

OE STRUT STUD CUTTING WARNING

The factory studs on the top of the struts MUST be trimmed to be flush or below the top surface of the strut spacer part numbers 05113 and 05115.

Failure to trim these studs will result in broken strut top spacers.

Details about the strut stud trimming can be found in the attached instruction sheet.



F1430, F1431 Installation Instructions 2021 Ford Bronco 2 Door / 4 Door 4" (Base) Strut Spacer / Perch Collar Lift Kit

Read and understand all instructions and warnings prior to installation of product and operation of vehicle.

Zone Offroad Products recommends this system be installed by a professional technician. In addition to these instructions, professional knowledge of disassembly/ reassembly procedures and post installation checks must be known. Minimum tool requirements include the following: Assorted metric and standard wrenches, hammer, hydraulic floor jack and a set of jack stands. See the "Special Tools Required" section for additional tools needed to complete this installation properly and safely.

>>> PRODUCT SAFETY WARNING

Certain Zone Suspension Products are intended to improve off-road performance. Modifying your vehicle for off-road use may result in the vehicle handling differently than a factory equipped vehicle. Extreme care must be used to prevent loss of control or vehicle rollover. Failure to drive your modified vehicle safely may result in serious injury or death. Zone Offroad Products does not recommend the combined use of suspension lifts, body lifts, or other lifting devices.

You should never operate your modified vehicle under the influence of alcohol or drugs. Always drive your modified vehicle at reduced speeds to ensure your ability to control your vehicle under all driving conditions. Always wear your seat belt.

>>> TECHNICAL SUPPORT

www.zoneoffroad.com may have additional information about this product including the latest instructions, videos, photos, etc.

Send an e-mail to *tech-zone@ridefox.com* detailing your issue for a quick response.

888.998.ZONE Call to speak directly with Zone tech support.

>>> PRE-INSTALLATION NOTES

- Special literature required: OE Service Manual for model/year of vehicle. Refer to manual for proper disassembly/reassembly procedures of OE and related components.
- 2. Adhere to recommendations when replacement fasteners, retainers and keepers are called out in the OE manual.
- 3. Larger rim and tire combinations may increase leverage on suspension, steering, and related components. When selecting combinations larger than OE, consider the additional stress you could be inducing on the OE and related components.
- 4. Post suspension system vehicles may experience drive line vibrations. Angles may require tuning, slider on shaft may require replacement, shafts may need to be lengthened or trued, and U-joints may need to be replaced.
- 5. Secure and properly block vehicle prior to installation of Zone Offroad Products. Always wear safety glasses when using power tools.
- 6. If installation is to be performed without a hoist, Zone Offroad Products recommends rear alterations first.
- 7. Due to payload options and initial ride height variances, the amount of lift is a base figure. Final ride height dimensions may vary in accordance to original vehicle attitude. Always measure the attitude prior to beginning installation.

Difficulty Level

easy 1 2 3 4 5 difficult

Estimated installation: 3-4 hours Special Tools Required

Strut Compressor

Air Hammer (Recommended)

35mm Axle Nut Socket

27mm Socket

OTC 204-592 Ball Joint Separator (Recommended)

Tie Rod End Separator (Recommended)

Tire/Wheel Fitment

275/70 w/ stock 18" Outer Banks Wheels

275/80 w/ stock 17" Black Diamond Wheels

315/70 w/ stock 17" Sasquatch Wheels

285/70 w/ stock 17" Badlands Wheels

35" x 11.2" on 6" to 5" BS, 9" wide wheels

35" x 12.50" on 5-1/2" to 5" BS, 9" wide wheels

See more information at end of instructions.

BS = Backspacing

All tire/wheel fitment is with intrusion beams removed.

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F1430 Kit Contents - 4" Lift (4 Door, Base Shock Package)

Qty Part

2 Front Upper Strut Spacer

2 Rear Upper Strut Spacer

2 3/8" Rear Upper Strut Spacer

4 Tall Preload Spacer

4 Tall Bump Stop Extensions

1 Bolt Pack 370

24 10mm-1.50 Prevailing Torque Nut

24 10mm Washer

6 10mm-1.50 x 45mm Bolt

6 10mm-1.50 x 60mm Bolt

F1431 Kit Contents - 4" Lift (2 Door, Base Shock Package)

