

# Mounting Kit 53651-HOP

F150 2015-2019

- For the snowplow lights this kit requires:  
800084 or 800085 or 800086 Light Kit,  
800088-MPX (LED lights) (2015-2017), 800095-MPX (Halogen bulb) (2015-2019)

**Check Page #10 for a ground cable installation.**

**Check Page #11 for snowplow prep package technical bulletin**

**Note:** The F-150 snow plow installation is intended for personal use only.

Minimum Required Equipment- Snowplow Preparation Package (68P):

Note: Snow plow Outside Air Temperature (OAT) sensor is subject to error unless relocated to unblock airflow.

- 4X4 only
- Requires 5.0L V8 engine (99F)
- Lariat trim (only)- Electronic Shift-On-The-Fly (ESOF) replaces standard 2-speed automatic 4WD
- Lariat Technology Package (68T) not available with Snowplow Preparation Package (68P)
- Available on Regular, Super Cab and Super Crew models (5.5', 6.5' and 8.0' boxes)
- Both regular and heavy duty payloads packages
- Snow Plow mode button on instrument panel will disable the following features to maintain required electrical charge margins during plow operations / use: 110V inverter, fog lamps, heated steering wheels, heated front/rear seats, and massaging seats. Snowplow mode button also activated relay to snow plow controls.

**List of F-150 (2015-2017) that HOP plow can be installed**

**\* Snow Plow Weight Analysis**

Vehicle Description	Engine	WB (in)	GVWR (lbs)	Front GAWR (lbs)	Rear GAWR (lbs)	Trim	Trim level	Base Curb Weight		Ballast
								Front	Total	
4X4 Super Cab	5.0L	145.0	7050	3375	3800	XLT	Lightest	2778	4615	1200
4X4 Super Cab	5.0L	163.7	7000	3450	3800	XLT	Lightest	2821	4877	1200
4X4 Regular Cab HPP	5.0L	141.1	7850	3400	4800	XL	Lightest	2799	4637	1200
4X4 Super Cab HPP	5.0L	163.7	7850	3750	4800	XL	Lightest	2981	5091	1200
			7850	3750	4800		Heaviest	3061	5385	1200
			7850	3750	4800	XLT	Lightest	2980	5102	1200
			7850	3750	4800		Heaviest	3117	5505	1200
			7850	3750	4800	Lariat	Lightest	3040	5206	1200
4X4 Crew Cab HPP	5.0L	156.8	7850	3750	4800	XL	Lightest	3040	5079	1200
			7850	3750	4800		Heaviest	3126	5380	1200
			7850	3750	4800	XLT	Lightest	3039	5092	1200
			7850	3750	4550	Lariat	Lightest	3100	5199	1200

\* These snowplow weight limits are based upon a vehicle built with noted trim levels with no additional Ford option content, a total of 300 lb. for a driver plus one front seat passenger (150 lbs each), ballast weight rearward of the rear axle, and additional assumptions for commercially available snowplow assembly weights and mounting location.

**List of F-150 (2018) that HOP plow can be installed**

**\* Snow Plow Weight Analysis**

Vehicle Description	Engine	WB (in)	GVWR (lbs)	Front GAWR (lbs)	Rear GAWR (lbs)	Trim	Trim level	Base Curb Weight (lbs)		Ballast (lbs)
								Front	Total	
								4X4 Super Cab	5.0L	
			7000	3525	3800	XLT	Lightest	2902	4903	1200
4X4 Regular Cab HPP	5.0L	141.1	7850	3750	4800	XLT	Heaviest	2990	5074	1200
4X4 Super Cab HPP	5.0L	163.7	7850	3750	4800	XL	Lightest	3005	5066	1200
			7850	3750	4800		Heaviest	3085	5360	1200
			7850	3750	4800	XLT	Lightest	3004	5077	1200
			7850	3750	4800	Lariat	Lightest	3064	5181	1200
4X4 Crew Cab HPP	5.0L	156.8	7850	3750	4800	XL	Lightest	3104	5151	1200
			7850	3750	4800	XLT	Lightest	3103	5164	1200

\* These snowplow weight limits are based upon a vehicle built with noted trim levels with no additional Ford option content, a total of 300 lb. for a driver plus one front seat passenger (150 lbs each), ballast weight rearward of the rear axle, and additional assumptions for commercially available snowplow assembly weights and mounting location.

