36. With both pieces of hardware installed, tighten and torque to 70 lb-ft.

INSTALLING 8875-01 FRONT TRACK BAR

37. Install the 'fixed' end of the track bar with the narrow forging on the axle side, using the M14 x 70mm long bolt, nut and washers and leave hand tight.
38. Swing the track bar up into the frame side bracket. Adjust the track bar length using the double adjuster so that the factory bolt will fit through the bar and bracket.
39. Torque the track bar relocation bracket hardware at this point. Torque the M14 bolts to 125lb-ft and the 1/2" bolt to 80lb-ft.

INSTALLING 8800-01 HEAVY DUTY DRAG LINK

40. Drill out the pass side knuckle drag link mount to 7/8". Ensure you are drilling square to the flat on the knuckle where the TRE mounts.
41. Insert the flip adapter into the 7/8 hole from the top down. The flip adapter should be a slightly snug fit. Use a soft face hammer to install the flip adapter. The flange on the flip adapter should seat on the surface of the knuckle with the slot oriented toward the front of the vehicle.
42. The drag link will need to be adjusted to fit your jeep. Typically, non-Rubicon models will need to have the non-double adjuster side tie rod end threaded all the way in, while Rubicon models will need will need the non-adjuster side tie rod end threaded out approximately a 1/2" from fully collapsed. A good starting point is to measure your stock drag link length and adjust the Synergy Heavy Duty Drag Link to match for now. Do not tighten the pinch bolts at this time.
43. Install the drag link with the adjuster towards the pitman arm. Loosely tighten the TRE nuts. Do not install the cotter pins yet.

INSTALLING 8859-01 FRONT SWAY BAR LINKS AND DISCONNECTS

44. Identify the right and left side end links. There is a zerk fitting at the lower bushing on each end link, it should face forward, towards the front of the vehicle. The bend in the link should be oriented so



that the bushing end is closer to the wheel and the tie rod end is closer to the center of the vehicle.

The axle side mounting width is wider than the sway bar side mounting width.

45. Adjust the links to the same length and install the links to the sway bar with the nuts facing in towards the frame. Use an open end 14mm wrench to hold the flats on the stud next to the dust boot and torque the nut to 60 lb-ft with a 15mm socket.
46. Install the disconnect studs in the 8855-01 Track Bar Relocation Brackets. The stud on the track bar bracket should point out towards the tire and the stud on the driver's side sway bar bracket should point in towards the center of the vehicle. Torque nuts to 80 lb-ft.
47. Install the disconnect studs on the disconnect brackets. Brackets are laser etched with a -L and -R for the left and right sides. The bend in the bracket should face out, away from the frame. Torque nuts to 80 lb-ft.
48. Install the disconnect brackets on the frame but leave hardware slightly loose for now. Install the sway bar links on the disconnect brackets to align them, then torque the lower 3/8" bolts to 60 lb-ft, and upper self-tapping screws to 40 lb-ft.
49. Remove the sway bar links from the disconnect brackets and install on the disconnect studs on the axle with linchpins. Tighten the sway bar link jam nuts with a 19mm wrench, using an 18mm wrench to hold the tie rod end.
50. Re-install brake line brackets, front axle disconnect and locker wiring (if so equipped).

INSTALLING THE 8866-03 FRONT EXTENDED BRAKE LINES

51. Unclip the ABS wires that are attached to the front brake lines and pull out the push pin ABS wire mounts in the brakeline brackets.
52. Disconnect the brackets(10mm) that hold the brake lines to the coil bucket mounts on the axle and pull the spring clips that hold the brakelines to the frame.
53. On one side, loosen and remove the banjo bolt(15mm) at the caliper then loosen and disconnect the brake line at the frame(12mm and 16mm wrenches) and remove the stock brake line.
54. The Synergy Front Extended Brakelines are side specific so make sure you have the correct side before putting the brakeline on. Install the caliper end first with new copper sealing washers and reuse the stock banjo bolt, then connect the frame side(12mm and 19mm wrenches).
55. Reinsert the spring clip that holds the frame side brakeline and reattach the bracket to the coil bucket mount.
56. Repeat steps 51-53 for the other side of the jeep.
57. Push ABS wire push pins into brake line bracket and tie up ABS wires as best you can.
58. Check the fluid level in the brake master cylinder reservoir and top off as necessary.
59. Either use a brake bleeding tool or have someone help you and bleed the brakes. Bleed the rears first and then the fronts. Make sure you have a good solid pedal before continuing on. Check brake lines and fittings for leaks. A spray bottle with water can be used to cleanup any spilled brake fluid.

REINSTALLING WHEELS AND FINAL TORQUE

60. Install front shocks at this time. Torque upper shock bolts to 80 lb-ft and lower bolts to 75 lb-ft.
61. Re-install wheels and tires (if removed) and put vehicle back on the ground.
62. Torque track bar hardware to 110 lb-ft with the vehicle on the ground at ride height.
63. Torque lower control arm hardware to 190 lb-ft with the vehicle on the ground at ride height.
64. Torque upper control arm hardware to 80 lb-ft with the vehicle on the ground at ride height.

