



# B31046

## UNDERCARRIAGE KIT

Ford F-150	1997 - 03
Ford F-150 Heritage	2004
Ford F-250 LD	1997 - 99

### Parts List and Installation Instructions

**⚠ CAUTION**

Read this document before installing the snowplow.

**⚠ CAUTION**

See your BLIZZARD® outlet/Web site for specific vehicle application recommendations before installation. The Undercarriage Selection Guide has specific vehicle and snowplow requirements.

# SAFETY

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## SAFETY DEFINITIONS

### **WARNING**

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious personal injury.

### **CAUTION**

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTE:** Indicates a situation or action that can lead to damage to your snowplow and vehicle or other property. Other useful information can also be described.

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## SAFETY PRECAUTIONS

Improper installation and operation could cause personal injury, and/or equipment and property damage. Read and understand labels and the Owner's Manual before installing, operating or making adjustments.

### **WARNING**

Lower blade when vehicle is parked. Temperature changes could change hydraulic pressure, causing the blade to drop unexpectedly or damaging hydraulic components. Failure to do this could result in serious personal injury.

### **WARNING**

The driver shall keep bystanders clear of the blade when it is being raised, lowered or angled. Do not stand between the vehicle and the blade or within 8 feet of a moving blade. A moving or falling blade could cause personal injury.

### **WARNING**

Keep hands and feet clear of the blade and A-frame when mounting or dismounting the snowplow. Moving or falling assemblies could cause personal injury.

### **WARNING**

Do not exceed GVWR or GAWR including the blade and ballast. The rating label is found on the driver-side vehicle door cornerpost.

### **WARNING**

To prevent accidental movement of the blade, always turn the ON/OFF switch to OFF whenever the snowplow is not in use. The control indicator light will turn off.

### **WARNING**

Remove blade assembly before placing vehicle on hoist.

# SAFETY

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## CAUTION

Refer to the Undercarriage Selection Guide for minimum vehicle recommendations and ballast requirements.

## PERSONAL SAFETY

- Remove ignition key and put the vehicle in park or in gear to prevent others from starting the vehicle during installation or service.
- Wear only snug-fitting clothing while working on your vehicle or snowplow.
- Do not wear jewelry or a necktie, and secure long hair.
- Wear safety goggles to protect your eyes from battery acid, gasoline, dirt and dust.
- Avoid touching hot surfaces such as the engine, radiator, hoses and exhaust pipes.
- Always have a fire extinguisher rated BC handy, for flammable liquids and electrical fires.

## FIRE AND EXPLOSION

### WARNING

Gasoline is highly flammable and gasoline vapor is explosive. Never smoke while working on vehicle. Keep all open flames away from gasoline tank and lines. Wipe up any spilled gasoline immediately.

Be careful when using gasoline. Do not use gasoline to clean parts. Store only in approved containers away from sources of heat or flame.

## VENTILATION

### WARNING

Vehicle exhaust contains lethal fumes. Breathing these fumes, even in low concentrations, can cause death. Never operate a vehicle in an enclosed area without venting exhaust to the outside.

# TORQUE SPECIFICATIONS

## TORQUE CHART

### ⚠ CAUTION

Read instructions before assembling. Fasteners should be finger tight until instructed to tighten according to the torque chart. Use standard methods and practices when attaching snowplow including proper personal protective safety equipment.



Grade Identification for J429–Grade 5 Bolt



Grade Identification for J429–Grade 8 Bolt

SAE J429 Grade 5 Torque Values				SAE J429 Grade 8 Torque Values			
Nominal Thread Size	Clamp Loads (lb)	Tightening Torque		Nominal Thread Size	Clamp Loads (lb)	Tightening Torque	
		"Lubricated"	"Dry"			"Lubricated"	"Dry"
1/4-20	2,000	6 ft-lb	8 ft-lb	1/4-20	2,850	9 ft-lb	12 ft-lb
5/16-18	3,350	13 ft-lb	18 ft-lb	5/16-18	4,700	18 ft-lb	25 ft-lb
3/8-16	4,950	23 ft-lb	31 ft-lb	3/8-16	6,950	32 ft-lb	44 ft-lb
7/16-14	6,800	37 ft-lb	50 ft-lb	7/16-14	9,600	53 ft-lb	70 ft-lb
1/2-13	9,050	57 ft-lb	75 ft-lb	1/2-13	12,800	80 ft-lb	107 ft-lb
9/16-12	11,600	82 ft-lb	109 ft-lb	9/16-12	16,400	115 ft-lb	154 ft-lb
5/8-11	14,500	113 ft-lb	151 ft-lb	5/8-11	20,300	159 ft-lb	211 ft-lb
3/4-10	21,300	200 ft-lb	266 ft-lb	3/4-10	30,100	282 ft-lb	376 ft-lb
7/8-9	29,435	321 ft-lb	430 ft-lb	7/8-9	41,550	454 ft-lb	606 ft-lb
1-8	38,600	482 ft-lb	640 ft-lb	1-8	54,540	680 ft-lb	900 ft-lb