**List of F-150 (2019) that HOP plow can be installed**

**\* Snow Plow Weight Analysis**

Vehicle Description	Engine	WB (in)	GVWR (lbs)	Front GAWR (lbs)	Rear GAWR (lbs)	Trim	Trim level	Base Curb Weight (lbs)		Ballast (lbs)
								Front	Total	
								4X4 Super Cab	5.0L	
			7000	3525	3800	XLT	Lightest	2902	4903	1200
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4X4 Crew Cab HPP	5.0L	156.8	7850	3750	4800	XL	Lightest	3104	5151	1200
			7850	3750	4800	XLT	Lightest	3103	5164	1200

\* These snowplow weight limits are based upon a vehicle built with noted trim levels with no additional Ford option content, a total of 300 lb. for a driver plus one front seat passenger (150 lbs each), ballast weight rearward of the rear axle, and additional assumptions for commercially available snowplow assembly weights and mounting location.

**Important Note:**

Vehicle must not be operated when over-loaded. A vehicle is over-loaded when the weight of the complete vehicle with aftermarket equipment's installed, plus driver, passengers and cargo, exceeds either the FGAWR, RGAWR or GVWR established by Ford Motor Company and displayed on the Safety Compliance Certification Label.

The addition of ballast weight placed rearward of the rear axle is required to prevent exceeding FGAWR, and to provide good vehicle braking and handling. The ballast should be attached securely to the vehicle with consideration for the normal driving dynamics of snowplowing, and occupant safety in accidents.

