



Fisher Engineering

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Commercial Common Attachments Installation Instructions

Table of Contents

Safety Information	2
Attaching Angle Frame and A-frame	4
Installing Lift/Carrying Chain	4
Installing Connecting Pin	4
Installing Bolting Bar	5
Installing Jack Support	5
Installing Torsion Spring	6

⚠ CAUTION

Read this document before installing the snowplow.

⚠ CAUTION

See your FISHER® outlet for application recommendations. The Kit Selection Guide has specific vehicle and snowplow requirements.

SAFETY INFORMATION

Read these instructions and labels on the snowplow before beginning installation.

⚠ WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious personal injury.

⚠ CAUTION

Indicates a situation that, if not avoided, could result in damage to product or property.

NOTE: Identifies tips, helpful hints, and maintenance information the owner/operator should know.

WARNING/CAUTION & INSTRUCTION LABELS

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

Warning/Caution Label

⚠ WARNING

LOWER BLADE WHEN VEHICLE IS PARKED.

REMOVE BLADE ASSEMBLY BEFORE PLACING VEHICLE ON HOIST.

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. REDUCE SPEED UNDER ADVERSE TRAVEL CONDITIONS.


PLOWING SPEED SHOULD NOT EXCEED 10 MPH.


REMOVE SLACK FROM CARRYING CHAIN BEFORE TRAVELING.

SEE YOUR FISHER OUTLET FOR APPLICATION RECOMMENDATIONS.

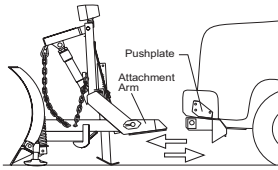
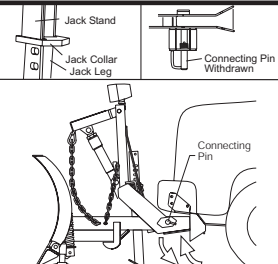
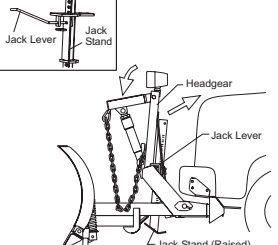
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Instruction Label

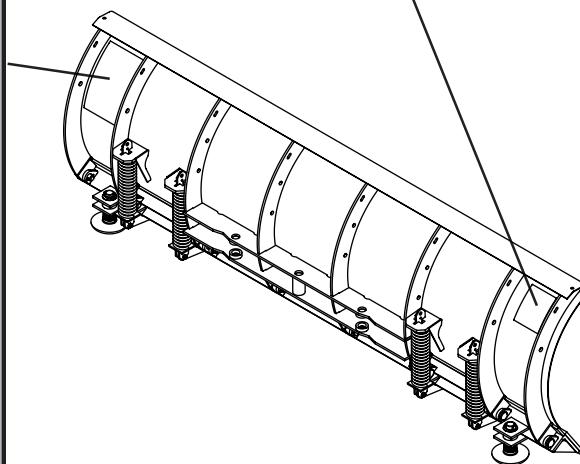




U.S.P. patents
4,280,062, 4,999,935,
5,353,530, 5,420,480
and other patents
pending

MOUNTING PLOW		REMOVING PLOW
<p>A.</p> <ol style="list-style-type: none"> 1. Drive vehicle forward fully engaging pushplates into attachment arms. 		<p>C.</p> <ol style="list-style-type: none"> 1. Remove slack from carrying chain and reattach. 2. Back vehicle away from plow.
<p>B.</p> <ol style="list-style-type: none"> 1. Twist connecting pin to release tension. 2. Remove electrical covers on vehicle. 3. Attach electrical connector to corresponding connector on vehicle. 4. Repeat steps B 1-3 on passenger side of vehicle. 5. Connect hydraulic hoses to quick disconnects. (BELT DRIVE ONLY) 		<p>B.</p> <ol style="list-style-type: none"> 1. Disconnect electrical connector and reinsert in protective cover. 2. Insert release rod under jack collar. 3. Push down on release rod as you pull and twist connecting pin. 4. Repeat Steps B 1-3 on passenger side. 5. Disconnect hydraulic hose couplings and cover with dust plugs.
<p>C.</p> <ol style="list-style-type: none"> 1. Release carrying chain and reattach it leaving plenty of slack. 2. Push headgear upward toward vehicle until connecting pins snap in place. 3. Pull jack lever outward and raise the jack stand. 		<p>A.</p> <ol style="list-style-type: none"> 1. Place cab control in "Lower/Float". 2. Push lift arm down. 3. Pull jack lever outward. Jack stand will adjust to proper height.