Qty Part

2 Front Upper Strut Spacer

2 Rear Upper Strut Spacer

4 Tall Preload Spacer

4 Tall Bump Stop Extensions

1 Bolt Pack 368

24 10mm-1.50 Prevailing Torque Nut

24 10mm Washer

6 10mm-1.50 x 45mm Bolt

6 10mm-1.50 x 50mm Bolt

IMPORTANT

It is required that ride height measurements be taken before and after installation. Measure from the **WHEEL AXLE CENTER** up to the **FENDER LIP** of the wheel opening. Do this for all 4 wheels. Record measurements below.**

BEFORE:

LF_____ RF____ LR___ RR_____

AFTER:

LF_____ RF____ LR___ RR____



**These ride heights will be required if you have any ride height concerns after installation. Please be prepared to provide these to Technical Support.

INSTALLATION INSTRUCTIONS

>>> Pre-Installation Notes

- A BASE model is considered a Bronco with struts that are BLACK from the fac tory. Base, Big Bend, Black Diamond, and Outer Banks all come standard with BLACK struts.
- 2. A BADLANDS model is considered a Bronco with struts that are Yellow from the factory with the resivour pointing upwards. A Badlands is its own specific model with its own specific suspension package.
- 3. A SASQUATCH model is considered a Bronco with struts that are Yellow from the factory with the resivour pointing downwards. Any model can be OPTIONED to a Sasquatch package. Sasquatch is STANDARD on Wildtrack, Everglades, and First Edition. A Badlands WITH Sasquatch is a SASQUATCH suspension package.



Figure A

- 4. F1301 & F1302 can be used ONLY with Sasquatch Suspension Package vehicles. This kit is designed to lift the front of the vehicle 3" and rear 2".
- 5. F1303 & F1304 can be used ONLY with Badland Suspension Package vehicles. This kit is designed to lift the front of the vehicle 3.5" and rear 2.5".
- 6. F1431 & F1430 can be used ONLY with Base Suspension Package vehicles. This kit is designed to lift the front of the vehicle 4" and rear 3".
- 7. CV axle nut may need to be loosened and tightened on the ground with the weight the vehicle.
- 8. Although 37" x 12.50" will work at ride height, the tires will still contact the front body mount and possibly rear inner fender through wheel travel and steering lock to lock. If running this size tire and using the full suspension travel, these areas must be addressed.
- 9. Does not fit Bronco Sport models.

Step 4 Note:

Do not use power tools to remove the stabilizer bar link nut to the lower control arm. Damage to the stabilizer bar link ball joint or boot may occur

>>> FRONT DISASSEMBLY

- 1. Park the vehicle on a clean, flat surface and block the rear wheels for safety.
- 2. Raise the front of the vehicle and support with jack stands at the frame rails.
- 3. Remove the front wheels.
- 4. Disconnect the driver's and passenger's side front sway bar links from the lower control arm. Figure 1A Another option is to remove the 2 bolts and 2 nuts attaching the sway bar to the frame on the driver and passenger while still leaving the sway bar links attached to the lower control arm Figure 2B. Allow the sway bar to rest out of the way for the front end disassembly. Thread locker will be required if disassembled from the mounts to the frame.



Figure 1A



Figure 1B

Complete this portion of the installation on one side at a time

5. Disconnect the front brake line and ABS line from the steering knuckle. Figure 2



Figure 2

6. Disconnect the front brake line from the frame. Figure 3



Figure 3

7. Remove the steering tie rod end nut from the tie rod end at the steering knuckle. Use a tie rod end remover to dislodge the tie rod end from the knuckle. Be careful not to damage the boot. Figure 4 Remove the tie rod end from the knuckle.



Figure 4

8. Remove the upper ball joint nut and thread back on a couple of turns by hand. Use a ball joint separator tool to dislodge the upper ball joint from the knuckle (204-592 tool recommended). Be careful not to damage the boot. Figure 5 Remove the nut and remove the ball joint from the knuckle. Allow the knuckle to rest back away from the front strut.



Figure 5

9. Optional: Remove the CV retaining nut. Figure 6



Figure 6

10. Optional: Use an air hammer to dislodge the CV shaft from the hub Figure 7. This step is optional, but will make it easier to remove the strut from the vehicle.

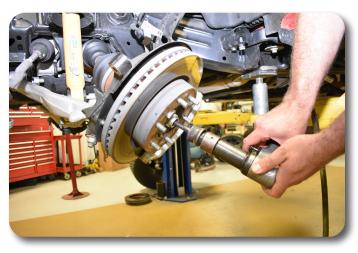


Figure 7

Step 10 Note:

Be careful not to hit the threads on the CV shaft

A punch and hammer can also be used to dislodge the CV shaft from the hub..

