



SPEEDWING™ & Heavy Duty Skid Steer Snowplows

HD Blade Assembly 77720, 77725, 77730

SPEEDWING Blade Assembly 77740

HD A-Frame/Attachment Plate & Hydraulics 77825

**SPEEDWING A-Frame/Attachment Plate
& Hydraulics 77845**

Installation Instructions

⚠ CAUTION

Read this document before installing the snowplow.

⚠ CAUTION

See your SnowEx® outlet/website for specific vehicle application recommendations before installation. The Power Match selection system 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.

Instruction Label

Attach	Detach
<p>Read Owner's Manual for Complete Instructions.</p>	<p>Read Owner's Manual for Complete Instructions.</p>
<p>Follow skid steer labeling and Owner's Manual instructions.</p> <ul style="list-style-type: none"> Position the skid steer close to the snowplow and align the mount points on the skid steer plate with the snowplow attachment plate. Tilt the skid steer plate forward and position the top edge of the plate under the receiving pocket on the top edge of the snowplow attachment plate. Slowly raise the arms on the skid steer and tilt the skid steer plate toward the cab until the snowplow attachment plate is flush with the skid steer plate. Turn the engine OFF. Engage both locking levers on the skid steer by rotating each handle 90° into a horizontal position. The skid steer locking levers shall insert into the snowplow lever receiving holes. Attach all hydraulic hoses on the snowplow to the auxiliary hydraulic connections located on the skid steer. On some skid steer models, it may be necessary to initiate an auxiliary hydraulic switch on the skid steer prior to operating the snowplow. 	<p>WARNING: Keep fingers away from snowplow and skid steer pinch points.</p> <ul style="list-style-type: none"> Lower the snowplow on a flat, level surface and turn the engine OFF. Disconnect all hydraulic hoses on the snowplow from the auxiliary hydraulic connections located on the skid steer. Disengage both locking levers on the skid steer by rotating each handle 90° into a vertical position. The skid steer locking levers shall withdraw from the snowplow lever receiving holes. Turn the engine ON. Slowly lower the arms on the skid steer and tilt the skid steer plate forward away from the receiving pocket on the top edge of the snowplow attachment plate. Back the skid steer away slowly.

SNOWEX
U.S. Patents 7,914,227; 8,090,724; and other patents pending.

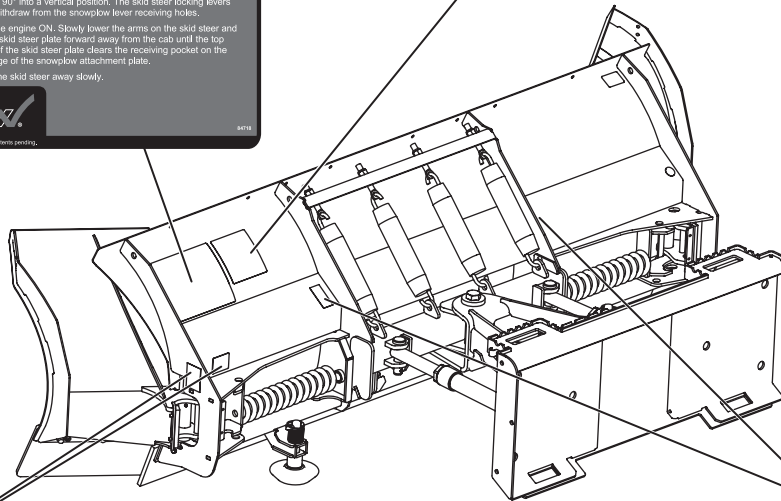
Warning/Caution Label

<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>	

Multiple Pinch Points Label



SPEEDWING™ only
(both sides)



Crush Hazard Label



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 vehicle and 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 is found in the OEM's owner's manual.

WARNING

Remove blade assembly before placing vehicle on hoist.

CAUTION

Overtightening springs will not increase blade trip force and can damage the springs.

HYDRAULIC SAFETY

WARNING

Hydraulic fluid under pressure can cause skin injection injury. If you are injured by hydraulic fluid, get medical attention immediately.

- Always inspect hydraulic components and hoses before using. Replace any damaged or worn parts immediately.
- If you suspect a hose leak, DO NOT use your hand to locate it. Use a piece of cardboard or wood.

PERSONAL SAFETY

- Remove the 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.

