Part#: **013200**
Product: **2" Front Spacer Kit**
Application: **2004-2007 Ford F150**

READ AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS PRIOR TO INSTALLATION OF SYSTEM AND OPERATION OF VEHICLE.

SAFETY WARNING BDS Suspension Co. 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.

PRODUCT SAFETY WARNING Certain BDS 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. BDS Suspension Co. 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.

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 BDS Suspension components. Always wear safety glasses when using power tools.
6. If installation is to be performed without a hoist, BDS Suspension Co. 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.

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. Longer replacement hoses, if needed can be purchased from a local parts supplier.
3. Perform head light check and adjustment.
4. Re-torque all fasteners after 500 miles. Always inspect fasteners and components during routine servicing.

PARTS LIST

Part #	Qty	Description
01002	2	Strut Preload Spacer
01003	2	Strut Top Spacer
564	1	Bolt Pack
	6	*7/16"-14 x 2" bolt grade 8*
	6	*7/16"-14 hex nut*
	6	*7/16" SAE flat washer*
	6	*7/16" spring lock washer*
	6	*7/16" external tooth lock washer*

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 with a hydraulic jack and support with jack stands under the frame rails.
3. Remove the front wheels.
4. Disconnect the driver's and passenger's side sway bar links from the sway bar (Fig 1). Retain link hardware. Note: Different models have different styles. The links will either have a stem or ball joint mount (stem style shown).

Fig 1

Complete the following steps on one side of the vehicle at a time

5. Remove the steering tie rod end nut from the tie rod end at the knuckle (Fig 2). Thread the nut back on a couple of turns. Strike the knuckle with a hammer near the tie rod end to dislodge it from the knuckle. Remove the nut and the tie rod end from the knuckle. Retain nut. Note: Take care not to damage the tie rod end.

Fig 2

6. Support the lower control arm with a hydraulic jack.
7. Mark the front of the strut body to indicate driver's verses passenger's side.
8. Remove the three upper strut mounting nuts at the frame (Fig 3). Do not remove the center strut rod nut, it is under extreme pressure. Discard mounting nuts.

Fig 3

9. Loosen the lower strut mounting bolt at the lower control arm (Fig 2). This bolt requires a 27mm wrench/socket for the bolt head and a 30mm wrench/socket for the nut. Leave the bolt/nut in place to hold the strut in place.
10. Remove the upper ball joint nut. Thread the nut back on a couple of turns. Strike the knuckle with a hammer near the ball joint to dislodge it from the knuckle. Remove the nut and the upper ball joint from the knuckle. Retain nut. Allow the knuckle to rotate down and backward to gain clearance for the strut to be removed. *Note: Take care not to damage the ball joint. Do not overextend the brake lines.*
11. Remove the lower strut mounting hardware and retain. Remove the strut from the vehicle.
12. Place alignment marks on the upper strut mount, isolator, spring, strut body and lower coil seat for reference when the strut is reassembled (Fig 4A, B, C).

⚠ **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.**

Fig 4a

Fig 4b

Fig 4c

13. Using an appropriate strut compressor, compress the coil spring and remove the upper strut nut (Fig 5). Remove the strut and upper strut mount/isolator from the coil spring.

Fig 5

14. Working on the upper strut mount, remove the coil isolator from the mount and set aside. Remove the plastic strut cover and set aside as well (Fig 6).

Fig 6

15. The original mounting studs must be removed from the strut mount. Place the mount over the jaws of a bench vise and pound out the studs with a hammer (Fig 7).

Fig 7

16. With the OE studs removed, install three 7/16" x 2" bolts with 7/16" star lock washers in the three mounting holes (Fig 8). The studs should run out the top of the mount just like the original ones did. Reinstall the coil isolator and plastic strut cover. Align the isolator with the mount with the alignment marks made earlier (Fig 9).

Fig 9

Fig 10

17. Set the modified strut mount aside and locate the OE strut. Remove the bump stop from the strut rod and set aside (Fig 10). Slide the coil seat up the strut body so it rests against the upper strut seal cap (Fig 11). Note: There may be corrosion present holding the coil seat in place. If so tap it with a hammer to break it loose.

Fig 11

18. With the coil seat against the strut seal cap, tap the coil seat with a hammer to remove the seal cap and coil seat from the strut body (Fig 12). Retain the coil seat and seal cap.

Fig 12

19. Clean any corrosion that may be present around the weld coil seat ring on the strut body. When the coil seat ring is clean, install the provided preload ring on the strut so that the tapered end is up (Fig 13).

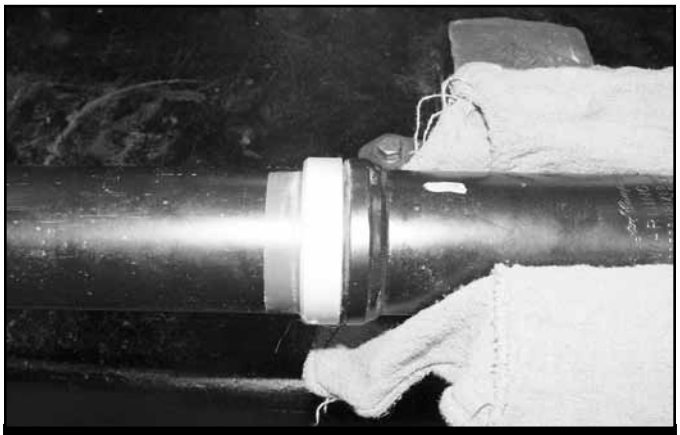

Fig 13

20. Reinstall the coil seat over the new preload ring. Reinstall the strut seal cap and seat properly by tapping it in place with a hammer. Reinstall the bump stop on the strut rod.

21. With the upper strut mount and strut assembly modified, reinstall the coil spring by aligning the marks made earlier. Fasten the assembly with the OE strut nut and torque to 35 ft-lbs.

22. Install the provided urethane top spacer over the new strut mounting studs (Fig 14).

Fig 14

23. Install the modified strut assembly in the vehicle as it was removed. Fasten the upper strut mount to the frame with 7/16" nuts, lock washers and flat washers. Torque nuts to 40 ft-lbs.
24. Fasten the strut to the lower control arm with the original bolt/nut. Leave loose.
25. Reconnect the tie rod end to the knuckle with the original nut. Torque nut to 100 ft-lbs.
26. Reconnect the upper ball joint to the knuckle with the original nut. Torque nut to 85 ft-lbs. Note: It may be easier to reconnect the upper ball joint if the upper control arm pivot bolts are loosened. Loosen the nuts enough to allow the arm to swing freely. If this is done the nuts will be retightened when the weight of the vehicle is on the suspension.
27. Repeat the strut removal/installation on the opposite side of the vehicle.
28. With both sides complete, reconnect the sway bar links to the sway bar with the original hardware. Torque to 25 ft-lbs.
29. Install the wheels and lower the vehicle to the ground.
30. Bounce the front of the vehicle to settle the suspension.
31. If the upper control arm pivot bolts were loosened, torque them to 110 ft-lbs. Torque the lower strut mount bolt to 350 ft-lbs.
32. Check all hardware for proper torque.
33. Check hardware after 500 miles.
34. Adjust headlights.
35. The vehicle will need a complete front end alignment.