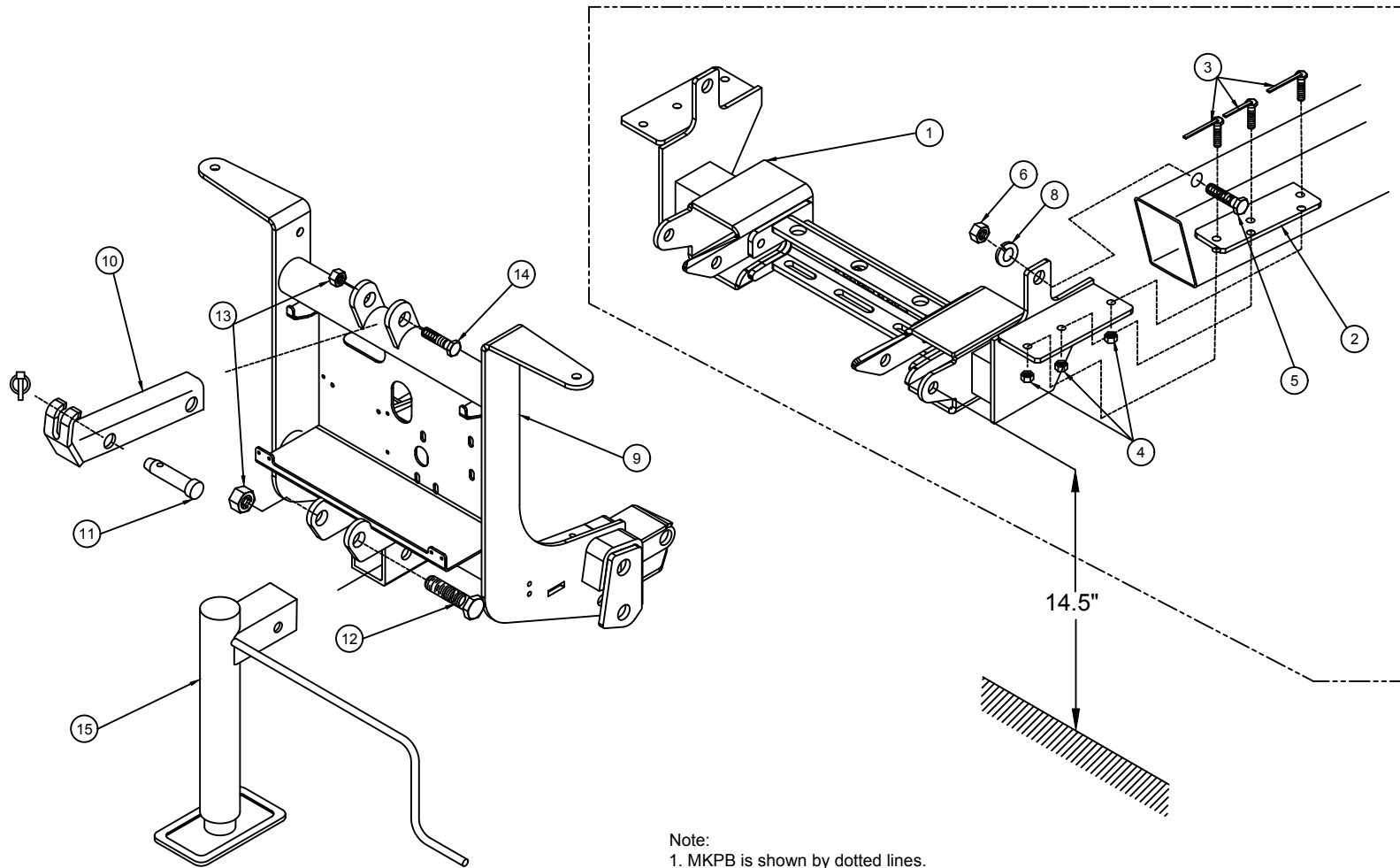
**▲ Warning**

Arctic Equipment Manufacturing Corporation (Arctic) does not assume liability for damage to your motor vehicle resulting from the attachment or use of an Arctic snowplow. The purchaser assumes all vehicle risk associated with the attachment and operation of this snowplow.

The Arctic snowplow you purchase must be used only on vehicles equipped with the manufacturer's snow plow preparation packages. Snow plowing without the original plow preparation package may damage your vehicle. The added weight may impair the operation and control of your vehicle. Snow plowing with a vehicle not recommended for that purpose by the manufacturer may void your new vehicle warranty. If your vehicle is not equipped with an original snow plow preparation package, additional equipment may be necessary before snow plowing. Please consult your vehicle and snowplow dealers prior to the purchase and installation of the snowplow. The installation of such parts however is not a full substitute for the original equipment snowplow preparation package.

The loaded vehicle, including all aftermarket accessories, the snowplow, passengers and cargo, must not exceed the gross vehicle weight ratings (GAWR), front gross axle weight rating (FGAWR) or rear gross axle weight rating (RGAWR) specified on the Safety Compliance Certification Label located in the driver's side door opening. It is the operator's responsibility to verify that these ratings are not exceeded. The use of rear ballast weight may be required to prevent exceeding the front GAWR.

To determine the Gross Axle Weights for your vehicle, including all aftermarket accessories, the snowplow, passengers and cargo, take your loaded vehicle and the snowplow to a scale. With the snowplow attached, place the front wheels of the vehicle on the scale to get the front gross axle weight (FGAW). To get the rear gross axle weight (RGAW), place the back wheels of the vehicle on the scale.



Note:  
1. MKPB is shown by dotted lines.  
2. All bolts are included in MKPB  
3. Please use LOCTITE®, or similar locking product on ALL mounting hardware (bolts, nuts, etc.).

53651-MKPB-QLIV			
Item	Part #	Description	Quantity
1	53652-D	Mounting Bracket	1
2	53653-M	Inside support plate	2
3	52941-01-A	½" Weldedbolt	6
4	HH-01026-002	½" UNF Lock nut	6
5	HH-00972-164	7/8" x 2" bolt	2
6	HH-00460-009	7/8" nut	2
7	HH-00341-010	7/8" flat washer	2
8	HH-00457-901	7/8" lock washer	2
9	53661-D	QLIV Lift frame	1
10	50069-C-GA	Lift Channel	1
11	52757-M	Pin	1
12	HH-00972-156	¾" x 4 ½" UNF Cap screw	1
13	HH-00973-007	¾" UNF Thin Collar Lock nut	2
14	HH-00972-153	¾" x 3 ½" UNF Cap screw	1
15	52373-M	Jack Assembly	1
16*	50999-B	Blade guides	2

Quick Link is a trademark of Arctic Equipment Manufacturing Corporation.

\* Items are not shown on the drawing.

