



# B31250

## UNDERCARRIAGE KIT

Ford Super Duty F-250/350/450/550      1999 - 07

### 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.

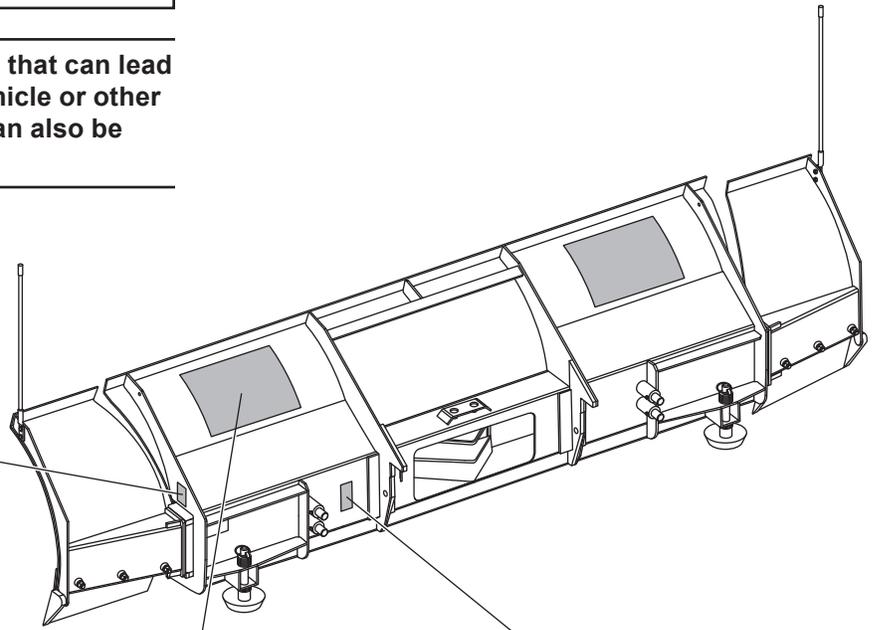
## WARNING/CAUTION & INSTRUCTION LABELS

Become familiar with and inform users about the warning and instruction labels on the back of the blade.

**NOTE:** If labels are missing or cannot be read, see your sales outlet.



**POWER PLOW™ and SPEEDWING™ Blades Only (both sides)**



ATTACH	⚠ WARNING: Keep fingers away from snowplow and truck attachment points. POWER HITCH™ arm raises behind undercarriage pushbeam.	DETACH
<ol style="list-style-type: none"> <li>Slowly drive vehicle forward to engage mount adapter into A-frame.</li> <li>Turn power switch to center or "OFF" position.</li> <li>Plug in electrical harnesses.</li> <li>Push and hold power switch RIGHT and push UP and hold arm/blade operation switch. Arm will engage mount adapter and pull snowplow towards vehicle.</li> <li>Install both hitch pins. Hitch pin is fully engaged when pin handle is against the pin guide plate.</li> <li>While holding power switch RIGHT, push DOWN and hold arm/blade operation switch. Arm will disengage mount adapter to relieve tension on the stand.</li> <li>Pull and raise the stand until the stand pin seats into upper hole on the A-frame.</li> <li>Turn power switch to left or "Flowing" position.</li> </ol>		<ol style="list-style-type: none"> <li>Lower snowplow onto ground with blade straight. Turn plow control in cab to "OFF" position.</li> <li>Turn power switch to center or "OFF" position.</li> <li>While holding the power switch RIGHT, push DOWN and hold the arm/blade operation switch. Arm will disengage mount adapter to relieve tension on the stand.</li> <li>Pull and lower the stand until stand pin seats into lower hole on the A-frame and stand and light tower side plates contact.</li> <li>Push and hold power switch RIGHT and push UP the arm/blade operation switch. Arm will engage mount adapter and pull snowplow tightly to vehicle.</li> <li>Remove both hitch pins.</li> <li>While holding power switch RIGHT, push DOWN and hold arm/blade operation switch to fully lower arm.</li> <li>Unplug electrical harnesses.</li> </ol>
<p>Read Owner's Manual for Complete Instructions.</p>		
<p><small>U.S. Patents 5,420,480; 5,638,615; 5,899,007; 6,178,669; 6,253,470; 6,276,076; 6,393,737; 6,408,549; 6,412,199; 6,442,877; 6,615,513; 7,134,227; RE 35,700; CAN Patents 2,060,425; 2,194,922; 2,220,743; 2,250,503; 2,353,145; 2,358,324; 2,469,190; and other patents pending. 48288</small></p>		

