F2301, F2305 Installation Instructions
2015-2020 Ford F150 4WD
3" Adventure Series 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

1. 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

Ball Joint Separation Tool

Strut Compressor

Tire/Wheel Fitment

3" Lift: 35 x 12.50 w/5.5" BS *Trimming Required*

Max 5.5" BS required on 12.50 wide tires

Stock wheels and stock tires can be installed, but are tight to the ball joint cup

ZONF2301 Kit Contents

Qty	Part
1	Bag Kit - B1405
	2 - Ball Joint Cap - Zone
	2 - O Ring
	1 - Multi Purpose Grease
	2 - 1/2" Washer
	2 - 1/4" Spacer
1	Bolt Pack BP1007
	8 - 9/16" Nut, Black
	8 - 9/16" Washer, Black
2	2" Rear Dual Pin Block
4	Knurled Center Pin - (3/4")
4	9/16" x 3-1/8" x 9" Sq. U-bolt
1	UCA Assembly - DS
1	UCA Assembly - PS
1	Bolt Pack - BP838
	2 - 12mm x 70mm Bolt
	2 - 12mm Torque Nut
	4 - 1/2" SAE Washer

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.*

PRE-INSTALLATION NOTES

1. Do NOT hit the aluminum knuckle on later model trucks with a hammer to separate the ball joint. Use appropriate ball joint separation tool.
2. Preload spacer will only work on OEM struts, aftermarket strut body diameters will vary, causing the preload spacer ring to not work.
3. For replacement ball joints use service kit ZONF8202 or ZONF8212. Ball joint is directional and must be installed with the 'dot' facing either inward or outward on the vehicle, otherwise damage may occur.

INSTALLATION INSTRUCTIONS

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. 2011 and newer models equipped with EPAS (Electronic Power Assist Steering), disconnect the power steering control module connector to avoid arching of the contacts in the internal power relay from a hammer blow or impact wrench.
5. Disconnect the driver's and passenger's side front sway bar links from the sway bar. Save sway bar link nuts. Figure 1

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

6. Disconnect the front brake line and ABS line from the steering knuckle. Save bolts. Figure 1

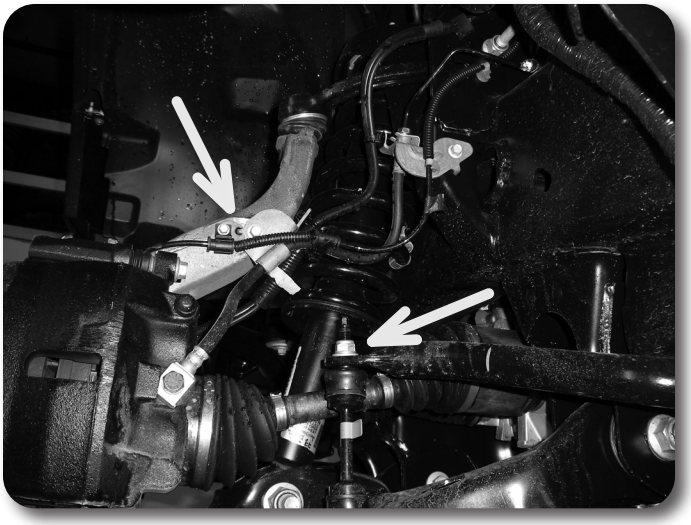

Figure 1

Step 7 Note

Remove the dust cap by firmly squeezing with the pliers and working up and down while pulling out.

7. Locate the small dust cap on the hub. **Figure 2** Carefully remove the cap using a pair of channel lock (or any wide jaw style) pliers. Save dust cap.'

Figure 2

8. Remove the CV retaining nut (which was covered by the dust cap). Save nut. **Figure 3**

Figure 3

9. Remove the steering tie rod end nut from the tie rod end at the steering knuckle. Remove the tie rod end from the steering knuckle. Figure 4 Save nut.

Figure 4

10. Remove the upper control arm ball joint nut from the ball joint at the steering knuckle. Remove the upper ball joint from the steering knuckle. Figure 5 Discard nut it will not be reused. Allow the knuckle to rest back away from the front strut.

Figure 5

11. Support the lower control arm with an appropriate jack. Remove the three upper strut mounting nuts at the frame. Save hardware. Figure 6 DO NOT remove the center strut rod nut. Save nuts.

