

ADDICTIVE DESERT DESIGNS

2009 - 2010 Ford F150/Raptor & 2015 - 2017 F150 Lower Control Arm Installation Instructions

PREPARATION

1. Disconnect the negative terminal on the battery. Park the vehicle on level ground and set the emergency brake.
2. We recommend reading through the installation instructions in whole before performing the work.
3. You will need the following tools:
 - a. Ratchet
 - b. 3/4" Socket & Wrench
 - c. 9/16" Socket & Wrench
 - d. 13/16" Socket & Wrench
 - e. 15/16" Socket & Wrench
 - f. 1 1/16" Socket & Wrench
 - g. 1 3/16" Socket & Wrench
 - h. 5/8" 12-Point Socket
 - i. 18mm Socket
 - j. 21mm Socket
 - k. Welder
 - l. Grinder
 - m. Black Paint
4. Kit Includes:
 - 2 - Lower Control Arms
 - 8 - Misalignment Spacers for 7/8" Heim
 - 2 - 1.5" Misalignment Top Spacer for 5/8" Bolt
 - 2 - 1.5" Misalignment Bottom Spacer for 5/8" Bolt
 - 4 - Front Mounting Spacers (2009-2014 Only)
 - 2 - M20-2.5 x 120 Grade 10.9 Bolt
 - 4 - Narrow Washer for M20 Bolt
 - 2 - M20-2.5 Metal Lock Nut
 - 2 - 5/8-18 x 4" 12-Point Flanged Cap Screw
 - 2 - 5/8-18 Metal Lock Nut
 - 2 - 5/8" Flat Washer
 - 4 - 9/16-12 x 1 1/4" Grade 8 Hex Head Bolt
 - 4 - 9/16-12 Conical Lock Nut
 - 8 - 9/16" Flat Washer
 - 2 - 2009-2014 Weld on Limit Strap Tabs
 - 2 - 2015-2017 Weld on Limit Strap Tabs
 - 2 - 11" Limit Straps
 - 2 - 2009-2014 Sway Bar Adapter Brackets
 - 2 - 2015-2017 Sway Bar Adapter Brackets
 - 2 - Assembled Sway Bar End Links (1/2" Heim x2, Jam Nuts x 2, and Strut Tube per Link)
 - 4 - 3/8-16 x 2 1/2" Grade 8 Hex Head Bolt
 - 4 - 3/8-16 Conical Lock Nut
 - 8 - 3/8" Washers
 - 2 - 1/2-20 x 1 1/2" Grade 8 Hex Head Bolt
 - 2 - 1/2-20 Metal Lock Nut
 - 4 - 1/2" Washer

REMOVAL

1. Place vehicle on jack stands and remove the front wheels.
2. Using a 1 1/16" Socket and a 1 3/16" Wrench, remove the lower shock mounting bolt. (Fig A)



Fig A

3. Using an 18mm Socket, remove the upper sway bar end link bolt. Then, pop the sway bar end link free from the sway bar. (Fig B)

