



**33999**

**UNDERCARRIAGE KIT**

**Dodge Ram 1500 4X4**

**2006 - 08**

**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

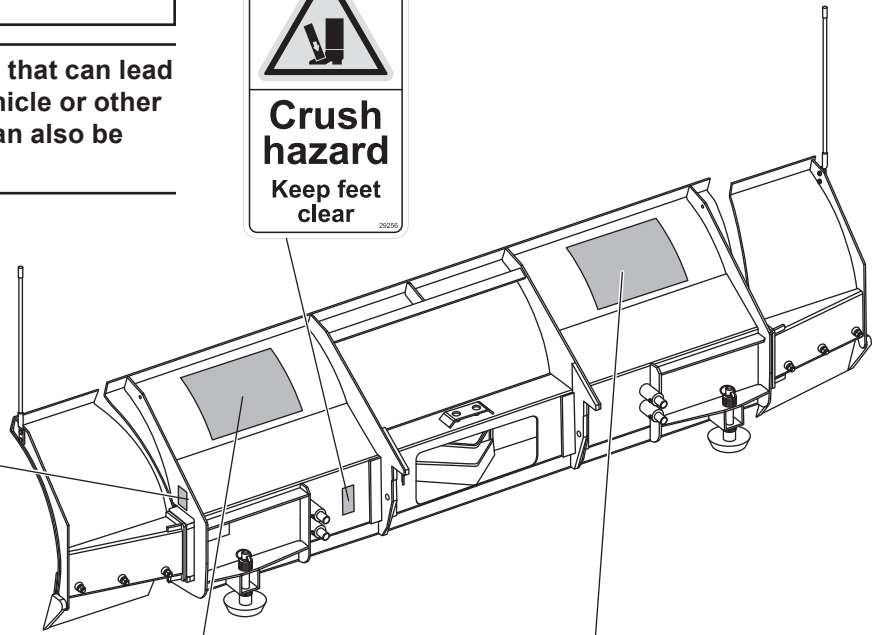
Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**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™ & SPEEDWING™ Blades Only (both sides)

ATTACH	⚠ WARNING	DETACH
<ol style="list-style-type: none"> <li>Slowly drive vehicle forward to engage mount adapter into A-frame.</li> <li>Move 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 armblade operation switch. Arm will engage mount adapter and pull snowplow toward vehicle.</li> <li>Rotate and release hitch pin. Hitch pin is fully engaged when pin handle is against the pin guide plate.</li> <li>Repeat Step 5 on passenger's side. Rotate and release hitch pin. 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 armblade operation switch. Arm will disengage mount adapter to relieve tension on the stand.</li> <li>Pull stand handle up. Stand will lift off ground. Put stand pin out. Rotate stand up until stand pin seats into upper hole. Pin must lock into upper A-frame hole.</li> <li>Repeat Step 8 on passenger's side. Pull stand handle up. Stand will lift off ground. Put stand pin out. Rotate stand up until stand pin seats into upper hole. Pin must lock into upper A-frame hole.</li> <li>Move power switch to left or "Plowing" position.</li> </ol>	<p>Keep fingers away from snowplow and truck attachment points. POWER HITCH™ 2 arm raises behind undercarriage pushbeam.</p>	<ol style="list-style-type: none"> <li>Lower snowplow onto ground with blade straight. Turn snowplow control in cab OFF.</li> <li>Move power switch to center or "OFF" position.</li> <li>While holding the power switch RIGHT, push DOWN and hold the armblade operation switch. Arm will disengage mount adapter to relieve tension on the stand.</li> <li>Pull stand pin out. Rotate stand down until stand pin seats into lower A-frame hole. Push down on top of shoe. Shoe will be on the ground.</li> <li>Repeat Step 4 on passenger's side. Pull stand pin out. Rotate stand down until stand pin seats into lower A-frame hole. Push down on top of shoe. Shoe will be on the ground.</li> <li>Push and hold power switch RIGHT and push UP the armblade operation switch. Arm will engage mount adapter and pull snowplow lightly to vehicle.</li> <li>Rotate and pull hitch pin. Rotate hitch pin into retracted position.</li> <li>Repeat Step 7 on passenger's side. Rotate and pull hitch pin. Rotate hitch pin into retracted position.</li> <li>While holding power switch RIGHT, push DOWN and hold armblade operation switch to fully lower arm.</li> <li>Unplug electrical harnesses.</li> </ol>

Read Owner's Manual for complete instructions.