SAFETY

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.

BATTERY SAFETY

⚠ CAUTION

Batteries normally produce explosive gases, which can cause personal injury. Therefore, do not allow flames, sparks or lit tobacco to come near the battery. When charging or working near a battery, always cover your face and protect your eyes, and also provide ventilation.

- Batteries contain sulfuric acid, which burns skin, eyes and clothing.
- Disconnect the battery before removing or replacing any electrical components.

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

Inch Fasteners Grade 5 and Grade 8

Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Grade 5	 Grade 8		 Grade 5	 Grade 8
1/4-20	8.4	11.9	9/16-12	109	154
1/4-28	9.7	13.7	9/16-18	121	171
5/16-18	17.4	24.6	5/8-11	150	212
5/16-24	19.2	27.3	5/8-18	170	240
3/8-16	30.8	43.6	3/4-10	269	376
3/8-24	35.0	49.4	3/4-16	297	420
7/16-14	49.4	69.8	7/8-9	429	606
7/16-20	55.2	77.9	7/8-14	474	669
1/2-13	75.3	106.4	1-8	644	909
1/2-20	85.0	120.0	1-12	704	995

Metric Fasteners Class 8.8 and 10.9

Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Class 8.8	 Class 10.9		 Class 8.8	 Class 10.9
M6 x 1.00	7.7	11.1	M20 x 2.50	325	450
M8 x 1.25	19.5	26.9	M22 x 2.50	428	613
M10 x 1.50	38.5	53.3	M24 x 3.00	562	778
M12 x 1.75	67	93	M27 x 3.00	796	1139
M14 x 2.00	107	148	M30 x 3.50	1117	1545
M16 x 2.00	167	231	M33 x 3.50	1468	2101
M18 x 2.50	222	318	M36 x 4.00	1952	2701

These torque values apply to fasteners except those noted in the instructions.