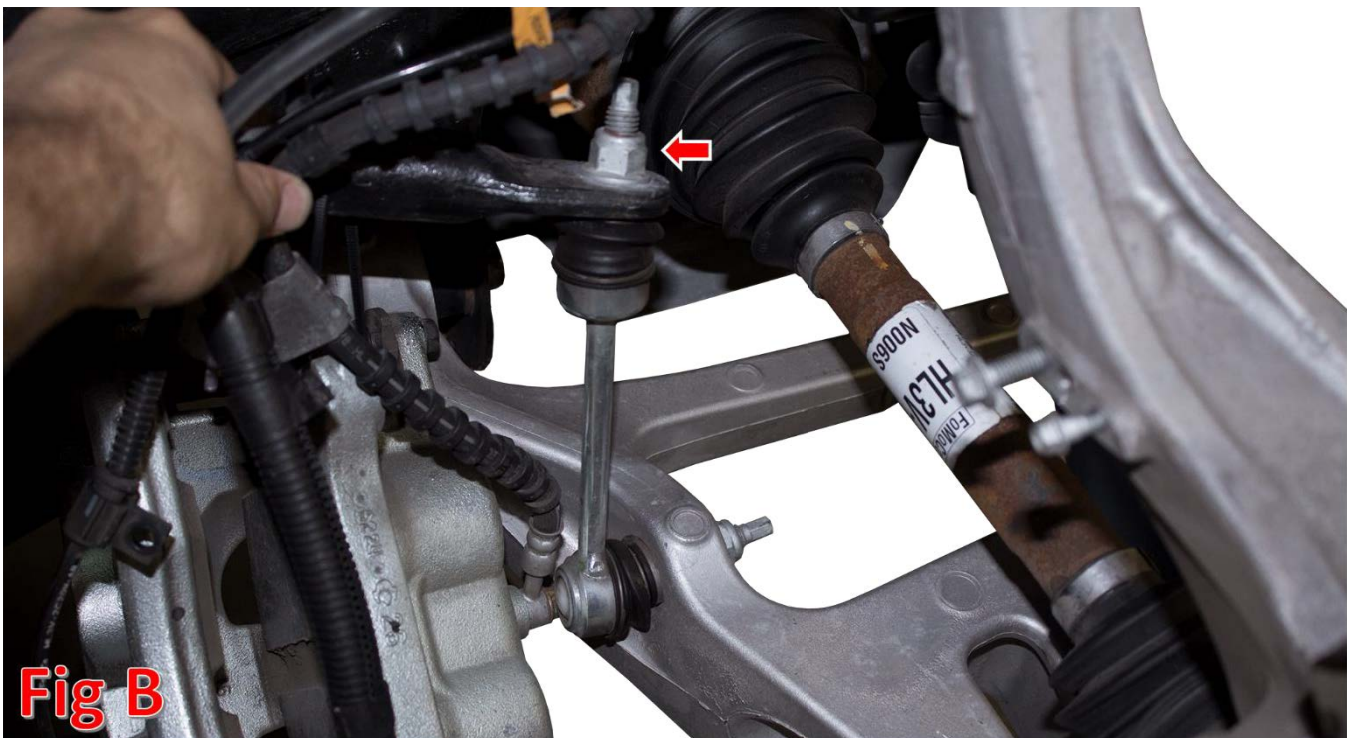


Fig B

4. Using a 21mm Socket, remove the Lower Ball Joint Nut. Then, pop the ball joint free from the spindle. (Fig C)



Fig C

5. Using a 13/16" Socket and a 1 1/16" Wrench, remove the lower control arm mounting bolts. Then, remove the lower control arm from the vehicle. (Fig D)