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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 can result in serious personal injury.

WARNING

Remove blade assembly before placing vehicle on hoist.

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 blade and ballast. The rating label is found on driver-side vehicle door cornerpost.

CAUTION

Refer to the Kit Selection Guide for minimum vehicle recommendations and ballast requirements.

CAUTION

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.

PERSONAL SAFETY

- 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 tanks 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.

VENTILATION




⚠ WARNING

Vehicle exhaust contains deadly carbon monoxide (CO) gas. Breathing this gas, even in low concentrations, could cause death. Never operate a vehicle in an enclosed area without venting exhaust to the outside.

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	 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.			

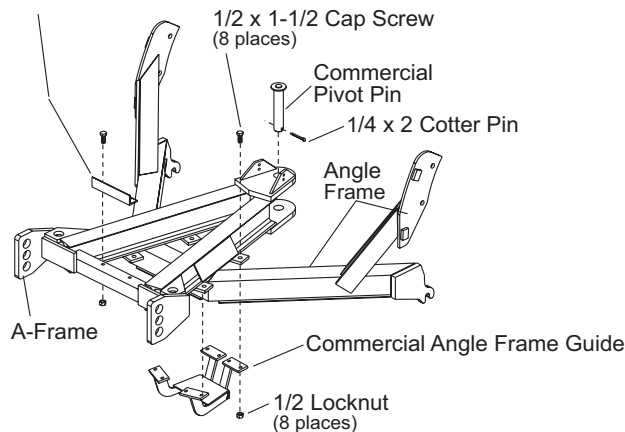
INSTALLATION INSTRUCTIONS

NOTE: Installation of angle rams to blade and A-frame are covered in the hydraulics instructions.

Attaching Angle Frame and A-frame

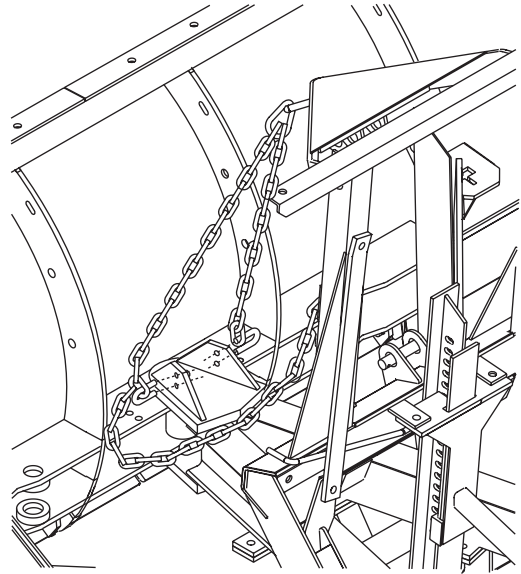
1. Attach the angle frame to the blade according to the assembly instructions provided with the blade. Use the fasteners shipped with the angle frame.
2. Attach the A-frame to the blade and angle frame according to the diagram below. Use the fasteners shipped with the A-frame. After installing the A-frame to the blade, place a 1-1/2" block under the center of the A-frame rear cross member. **The A-frame cross member should be parallel to the blade.**

Install Torsion Spring
Stop Kit if top hole of
A-Frame is used.
Do not install otherwise.