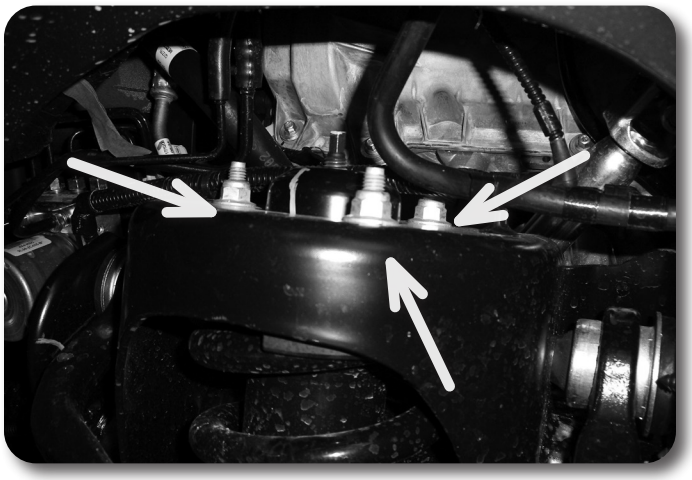

Figure 6

Step 9 & 10 Notes

A ball joint separation tool is the preferred method to dislodge the tie rod end. If one is not available a hammer can work, but must be careful on aluminum knuckles. Thread the nut back on a couple of turns by hand. Strike the knuckle near the tie rod end to dislodge it from the knuckle.

12. Remove the lower strut mount bolt/nut at the lower control arm. Lower the control arm and remove the strut from the vehicle. Save lower strut hardware.

» Strut Spacer Installation

Loaded struts skip ahead to step 22

13. Place alignment marks on the upper strut mount, isolator, spring, strut body and lower coil seat for reference when the strut is reassembled, **Figure 7A, B, & C**.

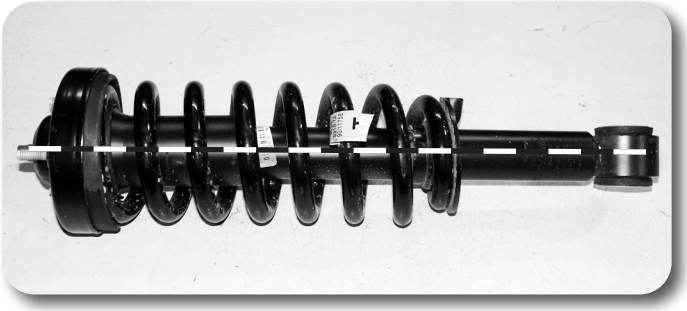

Figure 7A

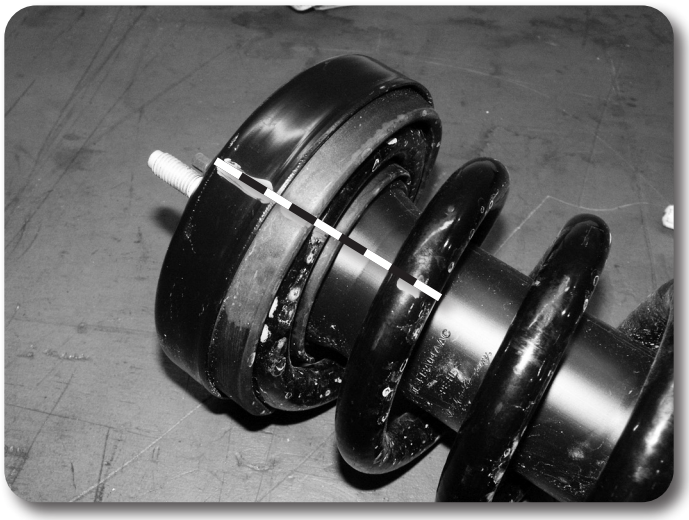

Figure 7B

Figure 7C

14. Using an appropriate strut compressor, compress the coil spring and remove the upper strut nut, **Figure 8**.

! 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.*

Figure 8

15. Remove the lower strut assembly from the strut compressor, the top hat and spring can remain in the strut compressor.
16. Remove the dust boot, bump stop, plastic ring, and the lower spring seat from the strut body, **Figure 9A & B**. After fully disassembled the strut should be the same as **Figure 9C**.

