



**A Division of Northern Star Industries, Inc.**  
P.O. Box 787 Iron Mountain, MI 49801-0787  
ISO 9001:2008 REGISTERED  
bossplow.com

**2009 & NEWER FORD F150  
RT3 SPORT DUTY UNDERCARRIAGE  
MOUNTING INSTRUCTIONS  
(PART NO. LTA09164B)**

# WARNING

Many newer trucks are now equipped with air bags. DO NOT under any circumstances disable, remove or relocate any sensors or other components related to the operation of the air bags.

For recommended vehicle models refer to the Boss Snowplow Application Chart and Selection Guide.

To comply with Federal Regulations and to assure a safe vehicle, the Front Gross Axle Weight Rating (FGAWR), Rear Gross Axle Weight Rating (RGAWR), and the Gross Vehicle Weight Rating (GAWR) must not be exceeded at any time.

Due to the variety of equipment that can be installed on this vehicle, it is necessary to verify that the Front Gross Axle Weight Rating (FGAWR), Rear Gross Axle Weight Rating (RGAWR), and the Gross Vehicle Weight Rating (GAWR) are not exceeded at any time. This may require weighing the vehicle and adding ballast as necessary. It may also limit payload capacity of the vehicle. It is the operator's responsibility to verify that these ratings are not exceeded.

## 2009 & NEWER FORD F-150 RT3 SPORT DUTY UNDERCARRIAGE MOUNTING INSTRUCTIONS

The mounting procedure outlined below covers 2009 & Newer Ford F150 trucks. You will need to refer to the illustrations and familiarize yourself with each of the undercarriage components and their relative position to each other. Then proceed as follows:

1. Remove the vehicle bumper and tow hooks.
2. Align the holes on bottom of driver side Push Beam Support Plate (62A) with the holes under the end of the frame rails. Using the existing bolts from the tow hooks attach support plate to frame. Mark the holes on the outside the frame rails. Remove the plates and drill two 9/16" holes on each frame rail.
3. Attach driver side Push Beam Support Plate (62A) using two 1/2"-13 1-1/2" GR5 Hex Head bolts (A) and two 1/2"-13 Nylon Lock Nuts (C). Reinstall tow hooks using existing tow hook bolts and nut plates to attach driver side Push Beam Support Plate (62A). Leave finger tight.
4. Repeat steps 2 & 3 for passenger side Push Beam Support Plate (62B).
5. Remove the skid plate from crossmember under the truck and retain for the customer.

**Note:** If installing on 2009-2014 Ford F150 trucks continue with step 6. If installing on 2015 & Newer Ford F150 trucks skip to step 8.

6. Remove the J-nuts from the bottom of the crossmember. Insert 3/8" Bolt Bars (99) into the crossmember through the hole from the J-nuts into the front holes in the crossmember.  
NOTE: Some 3/8" holes may need to be reamed out to fit the bolt bar.
7. Insert two 1/2"-13 1-1/2" GR5 Hex Head bolts (A) into the back set of holes in crossmember. Bolt Skid Plate Attachment (75) onto the crossmember using two 3/8"-16 Nylon Lock Nuts (F), 1/2" Split Lock Washers (D), and 1/2"-13 Full Nuts (E) leave finger tight. Skip to step 9.
8. Align Skid Plate Attachment (75) with existing holes in vehicle crossmember. Secure with four 5/8" Hex

Head Bolts, 5/8" Flat Washers, & 5/8" Top Lock Nuts.

9. Attach Angle Brackets (75A & 75B) to the Skid Plate Attachment using four 1/2"-13 1-1/2" GR5 Hex Head bolts and four 1/2"-13 Nylon Lock Nuts leave finger tight.
10. Bolt Push Beam Assembly (62) onto Push Beam Support Plates (62A & 62B) using 1/2"-13 x 1-1/2" GR5 Hex Head Bolts (A) and 1/2"-13 Nylon Lock Nuts (C). Leave finger tight.

**Note:** The proper Push Beam Assembly height is 14-1/2" from the ground to the center of the pin receiving holes on the Push Beam hooks. (See Figure 2)

11. Bolt Angle Brackets (75A & 75B) to the tabs on the back of Push Beam Assembly (62) using 1/2"-13 x 1-1/2" GR8 Hex Head Bolts (B) (check the marks on the top to be sure they are GR8 bolts see figure 3) and 1/2"-13 Nylon Lock Nuts (C).
12. Before replacing the bumper on the truck measure and notch, or remove the valance. Replace the bumper on the truck.
13. With all the undercarriage parts in place, securely fasten all mounting hardware. It is important that all fasteners be properly torqued (see Figure 3) to assure a safe operating plow. Re-tighten all fasteners after 2 hours of plowing.

**Note:** Vehicles equipped with the Snow Plow Prep option will include the Snow Plow Mode switch located on the dash. Activating Snow Plow Mode will provide 12V+ power to a dedicated feed wire. This wire is Yellow with an Orange tracer stripe, located behind the left side of the drivers kick panel. This wire is intended to be used as the Keyed Source wire for the Black with Red tracer stripe wire located in the BOSS Wiring Harness.

