

## 2014 F150 2WD/4WD 2" Leveling Strut Extension (Aluminum)

### Parts:

2 - Front Strut Extensions	6 - 10mm Lock Nuts
6 - 10mm Washers	6 - Threaded studs
2 - Rear Spacer Blocks	8 - U-Bolt Nuts
4 - U-Bolts	

## PRE-INSTALLATION

**Professional installation by a certified technician is strongly recommended.**

*No responsibility for altered products. No claims are made regarding any lifting devices. Any and all claims implied in this document excluded.*

### NOTES:

The following instructions assume the use of factory wheels with size 35x12.50x18 tires. The use of wider tires will require trimming and offset wheels. **IMPORTANT: This vehicle requires EPAS (Electronic Power Assist Steering) plugs to be disconnected before installing this kit. Failure to do so may result in damage to the EPAS module, requiring its replacement.**

### REQUIRED TOOLS:

29mm Socket	21mm Wrench	21mm Socket
18mm Socket	16mm Wrench	15mm Wrench
15mm Socket	1 1/16" Wrench	3/8" Wrench
9/16" Wrench	9/16" Socket	Hammer
Floor Jack & Stands		

### Torque Specs:

Size	Grade 5	Grade 8	Size	Class 8.8	Class 10.9
5/16"	15 ft/lbs	20 ft/lbs	12MM	55ft/lbs	75ft/lbs
3/8"	30 ft/lbs	35 ft/lbs	14MM	85ft/lbs	120ft/lbs
7/16"	45 ft/lbs	60 ft/lbs	16MM	130ft/lbs	165ft/lbs
1/2"	65 ft/lbs	90 ft/lbs	18MM	170ft/lbs	240ft/lbs
9/16"	95 ft/lbs	130 ft/lbs			
5/8"	135 ft/lbs	175 ft/lbs			
3/4"	185 ft/lbs	280 ft/lbs			

## INSTALLATION INSTRUCTIONS Front

**STEP 1:** Jack up front of vehicle so that front wheels are off the ground. Support vehicle with jack stands.

**STEP 2:** Remove front wheels. (21mm deep well socket) Remove front skid plate if equipped. (15mm socket)

**STEP 3: IMPORTANT: Disconnect EPAS (Electronic Power Assist Steering) plugs from EPAS module. Module is located on steering assembly near front differential. Must be disconnected BEFORE installation.**

**STEP 4:** Remove nut from tie rod on knuckle. (21mm wrench) Use appropriate tool to remove tie rod from knuckle. Move linkage forward to make room. (save factory hardware)

**STEP 5:** Remove ABS bracket from knuckle. (8mm socket) Remove brake line bracket. (10mm socket)

**STEP 6:** Remove caliper bolts. (18mm socket) Remove dust shield bolts. (8mm socket) Remove ABS wire from knuckle. (5mm allen wrench) Disconnect vacuum line.

**STEP 7:** Pull off axle dust cap with pliers. Remove axle nut. (15mm socket)

**STEP 8:** Remove sway bar nut. (18mm wrench - save factory hardware)

**STEP 9:** Loosen, but do not remove, lower control arm bolts. (21mm wrench - 1 1/16" socket)

**STEP 10:** Support knuckle with jack stand and remove upper control arm nut. (18mm wrench) Use appropriate tool to separate the ball joint from the upper control arm, but don't let the knuckle to pull out so far that the shaft pulls out of the differential.

**STEP 11:** Remove lower strut nuts from underside of lower control arm. (18mm socket - save factory hardware)

**STEP 12:** Remove IWE actuator from knuckle - **Follow OE Procedure**

**STEP 13:** Disconnect vacuum tubes. Remove three bolts holding actuator to knuck. (8mm wrench)

**STEP 14:** Push CV axle inward to allow knuckle to pivot outward.

**STEP 15:** Remove nuts on upper strut tower that holds assembly in place. (18mm wrench)

**STEP 16:** Lower jack to let lower control arm and knuckle swing down. Remove strut from vehicle.

**STEP 17:** Place bar pin of lower strut mount in vise. Put nuts on end of studs and tap with hammer to remove studs from bar pin. (Save factory hardware)

**STEP 18:** Install threaded studs up through bottom of new spacer. (Flat side down) Use washers and nuts to pull studs into place.