## Installation Instructions

Before drilling any holes in the firewall or frame, move brake lines, fuel lines and/or electrical wiring from the path of the drill. Brake and fuel lines must also be clear of any fasteners. Do not under any circumstances disable, remove or relocate any sensors or other components related to the operation of the air bags.

General order of installation:

- install all components (mounting bracket, thrust arm and spreader bar) and all fasteners finger tight (snug) through existing holes,
- use removable grade LOCTITE #242 on all bolts,
- drill necessary holes and
- tighten all hardware.

After first use, re tighten all mounting bolts; thereafter check mounting bolt tightness periodically and at the start of the season.

Before proceeding, read instructions carefully and familiarize yourself with the components and hardware.

NOTE: It may be necessary, on some vehicles, to use a form of load booster to decrease the vehicle's front suspension sag when snowplows is attached to the vehicle. This can be done with the use of booster springs, supplementary air bags or similar load boosting devices. It is up to the customer to choose and purchase the product that suits this application.

Arctic Equipment Manufacturing reserves the right, under its product improvement policy, to change construction, design details or specifications without notice or without incurring any obligation.

1. Remove bumper (bumper is held to three bumper bolts on each side, two upfront and one on the back). Use 21mm Socket to remove the bumper bolts. Make sure to unplug the fog lights connector (possibly on the curb side of vehicle.)

2. Tow hooks on each side has to be removed (each tow hook is attached by 2 bolts). Do not reinstall tow hooks back on the truck.

3. Insert the inside support plate (#2) inside of the vehicle frame (See picture below for proper orientation of the inside support plate).



4. Install one piece mounting bracket (#1) between the vehicle frame using one 7/8" x 2" bolt (#5), 7/8" lock-washer (#8) and 7/8" nut (#6) (Install 7/8" flat washer (#7) between mounting bracket and vehicle frame if necessary) on the side of frame. Insert three 1/2" x 1 1/2" welded bolts (#3) and three 1/2" lock-nuts (#4) on bottom of the frame.

5. Torque all fasteners as per the Torque Chart.

6. After tightening all the fasteners, install bumper to its original place, plug in the fog lights connector which you removed earlier.

7. Slide the lift frame into spreader bar.

8. Assemble lift channel and lift cylinder at the top of lift frame.

Suggested torque value for bolts				
Thread Size	Grade 5		Grade 8	
	Dry (ft. lb)	Oiled (ft.lb)	Dry (ft. lb)	Oiled (ft.lb)
1/4-20	8	6	12	9
1/4-28	10	7	14	11
5/16-18	17	13	24	18
5/16-24	19	15	27	21
3/8-16	31	24	44	34
3/8-24	35	27	49	38
7/16-14	49	38	70	54
7/16-20	55	42	78	60
1/2-13	75	58	105	82
1/2-20	85	65	120	90
5/8-11	150	115	210	165
5/8-18	170	130	240	185
3/4-10	270	205	375	290
3/4-16	295	230	420	320
7/8-9	395	305	605	455
7/8-14	435	335	670	515
1-8	590	455	905	695
1-14	660	510	1030	785

