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INSTALL INSTRUCTIONS:
COGNITO 4" Component Box
2017-2020 Ford F250/F350
4WD Super Duty Trucks
SKU: 120-70092



PARTS LIST FOR SKU: 120-70092

QTY.	PART #	DESCRIPTION
1	8313	Ford F250/F350 Sway Bar Spacer - Welded
1	8544	2017-2019 Ford F250/F350 4WD Steering Stabilizer Frame Bracket
1	8547	Ford F250/F350 4WD Track Bar Bracket
1	8548	Ford F250/F350 Steering Stabilizer Adaptor Mount
1	8582	Ford F250/F350 Passenger Sway Bar Spacer - Welded
1	90600	Ford F250/F350 2.5" Bump Stop Spacer Kit
1	110 PITMAN- ARM-FORD-1	Ford F250/F350 4" Drop Pitman Arm
1	HP9133	Ford F250/F350 Carrier Bearing Spacer Kit and Hardware
1	HP9219	Ford F250/F350 Steering/Sway Bar Hardware
1	HP9245	Ford Steering Stabilizer
1	120-70098	FSD FRONT BRAKELINE
1	INST8131	Instruction Set for 2017 4" FS

90600 – Bump Stop Spacer Kit

QTY.	PART #	DESCRIPTION
2	6290	FSD 2.5" BUMPTOP SPACER
2	H-M8X1.25X80	M8x1.25x80mm Lg. Cap Screw
2	H-33080	5/16" SAE Flat Washer
2	H-33620	5/16" Lock Washer

HP9245 Ford F250/F350 Steering/Sway-Bar Hardware

QTY.	PART #	DESCRIPTION
1	6223	FSD STEERING STABILIZER ADAPTO
1	HARDWARE - M12x1.25x60-FB	M12x1.25x60mm JIS Hexagon
1	HARDWARE-M-12 FLATWASHER	Metric High Strength Steel Flat washer
1	HARDWARE-M12x1.25- FN	M12-1.25 Hexagon Flange Nut
1	HARDWARE-18912	18912 HCS 1/2-20x1.5 YZ8
1	HARDWARE-33086	33086 1/2 Sae F/W Z
1	HARDWARE-33626	33626 1/2" L/W Z
1	HARDWARE-UBOLT-3/8- 16x1-1/4	U-Bolt Zinc-Plated Steel, 3/8"
2	90 HARDWARE-33082	33082 3/8 Sae F/W Z
2	HARDWARE-37264	37264 3/8-16 Lock Nut Gr C

HP9219 Ford F250/F350 Steering/Sway-Bar Hardware

QTY.	PART #	DESCRIPTION
4	H-15157	7/16"-14 x 1.25 Lg. Cap Screw
4	H-37266	7/16"-14 Lock Nut
8	H-33084	7/16" SAE Flat Washer
6	H-63124	6" Black Cable Ties

HP9133 – Ford F250/F350 Carrier Bearing Spacer Kit & Hardware

QTY.	PART #	DESCRIPTION
4	5567	Spacer, 1/2" Thick
2	H-15161	7/16"14 x 2.00 Lg. Cap Screw
2	H-15163	7/16"14 x 2.50 Lg. Cap Screw
2	H-33084	7/16" SAE Flat Washer
2	H-33624	7/16" Split-Lock Washer

WARNING

Please read this entire instruction sheet before beginning installation. Proper installation of these components requires a qualified mechanic. Always wear safety glasses when using power tools and take appropriate precautions when working under a vehicle. If these instructions are not properly followed you may jeopardize your, and your passenger's safety, and severe frame, suspension or tire damage may also result from improper installation.

INTRODUCTION

This kit offers 4" of front lift on 2017-2019 models and 5" of front lift on 2020 models.

Cognito 4" Component Box for 2017-2019 Ford F250/F350 4WD Super Duty Trucks. This component box consists of the front suspension, sway bar, and drive train components needed to install a Cognito 4" Lift. This component box is designed to be used with multiple Cognito rear lift packages and options. All provided steel brackets are finished in semi-gloss black powder coating.

REQUIREMENTS

- Installation requires a qualified mechanic
- A lift is required to perform the installation of these products and always ensure the vehicle is properly supported before attempting installation or serious injury may occur.
- Read instructions carefully and study the pictures before attempting installation.