U.S. patents 5,420,450; 5,638,618; 5,999,007; 6,178,669; 6,253,470; 6,276,076; 6,393,737; 6,408,549; 6,442,199; 6,442,877; 6,615,513; 7,134,227; 7,400,058; 7,430,921; 7,577,276; CAN patents 2,400,425; 2,184,922; 2,223,783; 2,250,508; 2,358,145; 2,369,554; 2,392,533; and other patents pending.

	<p><b>⚠ WARNING</b></p> <p>Lower blade when vehicle is parked.</p>
	<p><b>⚠ WARNING</b></p> <p>Do not exceed GVWR or GAWR including blade and ballast.</p>
	<p><b>⚠ CAUTION</b></p> <p>Read Owner's Manual before operating or servicing snowplow.</p>
	<p><b>⚠ CAUTION</b></p> <p>Transport speed should not exceed 45 mph (72 km/h). Further reduce speed under adverse travel conditions.</p>
	<p><b>⚠ CAUTION</b></p> <p>Plowing speed should not exceed 10 mph (16 km/h).</p>
	<p>See your sales outlet/Web site for specific vehicle application recommendations.</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 the blade when the 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 control OFF whenever the snowplow is not in use. The power 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, text messaging devices, pagers 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

## NOISE

Airborne noise emission during use is below 70 dB(A) for the snowplow operator.

## VIBRATION

Operating snowplow vibration does not exceed 2.5 m/s<sup>2</sup> to the hand-arm or 0.5 m/s<sup>2</sup> to the whole body.

## 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

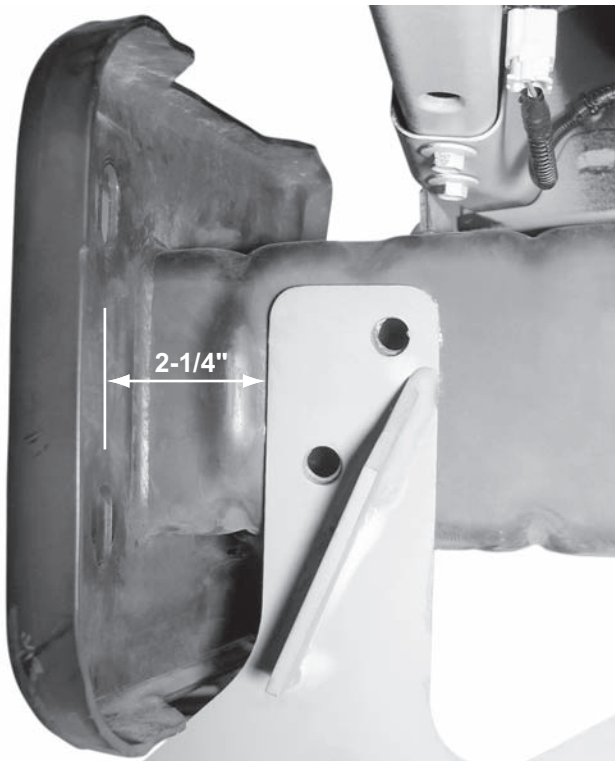
Metric Class 8.8 Torque Values				Metric Class 10.9 Torque Values			
Diameter (mm)	Clamp Loads (lb)	Tightening Torque		Diameter (mm)	Clamp Loads (lb)	Tightening Torque	
		"Lubricated"	"Dry"			"Lubricated"	"Dry"
5	1,389	3 ft-lb	5 ft-lb	5	1,987	5 ft-lb	7 ft-lb
6	1,965	6 ft-lb	8 ft-lb	6	2,812	8 ft-lb	11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