**STEP 19:** Install new strut spacer on strut and secure with factory hardware and torque to 30 ft/lbs

**STEP 20:** Reinstall strut assembly in vehicle and secure with included lock washers and nuts. (17mm wrench)

**STEP 21:** Reinstall factory studs in bar pin of lower strut mount. (Tap with hammer to seat splines) Secure to lower control arm with factory nuts. (18mm socket)

**STEP 22:** Reinstall CV shaft into knuckle **ensuring that actuator splines line up with splines on CV shaft.**

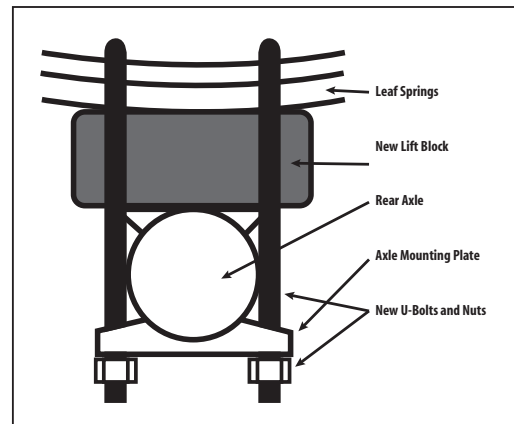
**STEP 23:** Raise lower control arm with jack and connect upper ball joint on upper control arm to spindle, using 3/8" wrench to hold ball joint if it spins while tightening. (18mm wrench - Torque to factory specs)

## INSTALLATION INSTRUCTIONS *Front (Continued)*

- STEP 24:** Reinstall steering linkage nut. (21mm wrench)
- STEP 25:** Using hand vacuum pump, apply and hold 24inHG of vacuum to actuator through large port.
- STEP 26:** Install three bolts securing actuator to knuckle and tighten. (8mm wrench)
- STEP 27:** With vacuum still applied to actuator, measure depth of CV shaft treads protruding through hub bearing. If minimum 15.5mm or .61" is not achieved, rotate hub to eliminate binding of splines.
- STEP 28:** Install axle nut and tighten to 30 lb.ft. Hand tools only, no impact wrench.
- STEP 29:** Verify free rotation of hub with NO CV shaft rotation and no clicking or grinding noise.
- STEP 30:** Release vacuum from actuator and rotate hub to engage actuator. You may hear/feel actuator engage.
- STEP 31:** Verify that hub and CV rotate together. Reconnect vacuum lines to actuator.
- STEP 32:** Reinstall brake rotor and brake caliper (Factory hardware - 18mm socket)
- STEP 33:** Reinstall ABS lines and vacuum lines on knuckle.
- STEP 34:** Repeat steps 4 - 33 on opposite side of vehicle.
- STEP 35:** Reinstall sway bar with factory hardware. (18mm wrench - Torque to factory specs)
- STEP 36:** Reinstall wheels and tires. (21mm deep-well socket)
- STEP 37:** Reconnect EPAS plugs (if removed)
- STEP 38:** Jack up vehicle and remove jack stands. Lower vehicle to floor. Torque all bolts to factory specs.
- STEP 39:** Have alignment done to factory specifications by a certified alignment professional.

## INSTALLATION INSTRUCTIONS *Rear*

- STEP 1:** Chock front wheels and jack up rear of vehicle. Place jack stands under frame rails.
- STEP 2:** Support rear axle with jack. Work on one side of vehicle at a time.
- STEP 3:** Disconnect lower shock from mount.
- STEP 4:** Remove all nuts on factory U-bolts.
- STEP 5:** Remove factory U-bolts and axle mounting plate.
- STEP 6:** Lower rear axle slowly until there is enough space to install block between axle and leaf spring.
- STEP 7:** 4WD Models - Remove factory block.
- STEP 8:** Position new block and align with locating pins on leaf spring.
- STEP 9:** Raise axle until block contacts leaf spring.
- STEP 10:** Install new U-bolts over saddle on leaf spring and over axle.
- STEP 11:** Re-install axle mounting plate.
- STEP 12:** Secure U-bolts with included nuts and tighten.
- STEP 13:** Re-install shock to lower mount.
- STEP 14:** Lower vehicle and torque all hardware.



## POST-INSTALLATION

- STEP 1:** Check for proper torque on all fasteners. Check steering for proper working order and check for interference. Test brake system. Check clearance between all rotating, mobile, fixed and hot parts.
- STEP 2:** Check distance between tire sidewall and the brake hose during full-turn to full-turn steering sweep. Do not skip this step! Any contact may result in component failure.
- STEP 3:** Adjust headlights to proper alignment.

**MAINTENANCE:** After 500 miles, re-torque all fasteners. (Recommended every 1000 miles thereafter) Have all suspension, driveline and steering components inspected by a certified technician during routine maintenance (Recommended every 3000 miles)