TECHNICAL INFORMATION

- Check the parts and hardware packages against the parts list to assure that your kit is complete
- Each lift kit, and options to lift kits, are packaged separately. Therefore, installation procedures are covered in separate instructions. Familiarize yourself with each specific set of instructions before beginning.
- Follow the OE specifications when replacing or re-installing OE fasteners, retainers, and hardware specified in the OEM manual

INSTALLATION

1. Before starting, secure the rear tires to prevent vehicle from rolling or moving, but do not lift at this time. With the vehicle remaining on the ground, disconnect the front flexible brake lines. Avoid spilling fluid or allowing fluid to come into contact with skin.

Figure 1A: Remove Flexible Brake Lines



2. Remove the sway-bar end link nut from both driver and passenger sway-bar end links (Figure 2A/B).

Figure 2A: OE Sway-Bar End Link



Figure 2B: OE Sway-Bar End Link, Nut Removed



3. Remove the front shocks from both driver and passenger side of the vehicle (Figure 3A/3B).

Figure 3A: Front Shock, Top Mount



Figure 3B: Front Shock, Lower Mount



4. Remove the steering stabilizer from the frame mount, located on the passenger side frame rail (Figure 4 A/B) and from the steering link pivot (Figure 4 C/D).

Figure 4A: OE Steering Stabilizer, Frame Mount



Figure 4B: OE Steering Stabilizer, Frame Mount Removal



Figure 4C: OE Steering Stabilizer, Steering Link



Figure 4D: OE Steering Stabilizer, Nut Removed

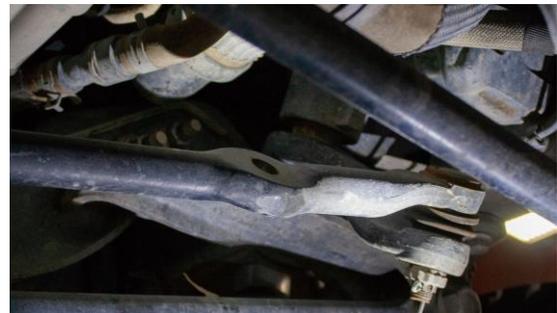


5. Once the nut has been removed from the stabilizer pin, use a hammer to hit the bottom side of the steering link (Figure 5A) to break the taper seat loose from stabilizer pin, then remove (Figure 5B).

Figure 5A: Steering Stabilizer



Figure 5B: Steering Stabilizer Removed

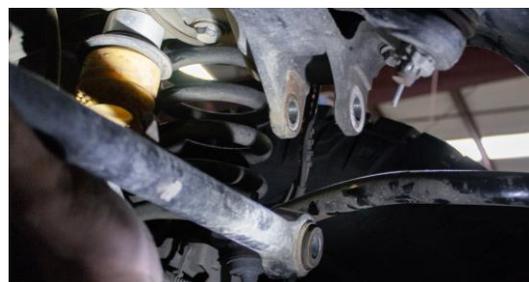


6. Locate the OE track bar mount location under the driver side frame rail (Figure 6A). Remove the track bar mounting bolt and rotate the track bar down to remove from the frame mount (Figure 6B).

Figure 6A: OE Track Bar, Frame Mount



Figure 6B: OE Track Bar, Removed



7. Locate the steering link and pitman arm pivot and remove the cotter pin and locking retainer to expose the pin nut (Figure 7 A/B). Loosen the nut, but do not remove. Hit the side of the pitman arm with a hammer (Figure 7C) to break the taper seat loose from steering link pin, then remove the nut and remove steering link (Figure 7D).

Figure 7A: OE Pitman Arm Pivot



Figure 7B: Cotter Pin Removed



Figure 7C: Pitman Arm Taper Seat Removal



Figure 7D: Steering Link Removed



8. Locate the track-bar frame mounting bolts on the driver side frame rail and front cross-member (Figure 8 A/B) and remove (Figure 8C).