# UNDERCARRIAGE INSTALLATION

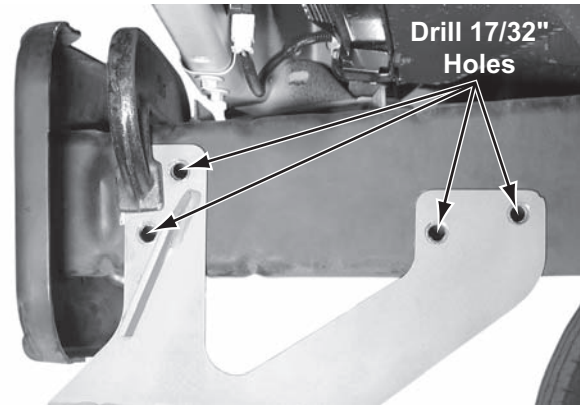
## INSTALLATION INSTRUCTIONS

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

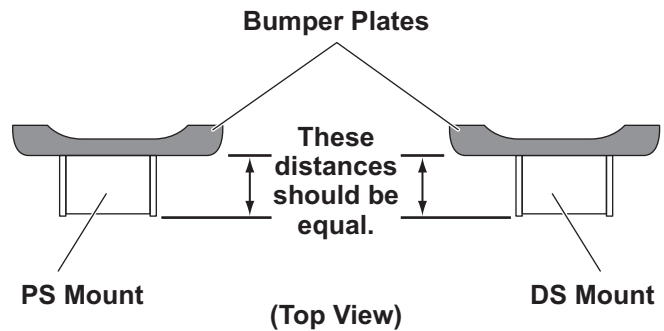
1. Remove the bumper by unbolting it at the frame. Retain fasteners.
2. Push the passenger-side mount tight up against the bottom of the frame. Then move the mount forward until the front edge of the mount upright is approximately 2-1/4" from the back of the bumper plate. Clamp the mount into place against the frame.



3. Using the holes in the mount as guides, drill four 17/32" holes through the inner wall of the frame.

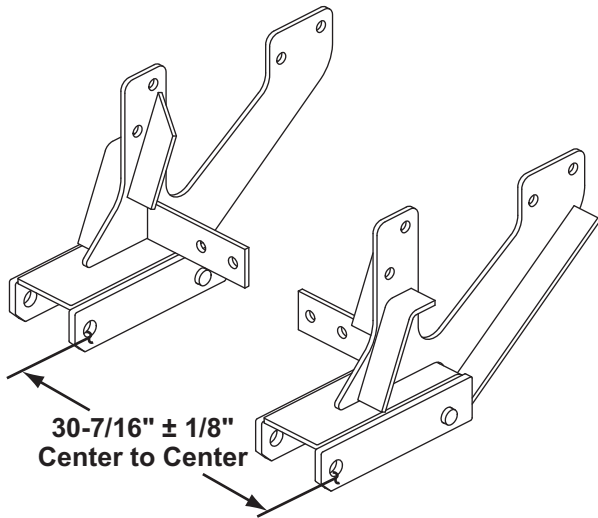


4. Insert two 1/2" x 1-1/2" cap screws with handles and 1/2" flat washers into the inside of the truck frame and out through the rear drilled holes. Attach a 1/2" locknut to each cap screw and hand tighten.
5. Insert two 1/2" x 1-1/2" cap screws and 1/2" flat washers into the inside of the truck frame and out through the front drilled holes. Attach a 1/2" locknut to each cap screw and hand tighten.
6. Bend or cut the ends of the cap screw handles protruding out from the truck frame to allow for proper bumper attachment.
7. Repeat Steps 2 through 6 for the driver-side mount, making sure before drilling that both U-brackets are the same distance away from the fronts of the bumper plates.



## UNDERCARRIAGE INSTALLATION

8. Install the cross bar using four 1/2" x 1-1/2" cap screws and 1/2" locknuts. Hand tighten fasteners.
9. Check for a U-bracket distance of  $30\text{-}7/16" \pm 1/8"$ . Take a second measurement farther back on the mounts to ensure that they are parallel. If the U-bracket distance is not within  $30\text{-}7/16" \pm 1/8"$ , then 1/2" flat washers may be used to shim one or both mounts in the appropriate direction to obtain the desired distance.



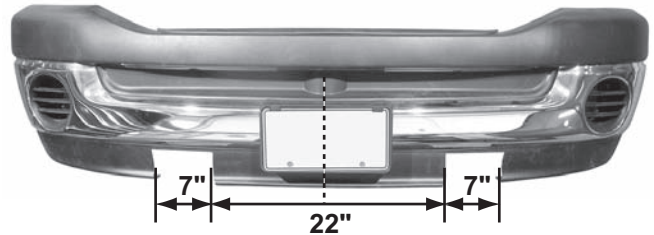
After achieving the appropriate dimensions, tighten all fasteners according to the torque chart.

10. Remove or notch the air dam to allow sufficient clearance for the U-brackets and mounting of the blade assembly. See below for suggested modification.

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**NOTE: Only cut air dam notches high enough to clear U-brackets. Air dam should remain one piece.**

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11. Reattach the bumper using the original fasteners.

