

METAL PLESS

TECHNICAL
SHEET



SCAN ME
with your camera
application
on any phone



MAXXPRO

Owner's Manual

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The width of the blade does not determine the real dimension of the product. Pictures shown might have some options.

READING THIS MANUAL IS MANDATORY BEFORE OPERATING THIS EQUIPMENT



IMPORTANT

THIS EQUIPMENT MAY BE SUBJECT TO
DIFFERENT LAWS IN SOME PROVINCES, STATES OR COUNTRIES.
THE USER MUST KNOW LAWS AND RULES
GOVERNING TRANSPORTATION

AND

USE OF THIS EQUIPMENT ON PUBLIC ROADS.
OWNERSHIP OF THIS EQUIPMENT DOES NOT
CREATE SKILLS, OR ABILITIES TO OPERATE THIS EQUIPMENT.

SOME PARTS AND / OR COMPONENTS
OF THIS EQUIPMENT ARE PROTECTED UNDER PATENT
AND CANNOT BE COPIED AND / OR REPLICATED.



WARNING

CONSTANT ATTENTION MUST BE GIVEN WHEN USING THIS EQUIPMENT.

THIS EQUIPMENT **CANNOT BE LEFT UNATTENDED** WHILE IN OPERATION.

NEVER POSITION BETWEEN THIS EQUIPMENT AND THE GROUND

IF THIS EQUIPMENT HAS NOT BEEN PREVIOUSLY
LIFTED AND SECURE BY MEANS OF TOOLS
BREEDING AND SUPPORT APPROVED FOR THIS TASK.

MISUSE OF THIS EQUIPMENT **MAY CAUSE DAMAGE AND SERIOUS RISK.**

COMPONENTS **MUST BE VERIFIED BEFORE USING** THIS EQUIPMENT.

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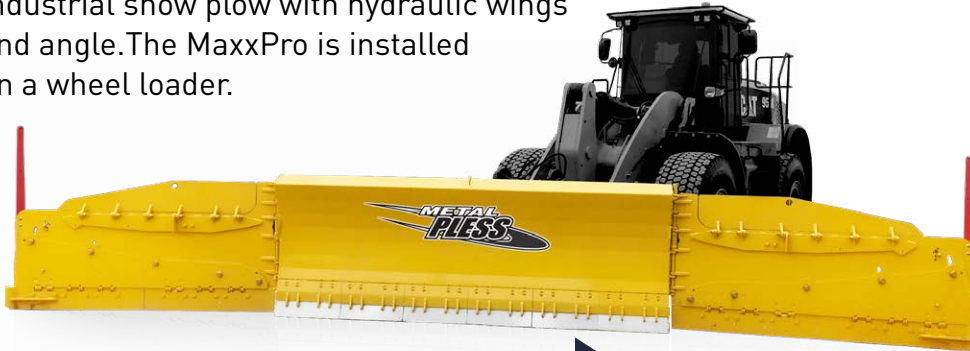
1. TECHNICAL SHEET

1.1 DESCRIPTION

Industrial snow plow with hydraulic wings and angle. The MaxxPro is installed on a wheel loader.



MAXXPRO



LE
LIVE EDGE



HD
SOFT DRIVE TRIP EDGE



Available in HD, LE or RB-LE

Includes angular system and quick coupler for industrial loader.

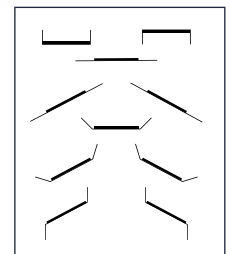
This system requires 1 set of oil outlets.

Not included: hydraulic hoses and connectors from the blade to the vehicle.

MODEL	BLADE DIMENSIONS			APPLICATION	APPROX. WEIGHT
	BOX	HEIGHT	EXTENDED		
PRO 0848-18	HD or LE 8'	48"	18'	25 000 lbs and up	4 700 lbs
PRO 0848-20	HD or LE 8'	48"	20'	25 000 lbs and up	4 900 lbs
PRO 1048-18	HD or LE 10'	48"	18'	25 000 lbs and up	4 800 lbs
PRO 1048-20	HD or LE 10'	48"	20'	25 000 lbs and up	5 000 lbs
PRO 1048-22	HD or LE 10'	48"	22'	25 000 lbs and up	5 200 lbs
PRO 1048-26	HD or LE 10'	48"	26' (van)	25 000 lbs and up	5 900 lbs
PRO 1248-20	HD or LE 12'	48"	20'	30 000 lbs and up	5 200 lbs
PRO 1248-22	HD or LE 12'	48"	22'	30 000 lbs and up	5 400 lbs
PRO 1248-24	HD or LE 12'	48"	24'	30 000 lbs and up	5 600 lbs
PRO 1248-28	HD or LE 12'	48"	28' (van)	30 000 lbs and up	6 300 lbs
PRO 1448-25	HD or LE 14'	48"	25'	35 000 lbs and up	6 400 lbs
PRO 1648-30	HD or LE 16'	48"	30'	40 000 lbs and up	7 000 lbs
PRO 2048-36	HD or LE 20'	48"	36'	50 000 lbs and up	10 000 lbs
PRO 2460-44	HD or LE 24'	60"	44'	60 000 lbs and up	15 000 lbs
PRO 3260-60	HD or LE 32'	60"	60'	70 000 lbs and up	18 000 lbs

Prices, specs, models and/or model numbers are subject to change.

BLADE POSITIONS



OPTIONS (not included)

- Carbide cutting edge (CCE).
- Non standard color (NSC1).
- Electric valve and joystick (JSC3) 12 or 24 volts: electric over hydraulic 1 spools mounted on blade with electric control and necessary cable for the installation in the tractor cab..
- Power angle max. 102" (MA102)

The width of the blade does not determine the real dimension of the product. Pictures shown might have some options.

1.2 OPTIONAL EDGES

LE - Floating cutting LIVE EDGE

A floating soft drive steel trip edge with carbide inserts for longer wear life, that contours the unevenness of the ground for a cleaner result.

HD - Soft drive trip edge

Unique soft drive trip edge design allows the individual sections to trip backwards without the blade being lifted upwards, greatly reducing the impact.

RB-LE - Rubber LIVE EDGE

Individual floating rubber edge contouring the unevenness of the ground for a cleaner result while protecting delicate surfaces.





2. INTRODUCTION

The user must take note of the following information that may change the nature of the agreement between the manufacturer and the owner of the equipment.

2.1 NO MODIFICATION

In no event shall this equipment be changed without the agreement of the manufacturer. Defects caused by alterations or modifications of this equipment in its nature or vocation, voids the warranty.

2.2 USAGE

Normal usage for this equipment includes wear or damages due to the operations and regular use.

2.3 MAINTENANCE

Lack of reasonable and proper maintenance, non-compliance of the operating instructions and / or the inability to manage the product according to the specifications, misuse, lack of proper protection during storage, or accident, may void the warranty.

2.4 USER'S MANUAL

This manual should follow this equipment at all times and is considered as one of the components of this equipment.

2.5 AUTHORIZED OPERATOR

Only authorized and trained personnel may proceed with the operation of this equipment, its maintenance and transportation.

2.6 LIMITED WARRANTY

This equipment comes with a limited one (1) year warranty available from the manufacturer.

3. WARRANTY POLICY on new METAL PLESS equipment.

METAL PLESS offers a warranty on all new equipment for a period of 1 year after date of retail purchase.