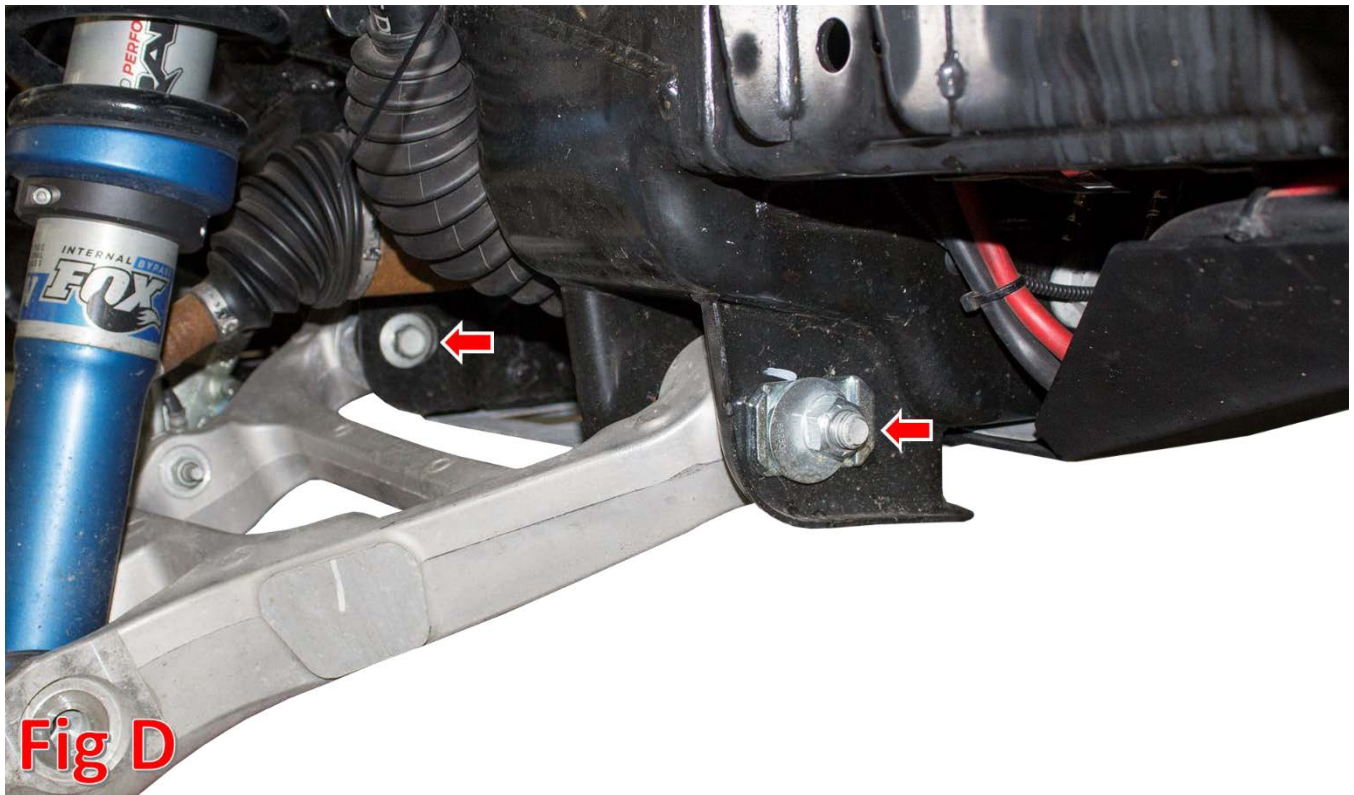
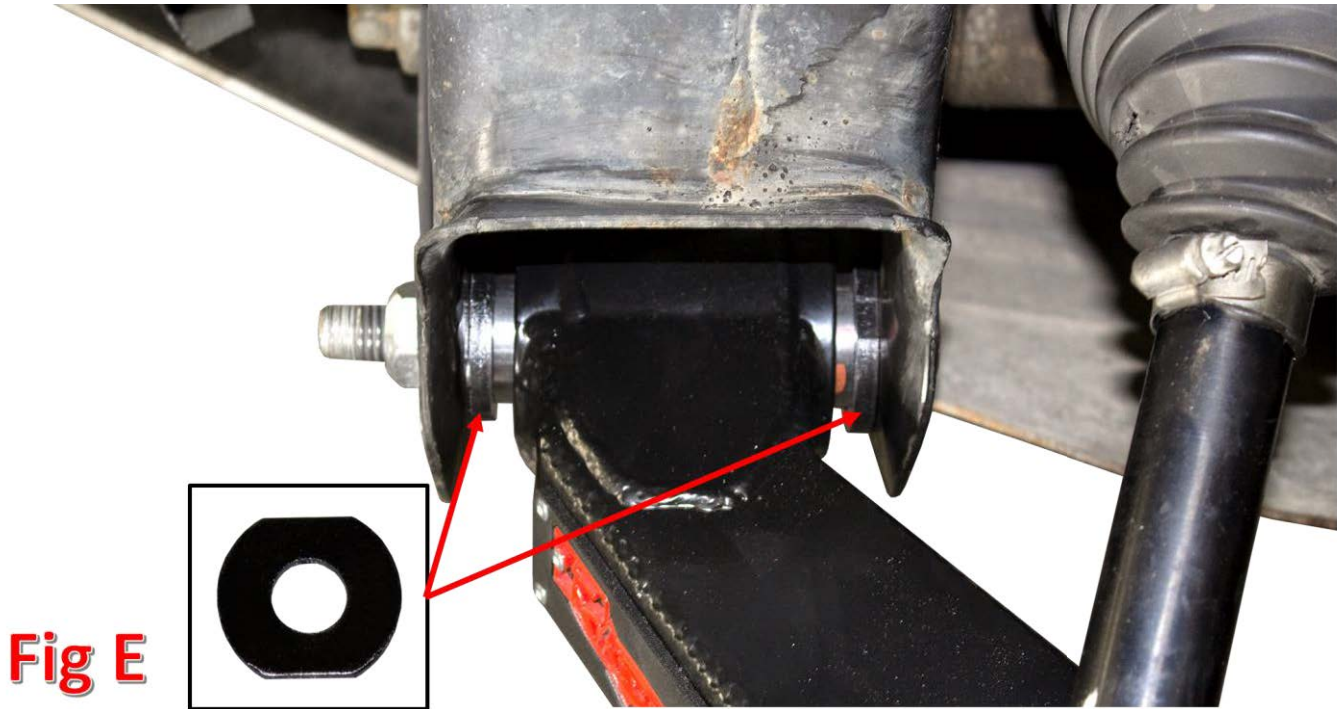