Figure 9A

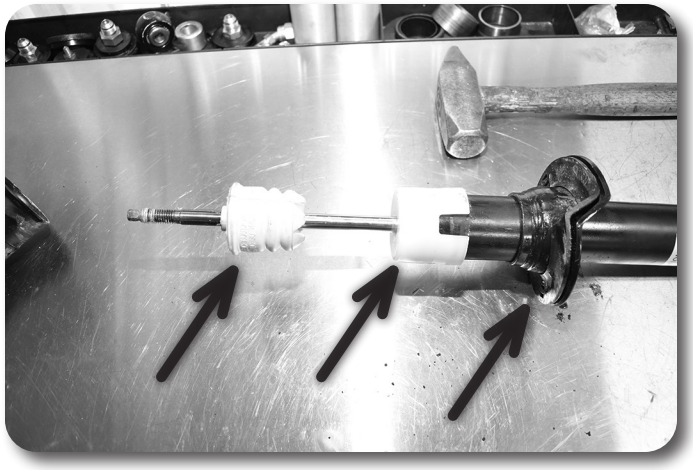

Figure 9B

Figure 9C

17. Install the preload spacer ring on the strut body such that the groove in the preload spacer goes over the snap ring on the strut body, **Figure 10A**.

18. Reinstall the lower coil seat, plastic ring, bump stop, and dust boot in reverse order, **Figure 10B**.

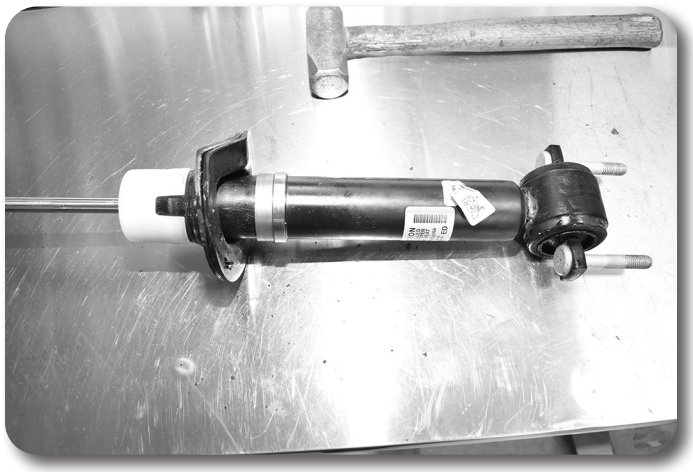

Figure 10A

Figure 10B

Step 20 Notes

Hardware for the upper strut spacers is located in Bolt Pack 659

19. Reassemble the strut. Due to lower bar pin angle in the strut, the top plate of the strut assembly must be rotated 180 degrees. Once the strut is reassembled with the top plate of the strut assembly rotated 180 degrees, torque nut to 41 ft-lbs.

20. Install the 7/16" bolts into the holes labeled "D" only, do NOT use the "P" holes on the passenger's side. Once complete both struts will look **exactly the same**, there will **NOT** be side specific strut assemblies, Figure 11A, B, C, D, E, & F.

Figure 11A

Figure 11B

Figure 11C - Driver's Side Shown

Fig 11D Note

Modified strut assembly on top, stock strut on bottom, notice lower bar pin angle is the same.

Figure 11D

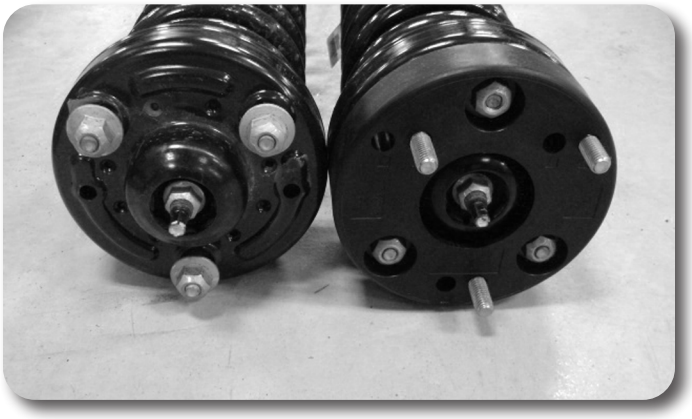

Figure 11E

Figure 11F

21. Tighten the factory strut hardware to 35 ft-lbs, **Figure 12**.

Figure 12 - Passenger's Side Shown

22. Remove the factory upper control arm from the vehicle and retain the upper control arm hardware.

23. Install the modified strut assembly or loaded strut into the upper frame mount by aligning the studs in the new spacer with the original mounting holes. Loosely fasten the strut spacer with the provided 7/16" nuts and washers. Loaded struts, use the factory hardware to attach the top mount to the frame. Leave hardware loose. Use Bolt Pack - BP838

Step 23 Note

Use Bolt Pack - BP838 for loaded strut assembly.

