



35111

UNDERCARRIAGE KIT

International TerraStar 4X4

2013 - __

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.

Multiple Pinch Points Label



POWER PLOW™ & SPEEDWING™ Blades Only (both sides)

Instruction Label

ATTACH	⚠ WARNING	DETACH
<ol style="list-style-type: none"> Slowly drive vehicle forward to engage mount adapter into A-frame. Move power switch to center or "OFF" position. Plug in electrical harnesses. Push and hold power switch RIGHT and push UP and hold arm/blade operation switch. Arm will engage mount adapter and pull snowplow toward vehicle. Rotate and release hitch pin. Hitch pin is fully engaged when pin handle is against the pin guide plate. 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. While holding power switch RIGHT, push DOWN and hold arm/blade operation switch. Arm will disengage mount adapter to relieve tension on the stand. Pull stand handle up. Stand will lift off ground. Pull stand pin out. Rotate stand up until stand pin seats into upper hole. Pin must lock into upper A-frame hole. Repeat Step 8 on passenger's side. Pull stand handle up. Stand will lift off ground. Pull stand pin out. Rotate stand up until stand pin seats into upper hole. Pin must lock into upper A-frame hole. Move power switch to left or "Plowing" position. 	<p>Keep fingers away from snowplow and truck attachment points. POWER HITCH™ 2 arm raises behind undercarriage pushbeam.</p> <p>ATTACH – Steps 2, 4, 7 & 10 DETACH – Steps 7, 8, 9 & 9</p> <p>Labels: Power Switch, Arm/Blade Operation Switch, Light Tower, Mount Adapter, Pin Handle, Hitch Pin, Pin Guide Plate, Upper Hole, A-Frame, Stand, Stand Handle, Stand Pin, Shoe, Boot.</p>	<ol style="list-style-type: none"> Lower snowplow onto ground with blade straight. Turn snowplow control in cab OFF. Move power switch to center or "OFF" position. 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. 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. 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. 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. Rotate and pull hitch pin. Rotate hitch pin into retracted position. Repeat Step 7 on passenger's side. Rotate and pull hitch pin. Rotate hitch pin into retracted position. While holding power switch RIGHT, push DOWN and hold arm/blade operation switch to fully lower arm. Unplug electrical harnesses.

Read Owner's Manual for complete instructions.

U.S. patents 5,420,480; 5,638,618; 5,899,007; 6,178,969; 6,253,476; 6,276,078; 6,393,737; 6,408,549; 6,412,199; 6,442,877; 6,615,513; 7,134,227; 7,400,626; 7,430,821; 7,737,576; CAN patents 2,840,420; 2,184,922; 2,229,783; 2,229,538; 2,353,145; 2,356,354; 2,532,933; and other patents pending.

Crush Hazard Label



Warning/Caution Label

<p>⚠ WARNING</p> <p>Lower blade when vehicle is parked.</p> <p>Do not exceed GVWR or GAWR including blade and ballast.</p>
<p>⚠ CAUTION</p> <p>Read Owner's Manual before operating or servicing snowplow.</p> <p>Transport speed should not exceed 45 mph (72 km/h). Further reduce speed under adverse travel conditions.</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 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 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/s² to the hand-arm or 0.5 m/s² 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.