Grade Identification for Metric–Grade 8.8 Bolt



Grade Identification for Metric–Grade 10.9 Bolt

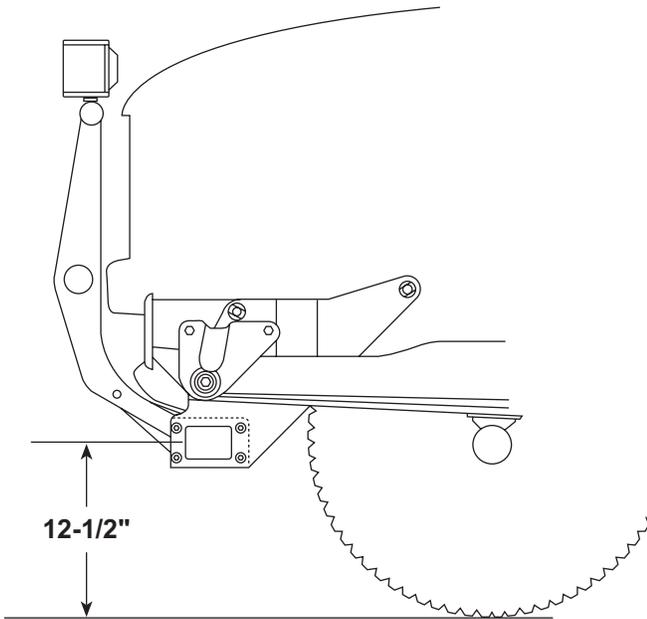
Metric Class 8.8 Torque Values				Metric Class 10.9 Torque Values			
Diameter (mm)	Clamp Loads (lb)	Tightening Torque		Diameter (mm)	Clamp Loads (lb)	Tightening Torque	
		"Lubricated"	"Dry"			"Lubricated"	"Dry"
5	1,389	3 ft-lb	5 ft-lb	5	1,987	5 ft-lb	7 ft-lb
6	1,965	6 ft-lb	8 ft-lb	6	2,812	8 ft-lb	11 ft-lb
7	2,826	10 ft-lb	13 ft-lb	7	4,044	14 ft-lb	19 ft-lb
8	3,579	14 ft-lb	19 ft-lb	8	5,121	20 ft-lb	27 ft-lb
10	5,672	28 ft-lb	37 ft-lb	10	8,116	40 ft-lb	53 ft-lb
12	8,243	49 ft-lb	65 ft-lb	12	11,796	70 ft-lb	92 ft-lb
14	11,246	77 ft-lb	103 ft-lb	14	16,092	111 ft-lb	148 ft-lb
16	15,882	125 ft-lb	167 ft-lb	16	21,970	173 ft-lb	231 ft-lb
18	19,423	172 ft-lb	229 ft-lb	18	26,868	238 ft-lb	317 ft-lb
20	24,784	244 ft-lb	325 ft-lb	20	34,284	338 ft-lb	450 ft-lb

# PUSHBEAM

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## PUSHBEAM HEIGHT

The recommended pushbeam height for this undercarriage assembly is 12-1/2" from the center of the pushbeam to level ground. DO NOT exceed 14-1/2" in height for this undercarriage.



# UNDERCARRIAGE INSTALLATION

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**NOTE: For easier assembly and installation, vehicle and all snowplow components should be on a smooth, level, hard surface, such as concrete.**

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1. Remove the front bumper.
2. Remove the plastic bumper fascia from the bottom of the bumper.

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**NOTE: The bumper fascia will need to be permanently removed or notched to accommodate the undercarriage.**

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If your truck has frame rail mounted tow hooks these will have to be permanently removed as well.

3. Align the front mount holes on the pushbeam (**Item 1**) with the tow hook mount holes on the truck frame rail.

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**NOTE: Use a floor jack to help facilitate in the installation procedure.**

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Secure the pushbeam to the truck with cap screws (**Item 9**), washers (**Item 10**) and nuts (**Item 11**). Add 9/16" washers (**Item 10**) as spacers to keep the pushbeam centered. Finger tighten the hardware until all undercarriage parts are in place.

4. Position the rear pushbeam support arm mount holes with the holes located in the truck frame cross member.

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**NOTE: The cross member contains two rubber access caps that need to be removed to gain access to the inside of the cross member.**

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Using grease or other adhesive, attach a washer (**Item 7**) to each of two cap screws (**Item 6**). Then attach a thin gauge wire to each cap screw and position the wire through each cross member access hole to the middle mount holes. Pull the cap screw through the holes into the cross member and pushbeam support arms. Fasten each cap screw with nut (**Item 8**) and additional washer. Replace the rubber access caps.