Step 11 Note:

Be sure to support the lower control arm / knuckle assembly when removing the strut.

A punch and hammer can also be used to dislodge the studs from the lower strut mount.

11. Support the lower control arm with an appropriate jack. Remove the lower strut mount nuts at the lower control arm. *OPTIONAL:* This can be done to make the strut easier to be removed. Use an air hammer to dislodge and remove the strut studs in the lower strut mounts Figure 8.



Figure 8

12. Remove the three upper strut mounting nuts at the frame. Figure 9 DO NOT remove the center strut rod nut.



Figure 9

13. Using the jack, lower the lower control arm / knuckle assembly and remove the strut from the vehicle Figure 10.

Step 13 Note:

Be sure to support the lower control arm / knuckle assembly when removing the strut.



Figure 10

>>> STRUT SPACER INSTALLATION

14. Remove the pin in the strut top hat Figure 11.



Figure 11

15. Place alignment marks on the upper top hat, isolator, spring, strut body and lower coil seat for reference when the strut is assembled Figure 12. Spring rotation is critical and the spring position must not change relative to the lower strut body alignment marks, just rotate the metal top hat and not the spring isolator.



Figure 12

Step 16 Note:

caution Coil Spring is under extreme pressure. Improper removal/installation of coil spring could result in serious injury or death. Use only a high-quality spring compressor and carefully read and follow the manufacturer's instructions.

Step 18 Note:

A punch / chisel may be needed to remove the strut washer.

See Figure 14C

16. While still using the strut compressor, compress the coil spring and remove the upper strut nut Figure 13.



Figure 13

- 17. Remove the lower strut assembly from the strut compressor, the top hat and spring can remain in the strut compressor.
- 18. Remove the strut washer, dust boot, bump stop, plastic or metal cap, and the lower spring seat from the strut body Figure 14A & B. After fully disassembled the strut should be the same as Figure 14D for black body struts.



Figure 14A



Figure 14B



Figure 14C



Figure 14D

19. Install the provided preload spacer ring on the strut body such that the groove in the preload spacer goes over the bulge in the strut body where the OE lower coil seat mount was Figure 15 (All preload spacer heights are the same).



Figure 15

20. Reinstall the lower coil seat, plastic or metal cap, bump stop, and dust boot in reverse order Figure 16A & B.

Step 19 Note:

The preload spacer ring may need to be tapped down the strut body. The lower spring seat can be used to help seat the preload spacer all the way down to the snap ring or bulge.



Figure 16A



Figure 16B

21. Install the provided poly bump stop extension on top of the bump stop followed by the strut washer as shown in Figure 17. (All poly bump stop extensions are the same)



Figure 17

22. Reassemble the lower strut assembly with the top hat and spring. Due to lower bar pin angle in the strut, the top plate of the strut assembly must be rotated 180 degrees. Figure 18. This will allow the lower bar pin to reassemble in the lower control arm smoothly. Spring rotation is critical and the spring position must not change, just rotate the metal top hat and not the spring isolator.

Step 22 Note:

More preload will need to be put into the spring to reinstall the strut nut.



Figure 18 (Strut on the right has the top hat rotated 180 degrees, strut on the left is stock orientation with the bar pin angle the same)

- 23. Install the shorter 10mm bolts (45mm long) through the hex holes on the bottom of the front strut spacer. The 05047 strut spacer is used on the front on 2 Door & 4 Door Base Shock Package Models (Black Body Struts). The front strut spacer will have a slight taper to it. Attach strut spacer on top of the factory strut with high side of the taper towards the outside of the vehicle.
- **24.** Tighten the strut spacer to the top plate using the provided 10mm washers and OE strut nuts to 35 ft-lbs as shown in Figure 20C. DO NOT EXCEED 35 ft-lbs when tightening the spacer to the strut.



Figure 20A

Step 23 Note:

Hardware for the strut spacers is in Bolt Pack 368 or 370.

The "Made in the USA" / 05047 or 05113 is on the high / thick side of the taper and will face outwards towards the tire when installed.

Step 24 Note:

Hardware for the strut spacers is in Bolt Pack 368 or 370.

The thick part of the spacer will be pointing towards the out side of the vehicle as shown in Figure 20D.