SPEEDWING™ BLADE

BLADE TO A-FRAME

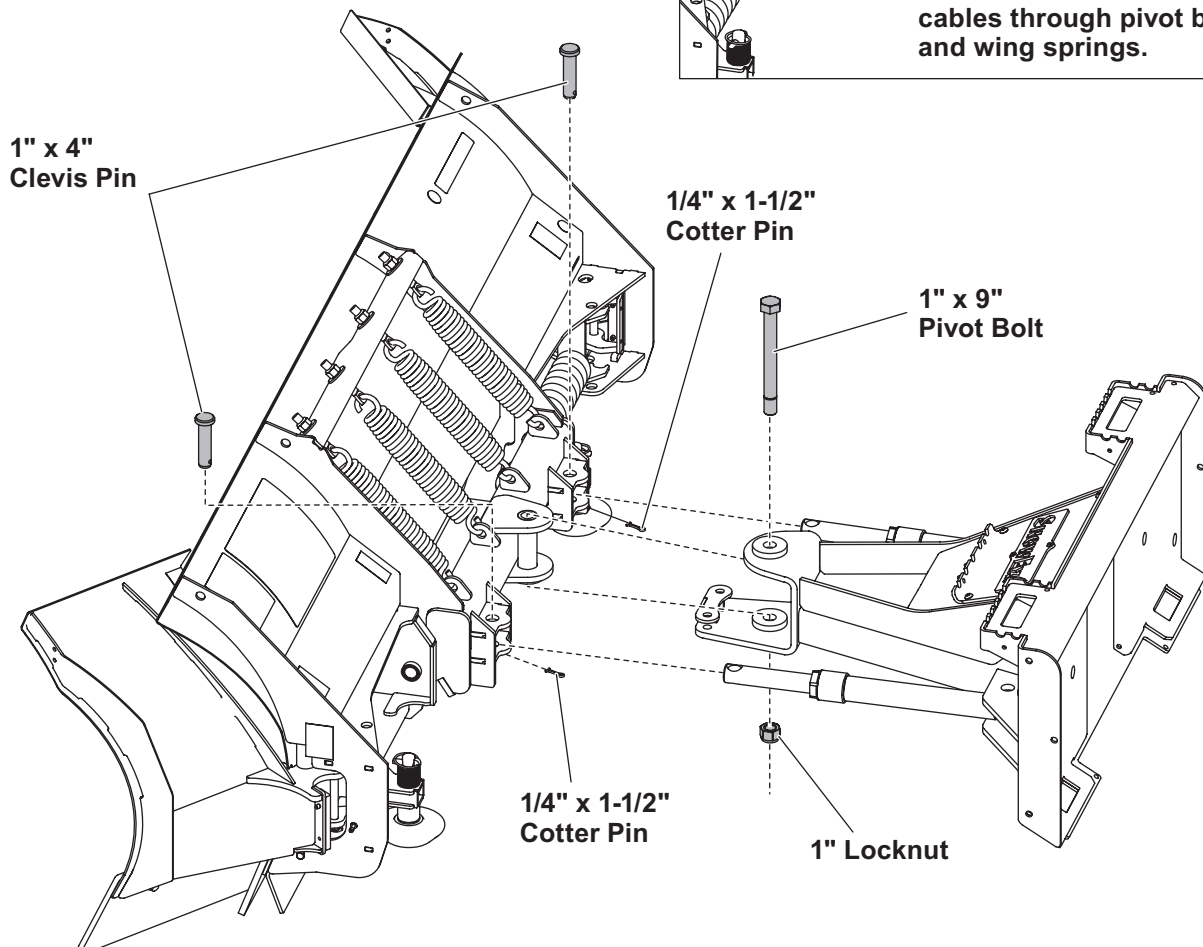
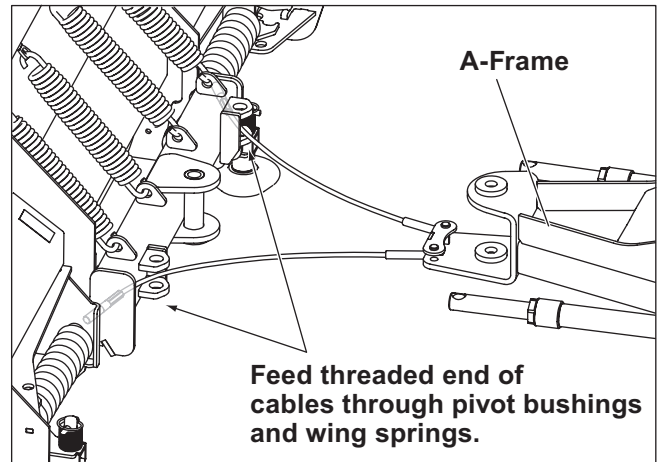
NOTE: The parts box contains a bag with two 3/4" x 9" clevis pins and two 1/8" hairpin cotters. Set this bag aside unopened for delivery to the snowplow owner.

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

1. Remove the packaging from the A-frame assembly.
2. Position the A-frame over the pivot beam, aligning the angle ram rods with the brackets.
3. The wing cables come pre-assembled to the A-frame. Slide the threaded ends of the cables out through the pivot bushings on the quadrant/blade

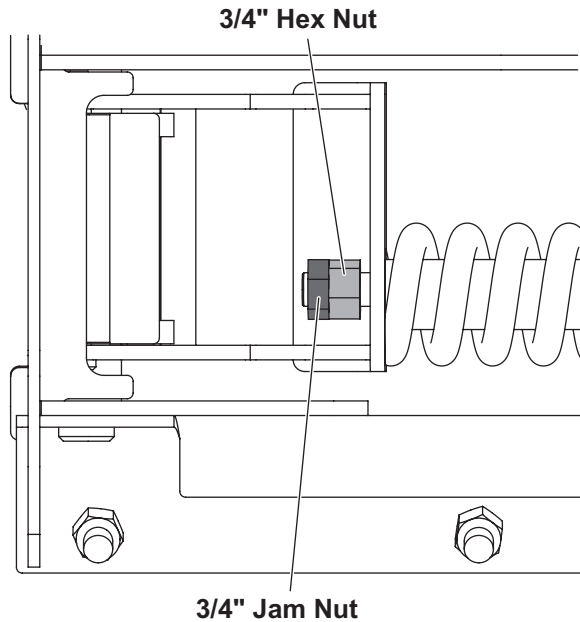
assembly. As you position the A-frame over the quadrant, feed the wing cables through to the ends. (See detail illustration at top.)

4. Install the 1" x 9" pivot bolt from the top. Secure with the 1" locknut and tighten.
5. Attach the angle ram rods to the brackets with the 1" x 4" clevis pins installed from top. Secure with 1/4" x 1-1/2" cotter pins.