SETTING FRONT TRACK BAR LENGTH, CASTER AND CENTERING STEERING WHEEL

65. With the vehicle back on the ground on all 4 wheels, use a straight edge up against the side of the front tires and measure from the straight edge to the fenders. The measurement should be the same on each side. If not, then the front track bar needs to be adjusted. To adjust the track bar, rotate the adjuster sleeve with a 1 1/4" open end wrench or large crescent type wrench. If the measurements are



- different by 1/2", then the track bar needs to be adjusted by 1/4". Turning the adjuster sleeve clockwise will shorten the track bar, and make the passenger side tire to fender measurement larger.
66. Once the front axle has been centered, torque the pinch bolt on the track bar to 90 lb-ft.
 67. Next set front axle caster. We recommend somewhere between 6-7 degrees. For reference 6 degrees of caster correlates to 90 degrees on the front diff cover flat. This must be measured at ride height on a level surface. Usually this means the front lower control arms are at approximately 24.5" long center to center. Adjust the double adjusters on the lower control arms with a 1 1/2" open end wrench or large crescent type wrench. With the arms set to the correct lengths, torque the pinch bolts to 90 lb-ft.
 68. Finally, the steering wheel needs to be set to straight. Drive the Jeep forwards and backwards a short distance while making sure the Jeep is going straight. Notice the orientation of the steering wheel. Stop the vehicle, put in park or in gear and set the parking brake. Adjust the drag link so that the steering wheel is pointing straight ahead. Keep in mind that while adjusting the drag link, do not thread the double adjuster tie rod end out further than 3.5" from the end of the forging to center of the zerk fitting. Similarly, do not thread the non-double adjuster tie rod end out further than 3" from the end of the forging to the center of the zerk fitting. Tighten both tie rod end castle nuts to 55lb-ft and install the cotter pins. Make sure to tighten both pinch bolts to 90lb-ft. With the steering wheel adjusted, take a short test drive. It is usually necessary to adjust the drag link length at least twice to get the steering wheel perfectly centered.

INSTALLATION IS COMPLETE

CHECK ALL BOLT TORQUES AFTER APPROXIMATELY 100 MILES OF DRIVING, AND AFTER EACH OFF-ROAD TRIP

Table 1. Jeep Wrangler JL Recommended Bump Stop Spacing

Wrangler Model	Fenders	Wheel Backspacing	Tire Size	Bump Stop Spacing
Rubicon	Unmodified Stock	Stock	37 Inch	3 Inch
Rubicon	Unmodified Stock	Stock	37 Inch	4 Inch
Rubicon	Unmodified Stock	4.5 Inch or less	37 Inch	3 Inch
Rubicon	Unmodified Stock	4.5 Inch or less	38 Inch	4 Inch
Rubicon	Trimmed Stock or High Clearance	Stock	37 Inch	3 Inch
Rubicon	Trimmed Stock or High Clearance	Stock	37 Inch	4 Inch
Rubicon	Trimmed Stock or High Clearance	4.5 Inch or less	39 Inch	3 Inch
Rubicon	Trimmed Stock or High Clearance	4.5 Inch or less	40 Inch	4 Inch
Non-Rubicon	Unmodified Stock	Stock	35 Inch	3 Inch
Non-Rubicon	Unmodified Stock	Stock	35 Inch	4 Inch
Non-Rubicon	Unmodified Stock	4.5 Inch or less	36 Inch	3 Inch



**JEEP WRANGLER STAGE 3 SYSTEM
INSTALLATION INSTRUCTIONS**

Non-Rubicon	Unmodified Stock	4.5 Inch or less	37 Inch	4 Inch
Non-Rubicon	Trimmed Stock or High Clearance	Stock	35 Inch	3 Inch
Non-Rubicon	Trimmed Stock or High Clearance	Stock	35 Inch	4 Inch
Non-Rubicon	Trimmed Stock or High Clearance	4.5 Inch or less	37 Inch	3 Inch
Non-Rubicon	Trimmed Stock or High Clearance	4.5 Inch or less	37 Inch	4 Inch

Table 2. Jeep Wrangler JL Bolt Torques

Bolted Joint Location	Wrench Size	Torque
Drag Link Tie Rod End Castle Nuts	13/16"	55 lb-ft
Front Upper Control Arm	18mm	80 lb-ft
Front Lower Control Arm	21/24mm	190 lb-ft
Front Track Bar	21mm	110 lb-ft
Front Track Bar Relocation Bracket	22mm	125 lb-ft
Front Track Bar Relocation Bracket	3/4"	80 lb-ft
Front Sway Bar Relocation Bracket	17mm	70 lb-ft
Front Sway Bar End Links to Sway Bar	15mm	60 lb-ft
Front Sway Bar End Link Studs	3/4" or 19mm	80 lb-ft
Front Sway Bar Disconnect Bracket Lower Bolt	9/16"	60 lb-ft
Front Sway Bar Disconnect Bracket Upper Self-Tapper	1/2"	40 lb-ft
Front Upper Control Arm Heat Shields	10mm	40 lb-in
Upper Shock (Front and Rear)	18mm	80 lb-ft
Lower Shock (Front and Rear)	18mm	75 lb-ft
Rear Track Bar Frame Side Bolt	21mm	89 lb-ft
Rear Track Bar Axle Bracket Bolts	21mm	110 lb-ft
Rear Upper Control Arm to Frame	21mm	120 lb-ft
Rear Upper Control Arm to Axle	21mm	95 lb-ft
Rear Lower Control Arm	21mm	90 lb-ft
Rear Sway Bar Brackets to Frame	17mm	35 lb-ft
Rear Sway Bar Link to Axle	18mm	60 lb-ft
Rear Sway Bar Link to Sway Bar	15mm	50 lb-ft
Bump Stop Spacers	9/16"	60 lb-ft
Synergy MFG Control Arm and Track Bar Pinch Bolts	3/4" or 19mm	90 lb-ft