Fig D

INSTALLATION

1. Using the OEM Lower Control Arm bolts, mount the Lower Control Arm to the vehicle. Tighten these bolts to the OEM torque spec. (Fig F)
 - a. If you have a 2009-2014 F150 or Raptor, you will have to use the supplied Mounting Spacers (x4) on the front mounting point between the misalignments and the frame. (Fig E)



2. Place the Top and Bottom Misalignment Spacers for 5/8" Bolt into the 1.5" Uniball on your new lower control arm. (Fig G)



Fig G

3. Mount the lower control arm and the spindle together using the supplied 5/8" 12-Point Flange Cap Screw (x1), 5/8" Washers (x1), and 5/8" Metal Lock Nut. Tighten this bolt to 70 foot pounds. ****This step is the same for an OEM spindle even though a fabricated spindle is shown in the picture**** (Fig H)

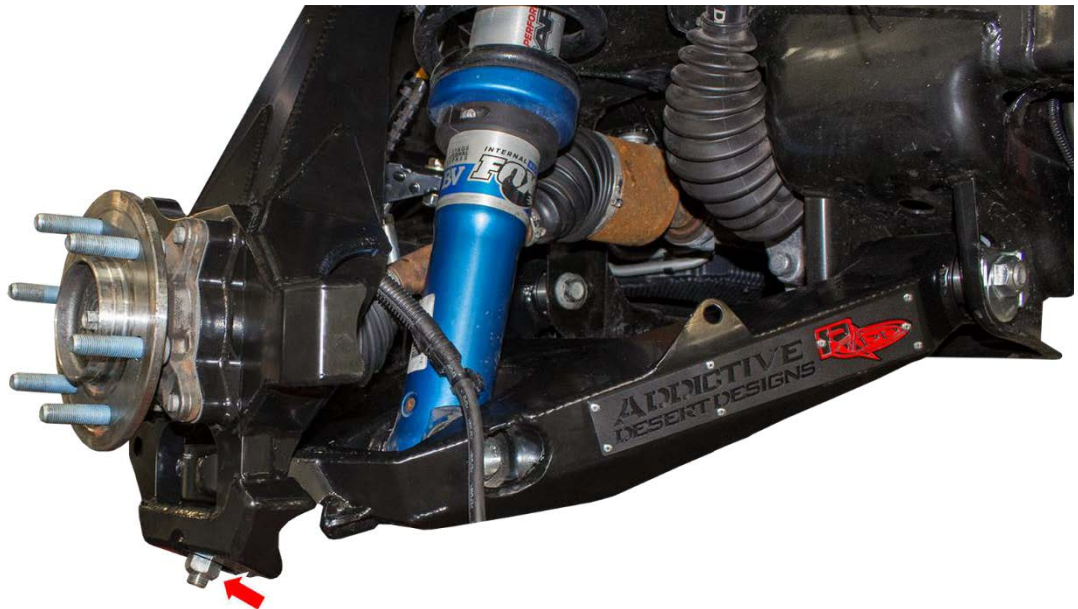


Fig H

4. Raise the lower control arm assembly until the shock enters the shock pocket. Then, use the supplied M20 bolt (x1), M20 Washers (x2), and M20 Nut (x1) to secure the shock to the arm. Leave this bolt loose for now. (Fig I)



Fig I

5. Set the sway bar end link to 6 1/4" total length. Leave the jam nuts loose for now, so you can line the heims up with the mounting points as you install the end links. (Fig J)