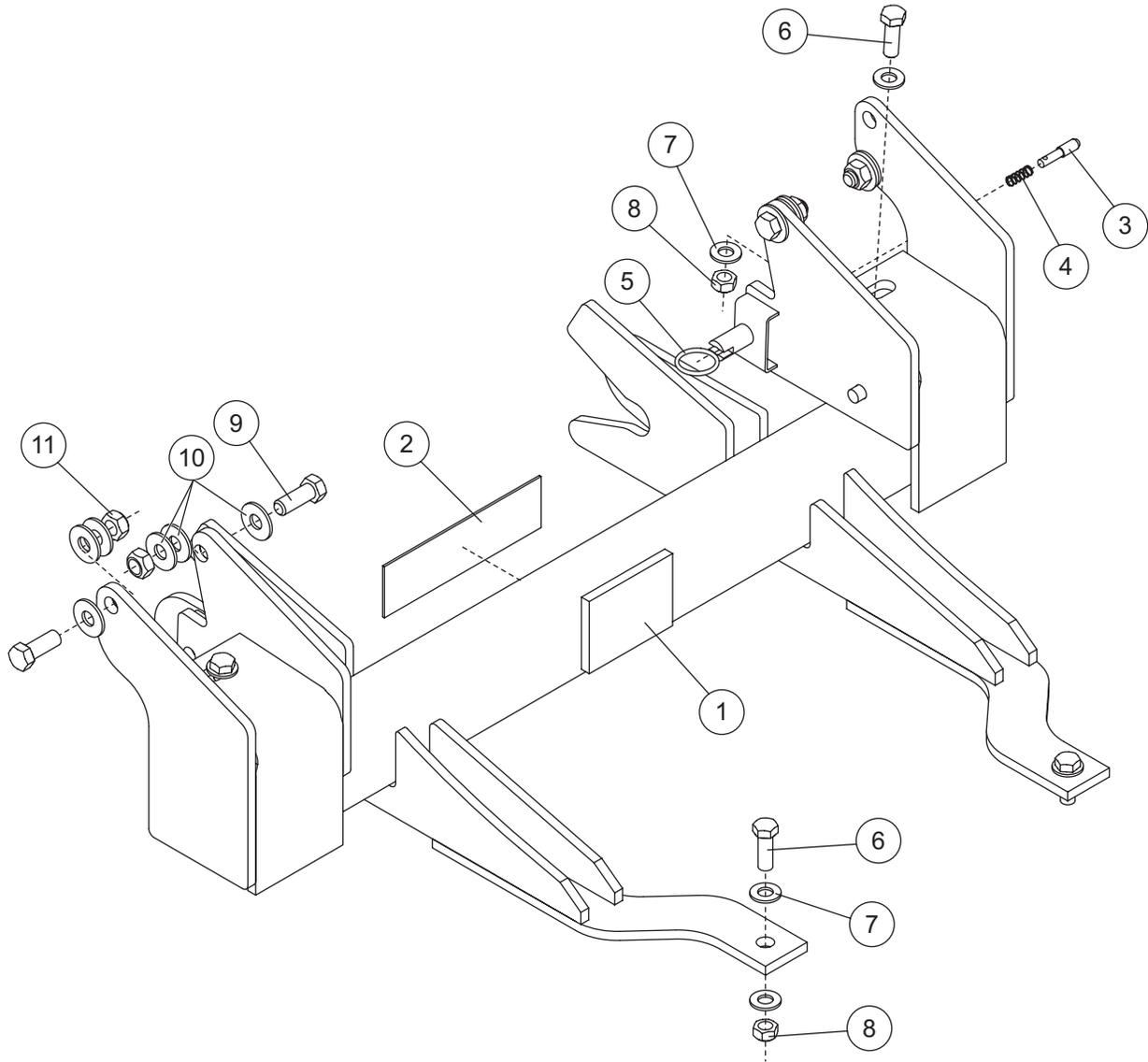
5. Finish securing the pushbeam to the truck frame with the two cap screws (**Item 6**), washers (**Item 7**) and nuts (**Item 8**) through the bottom of the pushbeam at the tow hook mount holes located under the truck frame rail.
6. Once the undercarriage has been positioned and all hardware is in place, tighten all fasteners according to the torque chart.
7. Replace the bumper and notched fascia using existing hardware.

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**NOTE: After five to ten hours of snowplow usage, retorque all undercarriage assembly fasteners.**

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# UNDERCARRIAGE PARTS LIST



<b>B31046 Undercarriage Kit</b>							
Item	Part	Qty	Description	Item	Part	Qty	Description
1		1	Pushbeam	4	B61000	2	Compression Spring SS
2	B63162	1	Decal, Pushbeam	5	B61309	2	Split Ring, 1.25 OD
3	B40079	2	A-Frame Latch Pin	ns	B61193	1	Hardware Kit
<b>B61193 Hardware Kit</b>							
6	90210	4	1/2-13 x 1-1/2 Hex Cap Screw G5	9	29240	4	9/16-12 x 1-1/2 Hex Cap Screw G8
7	90572	8	1/2 Flat Washer	10	29242	16	9/16 Hardened Flat Washer
8	90593	4	1/2-13 Hex Locknut GC	11	29241	4	9/16-12 Hex Locknut
			G = Grade				SS = Stainless Steel
							ns = not shown



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