**Note:** 2015 & Newer Ford F150 vehicles are equipped with active grille shutters. To prevent damage to the grille shutters and/or snowplow harnesses, no snowplow wiring harnesses should be run through the grille area. All wiring should run horizontally across the upper radiator support or vertically between the vehicle headlights and radiator.

**Note:** To ensure proper function of the vehicle Outside Air Temperature sensor, the sensor will need to be relocated. A relocation kit is available through Ford Parts and Service, part number: (DL3Z-14K073-A).

**Note:** **DO NOT MAKE DIRECT TO BATTERY CONNECTIONS AT THE NEGATIVE BATTERY POST.**  
The 2015 & Newer Ford F150 battery charge state is determined with a Hall Effect sensor on the negative battery lead. All negative current must pass through this sensor. Failure to do so will result in malfunction of the vehicle charging system and shortened battery life. Ford Special Vehicle Engineering Bulletin Q-231 can be found here: <https://www.fleet.ford.com/truckbbas>.

**Note:** Headlight adapters vary depending on vehicle model year:  
2009 - 2014 – Halogen Bulbs (H13) – MSC09993  
2013 & Newer – HID Bulbs – MSC09041  
2015 & Newer – Halogen Bulbs (9005/HB3 & H11) – MSC09450  
2015 & Newer – LED Lamps – MSC09455

## 2009 & NEWER FORD F-150 RT3 SPORT DUTY UNDERCARRIAGE MOUNTING INSTRUCTIONS

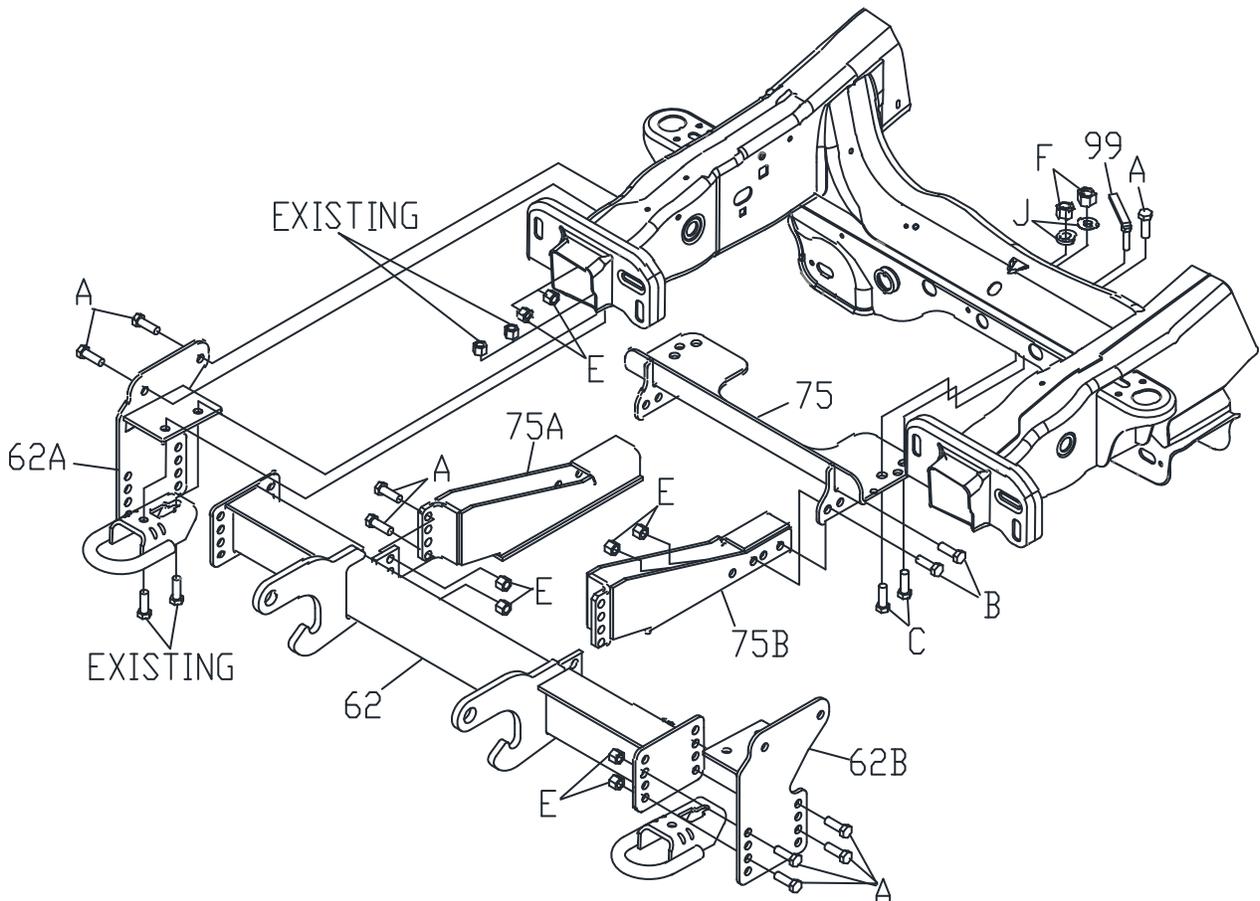
REF. NO.	DESCRIPTION	PART NO.	QTY.
62	Push Beam Assembly	PBA09166	1
62A	Push Beam Support Plate Passenger Side	PBA09170	1
62B	Push Beam Support Plate Driver Side	PBA09171	1
75	Skid Plate Attachment	LTA09167	1
75A	Angle Bracket Passenger Side	LTA09169	1
75B	Angle Bracket Driver Side	LTA09168	1
99	3/8" Bolt Bar (2009-2014)	LTA09187	2