# SAFETY

## 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 removing 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.**

### **⚠ 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.

## CELL PHONES

A driver's first responsibility is the safe operation of the vehicle. The most important thing you can do to prevent a crash is to avoid distractions and pay attention to the road. Wait until it is safe to operate Mobile Communication Equipment such as cell phones or two-way radios.

## 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

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## TORQUE CHART

**⚠ CAUTION**

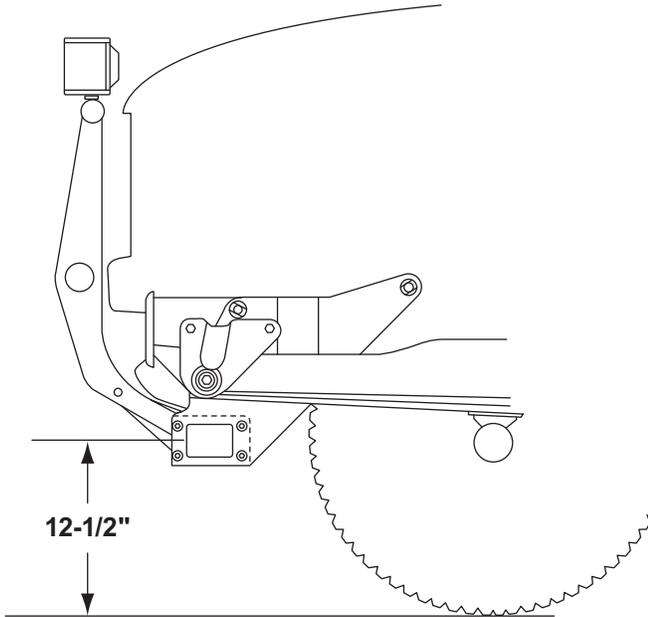
**Read instructions before assembling. Fasteners should be finger tight until instructed to tighten according to the torque chart. Use standard methods and practices when attaching snowplow including proper personal protective safety equipment.**

<b>Recommended Fastener Torque Chart (ft-lb)</b>			
Size	 SAE Grade 2	 SAE Grade 5	 SAE Grade 8
1/4-20	6	9	13
5/16-18	11	18	28
3/8-16	19	31	46
3/8-24	24	46	68
7/16-14	30	50	75
1/2-13	45	75	115
9/16-12	66	110	165
5/8-11	93	150	225
3/4-10	150	250	370
7/8-9	150	378	591
1-8	220	583	893
<b>Metric Grade 8.8 (ft-lb)</b>			
Size	Torque	Size	Torque
M 6	7	M 12	60
M 8	17	M 14	95
M 10	35	M 16	155
These torque values apply to fasteners except those noted in the instruction.			

# PUSHBEAM & UNDERCARRIAGE INSTALLATION

## 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.



### ⚠ WARNING

Removing the BlockerBeam™ without installing snowplow undercarriage may affect air bag deployment in a crash. Do not operate the truck unless either the BlockerBeam or the snowplow undercarriage is installed on the vehicle.

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

1. Remove the bumper, then remove the plastic bumper fascia from the bumper.
2. Remove the outside bumper bracket, if equipped, from each side. Retain hardware.

3. Remove the fasteners attaching the BlockerBeam, if equipped, to the support brackets and/or frame and remove the BlockerBeam. Reattach all fasteners to the BlockerBeam and affix the supplied tag using a cable tie. (See illustrations on following page.) BlockerBeam must be transferred when vehicle is sold or traded.