1. AN APPROVAL FROM METAL PLESS IS REQUIRED BEFORE ANY REPAIRS OR WARRANTY CLAIMS. PHOTOS AS WELL AS THE SERIAL NUMBER WILL BE REQUIRED.
2. Parts are F.O.B. Plessisville, QC.
3. All defective parts must be returned to METAL PLESS within a period of 30 days and follow our mandatory procedures for returning parts.
4. The METAL PLESS warranty covers all defects in material or fabrication of the products only, and therefore does not cover the normal wear or non-recommended utilization of the product. Damage resulting from an accident or abusive use will not be covered by the warranty policy.
5. The warranty does not cover any traveling fees/expenses to access the equipment for evaluation or repairs.
6. Only original parts or METAL PLESS approved parts will be considered appropriate for warranty claims.
7. METAL PLESS reserves the right to refuse or modify any labor time deemed excessive for any repair work claimed on warranty.
8. The paint standard for all replacement parts out of the factory will be standard Metal Pless color.
9. **The warranty policy does not apply to the NORMAL WEAR PARTS. Examples listed below.**

Examples: Cutting edges, Wear shoes, Abrasion shoes, Curb runners, Impact Guards, Tire Savers, Couplers, Hydraulic Hoses, Coils, Solenoids, etc.

PURCHASER'S RESPONSIBILITIES

The present warranty presumes a correct maintenance and periodic inspections of the equipment by the owner, as described in the Owner's Manual provided with the equipment at time of purchase. The cost of regular maintenance or required servicing is the responsibility of the client.

The buyer must conserve all receipts proving that the required maintenance has been respected.

EXCLUSIONS ON SUBSEQUENT MANUFACTURER UPGRADES

METAL PLESS reserves the right to modify, change or improve any product with no obligation to replace or modify any previously purchased equipment.



4. USAGE OF THE EQUIPMENT & COMPONENTS

PRESCRIBED USE (S)

This equipment must be connected to a motorized vehicle and used for outdoor snow removal and to accomplish the following operations:

- a) Push snow forward.
- b) Backdrag snow.
- c) Windrow snow left or right.

* Always wear a seat belt when operating a motor vehicle.

Any other non-prescribed use of this equipment will void any warranty or liability.

DURING OPERATION

- a) Make sure that no one is in your area of operation, keeping a lookout for blind spots.
- b) Do not clear snow at excessively high speeds.
- c) Avoid hitting any objects that could damage the equipment.

Any breakage CAUSED BY excessive collision may not be covered under warranty

DURING INACTIVITY

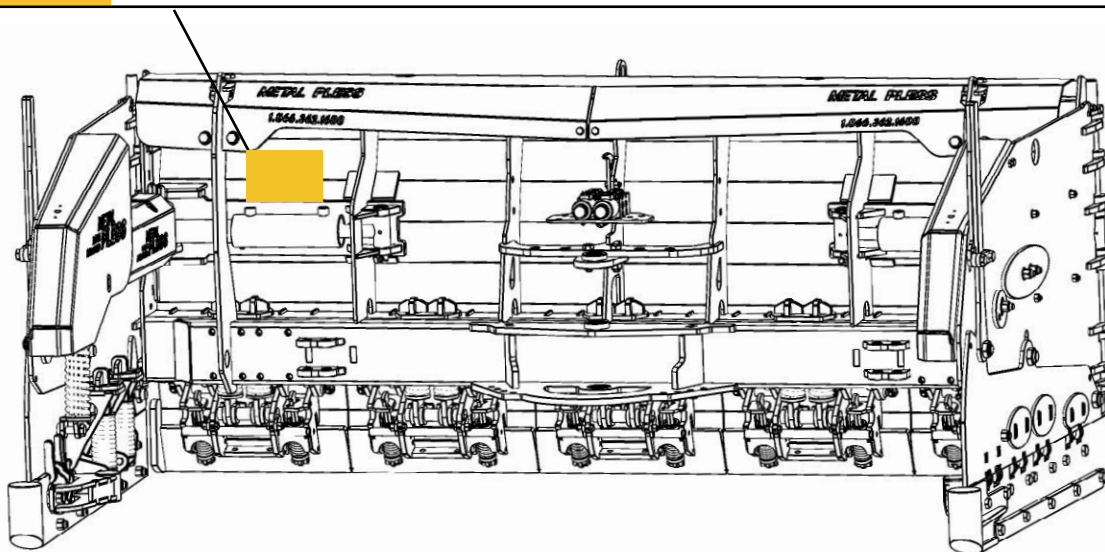
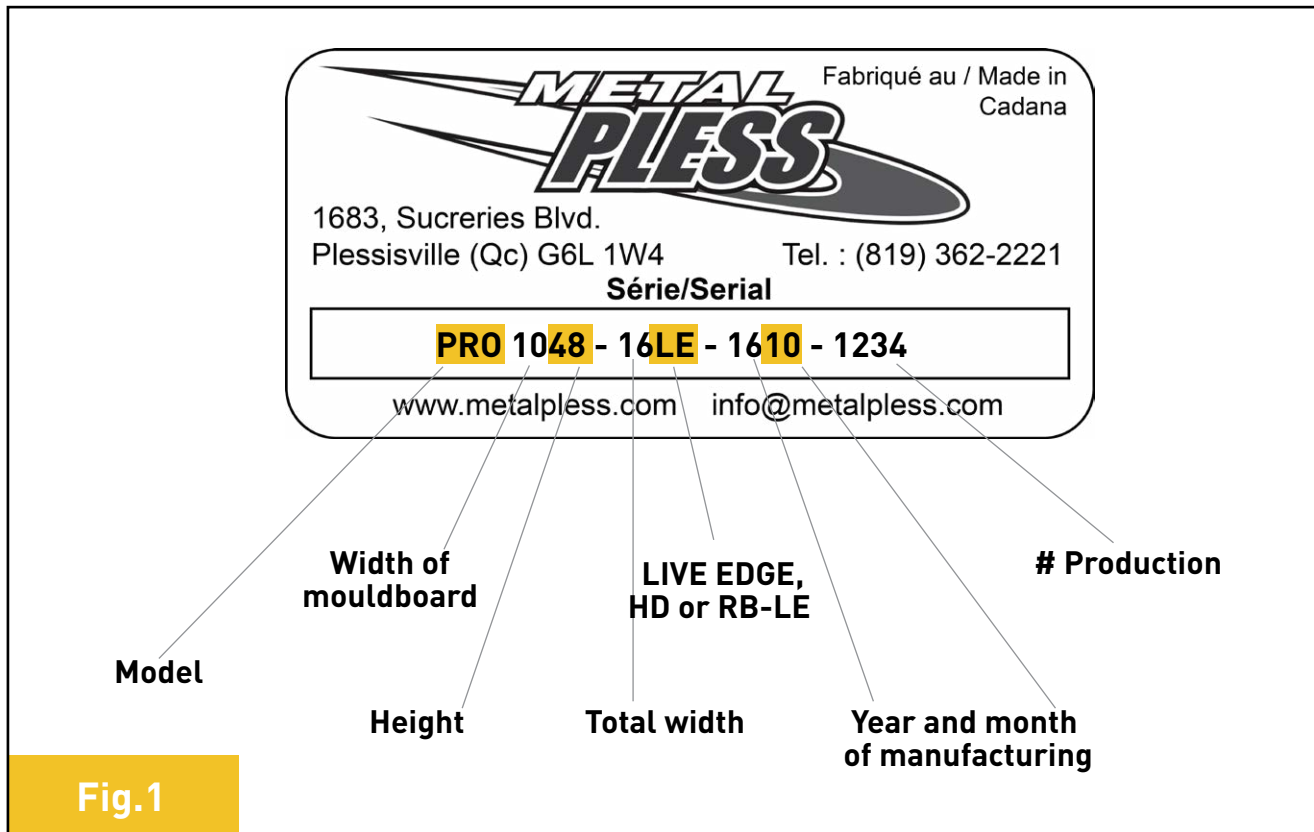
* Before adjusting or repairing equipment, always apply the parking brakes, stop the engine, and lower the equipment to the ground.