Figure 8A: Track-Bar Frame Mount

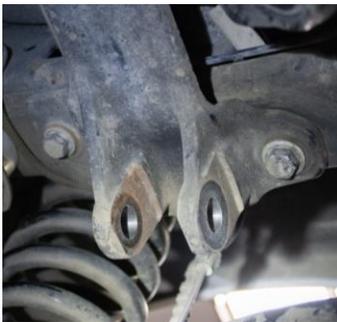


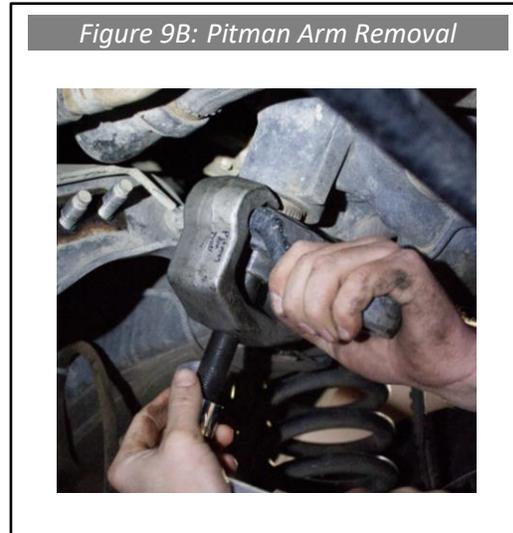
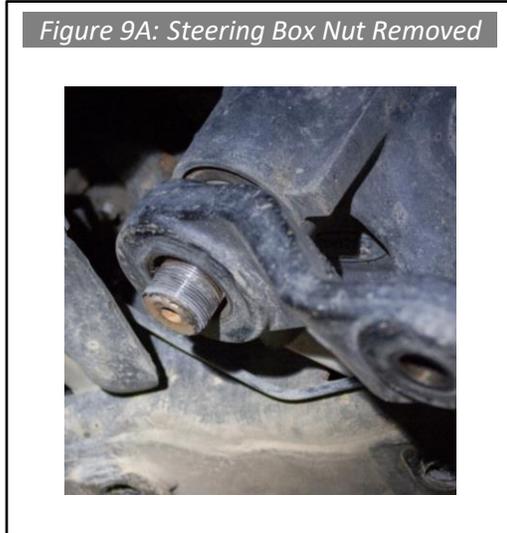
Figure 8B: Track-Bar Cross-member Mount



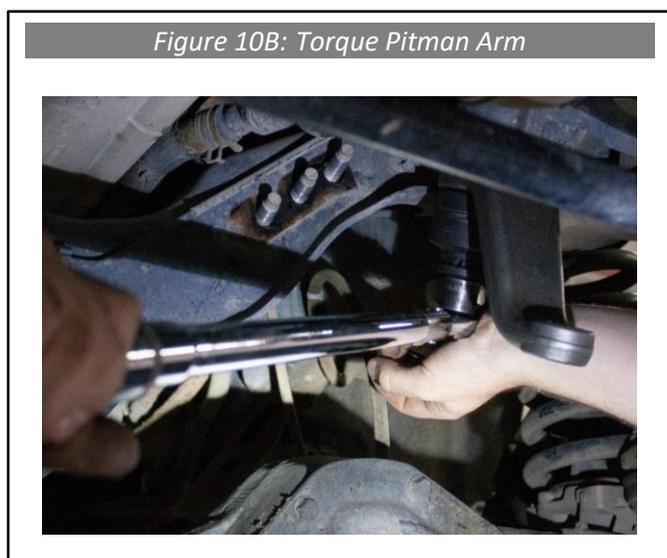
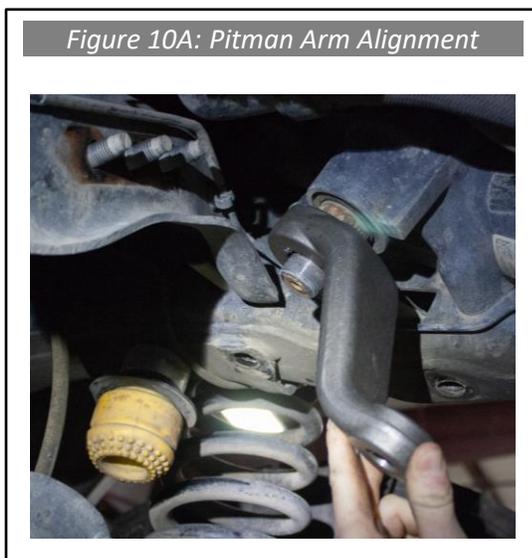
Figure 8C: Track-Bar Frame Mount



- Once the track-bar mount has been removed, loosen and remove the pitman arm nut at the steering box pivot (Figure 9A). Use a 2-jaw puller to remove the pitman arm from the steering box (Figure 9B).