### ⚠ CAUTION

When installing hanger plates, check that there is no interference between plates and vehicle components, such as brake and electrical lines.

### ⚠ CAUTION

The fog lamp harness (if applicable) is routed close to the driver-side hanger plate. Do not pinch wire harness between the hanger plate and the truck frame.

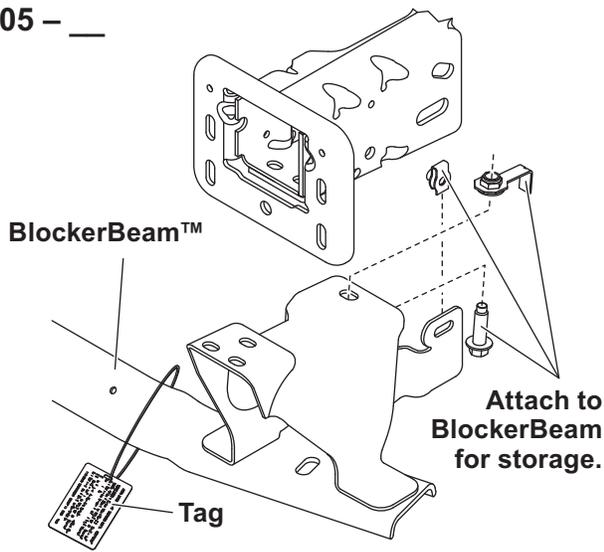
4. Position hanger plates (Item 7 and 8) with the two holes/slots on the outside of the truck frame rail. Secure rear bushing with cap screws (Item 16), washers (Item 17) and retainer and nuts (Item 10). Finger tighten the fasteners until all undercarriage parts are in place.

**NOTE:** Use the access hole in the truck frame to position the tab nut.

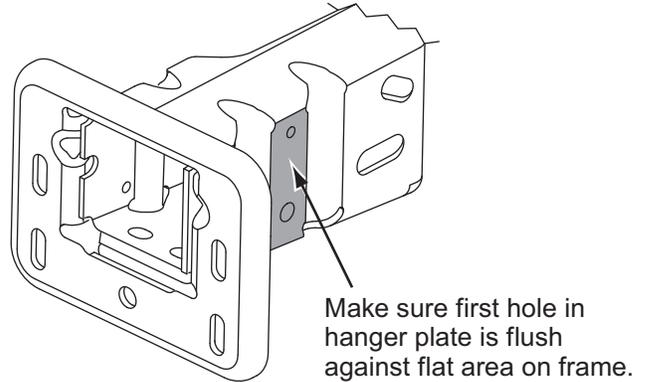
5. Position the rod and nut (Item 12) through the front of the truck frame rail, above the tow hooks, through the front access hole. Secure the rod and nut to the second hole from the front in the hanger plates with cap screws (Item 18) and washers (Item 17).
6. Mount the pushbeam (Item 1) square with the bottom of each hanger plate using cap screws (Item 13), washers (Item 14) and locknuts (Item 15). Tighten the pushbeam hardware according to the torque chart.

# UNDERCARRIAGE INSTALLATION

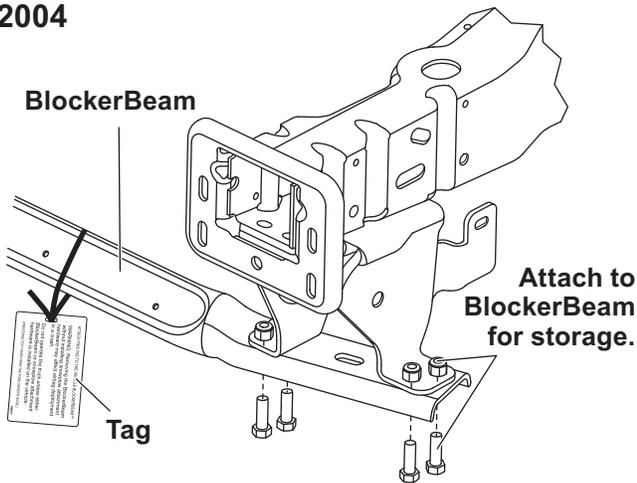
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- Level the pushbeam with the floor and torque the hanger plate hardware, making sure that the first hole in each hanger plate is aligned with the flat surface in the frame.