Always be cautious when leaving equipment unattended.

- a) Lower the snow blade to the ground when parking your vehicle for extended period of time.
- b) Set all switches to the "OFF" position to prevent the snow plow from draining power from the vehicle's battery. The equipment may continue to draw current if the control switch is turned to the "ON" position; possibly causing insufficient charge to restart the vehicle.

5. EQUIPMENT IDENTIFICATION

Find the identification of the equipment, behind the central part at the top left corner. A permanent label shown in **(Fig. 1)** indicates the model number and the serial number.

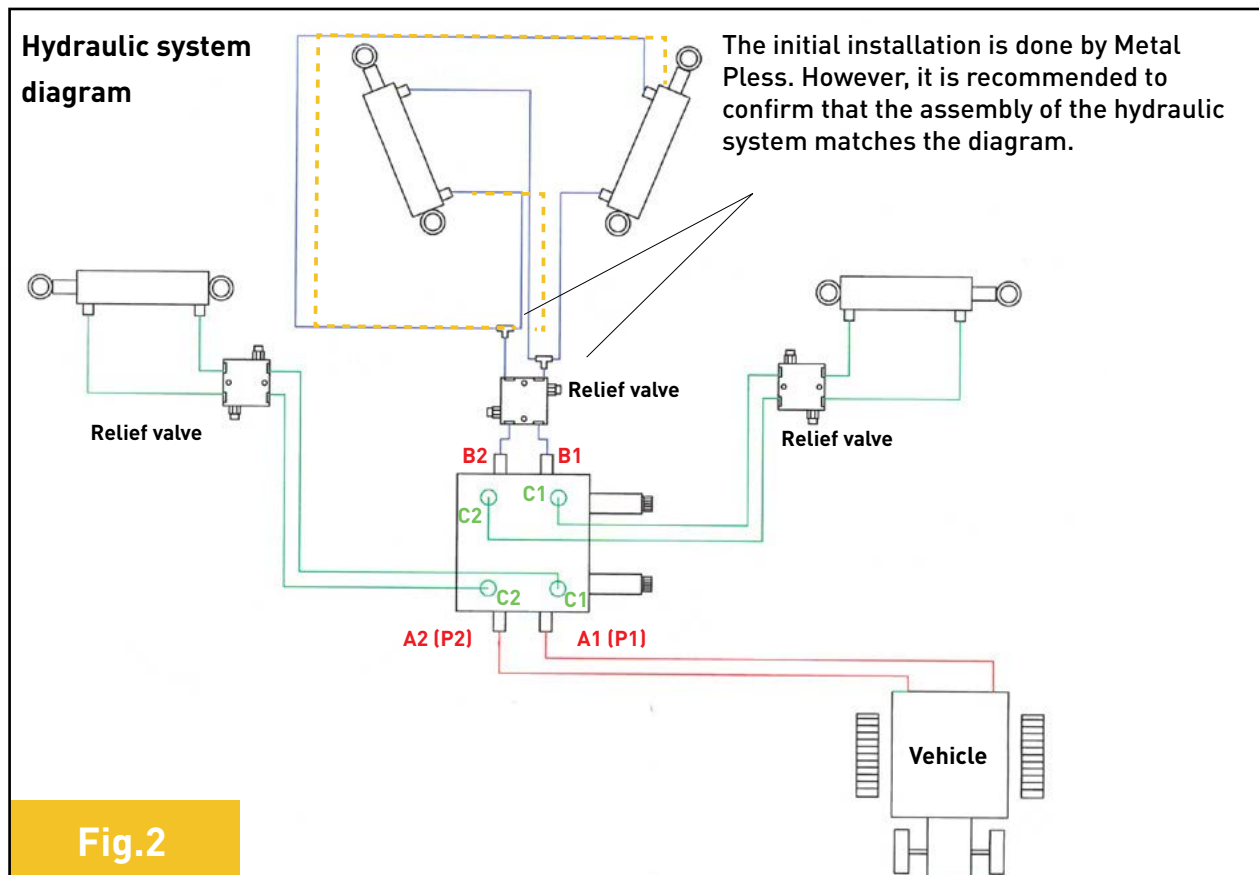


6. INITIAL ASSEMBLY

Upon initial receipt of the equipment, some assembly may be required, check the following:

6.1 HYDRAULIC HOSES

The equipment may require additional hydraulic hoses from the vehicle to the snow plow. It is the responsibility of the user to supply these. Hydraulic hoses must be routed and positioned in a way that they do not bind with mobile parts of the equipment. In certain conditions, it is recommended to add supports or protective sheath to keep the hydraulic hoses protected. **(Fig.2)**



Warning: Diverter valves are available in 12 or 24 volts. Verify the coils on the valve to appropriately feed the correct voltage.

Warning: The fuse associated with the power source must not exceed 10 amps.

6.2 HYDRAULIC COMPONENTS

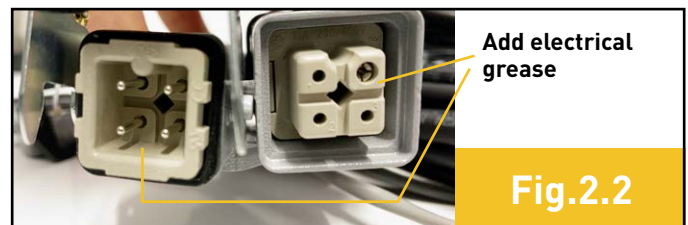
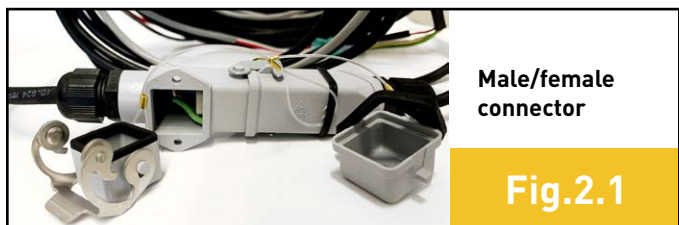
a) It is strongly recommended that all hydraulic components (fittings, valves, cylinders etc.) be verified before initial operation. It is the owner's responsibility to make sure that all components are secure, operational and free of leaks.

b) Hydraulic hoses will need to be provided and installed from the loader to the diverter valve. Hoses arriving from the loader must enter port A1, A2 or P1, P2 of the diverter valve. Depending on model of valve these ports may either be on the left or the right side of the valve. **(Fig.2)**

c) Attached to the diverter valve is a wiring harness. Run the wiring up the loader arms and into the cab. Depending on model chosen, install the controller accordingly. In the cab, it will be necessary to hook up the wiring into an available and adequate power source.

d) Required power source (either 12 or 24 volts) will be dictated by the voltage of the coils.

e) The wiring harness includes a male/female sealed connector **(Fig.2.1)**. This connector is useful when detaching the snow plow from the vehicle. It is strongly recommended to add electrical grease on the connectors **(Fig.2.2)**. It is also imperative that the operator takes care to prevent moisture from entering the connector. Safety caps with molded rubber seals are included and must be used properly when coupling and uncoupling the blade to prevent possible failure of the wiring harness.



f) The hydraulic wings are equipped with flow control valves. It is important that these valves are adjusted correctly to allow a smooth rotation of the wings.

g) Relief valves **(Fig.2)** are installed for protection of the hydraulic cylinders. These are pre-set at the factory. It is not recommended to adjust these without prior approval from Metal Pless. If adjustment is necessary, note that both ports of the relief valve must be adjusted simultaneously for proper pressure relief of oil flow in either direction.