- Locate the Cognito 4" drop pitman arm, align the new pitman arm at the same orientation as OE by aligning the locating splines (Figure 10A). Re-Install the OE pitman arm nut and torque to 250 ft.-lbs. (Figure 10B).



- Locate the Cognito track-bar bracket (Part # 8547) and install using the (2) OE bolts and (3) OE nuts previously removed in step 8. Torque the (2) frame mount bolts and (3) cross-member nuts to 129 ft.-lbs. (Figure 11 A/B).

Figure 11A: Cognito Track Bar Bracket



Figure 11B: Cognito Track-Bar Bracket Installed



12. Remove the (2) bolts mounting the OE steering stabilizer frame mount, located on the passenger side frame rail (Figure 12 A/B).

Figure 12A: OE Steering Stabilizer Frame Mount



Figure 12B: Stabilizer Bracket Removed



13. Locate the Cognito steering stabilizer frame bracket (Part # 8544) and install using the (2) OE bolts removed from step 12, (Figure 13 A) and torque to 52 ft.-lbs.

Figure 13A: Cognito Steering Stabilizer Bracket



Figure 13B: Cognito Steering Stabilizer Installed



14. Locate the drag link adjuster, located on passenger side of drag link, and loosen the (2) adjuster clamping bolts and (1) adjuster lock nut (Figure 14 B). Then slide the adjuster lock away from the adjuster.

Figure 14A: Drag link Adjuster Clamp



Figure 14B: Drag Link Adjuster Lock



15. Rotate the drag link so the drag link can be mounted to bottom face of pitman arm (Figure 15A). Tighten the drag link nut to 129 ft.-lbs. Re-install the OE lock retainer and cotter pin, removed in step 7, and deform tang to lock nut in place (Figure 15B)

Figure 15A: Drag Link Orientation



Figure 15B: Drag Link Adjuster Lock



16. Locate the items listed below:

- (1) – FSD Steering Stabilizer Adapter (Part # 8544) (Figure 16A)
- (1) – HARDWARE UBOLT-3/8-16x1-1/4 (HARDWARE-UBOLT-3/8-16x1-1/4)
- (2) – 3/8 Sae F/W Z (HARDWARE-33082)
- (2) – 37264 3/8-16 Lock Nut Gr C
- (1) – FSD Steering Stabilizer Adapter Nut (Part # 6223) (Figure 16C)
- (1) – 1/2"-20 UNF x 1.50 Lg. Cap Screw (H-18912)
- (1) – 1/2" SAE Flat Washer (H-33086)
- (1) – 1/2" Split Lock Washer (H-33626)

Figure 16A: Stabilizer Adapter Mount



Figure 16B: Stabilizer Adapter Orientation



Figure 16C: Stabilizer Adapter Nut



17. Install the tapered steering stabilizer adapter bolt into the bottom of the steering link. Attach the mount as shown in figure 16B using the 1/2-20 bolt, lock washer, and flat washer. Tighten 1/2-20 bolt to 100 Ft.-lbs. (135 Nm) and U bolt nuts to 23 Ft.-lbs. (32 Nm).

18. Use the (1) M12 x 1.25 x 60mm Lg. and (1) M12x1.25 flange nut to install the OE stabilizer to the Cognito stabilizer bracket, installed in step 13, and torque to 75 ft.-Lbs. (Figure 18 A/B).