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**Q-231**



## **SVE BULLETIN**

**SPECIAL VEHICLE ENGINEERING – BODY BUILDERS ADVISORY SERVICE**

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QVM Bulletin: Q-231

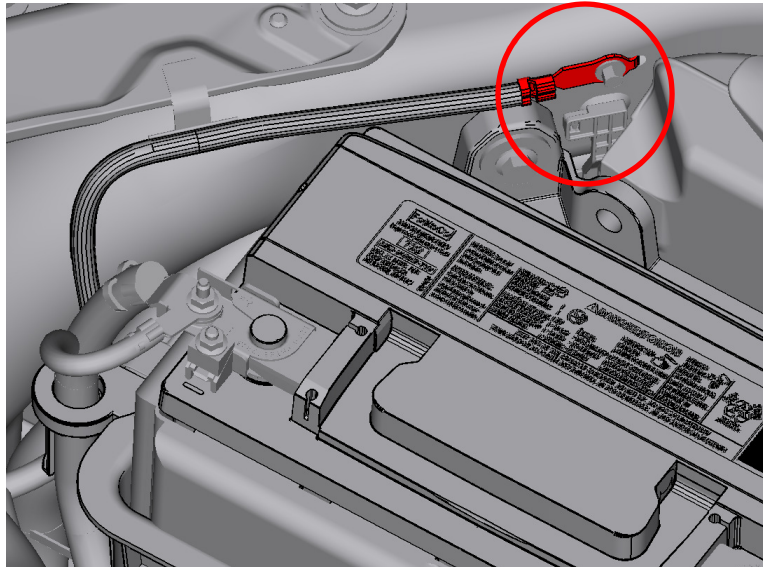
Date: 16 April, 2015

### **F-150 Aftermarket Direct to Battery Connections**

**Models Affected:** All 2015MY and later F-150 vehicles

**Description:** The 2015MY F-150 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. **Do not make direct to battery connections at the negative battery post.**

**Procedure:** To ensure proper charging system function, the battery return should be made at the grounding point shown and circled in red in the picture below:

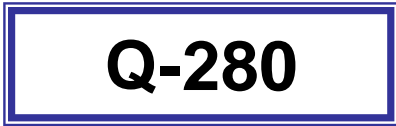


**Addition grounding point specifications:**

Eyelet ID: 7mm  
Bolt: M6  
Torque: 9 +/- 1.4 Nm

For further electrical guidelines refer to the Body Builder Layout Book, and SVE Bulletin Q-130.

If you have any questions, please contact the Ford Truck Body Builders Advisory Service as shown in the header of this bulletin.



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Toll-free: (877) 840-4338

QVM Bulletin: Q-280

Date: 07, December 2017

## **2015 and Later Model Year F-150 Snow Plow Application**

**Models Affected:** 2015 Model Year and later F-150 Pick-ups

**Description:** Ford Motor Company recommends snow plows be mounted on F-150s with the 5.0L engine, 4x4, with the snow plow prep package (option code 68P) only.

The F-150 with the 5.0L engine, 4x4 transmission, and equipped with the snow plow prep package has been thoroughly tested and meets Ford requirements for functional robustness, reliability and durability.

Snow plow applications outside of the snow plow prep package have not been proven to meet Ford requirements and are not recommended. Operating these vehicles with a snow plow installed may result in loss of function, premature wear and or damage to the vehicle. These potential issues could include, but are not limited to:

- Insufficient engine cooling
- Insufficient electrical charge margin to maintain Electronic Power Assisted Steering and other electrical systems
- Improper operation and increased wear of the transmission and transfer case
- Changes to expected normal driving dynamics because of improper vehicle loading

Damage caused to a vehicle produced without the snowplow prep package and found to be caused by the installation of a snowplow is not eligible to be covered under the Ford Factory warranty.

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QVM Bulletin: Q-214R2

Date: 25 October, 2012

Revised: 18 May, 2017

Revision	Update	Revision Date
Q-214R2	• Updated model year effectivity	18 May, 2017

## F-150 6.2L Snow Plow Application

**Model Affected:** 2013-2014 Model Year F-150 Super Cab and Super Crew pick up, with 6.2L engine and XLT, FX, Lariat and Platinum trim levels only.

**Description:** The 2013-14 MY F-150 Super Cab and Super Crew pick up, with 6.2L engine and XLT, FX, Lariat and Platinum trim levels are snow plow capable when the Outside Air Temperature (OAT) kit is installed. F-150 snow plow installation is intended for personal use only.

**Details:** A Snowplow OAT kit (DL3Z-14K073-A) is available through Ford Parts and Service. Outside air temperature information from the OAT sensor is required to maintain automatic interior climate control settings. Failure to relocate the OAT sensor with the installation of a snow plow will significantly degrade the vehicles ability to maintain automatic interior climate control settings, as well as display an incorrect outside air temperature reading.

Installation of this Kit is required if a snow plow is to be installed. See the additional attached pages for installation information.

Please note that **only 2013-2014MY and later F-150 Super Cab and Super Crew pick-up, with 6.2L engine and XLT, FX, Lariat and Platinum trim levels are capable of snow plow installation**. This bulletin does not apply to other 2013 or 2014 MY F-150 pick-ups or previous model years.