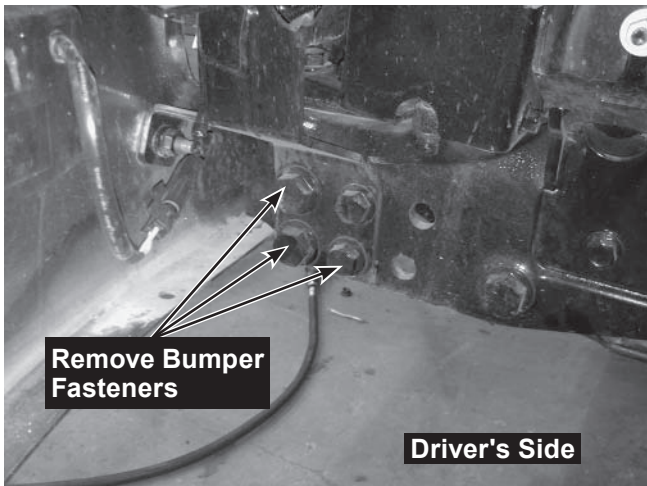
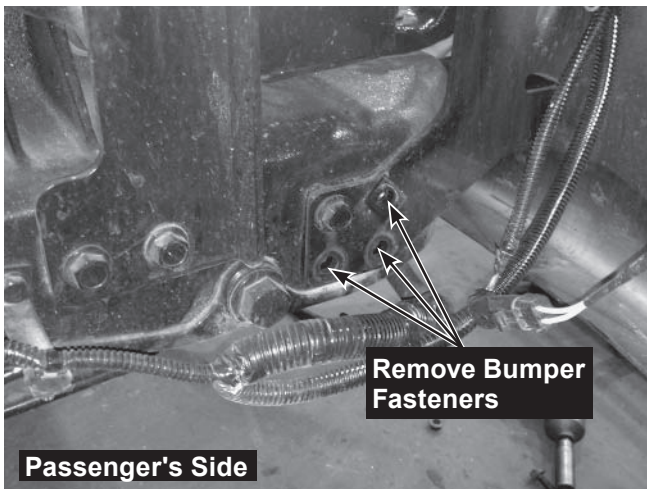
Recommended Fastener Torque Chart (ft-lb)			
Size	Torque		
	 SAE Grade 2	 SAE Grade 5	 SAE Grade 8
1/4-20	6	9	13
5/16-18	11	18	28
3/8-16	19	31	46
3/8-24	24	46	68
7/16-14	30	50	75
1/2-13	45	75	115
9/16-12	66	110	165
5/8-11	93	150	225
3/4-10	150	250	370
7/8-9	150	378	591
1-8	220	583	893
Metric Grade 8.8 (ft-lb)			
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.			

UNDERCARRIAGE INSTALLATION

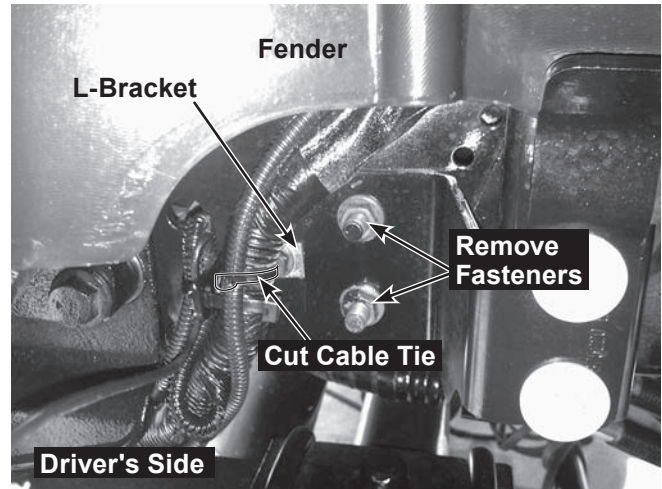
INSTALLATION INSTRUCTIONS

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

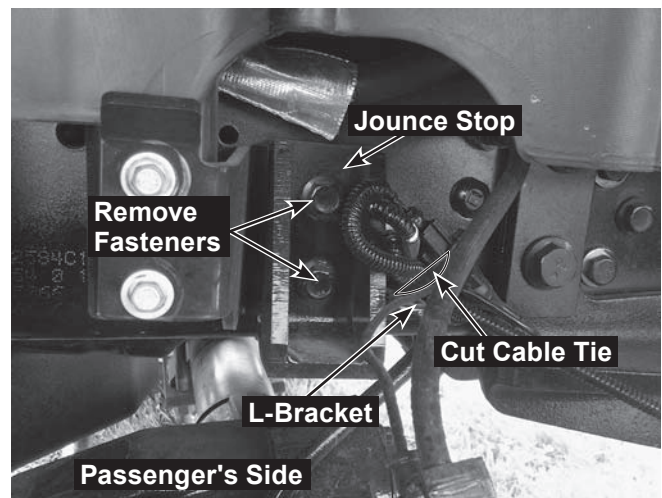
1. Check to ensure that the vehicle's front bumper is level and in a desirable position. Adjust if necessary. Remove three of the bumper bracket fasteners on each side of the truck. Do not loosen the fourth bumper bracket cap screw as it maintains the preset bumper position during this step.