The studs will be just at the surface for the frame mount when installing the strut into the vehicle. A magnet can be used to pull the studs up. This is done to make installation easier when the lower barpin studs are not removed.

In towards frame (low side of the taper)



Out towards tire (high side of the taper)

Figure 20B



Figure 20C, Base Shock Package Models (Black Body Struts);

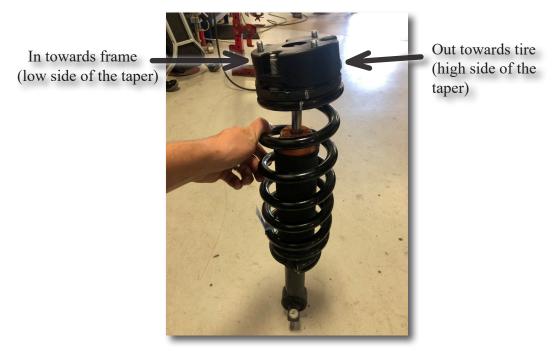


Figure 20D

25. Reinstall the strut assembly into the upper frame mount by aligning the studs in the new spacer with the original mounting holes and aligning the lower studs with the mounting holes in the lower control arm Figure 21A. It is important to note that the outer winding of the coil spring must face the outside (tire side) of the vehicle Figure 21C & D. This is to ensure proper "bowing" of the coil spring. Verify the coil spring position and adjust accordingly using a strut compressor.



Figure 21A

Driver Side: The lower end tip faces front of the vehicle. Figure 21B

Passenger Side: The lower end tip faces rear of the vehicle. Figure 21B

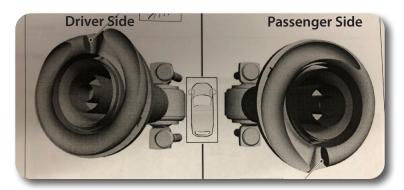


Figure 21B



Figure 21C (Driver Side viewed from the front)



Figure 21D (Passenger Side viewed from the front)

- 26. Loosely fasten the strut to the upper frame mount with the provided 10mm nuts and 10mm washers.
- 27. Loosely fasten the strut to the lower control arm replacing the nuts onto the studs. If the studs were removed earlier for ease of removal of the strut, replace the studs and nuts.
- 28. Tighten the upper frame mount nuts to **35 ft-lbs.** DO NOT EXCEED **35 ft-lbs** when tightening the spacer to the strut.
- 29. Tighten the two lower strut stud / nuts to 66 ft-lbs. If the lower strut studs were removed, ensure that the stud is fully seated into the lower bar pin on the strut after torquing.

>>> FRONT INSTALLATION

- 30. Install Zone Upper Control Arms (ZONF2302) at this time. Follow instructions provided with the upper control arms for installation.
- 31. With the strut installed, reconnect the knuckle to the upper ball joint. Replace with factory hardware Figure 22A. While connecting the upper ball joint, be sure that the CV shaft properly aligns into the hub Figure 22B. Torque the upper ball joint nut to 46 ft-lbs.



Figure 22A



Figure 22B

32. Be sure the CV is properly seated in the hub and replace the factory CV axle nut using Red Loctite on the threads. Torque the CV axle nut to 221 ft-lbs. Figure 23



Figure 23

- 33. Reconnect the brake line bracket and ABS line to the steering knuckle and frame with the factory bolts. Torque hardware to 159 in-lbs.
- 34. Attach the steering tie rod end to the steering knuckle and replace with factory nuts. Torque to 46 ft-lbs.
- 35. Complete installation of strut spacers on both sides of the vehicle.

>>> FINAL FRONT INSTALLATION

- 36. With both sides complete, reconnect the sway bar links to the lower control arm and replace with factory hardware. Torque to 111 ft-lbs. If the sway bar was removed from the mounts to the frame, replace the 2 factory bolts and 2 factory nuts to the mounts in the frame. Thread locker must be used on the bolts if removed from the mounts to the frame.
- 37. Check all brake / ABS lines for proper routing and clearances.
- 38. Install the wheels and lower the vehicle to the ground. Torque lug nuts to 100 ft-lbs in a crossing pattern.

>>> REAR DISASSEMBLY

1. Block the front wheels for safety.

Step 32 Note:

CV axle nut may need to be torqued on the ground with the weight of the vehicle.