6.3 QUICK COUPLER INSTALLATION

In order to attach the plow to a loader, follow these procedures.

Using the loader's quick coupler, approach the plow with caution and hook onto it. Make sure the locking pins are activated.

Recommended settings for hydraulic pressure (PSI) and flow (GPM)



- MAXIMUM PSI SHOULD BE 3000 PSI -

Metal Pless offers two types of hydraulic valve systems:

One with a **13 GPM maximum** flow that can be found on *PlowMaxx, ReverseMaxx and AgriMaxx models* and another with a **24 GPM maximum** flow that is dedicated to the *MaxxPro as well as a few PlowMaxx models*.

- 1 To know the type of valve that is installed on your Metal Pless equipment, simply locate the labels on the hydraulic hoses near the valve on the center of the plow that indicate the pressure and hydraulic flow limit.

These recommended hydraulic pressure and flow limits are essential to protect the system components.

Exceeding these limits to increase the efficiency of our blades is absolutely unnecessary. On the contrary, too much pressure and hydraulic flow paralyzes the safety systems and leads to inadequate mechanical behavior and premature wear and damage: (hydraulic hoses, cylinders, fittings, hinges, etc...).

To ensure that our warranty conditions are respected, and to increase the life of your blade while reducing its maintenance, it is therefore essential to respect the pressure and hydraulic flow values indicated for each of our models.

- 2 That is why we recommend that you adjust the hydraulic limiters mechanically or electronically on your machinery (wheel loader or other vehicle). If your equipment does not allow you to regulate the pressure and the hydraulic flow, you will need to install a flow control valve. This will limit the pressure and flow to the Metal Pless valve and divert excess pressure and flow back to your machinery.

All these pressure and hydraulic flow limitation adjustments must be carried out by a licensed professional or qualified personnel.

MAKE SURE YOU RESPECT OUR TWO STEP WARRANTY CONDITIONS.

- 1 CONFIRM YOUR TYPE OF VALVE
- 2 ADJUST THE HYDRAULIC LIMITERS

7. SAFETY

7.1 UNDERSTANDING SAFETY DISPLAYS AND INSTRUCTIONS (See point 7.3)

All users should consider safety displays in order to understand the risks associated with equipment operations and functions such as:

- a) A dangerous situation that could result in injury to the user.
- b) A dangerous situation that can cause damage to the equipment.
- c) A dangerous situation that could lead to hazards within the perimeter of the equipment.
- d) A dangerous situation that could result in the manipulation of components containing fluids under high pressure.
- e) The user must consider the hazards associated with the use of mobile equipment. Associated risks are multiple and real.

7.2 SAFETY PERIMETER

During inactivity, the user must ensure a safe distance between the equipment, the vehicle to which it is harnessed and other dangerous equipment or dangerous situations.

The usage of this equipment on another motorized equipment changes the behavior, conduct and balance; requiring professional expertise recognition.

During the operation of this equipment, the user must maintain a safe distance between the equipment and its environment. The higher the speed, the higher the risks.



WARNING

SNOW EJECTS AT GREAT SPEED AND DISTANCES, AND CAN CREATE HARMFUL IMPACTS.

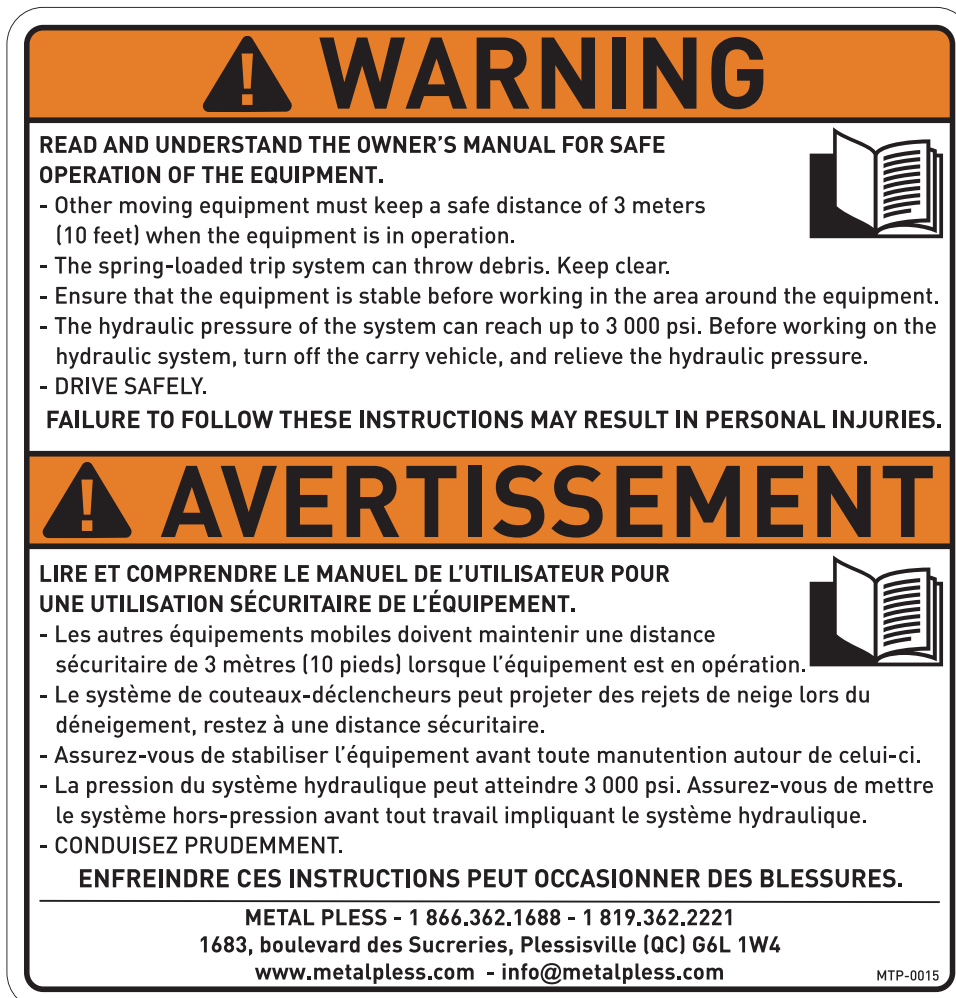
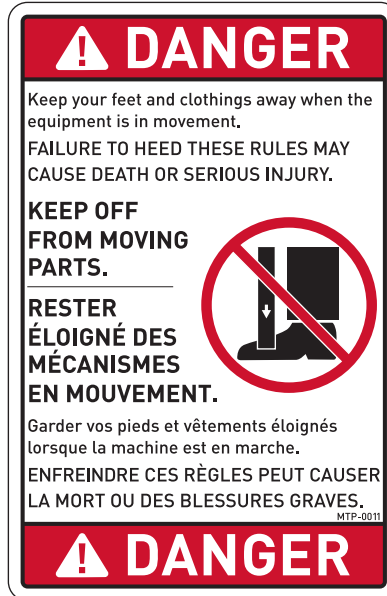
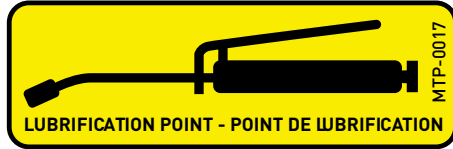
DURING OPERATION, THIS EQUIPMENT CAN CAUSE THE VEHICLE TO BECOME UNBALANCED AND CAUSE A LOSS OF CONTROL.