2. For both sides, cut the cable ties to free the harness and remove the L-brackets as shown below. Retain all bracket parts for reinstallation. Use caution not to damage the brake cable and hose running from the L-shaped bracket to the wheel assembly.



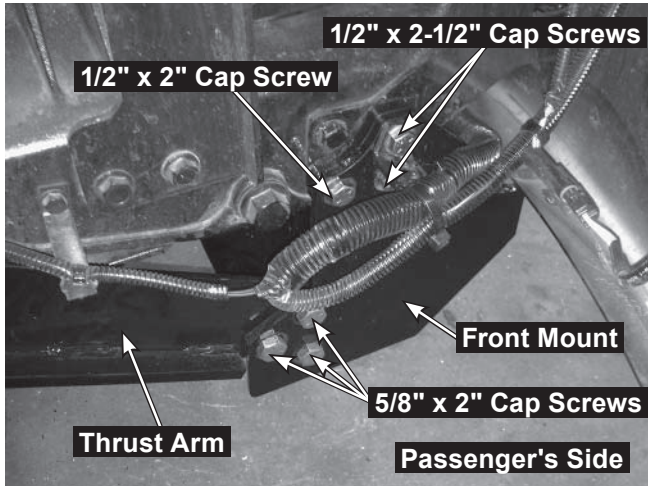
3. On the driver's side, remove the two fasteners shown above. Remove the plastic fender shown.



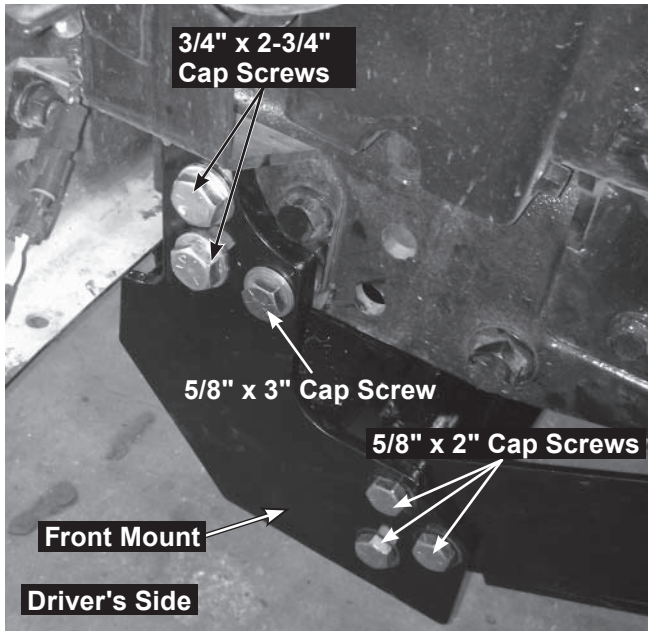
4. On the passenger's side, remove the jounce stop fasteners and the jounce stop.

UNDERCARRIAGE INSTALLATION

5. Position the front mount as shown. On the passenger's side, Loosely attach the front mount using 1/2" x 2" and 1/2" x 2-1/2" cap screws and locknuts. Use caution not to damage the lighting harness running under the passenger-side frame end. It may be necessary to cut its plastic tie and reposition the lighting harness temporarily during this step. If so, use one of the provided cable ties to reattach it.