2004

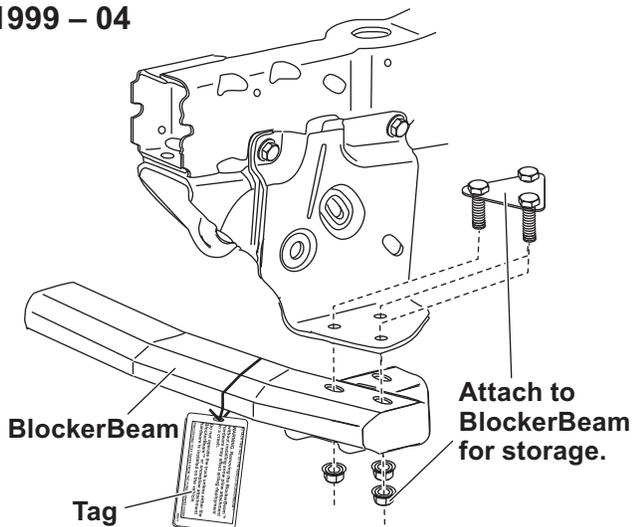


## ⚠ CAUTION

Use caution not to pinch, cut or drill through any wires or hoses running along the frame rails.

- Mark center points with an 11/16" drill through the two remaining bushings on each hanger plate. Drill pilot holes through the center marks with a smaller bit, and then 11/16" holes completely through the frame wall on each side of the vehicle.
- Secure third hole through bumper brackets (**Item 8 and 9**) with cap screws (**Item 18**), washers (**Item 17**) and rod and nut (**Item 11**) and tighten according to torque chart.