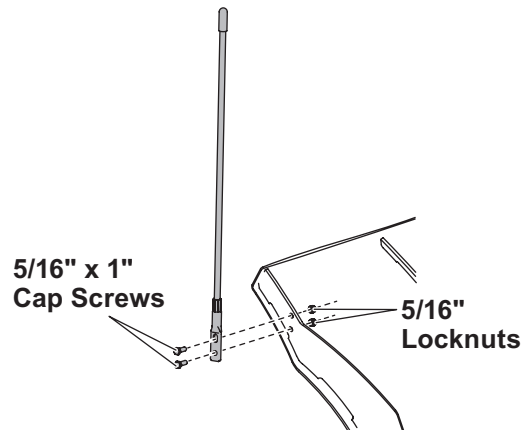


SPEEDWING™ BLADE

6. Assemble a 3/4" hex nut and 3/4" jam nut onto the threaded end of each cable. Thread the nuts on just flush with the end of the cable.



7. Stand the blade and A-frame assembly upright and support it in a level position using a block under the main A-frame tube. Install the blade guides using 5/16" x 1" cap screws and 5/16" locknuts.

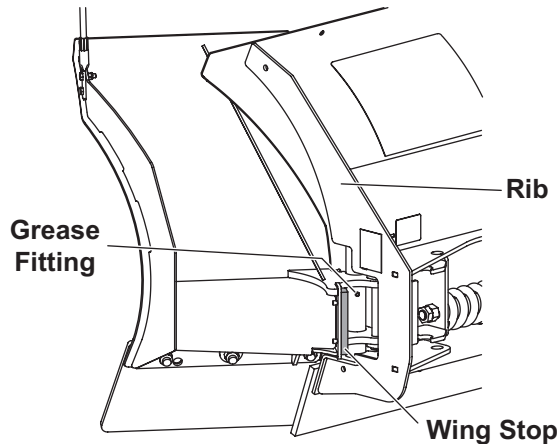


8. Apply the supplied skid steer attach/detach instructions label directly over the current attach/detach label on the back of the blade. If the blade has no current label, place the supplied label on the back of the blade in an area visible during the attach and detach procedure.

Thoroughly clean and dry the existing label or blade surface before applying the new label.

CABLE ADJUSTMENT

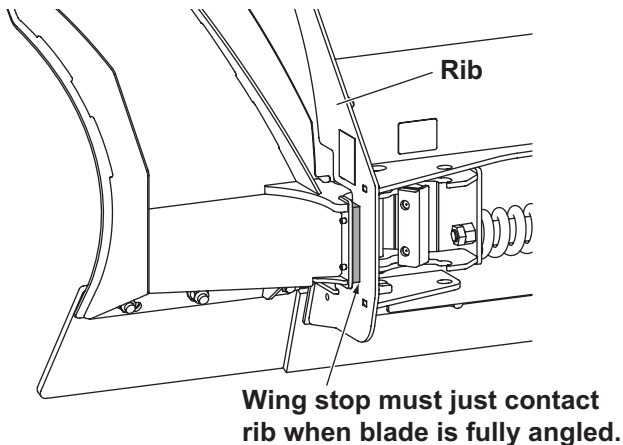
1. Angle the blade fully left and inspect the area between the driver-side wing stop and the end blade rib.



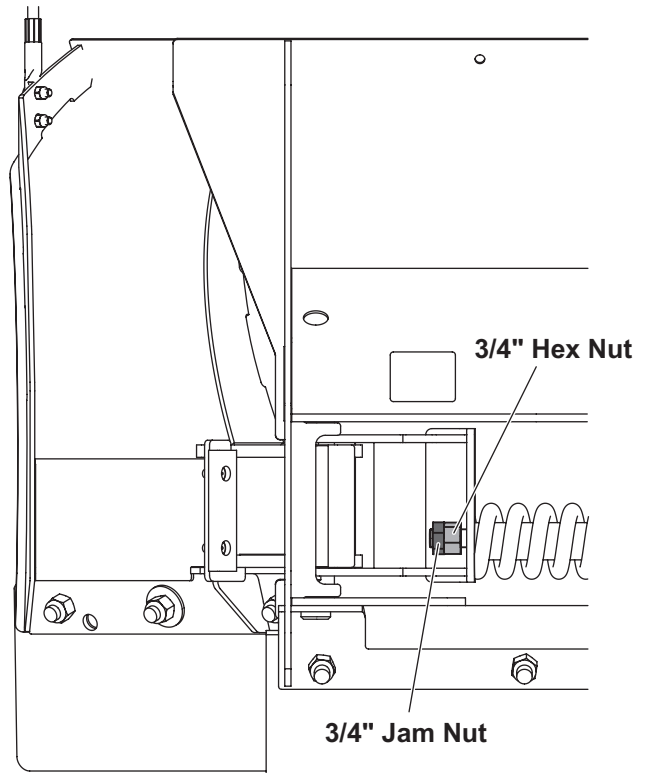
2. If there is a gap between the wing stop and the rib, skip to Step 3.