The user should consider that the use of this equipment reduces its overall vision and that the operator must therefore be vigilant. In addition, the user must act responsibly for vehicles in his/her surrounding, making safety a priority at all times.

Make sure to respect your country's state and provincial laws in force regarding the signaling and reflective strips to be present on this equipment.

7.3 SAFETY DISPLAY (STICKERS)

It is important for the user to identify these safety displays on the snow plow before operating or servicing the equipment.



8. FUNCTIONS AND OPERATIONS

8.1 LEVELLING THE PLOW

In order to operate the equipment properly and also in order to avoid premature wear of this equipment, it is imperative that the plow is level and square to the ground during operations. **(Fig. 3)** The plow must sit 90 degrees square to the ground when considering the angle of the pin that allows the wings to rotate onto the mouldboard versus the ground. **(Fig. 4)**

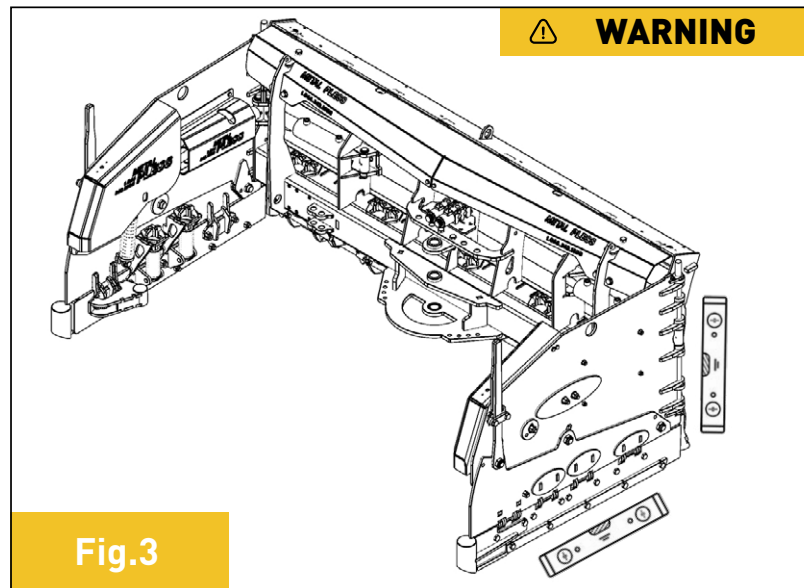


Fig.3

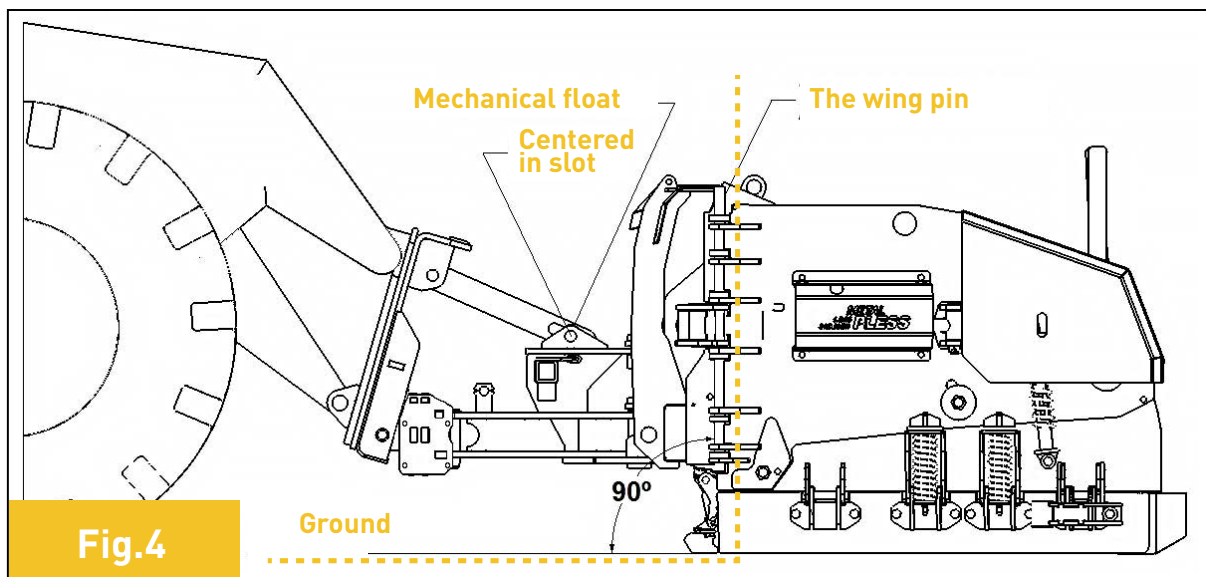


Fig.4

Operating the equipment that is not properly set or level can cause premature wear of the edges and result in high maintenance costs.

8.2 HYDRAULIC WINGS

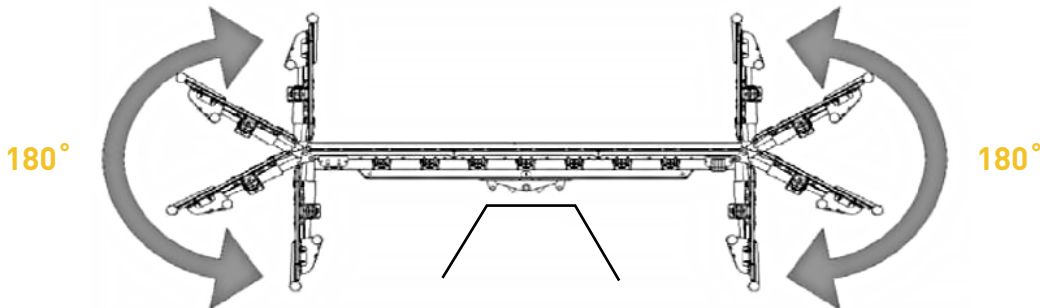
The snowplow may be configured in different ways using its hydraulic power. Always configure the wings and plow with caution.



IMPORTANT: Always keep the hydraulic wings slightly open. Avoid working in the fully closed position.

Operating the snowplow with the wings in a fully boxed position may create damage to the surface and severely increase wear to the equipment.

This equipment has two (2) hydraulic wings, one on each side of the blade. The wings can be articulated 180 degrees. Only use hydraulic power to rotate the wings. Never try to exceed limitations of the wing's rotation.