Figure 18A: M12x1.25x60



Figure 18B: Steering Stabilizer

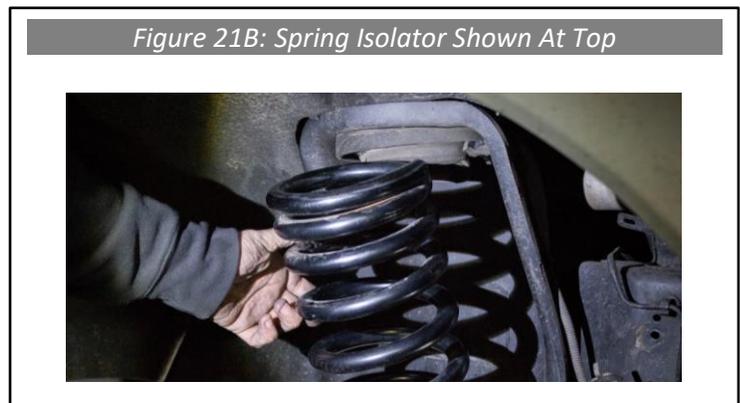


19. Tighten the bolt connecting the steering stabilizer to the adapter bracket to 66 ft.-lbs. (Figure 19B).



20. If a rear lift has been selected for this installation, refer to the rear lift install sheet selected for this installation. Brake lines, wiring, rear shocks, or rear sway-bar may need to be removed before proceeding with this step.

21. Properly position and check to ensure that all brake lines, vacuum lines, hoses, and wiring are free to lift vehicle. Raise the vehicle slowly until the front spring preload is removed (Figure 21 A). DO NOT raise the vehicle any higher than necessary to remove springs. This could result in driveline, wiring, brake line, and suspension component damage. Remove front springs and rubber isolator from the driver and passenger side spring perch (Figure 21B).



22. Once the front springs are removed, refer to the instruction sheet listed below that has been selected for this installation before proceeding:

- Cognito Caster Adjustable Radius Arm Kit (SKU: 120-90408), (Install Sheet, 7153)
- Cognito 4" Drop Bracket Kit (SKU: 120-70088), (Install Sheet, 7167)

23. Locate the OE bump stop underneath both driver and passenger side frame rails. Remove the bump stop using a screwdriver to pry out of the bump stop mount (Figure 23A). Once the bump stop is removed, loosen the bolt and remove OE bump stop mount from the frame rail (Figure 23B).

Figure 23A: OE Bump Stop Spacer



Figure 23B: FSD Bump Stop Spacer Hardware



24. Locate the items listed below (Figure 24A):

- (2) – 2.5" FSD Bump Stop Spacer (Part # 6290)
- (2) – M8x1.25x80mm Lg. Cap Screw
- (2) – 5/16" SAE Flat Washer
- (2) – 5/16" Lock Washer

Figure 24A: FSD Bump Stop Spacer Hardware



25. Insert the locking tab on the OE bump stop mount into the alignment hole on the bump stop spacer (Figure 25A). Using (1) M8x1.25x80mm Lg. cap screw, assemble with (1) 5/16" lock washer between the bolt head and (1) 5/16" SAE flat washer. Orientate the spacer so that the flat side of the bump stop mount is facing the spring (Figure 25B), and torque to 25 ft.-lbs.

Figure 25A: Bump Stop Spacer Alignment



Figure 25B: Bump Stop Spacer Orientation



26. Repeat steps 23 – 25 for the opposing side bump stop and spacer.

27. If your model of truck is not equipped with a two piece driveshaft, proceed to step 31. If your truck is equipped with a two-piece driveshaft, locate the carrier bearing spacers and hardware (Figure 27).

Figure 27: Center Support Bearing Spacers



28. The rear lift height chosen for this installation will determine the spacer height and bolt length required.

- Rear Lift Height: 0 – 2 inches
 - Spacer Height: 1/2" (1 spacer per bolt)
 - Bolt Length: 2.00 in.

29. Remove the (2) OE carrier bearing mounting bolts, make sure the drive shaft is properly supported during this prevent drive line damage (Figure 29A). Use the appropriate bolt length and spacer thickness for your application, based on the information in step 28. Insert (1) 7/16" bolt through the carrier bearing with (1) 7/16" lock washer between the bolt (1) 7/16" SAE flat washer. Then mount with spacers between the mount and frame (Figure 29B).