Step 36 Note:

Do not use power tools to remove / install the stabilizer bar link nut to the lower control arm. Damage to the stabilizer bar link ball joint or boot may occur

- **2. Optional:** Disconnect the rear track bar from the rear axle mount. Save hardware.
- 3. Raise the rear of the vehicle and support with jack stands under the frame rails just ahead of the lower control arm mounts.
- 4. Support the axle with a hydraulic jack.
- 5. Remove the wheels.

Complete this portion of the installation on one side at a time

6. Remove the screws and screw clips attaching the rear inner fenders to the vehicle Figure 24A & B. Remove the inner fender from the vehicle. This will allow access to the rear upper strut mounts.



Figure 24A



Figure 24B

7. Make sure the rear axle is supported. Remove the three upper strut mounting nuts at the frame. Figure 25 DO NOT remove the center strut rod nut.



Figure 25

8. Remove the lower strut mount bolt from the axle end. Figure 26



Figure 26

9. Remove the strut assembly from the vehicle Figure 27.



Figure 27

>> REAR INSTALLATION

10. Place alignment marks on the upper strut mount, isolator, spring, strut body and lower coil seat for reference when the strut is assembled. Figure 28

Step 11 Note:

is under extreme pressure. Improper removal/installation of coil spring could result in serious injury or death. Use only a high-quality spring compressor and carefully read and follow the manufacturer's instructions.



Figure 28

11. Use a strut compressor to compress the coil spring and remove the upper strut nut Figure 29.



Figure 29

- 12. Remove the lower strut assembly from the strut compressor, the top hat and spring can remain in the strut compressor.
- 13. Remove the strut washer, dust boot, bump stop, metal or plastic strut cap, and the lower spring seat from the strut body. After fully disassembled the strut should be the same as Figure 30D.



Figure 30A

Step 13 Note:

A punch / chisel may be needed to remove the strut washer.

See Figure 29C



Figure 30B



Figure 30C



Figure 30D - Black Body Strut Models

14. Install the provided preload spacer ring on the strut body such that the groove in the preload spacer goes over the bulge in the strut body where the OE lower coil seat mount was Figure 31A (All preload spacer heights are the same).



Figure 31A

Step 14 Note:

The preload spacer ring may need to be tapped down the strut body. The lower spring seat can be used to help seat the preload spacer all the way down to the snap ring or bulge. 15. Reinstall the lower coil seat, metal or plastic strut cap, bump stop, and dust boot in reverse order Figure 32A & B.



Figure 32A



Figure 32B

16. Install the provided poly bump stop extension on top of the bump stop followed by the strut washer as shown in Figure 33. (All poly bump stop extensions are the same)



Figure 33

>> STRUT TOP SPACER INSTALLATION

17. Reassemble the lower strut assembly with the top hat and rotate the metal top hat 180 degrees from its initial position. Use the marks made in the previous step as a reference.

isolator.

Step 17 Note:

Spring rotation is critical and the spring position must not change, just rotate the metal top hat and not the spring 18. The rear studs will need to be trimmed for the strut spacer to be installed. The studs must be 1" tall from the mounting surface Figure 34.



Figure 34

19. Install the longer 10mm bolts (50mm long bolts are in the 368 Bolt Pack and 60mm long bolts are in the 370 Bolt Pack) through the hex holes on the bottom of the rear strut spacer (05115) Figure 35A. Attach strut spacer on top of the factory strut Figure 35B. Tighten to the top plate using the provided 10mm washers and OE strut nuts to 35 ft-lbs Figure 35C. DO NOT EXCEED 35 ft-lbs when tightening the spacer to the strut.



Figure 35A

Step 18 Note:

IMPORTANT!

FAILURE TO FOLLOW STUD TRIMMING STEP WILL RESULT IN STRUT SPACER DAMAGE.

Step 19 Note:

Make sure the OE studs do not stick past the top of the strut spacer.

Hardware for the strut spacers is in Bolt Pack 368 or 370

The rear strut spacers **are not** tapered and can be installed any direction on the strut.



Figure 35B



Figure 35C

20. 4 Door Base Shock Package Models (Black Body Struts): Installed the supplied 3/8" taller spacer on top of the poly strut spacer Figure 36.



Figure 36

- 21. Reinstall the strut to the vehicle.
 - 22. Use the provided 10mm nuts and 10mm washer to attach the strut to the frame mount Figure 37.

Step 21 Note:

Hardware for the strut spacers is in Bolt Pack 368 or 370.