WARNING

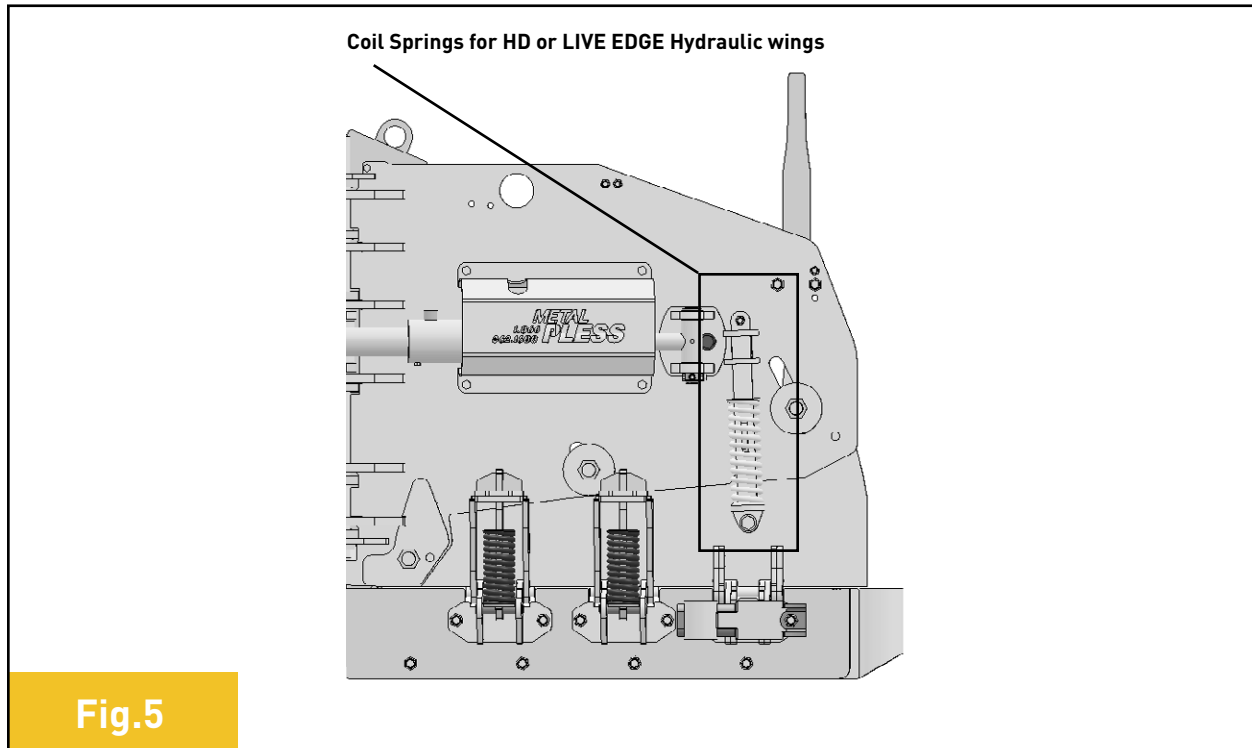
BE CAREFUL. DO NOT OPERATE THE HYDRAULIC WINGS IF SOMEONE IS STANDING NEARBY.

Operation of the diverter valve is controlled by either a two button joystick grip or a three position rocker switch. It is important to note that the rocker switch must remain in the center position when the hydraulic wings are not in use to avoid burning out the DIN connectors or the wiring harness.

Warning : Hydraulic wings may come in contact with the tires of the vehicle it is attached to. The operator must exercise caution and adjust the position of the wings to prevent them from coming in contact with the tires. Metal Pless shall not be liable for any damages caused to tires.

8.3 COIL SPRINGS

Coil springs are installed on each side wing of this equipment, as shown below. Such coil springs allow limited movement of the abrasion shoe while maintaining down pressure onto the ground. (Fig. 5).



WARNING

EXCESSIVE PRESSURE ON THE SNOW PLOW
MAY CAUSE PREMATURE WEAR AND MAY CAUSE
ADDITIONAL COSTS.

8.4 VISUAL MARKERS

A visual marker (Fig.5) is installed on each wing. The marker allows the operator of the vehicle to establish a visual cue in width, height and space before the passage.

The markers serve ONLY as a guide and should in no way be taken to the exact value of its position. The markers are bolted and use pre-perforated holes.

8.5 VISUAL MARKERS WITH LEVELING INDICATORS (Fig.6-7)

On certain models an additional option may be available for the visual markers to offer a self leveling indicator. By positioning both markers at an equal height the plow is set level to the ground (Fig.4).

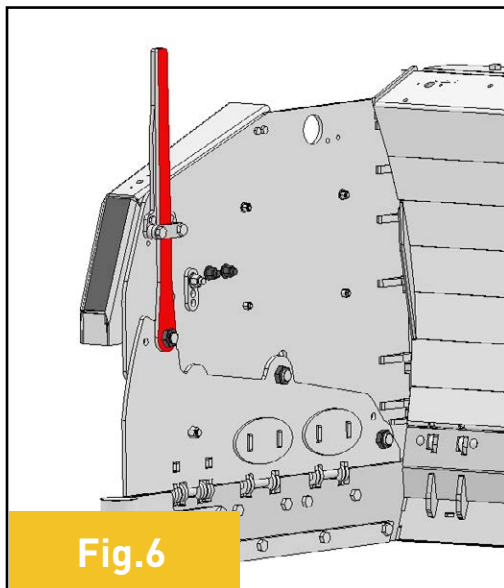


Fig.6

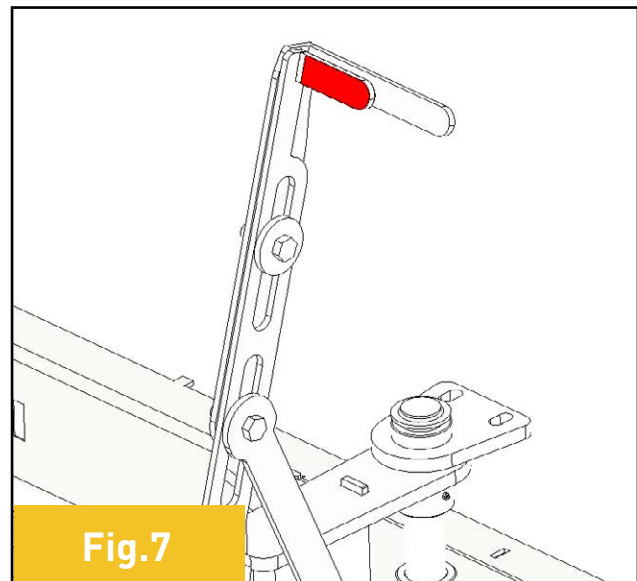


Fig.7

8.6 CUTTING EDGES (WEAR)

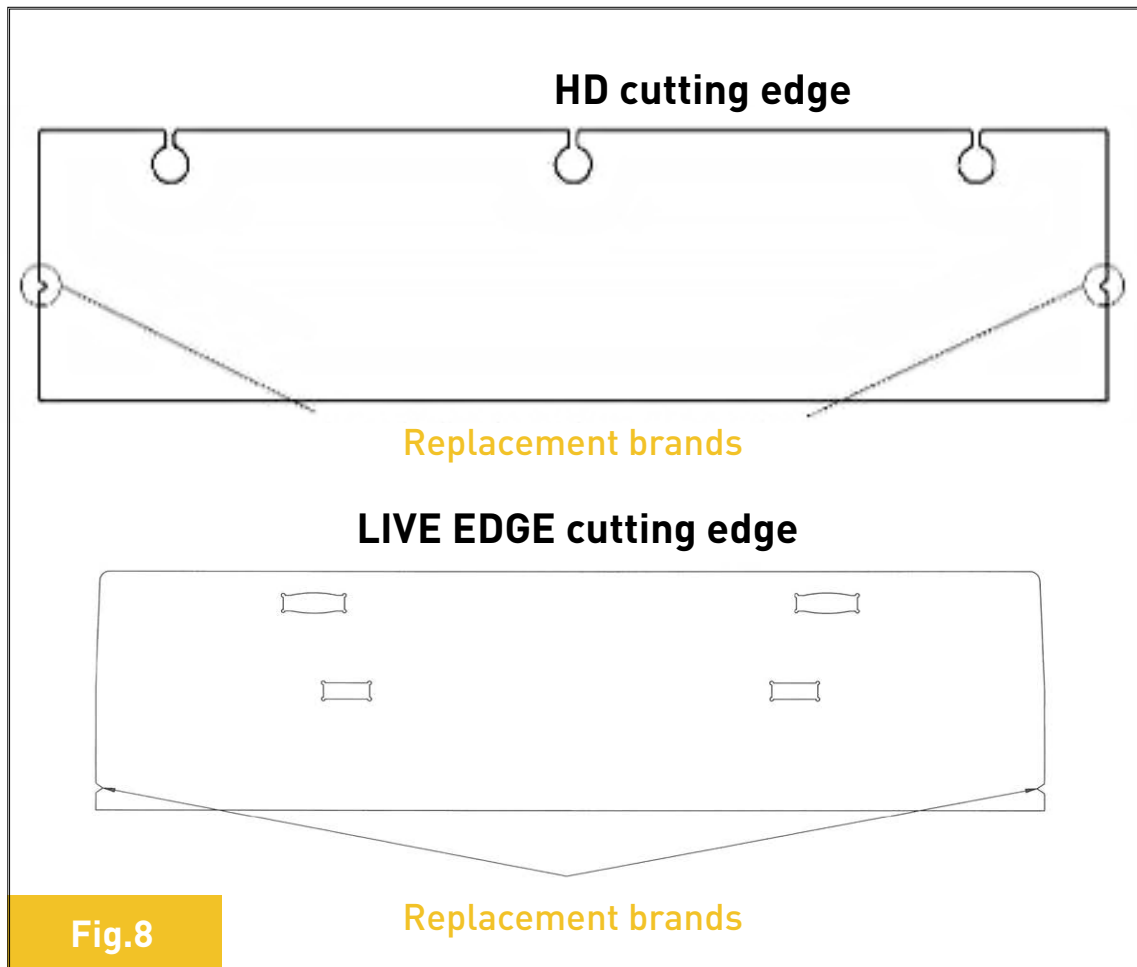
The cutting edges are considered wear parts. On this equipment, friction and abrasion will lead to wear of the cutting edges. Depending of the type surface, the outdoor temperature, the speed and how the user operates the equipment, the cutting edge's may wear at a much faster rate than normal.