Installing Lift/Carrying Chain

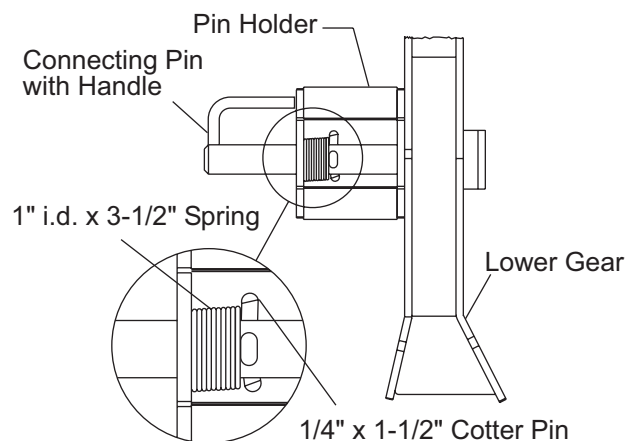
1. Install a black 3/8" U-bolt through a link in the lift/carrying chain 32" from the end. Attach the U-bolt and chain to the two 13/32" holes on driver side of the A-frame with two 3/8" lock washers and nuts. Do not fully tighten. The other end of the lift chain will be attached to passenger side of A-frame after lift arm is installed.



Installing Connecting Pin

1. To assemble connecting pins to lower gear, insert springs in pin holders. Then insert the connecting pin through all three holes with the pin handles toward the vehicle. Position cotter pin hole flush with inside plate. Pull back on the spring and install 1/4 x 1-1/2" cotter pins. Bend both legs of cotter pin around connecting pins for proper clearance.

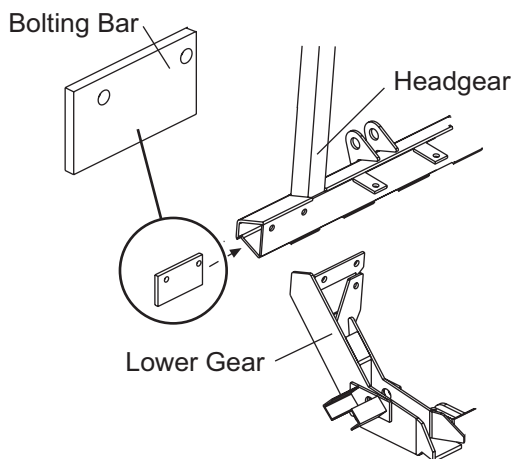
View from Top



Installing Bolting Bar

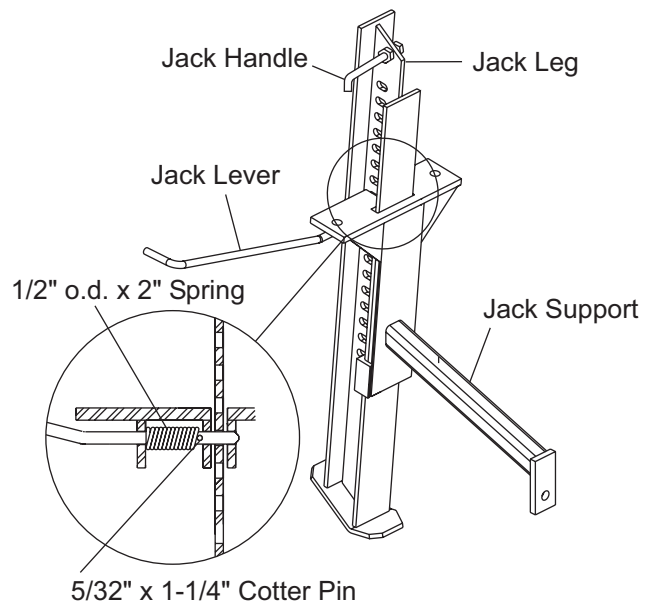
1. Place bolting bar inside headgear, narrow end in first. Place upper gear on front of lower gear. Insert four $1/2" \times 1-1/4"$ cap screws with Gr. 8 flat washers through the holes in lower gear and headgear into the headgear bolting bar. Do not fully tighten.