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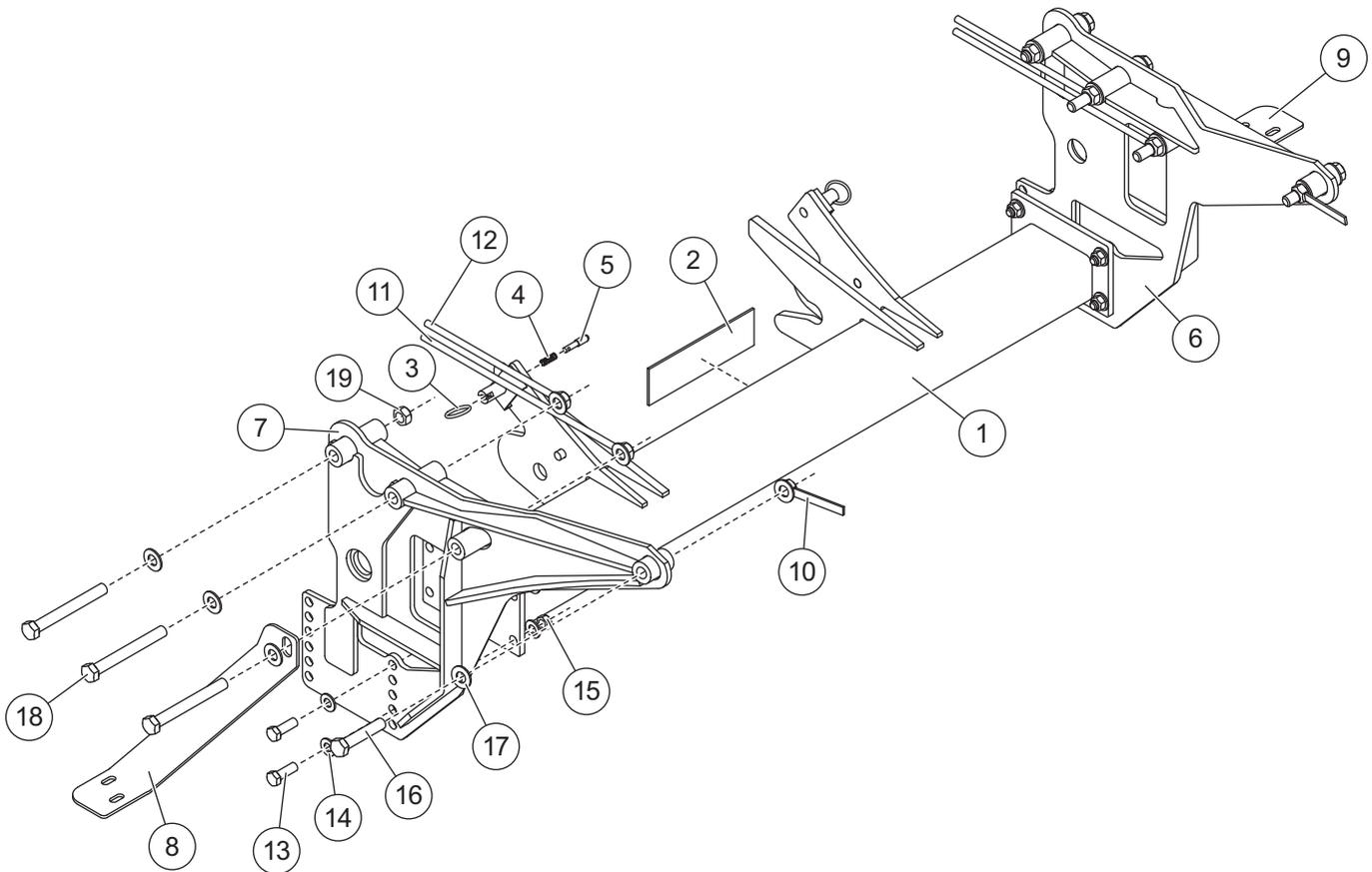


**NOTE: Position rod and nut through the front of the truck frame rails, above the tow hooks.**

- Secure front hole in hanger plates with cap screws (**Item 18**), washers (**Item 14**) and locknuts (**Item 19**).
- Bend or cut the ends of the fastener rods protruding out from the truck frame.
- Reinstall bumper using existing hardware.
- Reinstall bumper fascia using existing hardware (optional). Trim bumper fascia as required.

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

# UNDERCARRIAGE PARTS LIST



<b>B31250 Undercarriage Kit</b>							
Item	Part	Qty	Description	Item	Part	Qty	Description
1	B31105	1	Pushbeam	8	B31229	1	Bumper Bracket – DS
2	B63161	1	Decal, Pushbeam	9	B31230	1	Bumper Bracket – PS
3	B61309	2	Split Ring, 1.25 OD	10	B31112	2	Retainer and Nut
4	B61000	2	Compression Spring SS	11	B31181	2	5/8-11 x 15 Rod and Nut
5	B40079	2	A-Frame Latch Pin	12	B31109	2	5/8-11 x 10 Rod and Nut
6	95876	1	Hanger Plate – PS	ns	66871	1	Ford BlockerBeam™ Warning Tag
7	95875	1	Hanger Plate – DS	ns	95882	1	Hardware Kit
<b>95882 Hardware Kit</b>							
13	90218	8	1/2-13 x 2 Hex Cap Screw G8	17	90576	8	5/8 Hardened Flat Washer
14	90572	18	1/2 Hardened Flat Washer	18	80237	6	5/8-11 x 5-1/2 Hex Cap Screw G8
15	91335	8	1/2-13 Hex Locknut GB	19	B61063	2	5/8-11 Hex Locknut GC
16	B61437	2	5/8-11 x 3-1/2 Hex Cap Screw G8				
			G = Grade				SS = Stainless Steel
							ns = not shown



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