If there is no gap, return the blade to the straight position and loosen the 3/4" jam nut and 3/4" hex nut on the end of the cable 1/4 turn. Repeat this adjustment until a gap can be seen.

3. Return the blade to the straight position and adjust the hex nut 1/4 turn clockwise. Angle the blade fully left and inspect the area between the wing stop and the rib again.
4. Continue making this adjustment until the wing stop just contacts the rib when the blade is fully angled left.



5. Once the stop is making contact with the rib, lock the hex nut into position with the 3/4" jam nut.



6. Repeat Steps 1–5 on the passenger side of the blade assembly, this time angling the blade fully to the right.

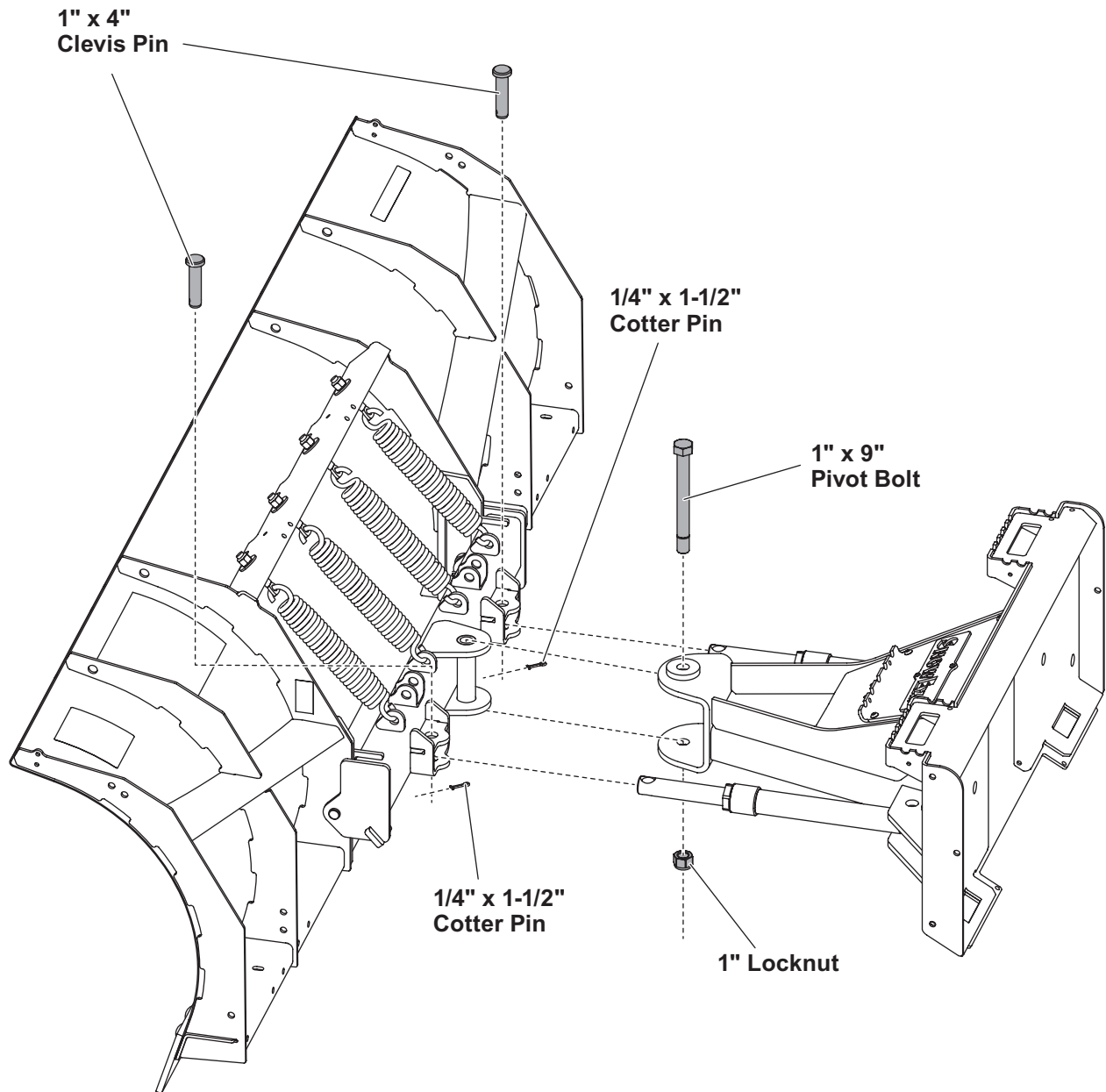
NOTE: Adjusting the 3/4" hex nut inward too far will cause the wing stop to contact the blade rib before the blade is fully angled. This condition can stretch the cables and shorten their service life.

