



Fisher Engineering

**27500, 28000, 28100-1, 28500,
29000, 29100-1, 74000**

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XBLADE™ & HD Series Skid Steer Snowplows

**XBLADE Blade Assembly 28100-1, 29100-1
HD Series Blade Assembly 27500, 28000, 28500, 29000
A-Frame/Attachment Plate & Hydraulics 74000**

Installation Instructions

⚠ CAUTION

Read this document before installing the snowplow.

⚠ CAUTION

See your FISHER® outlet/Web site for specific vehicle application recommendations before installation.

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 AND INSTRUCTION LABELS

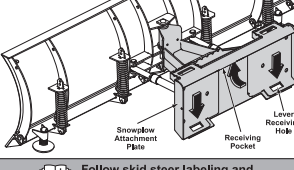
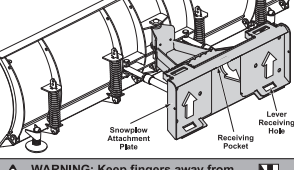
Become familiar with and inform users about the warning and instruction labels on the back of the blade.

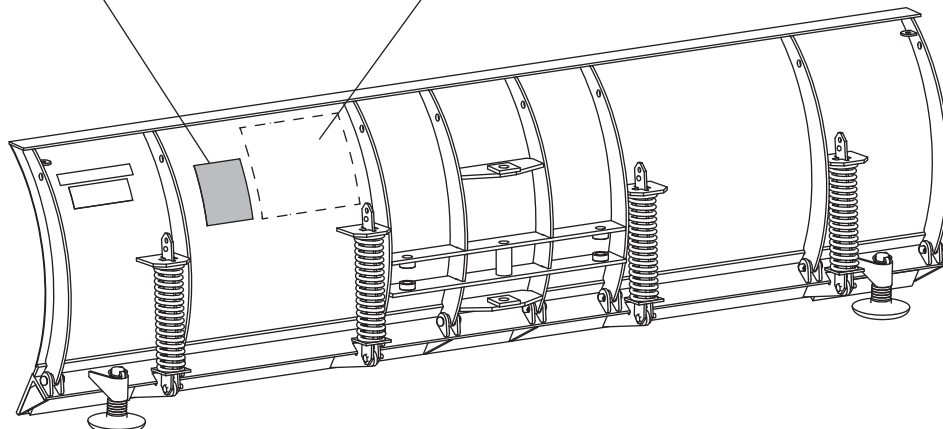
NOTE: If labels are missing or cannot be read, see your sales outlet.

Instruction Label (to be applied by snowplow installer)

Warning/Caution Label

⚠ WARNING	
	Lower blade when vehicle is parked.
	Do not exceed GVWR or GAWR including blade and ballast.
⚠ CAUTION	
	Read Owner's Manual before operating or servicing snowplow.
	Transport speed should not exceed 45 mph (72 km/h). Further reduce speed under adverse travel conditions.
	Plowing speed should not exceed 10 mph (16 km/h).
	See your sales outlet/Web site for specific vehicle application recommendations.

Attach	Detach
Read Owner's Manual for Complete Instructions.	Read Owner's Manual for Complete Instructions.
	
Follow skid steer labeling and Owner's Manual instructions.	⚠ WARNING: Keep fingers away from snowplow and skid steer pinch points.
<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. 	<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 cab until the top edge of the skid steer plate clears the receiving pocket on the top edge of the snowplow attachment plate. Back the skid steer away slowly.



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.

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.

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.**

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.			