24. Install the bottom of the strut back into the original mount with the factory nuts, torque the factory nuts to 66 ft-lbs. **Loaded struts**, use the provided hardware to attach the lower control arm to the loaded strut, torque this hardware to 66 ft-lbs.

25. With the lower hardware installed, go back and torque the upper hardware to 40 ft-lbs.

26. Install new upper control arm with factory hardware. Do not tighten the bushing hardware at this time, Figure 13.

Figure 13

27. With the strut installed, reconnect the knuckle to the upper ball joint with the provided nut and thick washer. While connecting the upper ball joint, be sure that the CV shaft properly aligns into the hub. Figure 14 Tighten upper ball joint nut to 50 ft-lbs. Zone ball joints do not require the factory torque specification.

Figure 14

28. Be sure the CV is properly seated in the hub and reinstall the original retaining nut. Torque nut to 30 ft-lbs. Reinstall the hub dust cap by tapping in place with a small hammer.

29. Reconnect the brake line and ABS line to the steering knuckle with the original bolt. Torque brake line bolt to 22 ft-lbs and ABS wire bolt to 106 in-lbs.

30. Attach the steering tie rod end to the steering knuckle with the original nut. Torque to 76 ft-lbs.

31. With both sides complete, reconnect the sway bar links to the sway bar with the original hardware. Torque to 59 ft-lbs.

32. If equipped, re-connect EPAS control module connector.
33. Grease the ball joint at this time.
34. Use the included grease packet to lube the o-ring. Install o-ring onto the cap and install cap into the arm. Note: The cap must be removed to grease the ball joint.
35. Install the wheels and lower the vehicle to the ground. Torque lug nuts to 150 ft-lbs in a crossing pattern.
36. Bounce the front of the vehicle to settle the suspension.
37. Torque upper control arm pivot hardware to 122 ft-lbs.
38. Check all hardware for proper torque.
39. Recheck hardware after 500 miles.
40. The vehicle will need a complete front end alignment.
41. Remove the cap and grease the ball joint at regular service intervals.

Rear Installation

1. Block the front wheels for safety.
2. Raise the rear of the vehicle and support with jack stands under the frame rails.
3. Remove the rear wheels.
4. Support the rear axle under the differential with a floor jack.
5. Disconnect the rear shocks from the axle mounts. Save hardware.
6. Remove the passenger's side U-bolts and lower the axle away from the leaf spring. Remove the factory block from the axle and discard.
7. Place the new block between the axle and the leaf pack.
8. Slowly raise the axle with the hydraulic jack in order to assemble the blocks and leaf springs. Make sure that all of the locating pins are inside their female counterparts.
9. Install U-bolts with the supplied fasteners. Be sure the U-bolts are perpendicular to the axle before tightening. Snug up U-bolt hardware, the U-bolts will be torque with the weight of the vehicle on the rear suspension.
10. Repeat the block installation on the driver's side.
11. Install new rear shocks using the provided bushings and sleeves using factory hardware. Tighten rear shock hardware to
12. With both sides complete, install wheels and lower the vehicle to the ground. Torque lug nuts to 150 ft-lbs in a crossing pattern.
13. Bounce the rear of the vehicle to settle the suspension.
14. Tighten the U-bolt nuts in a cross pattern to 100-120 ft-lbs.

Post-Installation

1. Check all hardware for proper torque.
2. Reconnect the positive and negative battery cables if removed.
3. The vehicle will need a complete front end alignment.
4. Check all hardware after 500 miles.
5. Adjust headlights as necessary

Recommend Alignment Specifications

Caster

4.50˚ ± 1.00˚

Camber

-0.20˚ ± 0.75˚

Total Toe

+0.15˚ ± 0.25˚

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.