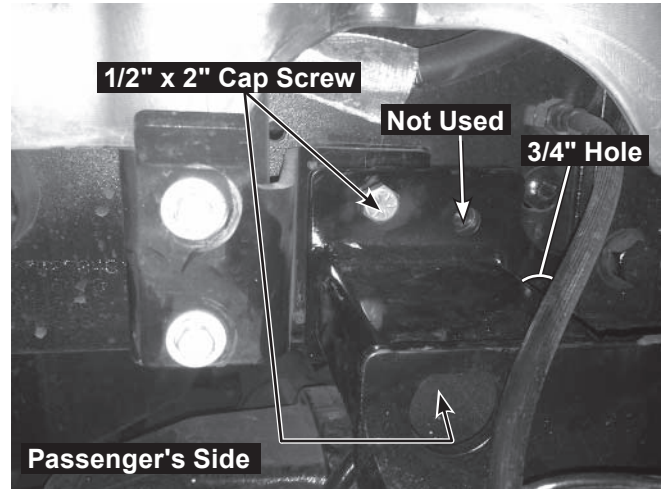


6. On the driver's side, loosely attach the front mount using 3/4" x 2-3/4" cap screws and locknuts and one 5/8" x 3" cap screw and locknut.



7. On both sides, loosely attach the corresponding thrust arm to the inside of the front mount using three 5/8" x 2" cap screws and locknuts.

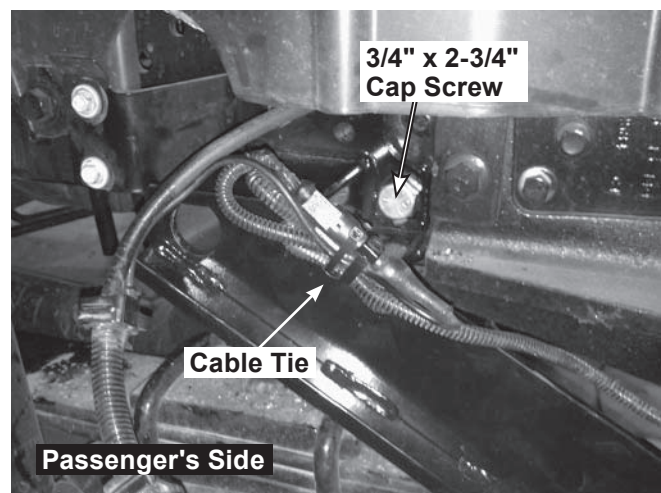
8. Position the rear end of the passenger-side thrust arm as shown and attach using 1/2" x 2" cap screws and locknuts.



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

9. On the passenger's side, mark a 3/4" hole using the passenger-side thrust arm as a template. Remove the thrust arm and drill hole. Reattach the thrust arm using 3/4" x 2-3/4" and 1/2" x 2" cap screws and locknuts.

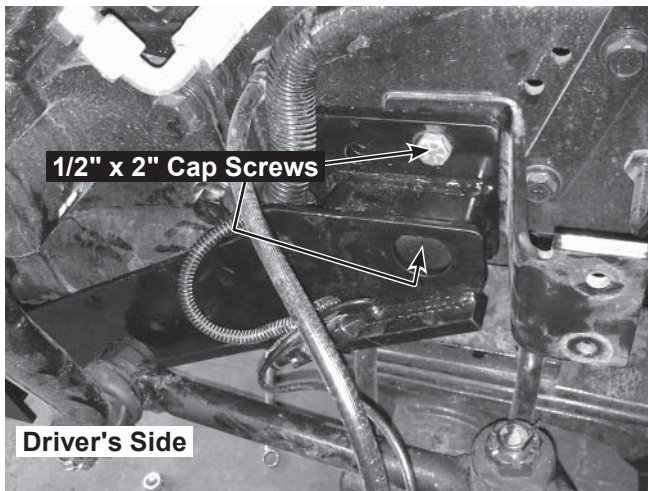
The 5/8" hole is not used on this side.



10. Cable tie the vehicle harnesses as shown. Apply the provided anti-chafing material to the harness or hoses if they come into contact with the thrust arm.