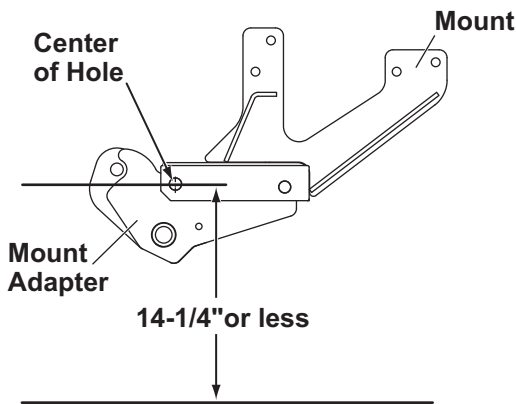
# MOUNT ADAPTER INSTALLATION

## MOUNT ADAPTER MEASUREMENT

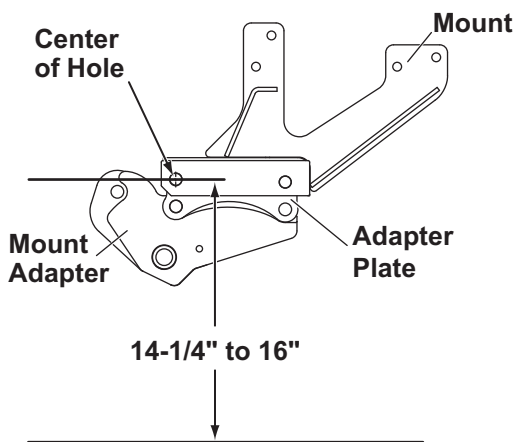
With the vehicle on level ground, measure from the ground to the center of the hole on the U-bracket side plate of the mount.

The recommended height of the mount should be 14-1/4" or less from the center of the U-bracket hole to level ground. If the mount is higher than 14-1/4", the enclosed adapter plates need to be attached to the mount adapter. (The mount adapter comes packaged with the blade crate assembly.)

If the measured height is 14-1/4" or less, no height adjustment is needed.



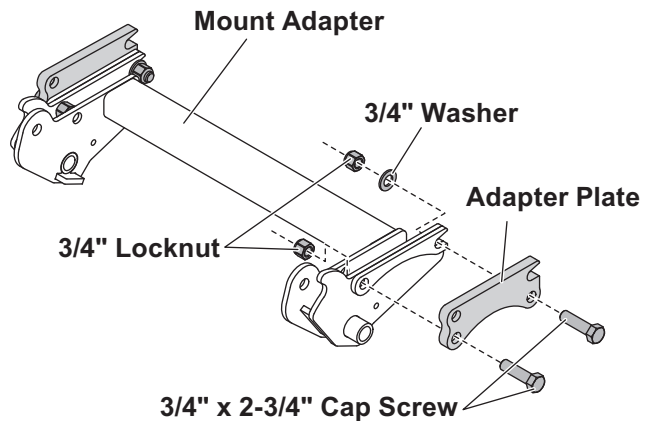
If the measured height is 14-1/4" to 16", install the short height adjustment adapter plates as described.



## MOUNT ADAPTER INSTALLATION

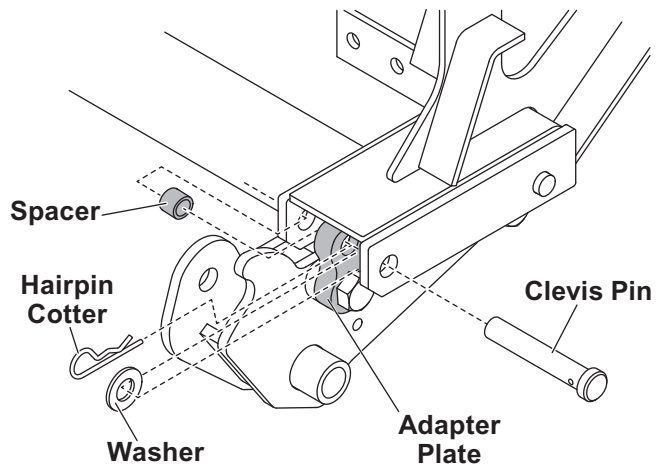
If adapter plates are required, install as follows:

1. Position an adapter plate against the driver's side portion of the mount adapter as shown. Insert a 3/4" x 2-3/4" cap screw through the lower front adapter plate hole and through the appropriate hole on the mount adapter. Secure with a locknut.
2. Insert a cap screw through the rear adapter plate hole, through the slot on the mount adapter and through a washer. Secure with a locknut.



3. Repeat for the passenger's side. Tighten all fasteners according to the torque chart.

When positioning the mount adapter between the undercarriage brackets, insert a spacer between the adapter plate and the inner side plate of the undercarriage as shown.



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



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

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