Figure 29A: Center Support Bearing



Figure 29B: Center Support Bearing w/ Spacers



30. Before starting step 30, if using remote reservoir front shocks, refer to those instructions, since the reservoir mount will need to be installed before proceeding further with these instructions. Locate the Cognito coil spring (120-70085), and align the OE rubber isolator, removed in step 21, with the top spring pig-tail (Figure 30A). Install the spring with isolator onto the lower spring perch and rotate until the bottom spring pig-tail makes contact with OE spring perch tab (Figure 30B). Repeat for the opposing side of vehicle front spring.

Figure 30A: Coil Spring and Isolator Orientation



Figure 30B: Bottom Spring Pig-tail Orientation



31. Once the springs are installed, locate the Cognito/FOX extended length shocks. Remove the top washer (Figure 31A) and bushing, then insert the top shock mounting stud through the frame, making sure the polyurethane pancake bushings are in place on both sides of frame. Install the top mounting washer with the concave side against bushing (Figure 31B). Repeat for the opposing side front shock, but do not tighten at this time.

Figure 31A: Concave Shock Mounting Washer



Figure 31B: Top Shock Mount Installed



32. Before starting step 32, it is recommended to get another person to assist during this step. Align both front shock bottom eyelets into lower shock mount shackle. Slowly lower the vehicle until the lower shock eyelets are aligned with the shackle mounting hole (Figure 32A). Re-install the OE bolt and locking nut plate, then torque the lower nuts to 66 ft.-lbs. and the upper nuts to 52 ft.-lbs. (Figure 32B).

Figure 32A: Front Lower Shock Mount



Figure 32B: Front Lower Shock Mount Installed



33. Locate the driver side ABS line mounted on the driver side radius arm (Figure 33A). This line will need to be removed from the OE retainer on the radius arm (Figure 33B). Use the 6" black cable ties (H-63124) to attach the ABS line to the front axle vent. Make sure the line is secure in an orientation that avoids interference with the driver side bump-stop pad through full suspension travel (Figure 33C).

Figure 33A: Driver Side ABS Line



Figure 33B: ABS Line Installed



Figure 33C: ABS Line Routing



34. Locate the passenger side ABS line mounted to the front side of the front cross-member (Figure 34A). Remove the OE plastic retainer, then use the supplied zip-ties to secure the ABS line in an orientation to prevent any chaffing or wear (Figure 34B).

Figure 34A: Passenger ABS Line Location



Figure 34B: Passenger ABS Line Routing



35. Slowly lower the truck down to static ride height, making sure sway-bar end links are aligned with mounting location to prevent end link damage. Once at normal operating ride height, tighten the top shock mounts to the OE torque specification. Re-install the OE sway-bar end link nuts to both sway-bar end links, tightening to 59 ft.-lbs.

36. Rotate the track-bar up and install into the Cognito track bar mount, installed at step 11 (Figure 36A). Assemble using the OE track-bar bolt and nut, removed during step 6, torque to 406 ft.-lbs. (Figure 36B).

Figure 36A: Track-bar Alignment



Figure 36B: Track-bar Installed



37. Locate the components listed below (Figure 37 A/B):

- (1) – 2011-2019 Ford F250/F350 Sway Bar Spacer (Part # 8313)
- (1) – 2011-2019 Ford F250/F350 Sway Bar Spacer (Part # 8582)
- (4) – 7/16"-14 X 1 1/4" Cap Screw (H-15157)
- (8) – 7/16" SAE Flat Washers (H-33084)
- (4) – 7/16-14 Lock Nut (H-37266)

Figure 37A: Sway-Bar Spacers



Figure 37B: Sway-Bar Spacer Hardware



38. Locate the OE sway bar mounts on both driver and passenger side frame rails (Figure 38A). Remove the (2) sway bar mounting bolts from each sway bar mount on both sides of the vehicle (Figure 38B).

Figure 38A: OE Sway-bar Mount



Figure 38B: OE Sway-Bar Nuts Removed



39. Install the Cognito sway-bar spacer brackets in place on both sides of the vehicle. Assemble using the OE nuts previously removed, but do not tighten at this time (Figure 39A). Then fasten the OE sway-bar mounts on both sides of the vehicle to the Cognito spacer brackets using the (4) 7/16"-14 cap screws with (1) SAE 7/16" washer between the bolt head and bracket and (1) washer between nut and sway-bar mount. Once all the hardware is installed, tighten the OE sway-bar frame mounting nuts to the OE torque specification 35 ft.-lbs. Now tighten the (4) 7/16"-14 cap screws to 70 ft.-lbs. (Figure 39B).