UNDERCARRIAGE INSTALLATION

11. Attach the rear end of the driver-side thrust arm as shown using 1/2" x 2" cap screws and locknuts.

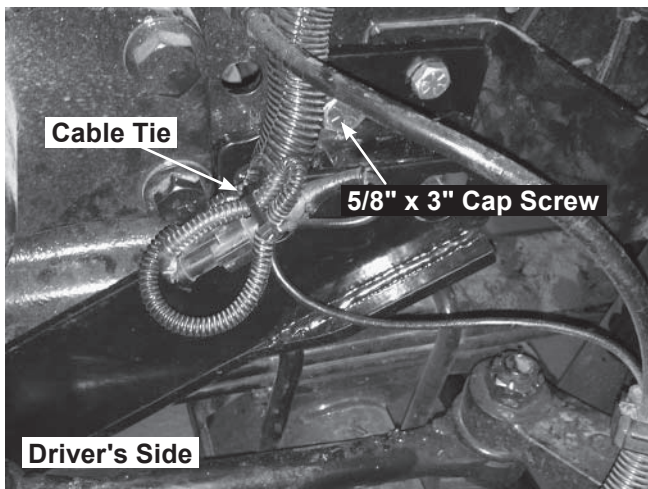


⚠ CAUTION

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

12. On the driver's side, using the 11/16" diameter hole as a guide, drill a 5/8" hole. Secure the driver-side thrust arm using a 5/8" x 3" cap screw.

The 3/4" hole is not used on this side.



13. Secure the vehicle harnesses with cable ties as shown. Apply the provided anti-chafing material to the harness or hoses if they come into contact with the thrust arm.

14. Tighten all fasteners according to the torque chart, starting with the vehicle to frame fasteners, front to back, and finishing with the thrust arm to mount fasteners.

15. Reinstall the driver-side fender using the original fasteners.

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

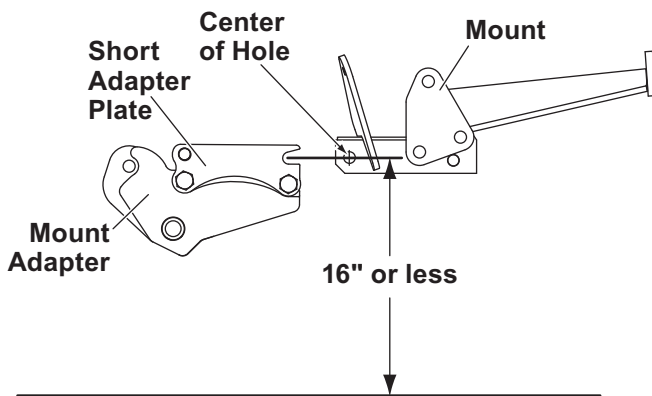
UNDERCARRIAGE INSTALLATION

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 on the mount.

The height of the mount should be 16" or less from the center of the U-bracket hole to level ground. The appropriate adapter plates need to be attached to the mount adapter. (The mount adapter comes packaged with the blade crate assembly.)

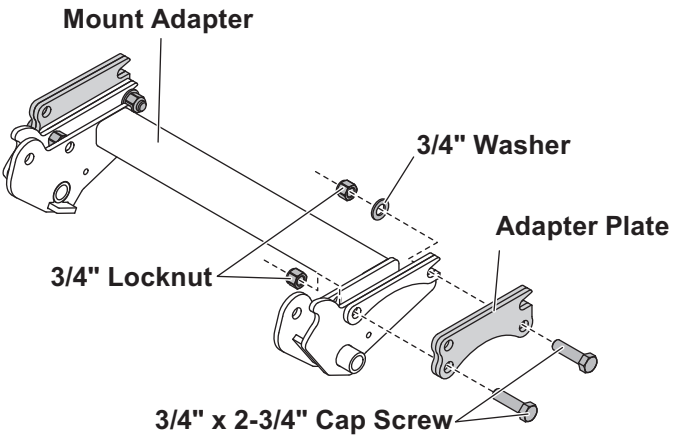
If the measured height is 16" or less, install the short height adjustment adapter plates as described.



MOUNT ADAPTER INSTALLATION

Install adapter plates as follows:

1. Position the 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.

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





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