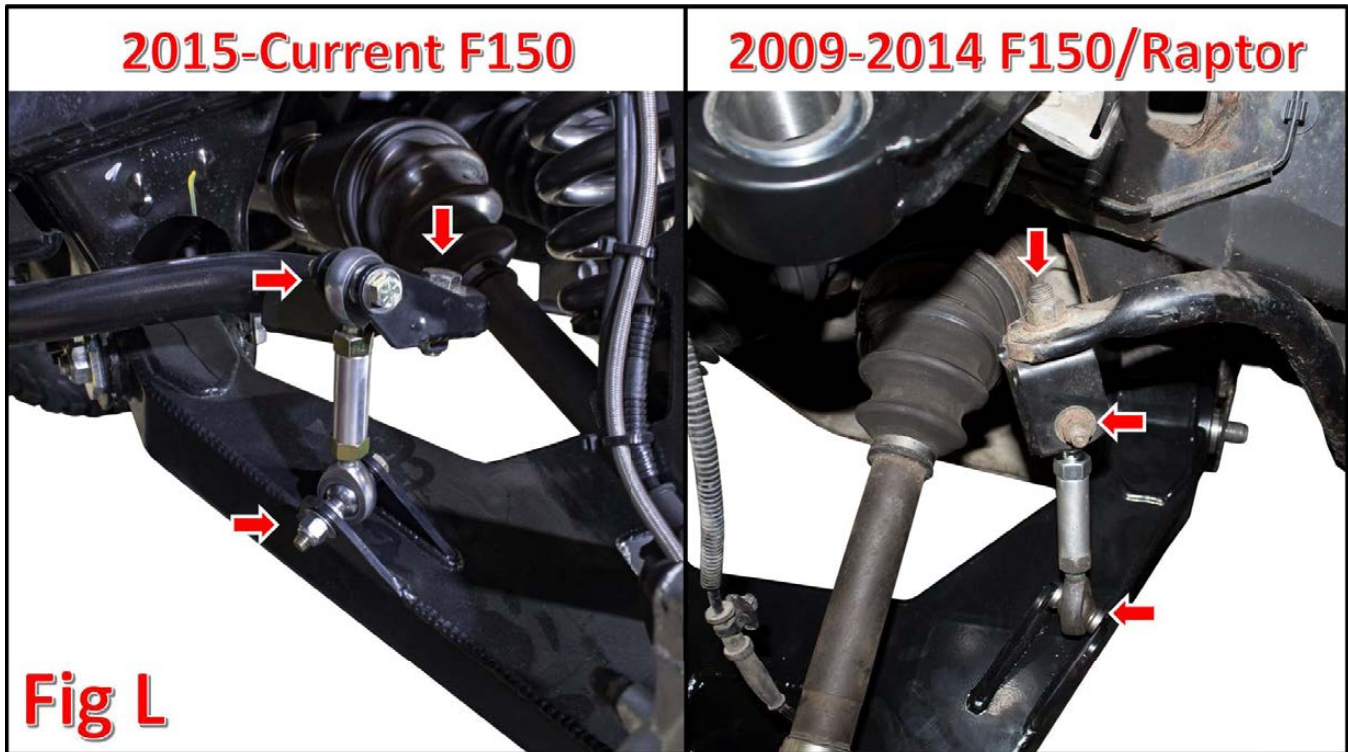
Fig J

6. Locate the correct set of sway bar adapter brackets for your vehicle. One set covers 2009-2014 F150/Raptor, while the other set covers 2015-Current F150. Refer to Fig K.



Fig K

7. Set the sway bar adapter bracket in place on the sway bar and loosely hold it in place using the supplied 1/2 x 1 1/2" Bolt (x1), 1/2" Washers (x2), and 1/2" Metal Lock Nut (x1). Then, set the assembled sway bar end links in place. Secure the sway bar end links to the sway bar adapter bracket and the lower control arm mounting points using the supplied 3/8 x 2 1/2" Bolts (x2), 3/8" Washers (x4), and 3/8" Lock Nuts (x2). Tighten these bolts to 30 foot pounds. Then, tighten the sway bar adapter bracket bolt to 70 foot pounds. Tighten the sway bar end link jam nuts. (Fig L)