A trained operator will use the appropriate amount of pressure. Too much pressure will lead to premature wear. The maximal wear point is indicated by a groove cut into the cutting edges. (Fig. 8)

8.7 CUTTING EDGES (REPLACEMENT)

On HD models, it will be necessary to replace the abrasion shoes on the wings at the same time as the replacement of the main cutting edges of the blade. **(Fig.8)**

On live edge models, it is common to replace only the abrasion shoes multiple times prior to requiring the replacement of the live edge sections on the main blade.



8.8 HYDRAULIC CYLINDERS

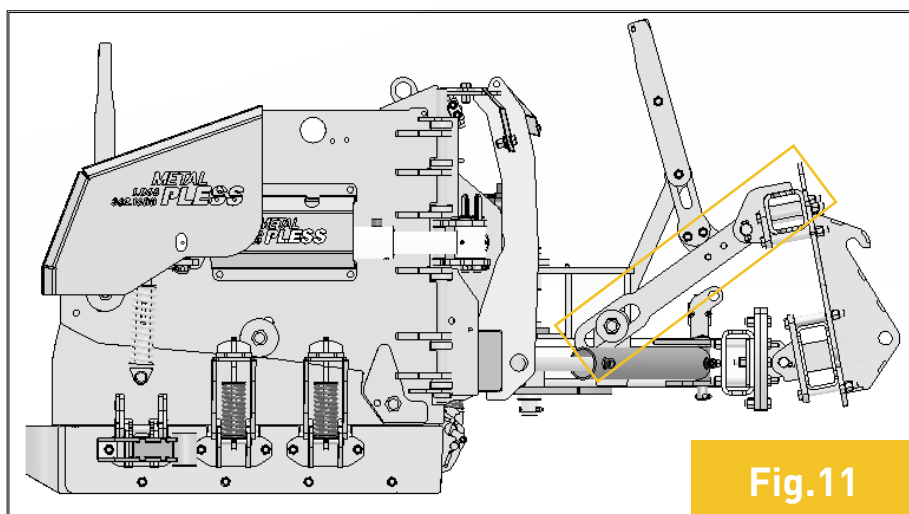
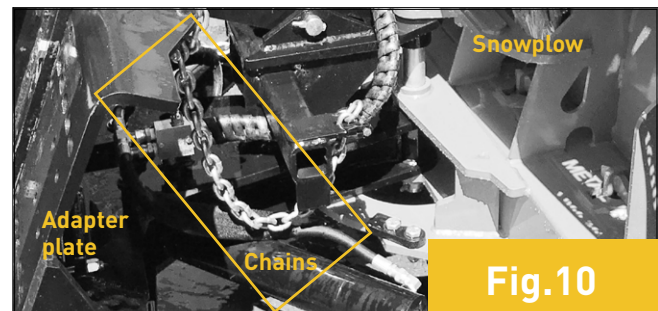
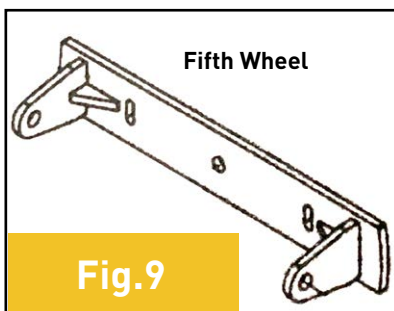
The wings of the snow plow are operated by hydraulic cylinders. Said cylinders are equipped with a cross-over relief valve pre-set at the factory. If maintenance is required, do not over set the cross over relief valves. Relief valves that are over set will cause damage to the cylinders and will not be covered under warranty. It is important to note that if a relief valve is to be adjusted, both ports must be adjusted simultaneously.

8.9 FIFTH WHEEL

This equipment has a mechanical system of limited lateral float (fifth wheel) allowing oscillation of the snowplow over uneven ground. The MaxxPro model is preset and does not need any adjustment. **(Fig.9)**

On some models, chains are attached from the adapter plate to the tubular beam above the A frame to prevent the blade from over-oscillating when it is lifted and in travel mode. **(Fig.10)**

On other models, a slotted limiter strut will prevent the blade from oscillating when it is lifted and in travel mode. **(Fig.11)**



9. MAINTENANCE

9.1 PRIOR NOTICE

Unless otherwise stated, all maintenance requires that the equipment be placed on the ground. The use of safety stands are mandatory when servicing the equipment. RESPECT SAFETY INSTRUCTIONS AND ALWAYS USE APPROVED TOOLS.



WARNING

NEVER STAND OR STAND BETWEEN THE EQUIPMENT AND THE GROUND IF THIS EQUIPMENT HAS NOT BEEN PROPERLY SECURED WITH THE SUPPORT PROVIDED FOR THIS TASK.

9.2 DAILY INSPECTION

- a) Confirm all nuts and bolts are properly tightened.
- b) Confirm all other fasteners are in place and are performing their specified functions.
- c) Confirm fasteners on the wings are sufficiently tightened to prevent excessive movement from the upper wing to the abrasion shoe. However, not overly tightened, allowing the wings to float over uneven ground.
- d) Confirm all hydraulic fittings are tightened and that there are no leaks.
- e) Confirm that all safety signs are in place and VISIBLE.
- f) Replace any damaged parts and/or worn parts.
- g) Special attention must be taken to prevent moisture from entering the male/female connector of the wiring harness. Safety caps with molded rubber seals are included and must be used properly when coupling and uncoupling the blade to prevent possible failure of the wiring harness.

9.3 GREASING

Lubrication points on this equipment are identified by stickers as illustrated (Fig. 12). All grease points should be greased after every 20 hours of use. The Lubrication should be performed with a grease gun.