Vehicle content will affect vehicle plow capacity. Upper and lower plow weight recommendations and rear ballast load requirements are listed in the 2013 MY 6.2L F-150 Snowplow Weight Chart. The 2013 MY F-150 Option weight chart lists the additional weight each option adds to both the front and total base curb weight. Note: the 2014 MY weight chart is published in the Body Builder Layout Book.

### **Required Part Number:**

Part	Part Number
OAT Sensor Kit	DL3Z-14K073-A

**F-150 Headlamp Interface:**

The F-150 comes equipped with either factory standard halogen lamps or High Intensity Discharge (HID) lamps. A connection to any circuit in the system controlled by the headlamp switch must be done using auxiliary relays in an appropriately designed interface harness. **DO NOT CUT AND SPLICE DIRECTLY INTO HEADLAMP WIRING.** Plow headlamps cannot be powered directly by the factory headlamp circuits or the Body Control Module (BCM). Additional loads on Ford provided fuses may cause permanent BCM damage and lighting failure. See electrical guidelines in the Body Builder Layout Book.

**2013 MY 6.2L F-150 Snowplow Weight Chart**

Vehicle	Trim Level	Option Content	Base Curb Weight (lbs.)		Mounting Hardware Weight (lbs.)	Snowplow Blade Maximum Weight @ F/GAWR (lbs.) *	Ballast (lbs.) **
			Front	Total			
SuperCab 6.2L, 4x4, 145" F/GAWR - 4050 lbs. R/GAWR- 4050 lbs. GVWR - 7700 lbs.	XLT Chrome	None	3356	5689	50	500	1160
		Maximum	3474	6149	50	366	830
	FX4	None	3373	5771	50	478	1100
		Maximum	3496	6196	50	346	800
	Lariat	None	3370	5763	50	481	1100
		Maximum	3516	6219	50	331	790
SuperCrew 6.2L, 4x4, 145" F/GAWR - 4050 lbs. R/GAWR- 4050 lbs. GVWR - 7700 lbs.	XLT Chrome	None	3324	5774	50	508	1060
		Maximum	3426	6162	50	395	790
	FX4	None	3341	5856	50	487	1000
		Maximum	3450	6214	50	374	760
	Lariat	None	3345	5861	50	484	1000
		Maximum	3450	6214	50	374	760
	Platinum	None	3408	6004	50	426	910
		Maximum	3474	6253	50	354	740
SuperCrew 6.2L, 4x4, 157" F/GAWR - 4050 lbs. R/GAWR- 4050 lbs. GVWR - 7700 lbs.	XLT Chrome	None	3420	5904	50	424	1020
		Maximum	3538	6364	50	292	690
	FX4	None	3437	5986	50	404	960
		Maximum	3562	6416	50	270	660
	Lariat	None	3441	5991	50	399	950
		Maximum	3581	6437	50	255	650
	Platinum	None	3504	6134	50	342	870
		Maximum	3586	6455	50	250	640

**Notes:**

The snowplow and mounting hardware weight limits shown are based upon a total of 300 lb. for the driver and one front seat passenger (150 lb. each).

\* Excludes mounting hardware weight

\*\* Ballast is to be placed 30 inches aft of rear axle

## 2013 F-150 Option Weight Chart

Option Weight	(Front/Total) (lbs.)
<b>TIRES:</b>	
P235/75R17 (All-terrain BSW) (4x2/4x4)	(0/0)
(SuperCab)	
P275/55R20 (All-terrain OWL) (4x4)	(30/86)
(SuperCab)	
P275/55R20 (All-terrain OWL) (4x4)	(6/25)
(SuperCrew)	
LT245/75R17E (All-terrain BSW)	
(Regular Cab/SuperCab)	(29/80)
(SuperCrew 4x4)	(5/19)
LT275/65R18C (All-terrain OWL) (4x4)	
(SuperCab)	(19/58)
(SuperCrew)	(-2/-3)
<b>TRIM:</b>	
XLT 4x4 (SuperCab)	(2/4)
XLT 4x4 (SuperCrew)	(0/0)
FX4 (SuperCab; includes FX4 Luxury)	(2/4)
FX4 (SuperCrew; includes FX4 Luxury)	(0/0)
Lariat 4x4 (SuperCab)	(2/4)
Lariat 4x4 (SuperCrew)	(2/4)
Platinum 4x4 (SuperCrew)	(8/16)
XLT Convenience Package	(0/0)
XLT Chrome Package	(3/5)
Lariat Chrome Package	(3/5)
Heavy-Duty Payload Package	(0/0)
MidBox Prep Package	
(SuperCab)	(67/266)
Power Equipment Group (Fleet)	(0/0)
Trailer Tow Package	(-7/44)
Max. Trailer Tow Package	(-10/40)
6-disc, In-dash AM/FM/CD Changer	(1/1)
Axle Ratio	(0/1)
Axle Ratio, Limited-slip	(0/2)