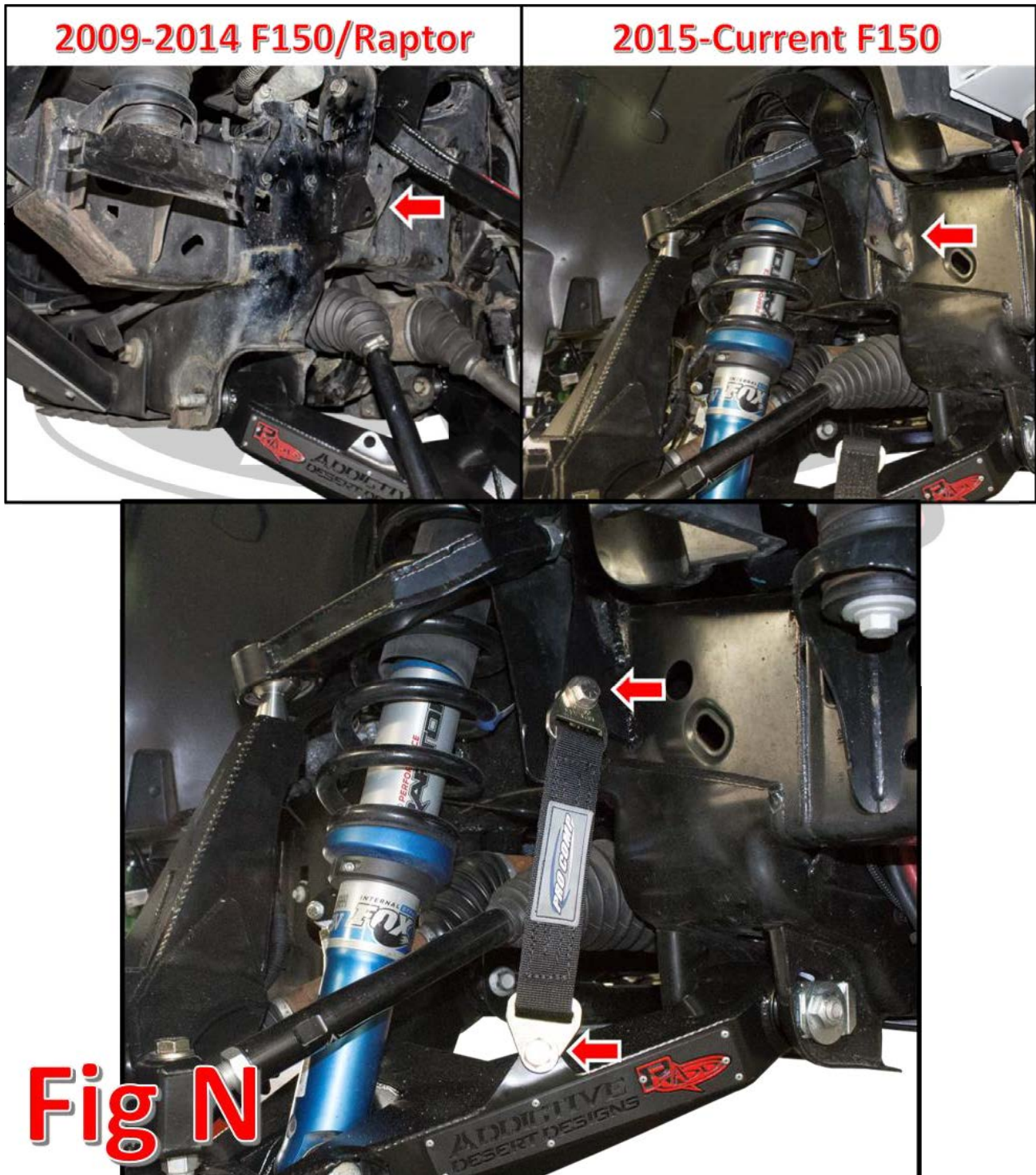


8. Install the limit strap and limit strap tab. (Fig N)
 - a. Locate the correct limit strap tab for your vehicle. There is one for the 2009-2014 F150/Raptor and one for the 2015-Current F150. Refer to Fig M



- b. Using the supplied 9/16" Bolts (x2), 9/16" Washers (x4), and 9/16" Lock Nuts (x2), attach the supplied limit strap to the lower control arm and the supplied weld on strap tab to the other end of the limit strap.

- c. With the lower control arm at full droop, place the tab against the frame where the upper control arm mount meets the frame. The tab should lay against the upper control arm mount. Using a sharpie, mark the location of the bottom edge of the tab on the frame.
- d. Unbolt the tab from the limit strap. The tab will be welded 1" higher than the mark you just made. Measure 1" vertically up from the mark you just made and weld the tab to the frame at that mark. Make sure to prep the frame for welding before you weld and make sure to paint the limit strap tab after you've welded it.
- e. Raise the lower control arm and bolt the limit strap to the newly welded tab using the same hardware from Installation Step 20a. Tighten both limit strap bolts just until they are snug, but the limit strap can still move freely.



9. Repeat this entire procedure on the other side of the vehicle.
10. Reinstall your front wheels and take your vehicle off its jack stands.
11. Stand back and enjoy your new ADD Lower Control Arms.
12. Check and re-tighten if needed, all mounting bolts after 100 miles and periodically thereafter.