NOISE

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

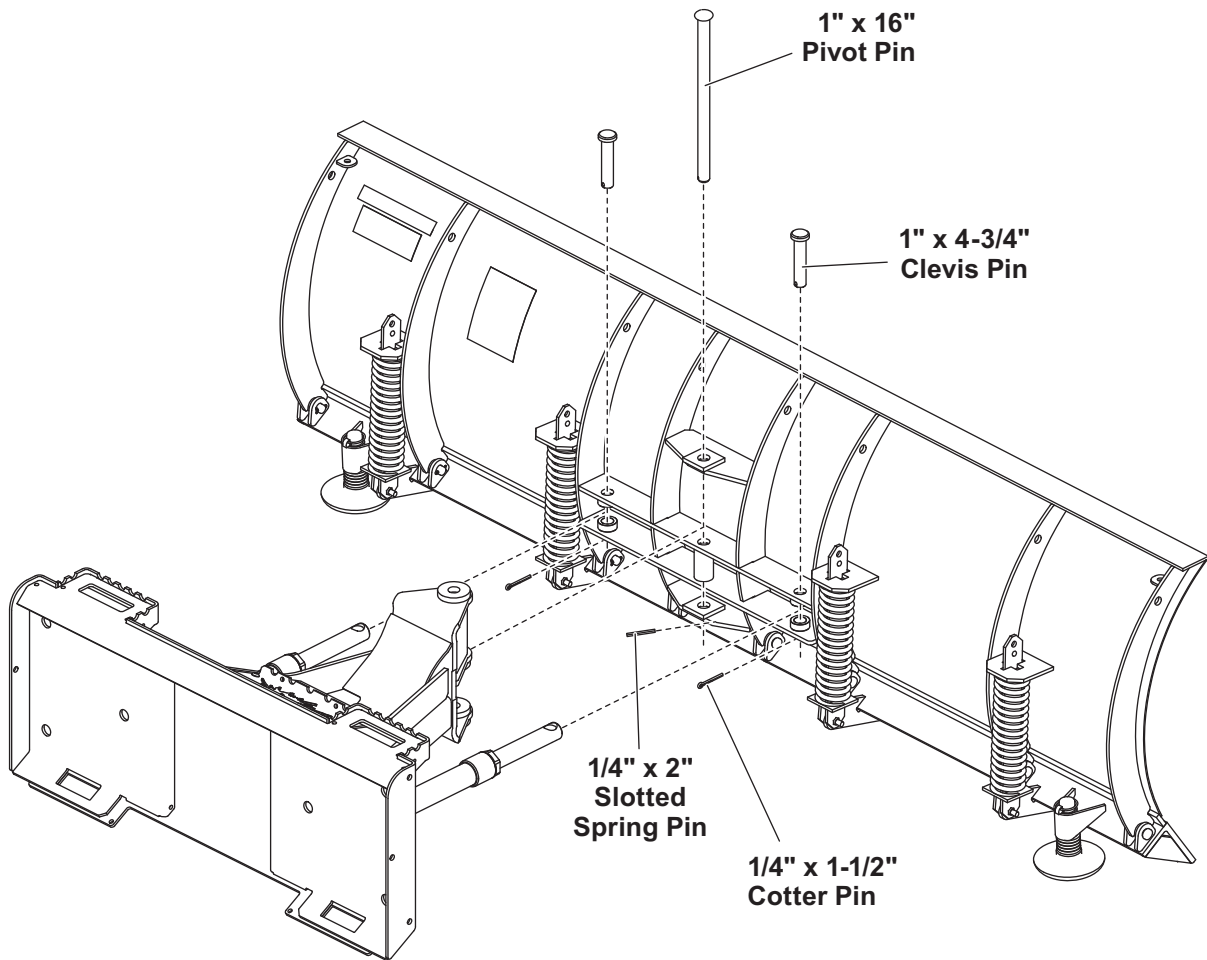
VIBRATION

Operating snowplow vibration does not exceed 2.5 m/s² to the hand-arm or 0.5 m/s² to the whole body.

