



# B31142

## UNDERCARRIAGE KIT

Ford Explorer	1991 - 01
Ford Explorer Sport Trac	2001 - 05
Ford Ranger	1983 - 05
Mazda B3000/4000	1994 - 02

### 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

---

## 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.

---

## 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

---

## 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

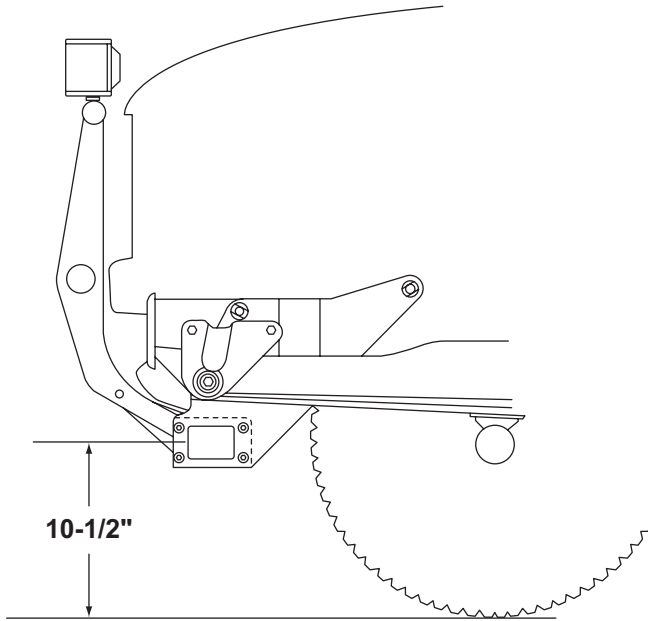
Metric Class 8.8 Torque Values				Metric Class 10.9 Torque Values			
Diameter (mm)	Clamp Loads (lb)	Tightening Torque		Diameter (mm)	Clamp Loads (lb)	Tightening Torque	
		"Lubricated"	"Dry"			"Lubricated"	"Dry"
5	1,389	3 ft-lb	5 ft-lb	5	1,987	5 ft-lb	7 ft-lb
6	1,965	6 ft-lb	8 ft-lb	6	2,812	8 ft-lb	11 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

---

## PUSHBEAM HEIGHT

The recommended pushbeam height for this undercarriage assembly is 10-1/2" from the center of the pushbeam to level ground. DO NOT exceed 12-1/2" in height for this undercarriage.



# UNDERCARRIAGE INSTALLATION

---

---

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

---

1. If vehicle is equipped with fog lamps, disconnect each electrical harness. Remove the bumper fascia.

---

**NOTE: The bumper fascia may need to be permanently notched to accommodate the undercarriage assembly.**

---

2. Align each hanger plate (**Item 6**) with the holes on the outside of the truck frame rail.

---

**NOTE: Use the holes specified for the correct vehicle year. The hardware kit includes all hardware needed for the different vehicle years identified.**

---

3. Using flexible wire, position cap screw with handle (**Item 11**) through the rear access hole in the truck frame rail and out the rear hanger plate mount hole on the frame. Secure hanger plate with washer (**Item 9**) and nut (**Item 10**). Finger tighten the fasteners until all undercarriage parts are in place.

---

**NOTE: The '04 Ford Ranger requires T-bolt (Item 13) in this location. Position the T-bolt into the oval hole (may need to grind slightly) in the frame. Mark the end of each T-bolt to indicate which direction the "T" will face when it is installed inside of the frame rail. Secure with lock washer (Item 15) and nut (Item 14).**

---

4. Secure the front of each hanger plate to the frame using cap screw with tab (**Item 12**), washer (**Item 9**) and locknut (**Item 10**).
5. Mount the pushbeam (**Item 1**) square with the bottom of each hanger plate using cap screws (**Item 8**), washers (**Item 9**) and locknuts (**Item 10**).

---

**NOTE: Due to different truck frame widths, spacers are provided to prevent the hanger plates from being bent when installing the pushbeam. Use these spacers (Item 7) if the pushbeam does not mount flush to the hanger plates.**

---

Tighten pushbeam hardware according to torque specifications.