NOTE: Use a piece of $1/2"$ threaded rod to hold each bolting bar in place and align headgear to lower gear. Thread into tapped hole after sliding bolting bar in place.



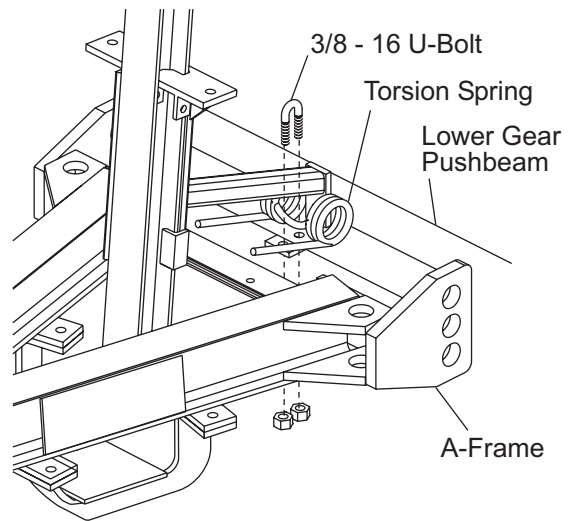
Installing Jack Support

1. Insert jack leg up through jack support. Install one $3/8"$ nut on jack handle and insert into top round hole on jack leg. Fasten with one $3/8"$ lock washer and nut.
2. Insert the jack lever through three holes on jack support to clean out paint before assembling. Place jack lever spring between ear and guide on jack stand. Insert jack lever through ear until cotter pin hole is flush with jack guide. Pull back on spring and install $5/32" \times 1-1/4"$ cotter pin.
3. Attach jack support under the tabs on rear of headgear with two $1/2" \times 1-1/4"$ cap screws, lock washers, and nuts. Attach the jack support stiffener to the lower gear beam with one $1/2" \times 1-1/2"$ cap screw, flat washer and nut. Tighten all fasteners.



Installing Headgear Braces – Mounting to A-Frame

1. Install headgear braces to each side of headgear, bent end on top, and to lower gear tab, bottom of brace to rear of tab, using four 1/2" x 1-1/2" cap screws, lock washers, and nuts. Tighten all fasteners on the headgear/lower gear assembly.
2. Align holes in lower gear assembly with the middle holes in the pushers of the blocked up A-frame. Insert anchor pins through ears and secure with two 1/4" x 2" cotter pins. The pair of holes used for fit-up of the A-frame to the vehicle depends on the height of the pushplates to the ground. With the blade attached to the truck and lowered, the A-frame should be level with the ground.



Install Torsion Spring Stop Kit if top hole of A-Frame is used. Do not install otherwise.

Installing Torsion Spring

1. Pivot the upper and lower gear assembly away from the blade. Place torsion spring in center of lower gear angle. Place 3/8" U-bolt over the loop on the spring and through holes in the angle and tab under the angle. Fasten with two 3/8" locknuts. Tighten both down evenly.

If the top holes in the A-frame pushers are being used, the Torsion Spring Stop Kit, PN 20244, must be installed according to the instructions in the kit. Do not install otherwise.

Final Assembly

1. Check to be certain all fasteners are tight. Attach lift arm to headgear with two machine pins and cotter pins. Install hydraulic kit. Insert long end of chain through the loop on the lift arm and fasten end link to the two 13/32" holes in the passenger side of the A-frame using a 3/8" black U-bolt, lock washer and nut. Tighten. When the snowplow is lifted the A-frame should contact the stops of the upper gear, just before lift ram is fully extended (10"). Adjust chain on driver side, if needed, to accomplish the above and tighten the U-bolt. Hook remaining chain to chain plate on headgear.
2. Install the blade guides on each end of the top bar on the blade.
3. See release rod instructions attached to the release rod regarding its use.
4. Attach to vehicle according to mounting instructions decal located on the back of the driver's side of the blade.

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

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