7. Grease the fittings on the wing hinges.

HEAVY DUTY BLADES

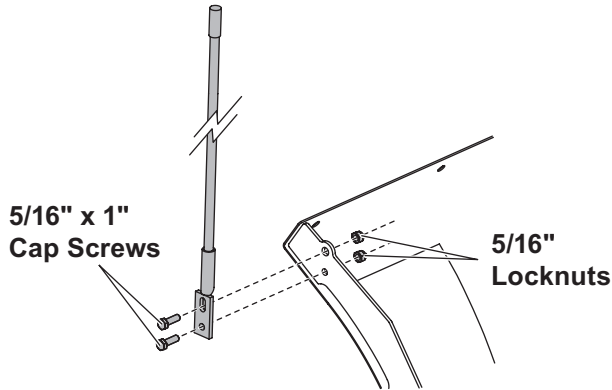
BLADE TO A-FRAME

1. Remove the packaging from the A-frame assembly. Set aside the parts bag and blade guides.
2. Position the A-frame over the pivot beam, aligning the angle ram rods with the brackets.
3. Install the 1" x 9" pivot bolt from the top. Secure with the 1" locknut and hand tighten.
4. Attach the angle ram rods to the brackets with the 1" x 4" clevis pins, installed from top. Secure the clevis pins with 1/4" x 1-1/2" cotter pins.

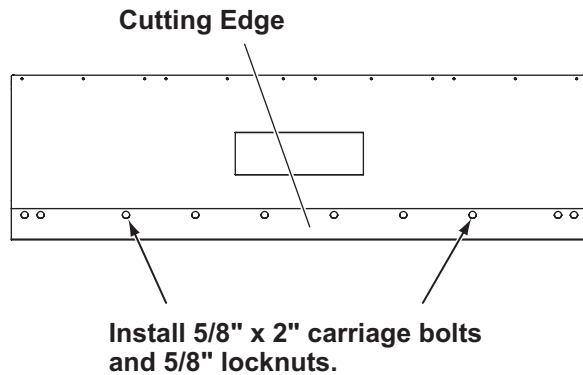


PARTS BAG & OWNER'S MANUAL PACKET

5. Install the blade guides using 5/16" x 1" cap screws and 5/16" locknuts.



6. Install the last two 5/8" x 2" carriage bolts that secure the cutting edge.



7. Apply the supplied skid steer attach/detach instructions label directly over the current attach/detach label on the back of the blade. If the blade has no current label, place the supplied label on the back of the blade in an area visible during the attach and detach procedure.

Thoroughly clean and dry the existing label or blade surface area before applying the new label.

SPEEDWING™ BLADES PARTS BAG

The parts box contains a bag with two 3/4" x 9" clevis pins two 1/8" hairpin cotters for pinning the wings in the straight position as a plowing option.

Give this parts bag to the snowplow owner. The Owner's Manual contains instructions for using the wing pins.

OWNER'S MANUAL PACKET

If the completed snowplow will be delivered immediately, the Owner's Manual should be reviewed with and given to the purchaser.

If the snowplow is completed prior to delivery to the purchaser, attach the Owner's Manual Packet to the step plate for safekeeping.



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