Figure 39A: Sway Bar Drop Brackets



Figure 39B: Sway Bar Installed onto Drop Bracket

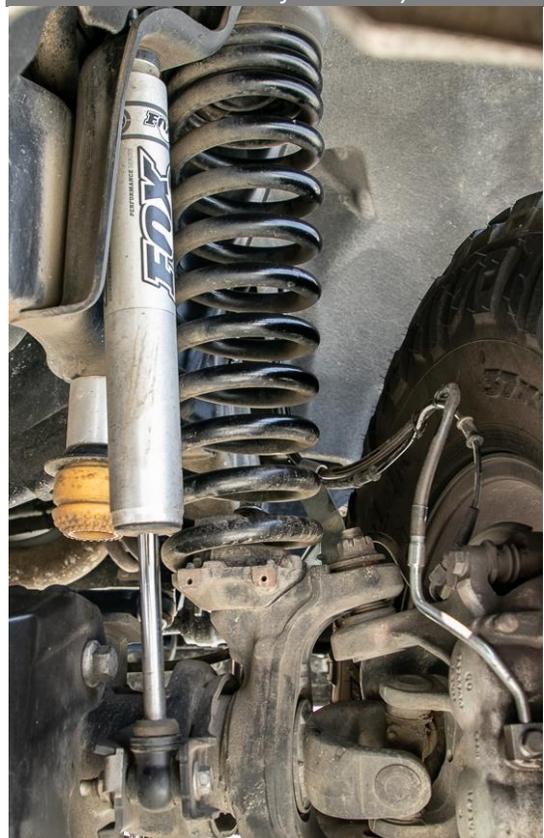


40. Connect the extended brake lines between the factory hard brake lines and the brake calipers. Attach the brake lines to the axle as shown in figure 40A/B. Bleed brakes.

Figure 40A: Brake Line Routing (Passenger Side Shown from Front)



Figure 40B: Brake Line Routing (Passenger Side Shown from Rear)



41. Before starting step 41, make sure that all mounting hardware and fasteners are tight in case something was missed. The only item that should remain loose is the steering link adjuster, loosened during step 14. Move the vehicle forwards and backwards a few feet to settle the suspension.
42. Make sure the vehicle is in park with the emergency brake activated, and the engine running. Rotate the drag link adjuster in the appropriate direction to center the steering wheel (Figure 42A). Once the steering wheel is in the proper location, rotate the adjuster clamp independently of the adjuster so that it faces the front of the vehicle, then tighten the (2) adjuster clamp bolts to the OE torque specification which is 41 ft.-lbs. Then slide the adjuster lock into position and tighten the (1) locking nut to the OE torque 41 ft.-lbs. (Figure 42B).

Figure 42A: Drag Link Adjustment

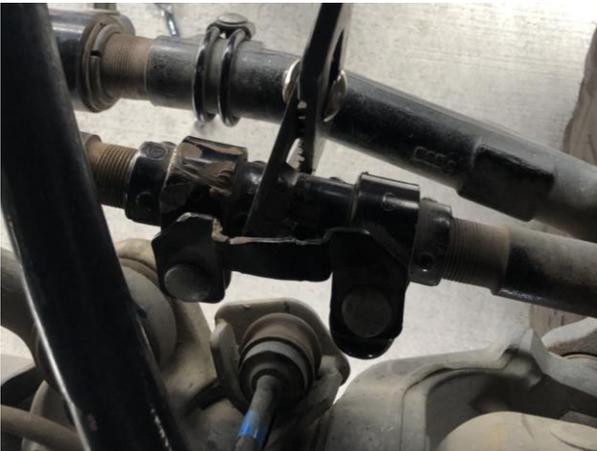
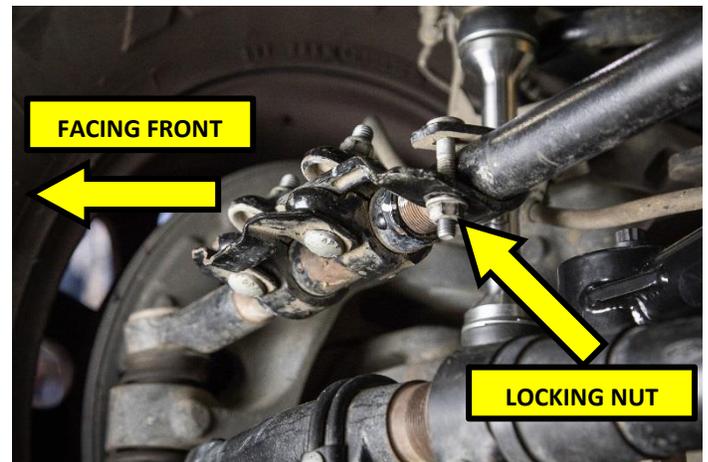