Fig.12

9.4 GREASE TYPE

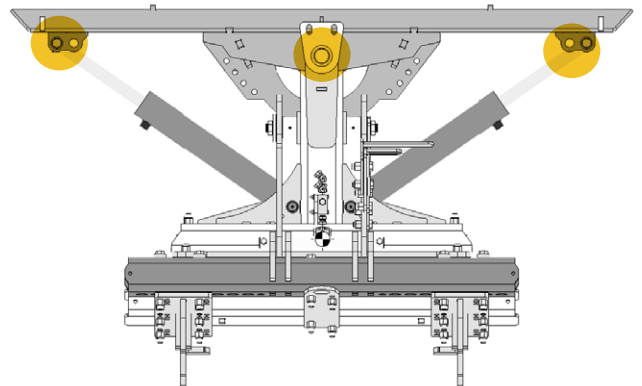
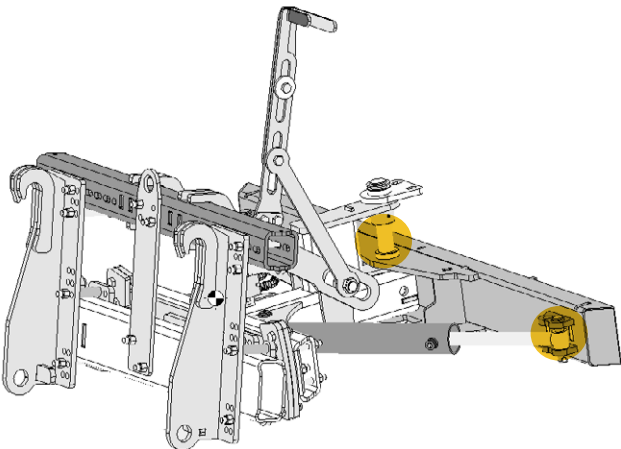
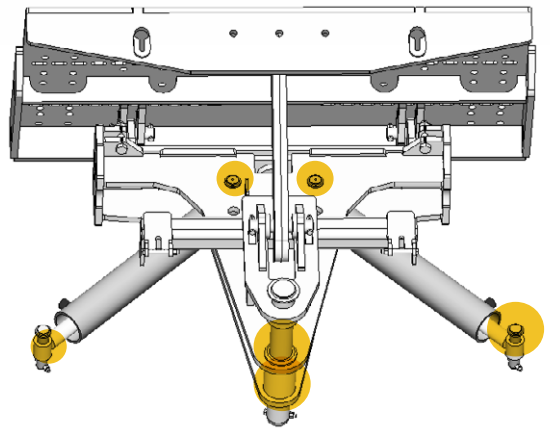
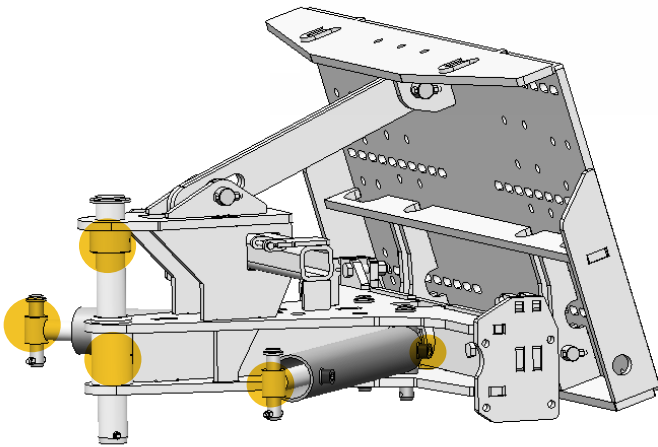
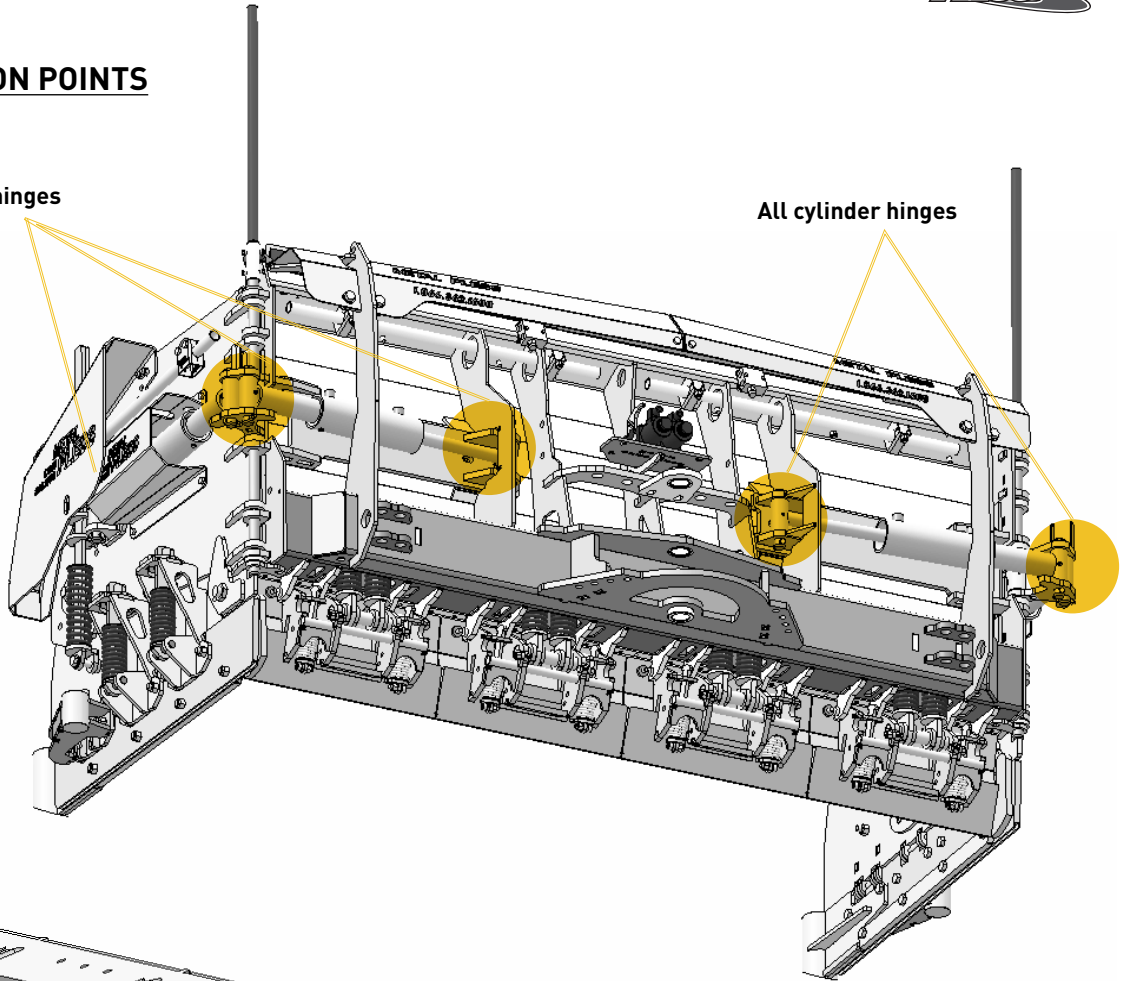
Use a high-performance industrial grease for low outdoor temperature environments.

9.5 LUBRICATION POINTS

Periodic greasing

All cylinder hinges

All cylinder hinges





MAXXPRO
VIDEO ONLINE



SCAN ME
with your camera
application
on any phone



WARNING

WARNING: METAL PLESS SHALL NOT BE HELD LIABLE
FOR ANY DAMAGE OCCURRED BY THE USE OF THIS
EQUIPMENT.

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