Figure 37

23. Attach the strut to the axle using an OE lower strut mount bolt and nut Figure 38.



Figure 38

- 24. Tighten the upper frame mount nuts to **35 ft-lbs.** DO NOT EXCEED **35 ft-lbs** when tightening the spacer to the strut.
- 25. Leave the lower strut bolt / nut loose. Since this is a rubber bushing this will be tighten with the weight of the vehicle on the ground.

>>> FINAL REAR INSTALLATION

- 26. Reinstall the rear inner fender liners using the clips and screws previously removed. Torque any hardware for the inner fender liner to 18 in-lbs.
- 27. Check all brake / ABS lines for proper routing and clearances.
- 28. Install the wheels and lower the vehicle to the ground. Torque lug nuts to 100 ft-lbs in a crossing pattern.
- 29. Bounce the rear suspension to settle it. Tighten the two lower strut bolts / nuts to 350 ft-lbs
- 30. If removed, replace track bar bolt and nut. Tighten to 159 ft-lbs.

>>> FINAL INSTALLATION

- 31. Adjust head lights.
- 32. The vehicle will need a complete front end alignment.
- 33. Check all hardware for proper torque.
- 34. Check hardware after 500 miles...

Post-Installation Warnings

- 1. Check all fasteners for proper torque. Check to ensure for adequate clearance between all rotating, mobile, fixed, and heated members. Verify clearance between exhaust and brake lines, fuel lines, fuel tank, floor boards and wiring harness. Check steering gear for clearance. Test and inspect brake system.
- 2. Perform steering sweep to ensure front brake hoses have adequate slack and do not contact any rotating, mobile or heated members. Inspect rear brake hoses at full extension for adequate slack. Failure to perform hose check/replacement may result in component failure.
- 3. Perform head light check and adjustment.
- 4. Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

Recommend Alignment Specifications

CASTER

 $3.18^{\circ} \pm 0.60^{\circ}$

CAMBER

 $+0.20^{\circ} \pm 0.50^{\circ}$

TOE

 $+0.10^{\circ} \pm 0.15^{\circ}$

Fitment Note:

All Wheel / Tire fitment information is with the front and rear intrusion beams removed same as how a Sasquatch model has them removed.

Tire diameter and width will vary based around tire brands and wheels used. Tire side profile will also affect clearance to the stock UCA and sway bar.

>> WHEEL / TIRE FITMENT NOTES

1. Although 37" x 12.50" will work at ride height, the tires will still contact the front body mount (Figure A & B) and possibly rear inner fender (Figure C) through wheel travel and steering lock to lock. If running this size tire and using the full suspension travel, these areas must be addressed.



Figure A



Figure B



Figure C

2. A maximum of 35" x 12.50" tire on a 17x8.5, 17x9, 18x8, 18x9, or 20x9 on 5.5" to 5" back spacing will clear through wheel travel and is recommended for best performance and minimal rubbing Figure D.



Figure D

- 3. A 275/70R18 is recommended on 18" Outer Banks wheels or other wheels with similar back spacing (6.375" BS). Wider tires may rub the sway bar.
- 4. A 275/80R17 is recommended on 17" Black Diamond wheels or other wheels with similar back spacing (6.5" BS). Wider tires may rub the sway bar.
- 5. A 285/70R17 is recommended on 17" Badlands wheels or other wheels with similar back spacing (6.75" BS). Wider tires may rub the sway bar.
- 6. A 315/70R17 is recommended on 17" Sasquatch wheels or other wheels with similar back spacing (6" BS).
- 7. A maximum of 35" x 11.20" (285mm width tire) tire on a 17x8.5, 17x9, 18x8, 18x9, or 20x9 on 6" back spacing will clear through wheel travel and is recommended for best performance and minimal rubbing. Wider tires / more aggressive sidewall tires than 285mm width (295-315mm widths) will rub the sway bar and / or UCA on a 6" back space wheel.

20": 285/65R20, 285/60R20

18": 285/75R18, 285/70R18

17": 285/75R17, 285/70R17

8. 35" x 12.50" tire on a stock 17" Badlands, 17" Black Diamond or 18" Outer Banks wheel will NOT clear through wheel travel and will rub on the UCA when turning Figure E and the sway bar. Any other stock wheel or aftermarket wheel with 6.75" to 6" back spacing will have similar rub issues on a 35" x 12.50" tire.



Figure E