FASTENER KIT, FORD, 2009 & NEWER

HDW09174

Includes:

A	1/2"-13 X 1-1/2" Hex Head Bolt Grade 5	HDW01728	18
B	1/2"-13 X 1-1/2" Hex Head Bolt Grade 8	HDW05553	4
C	5/8"-11 X 2" Hex Head Bolt Grade 5 (2015 & Newer)	HDW01731	4
D	3/8"-16 Nylon Lock Nut	HDW01720	2
E	1/2"-13 Nylon Lock Nut	HDW01748	20
F	5/8"-11 Top Lock Nut (2015 & Newer)	HDW01709	4
G	1/2"-13 Full Nut (2009-2014)	HDW02410	2
H	1/2" Split Lock Washer (2009-2014)	HDW01732	2
J	5/8" Flat Washer (2015 & Newer)	HDW01726	4





## RECOMMENDED PUSHBEAM HEIGHT

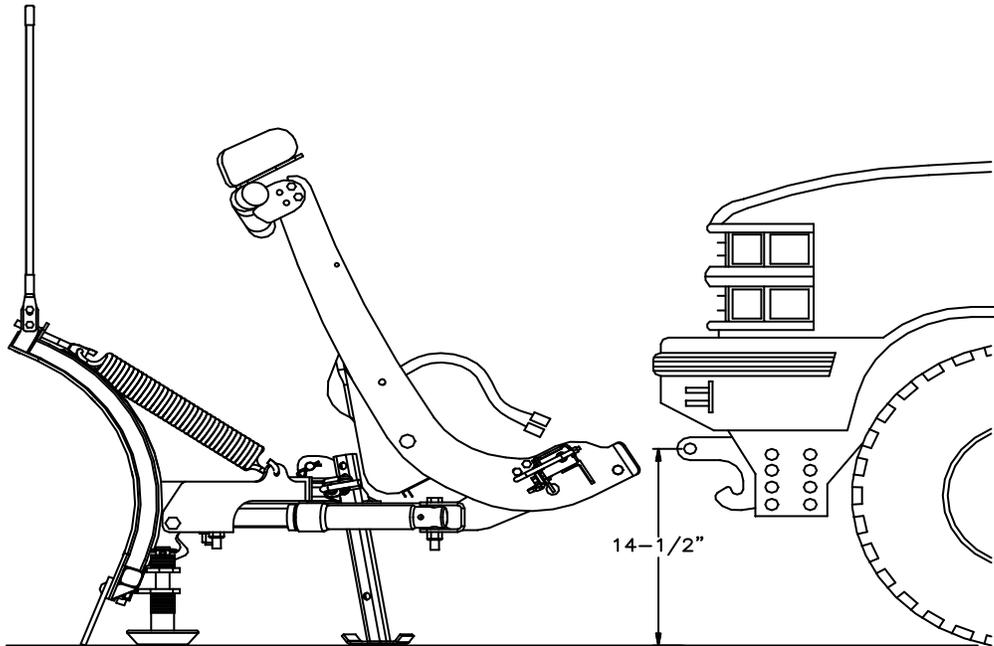


Figure 2

G10155

## GUIDE TO RECOMMENDED ASSEMBLY TORQUE



DIAMETER / PITCH	GRADE 5	GRADE 8	GRADE 8.8	GRADE 10.9
1/4-20	6	9		
5/16-18	14	19		
3/8-16	23	33		
7/16-14	38	53		
1/2-13	56	80		
9/16-12	82	116		
5/8-11	113	159		
3/4-10	201	283		
M10 X 1.25			36	
M10 X 1.5				49
M12 X 1.75				71
M14 X 2.0				80

ALL TORQUE VALUES ARE IN FOOT-POUNDS (FT.-LB.)

Figure 3

G10410

The torque values listed above are based on dry, coated bolts, variables such as oil, or other lubrications may appreciably alter these values and must be taken into consideration.

**NOTE:** IT IS IMPORTANT THAT ALL FASTENERS BE PROPERLY TORQUED TO ASSURE A SAFE OPERATING PLOW. RE-TIGHTEN ALL FASTENERS AFTER 2 HOURS OF PLOWING.