Figure 42B: Drag Link Adjuster Secure



43. Although the steering wheel is now straight, the vehicle may still need a proper professional alignment.

WARRANTY / RETURN POLICY / SAFETY

Cognito Limited Lifetime Warranty

Cognito Motorsports, Inc. hereinafter "Cognito," warrants to the original retail purchaser, that its suspension products are free from workmanship and material defects for as long as the purchaser owns the vehicle on which the product(s) were originally installed. This warranty will be void if any modifications are made to the components, including alterations to the surface finish, i.e.; painting, powder coating, plating, and/or welding, or if they are improperly installed. Cognito truck suspension products are not designed nor intended to be installed on "competition" vehicles used in race applications, stunt or for exhibition purposes that are outside of the intended operating conditions specified by the manufacturer. Racing and competition are defined as any contests between two or more vehicles; or vehicles competing individually on off road circuits in timed events (whether or not such contests are for an award or prize).

This warranty does not include coverage for police, taxi, government or commercial vehicles, and the warranty does not cover Cognito products sold outside of the USA. Cognito's obligations under this warranty are specified and applied at its sole discretion, and warranty coverage is limited to repair or replacement of the defective product(s). Any and all costs of removal, installation or reinstallation; freight charges, incidental or consequential damages associated with the covered products are expressly excluded from this warranty.

The following items are exempt from Cognito limited warranty coverage: bushings, bump stops, tie-rod ends (Heim joints) and limiting straps. These parts are "consumables" and designed to wear as a normal part of their duty cycle, therefore they are not considered defective when worn. The aforementioned products are warranted separately against defects in workmanship, for 60 days from the date of purchase. As a condition of warranty validation, respective Cognito suspension components must be installed as a complete system (not combined with non-Cognito hardware or ancillary parts). Any substitutions or omission of required components will void the warranty. Some minor cosmetic wear and imperfections may occur to parts during shipping, which is not covered under this warranty. This limited warranty does not apply to any components that have been subjected to collision damage, negligence, alteration, abuse, or misuse, and coverage does not extend to products manufactured by third-party companies. Cognito reserves the right to supersede, discontinue, or change the design, finish, part number and/or application of its parts when deemed necessary, without notice.

Return Policy

Product returns will not be accepted without prior written approval from an authorized Cognito representative. All products being returned must be shipped via trackable, prepaid freight. Returned products are subject to a 25% percent restocking fee. The eligible return period for products purchased directly from Cognito is 30 days from the verified date when the product(s) were originally received by the purchaser.

Product Safety Advisory

The installation of Cognito steering and suspension components will modify your vehicle's original factory equipment and geometry, which may cause it to handle differently than a stock (unaltered) vehicle. Installation of these components is not intended to strengthen nor reinforce the vehicle's frame, nor are they designed to increase rollover protection. It is necessary to periodically inspect all suspension and drive train components for proper attachment, torque specifications, operation, and for any potential unusual wear or damage. Installation of these parts will modify the height of the vehicle and may raise the center of gravity. Modifying vehicle height combined with off road operation may increase your vehicle's susceptibility to rollover conditions, which may cause serious injury or death. Many states regulate allowable vehicle height modifications, and it is your responsibility to know and comply with the legal requirements specified by the laws where you reside. Modifications to your vehicle's ride height may also affect the ride quality, driver input response, trackability and handling, and wear to your vehicle's suspension components and tires.