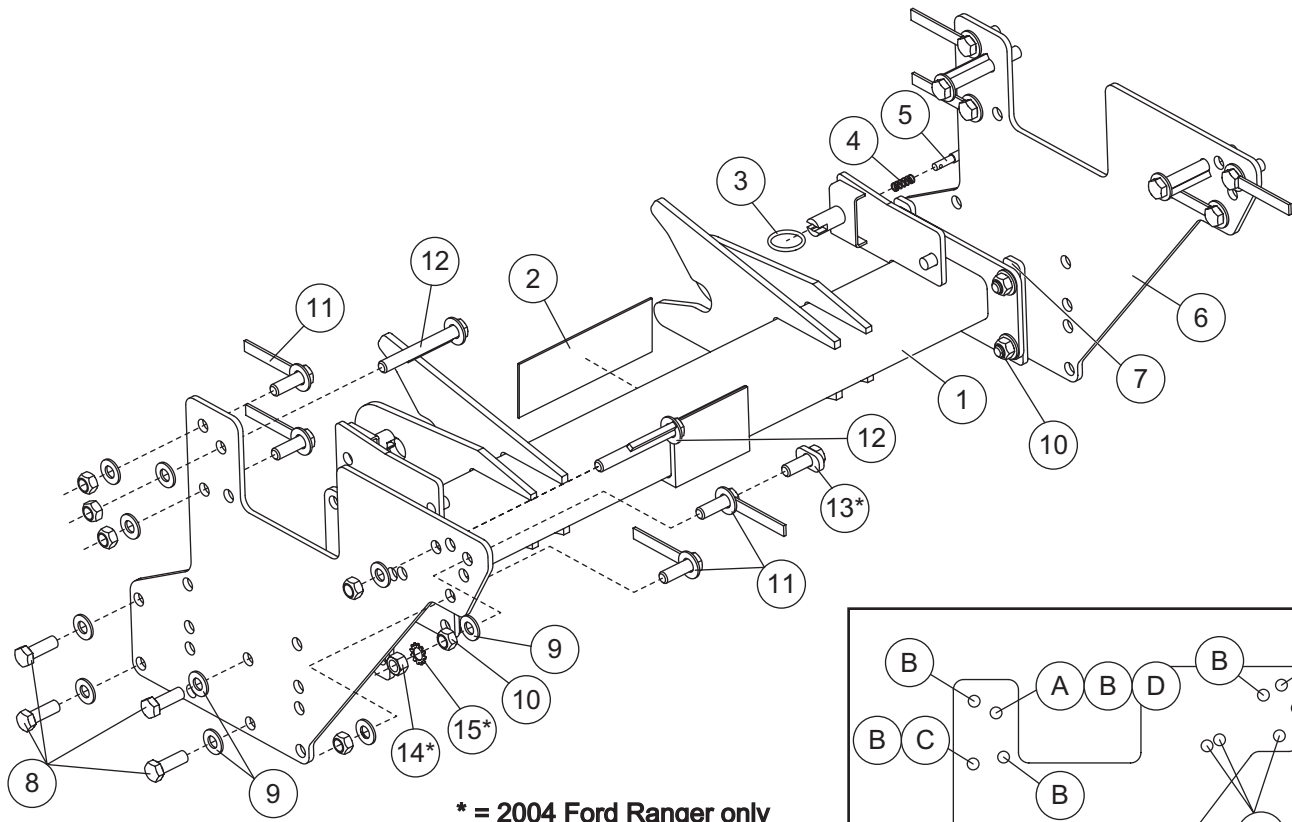
6. Level the pushbeam with the floor and torque the hanger plate hardware. Verify T-bolts are positioned with "T" perpendicular to the slot in the truck frame.
7. Replace the bumper fascia and reconnect the fog lamp wiring, if applicable.

---

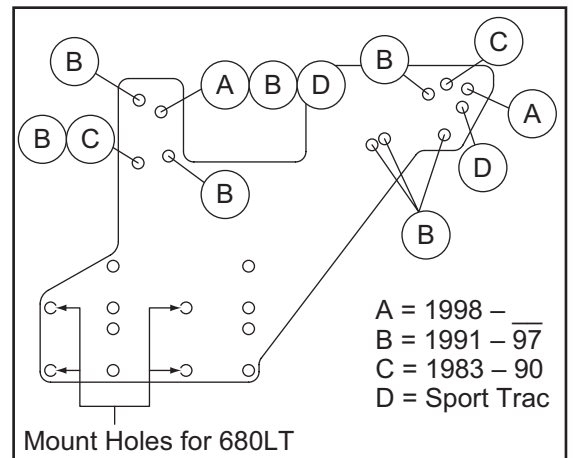
**NOTE: After five to ten hours of snowplow usage, retorque all undercarriage assembly fasteners.**

---

# UNDERCARRIAGE PARTS LIST



\* = 2004 Ford Ranger only



<b>B31142 Undercarriage Kit</b>							
Item	Part	Qty	Description	Item	Part	Qty	Description
1	B31143	1	Pushbeam	5	B40079	2	A-Frame Latch Pin
2	B63162	1	Decal, Pushbeam	6	B31129	2	Plate Hanger
3	B61309	2	Split Ring, 1.25 OD	7	B31133	4	4-3/4 x 1 x 1/4 Spacer
4	B61000	2	Compression Spring SS	ns	B61393	1	Hardware Kit
<b>B61393 Hardware Kit</b>							
8	90210	8	1/2-13 x 1-1/2 Hex Cap Screw G5	12	B31127	4	1/2-13 x 4 Hex Cap Screw G5 with Washer and Tab
9	90572	28	1/2 Hardened Flat Washer	13	B32137*	2	T-Bolt
10	90593	20	1/2-13 Hex Locknut GC	14	90337*	2	1/2-13 Hex Nut G8
11	B31130	8	1/2-13 x 1-1/2 Hex Cap Screw G8 with Washer and Handle	15	91205*	2	1/2 Spring Lock Washer
			G = Grade			SS = Stainless Steel	ns = not shown
							* = 2004 Ford Ranger only



Blizzard  
P.O. Box 245038  
Milwaukee, WI 53224-9538  
[www.blizzardplows.com](http://www.blizzardplows.com)

 A DIVISION OF DOUGLAS DYNAMICS, L.L.C.

Copyright © 2007 Douglas Dynamics, L.L.C. All rights reserved. This material may not be reproduced or copied, in whole or in part, in any printed, mechanical, electronic, film or other distribution and storage media, without the written consent of Blizzard. Authorization to photocopy items for internal or personal use by Blizzard outlets or snowplow owner is granted.

Blizzard reserves the right under its product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used. Blizzard or the vehicle manufacturer may require or recommend optional equipment for snow removal. Do not exceed vehicle ratings with a snowplow. Blizzard offers a limited warranty for all snowplows and accessories. See separately printed page for this important information. The following is a registered (®) trademark of Douglas Dynamics, L.L.C.: BLIZZARD®.

**Printed in U.S.A.**