<b>Option Weight</b>	<b>(Front/Total) (lbs.)</b>
<b>OPTIONS:</b>	
Carpet	(3/4)
Cruise Control	(1/1)
Flooring, Vinyl	(0/0)
Floor Mats, Carpet	(4/6)
Floor Mats, Rubber	(3/4)
Fog Lamps	(2/2)
Fuel Tank, 36-gallon	(0/0)
Fuel Tank, 36-gallon (Optional)	(22/60)
Hard Bedliner	(0/55)
Moonroof, Power	(23/44)
Navigation System	(6/8)
Paint, Two-tone	(1/2)
Pedals, Power-adjustable	(1/2)
Pickup Box Access Steps	(16/65)
Rear View Camera	(0/0)
Remote Keyless Entry System	(2/4)
Reverse Sensing System	(0/0)
Running Boards, Black Platform	
SuperCab	(15/32)
SuperCrew	(19/38)
Running Boards, Polished Stainless Steel, Tubular	
SuperCab	(20/43)
SuperCrew	(20/47)
Running Boards, 5" Chrome Tubular	
SuperCab	(11/24)
SuperCrew	(13/25)
Seat, Vinyl 40/20/40	(0/0)
Seat, Cloth 40/20/40	(0/0)
Seat, Cloth Captain's Chairs	(0/0)
Seat, Leather Captain's Chairs	(0/0)
Seat, Power 6-way	(8/13)
Seat, Power 10-way	(8/14)
Seats (Heated/Cooled)	(4/4)
Seats (Heated Rear)	(2/4)

<b>Option Weight</b>	<b>(Front/Total) (lbs.)</b>
<b>OPTIONS (continued):</b>	
Side Mirrors, Power Heated	(4/4)
Side Mirrors, Power Heated, PowerFold	(5/7)
Side Mirrors, Manually Telescoping Trailer Tow, Manual Glass	(8/13)
Side Mirrors, Manually Telescoping Trailer Tow, Power Heated Glass	(11/18)
Side Mirrors, Power Heated, Signal	(4/5)
Side Mirrors, Power Telescoping Trailer Tow, Heated Glass	(13/21)
SiriusXM Satellite Radio	(0/0)
Skid Plates	(21/34)
Soft Tonneau Cover	(0/25)
Spray-in Bedliner	(0/44)
Stowable Bed Extender	(-2/20)
SYNC	(0/0)
Step Gate	(-5/40)
Trailer Brake Controller	(0/0)
Transfer Case, Electronic Shift-on-the-Fly	(0/0)
Universal Garage Door Opener	(0/0)
Wheels, 17" Machined Aluminum	(-12/-24)
Wheels, 17" Machined Aluminum with Painted Accents	(-15/-30)
Wheels, 18" Chrome-clad Aluminum	(-5/-6)
Wheels, 18" Machined Cast Aluminum	(-3/-3)
Wheels, 20" Chrome-clad Aluminum	(27/60)
Wheels, 20" 6-spoke, Machined Aluminum	(31/68)
Wheels, 20" Machined Aluminum with Painted Accents	(35/75)
Wheel Well Liner	(4/8)
Window, Rear, Fixed Privacy Glass with Defrost	(0/0)
Window, Rear, Manual-sliding with Privacy Tint	(2/4)
Window, Rear, Power-sliding with Privacy Tint and Defrost	(4/7)

If you have any questions, please contact the Ford Truck Body Builders Advisory Service as shown in the header of this bulletin.

<b>Revision History</b>		
<b>Revision</b>	<b>Update</b>	<b>Revision Date</b>
Q-214R1	<ul style="list-style-type: none"> <li>Added note on headlamp interface</li> </ul>	13 Nov, 2012