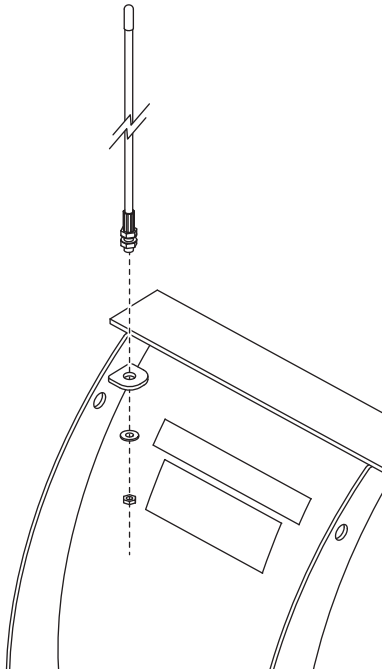
BLADE AND A-FRAME ASSEMBLY

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

1. Set aside the blade guides and parts bag.
2. Remove the packaging hardware. Remove the blocking and hardware securing the A-frame to the pallet.
3. Align the pivot-pin hole on the A-frame with the pivot-pin hole on the blade.
4. Install the 1" x 16" pivot pin from the top. Secure with a 1/4" x 2" slotted spring pin at the bottom.
5. Remove the protective packaging from the angle rams.
6. Align the angle ram rods with the angle ram holes on the blade. Attach using two 1" x 4-3/4" clevis pins, installed from the top. Secure with 1/4" x 1-1/2" cotter pins. Discard the flat washers packaged with the clevis pins and cotters.



7. Install the blade guides.

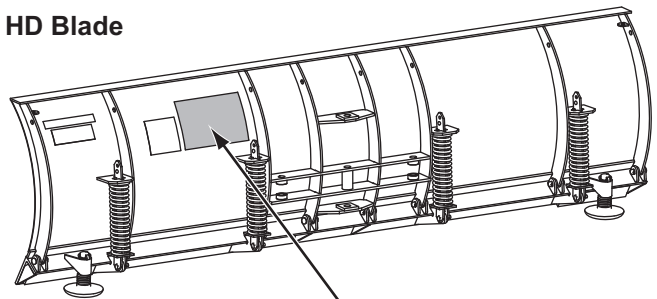


8. Apply the supplied skid steer attach/detach instruction label on the back of the blade in the position shown below.

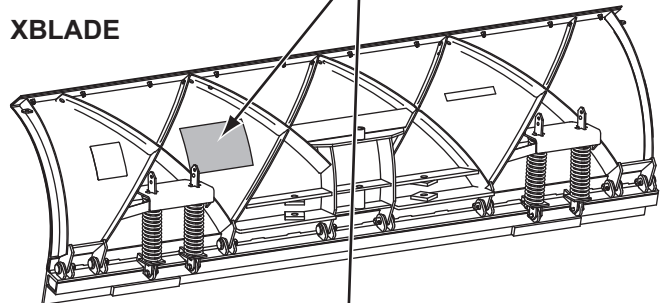
On some XBLADE™ snowplows, the position of the warning/caution label may require the attach/detach instruction label to be applied in an alternate location. Carefully position the attach/detach label so that *all* of the label wording is visible.

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

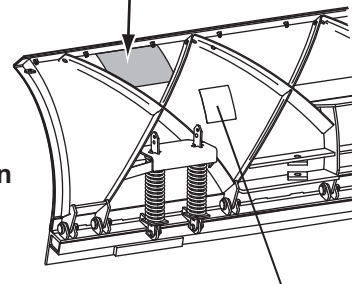
HD Blade



XBLADE



**XBLADE
Alternate
Label Location**



**Warning/Caution Label
must remain visible.**

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 according to the snowplow checklist.

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

Fisher Engineering 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. Fisher Engineering or the vehicle manufacturer may require or recommend optional equipment for snow removal. Do not exceed vehicle ratings with a snowplow. Fisher Engineering offers a limited warranty for all snowplows and accessories. See separately printed page for this important information. The following are registered (®) or unregistered (™) trademarks of Douglas Dynamics, LLC: FISHER®, XBLADE™.

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