

## **Maintenance and Operating Instructions Hydraulic U/V Angle Blade**



Read this manual before installing, operating or servicing this product. This manual contains important information. Make this manual available to all persons responsible for the operation, installation, servicing and maintenance of this product.

# Maintenance and Operating Instructions

## Hydraulic U/V Angle Blade

### Safety Notes:

- 1) All safety messages in this manual are to be read and understood by all personnel installing, maintaining or operating the Hydraulic U/V Angle Blade.
- 2) If the Hydraulic U/V Angle Blade is equipped with O.E.M. (Original Equipment Manufacturer) pin on lugs, read the operating and safety manual for pin on attachments supplied by the machine manufacturer.
- 3) If the Hydraulic U/V Angle Blade is equipped with quick coupler lugs, read the operating and safety manual for the specific quick coupler on your machine.
- 4) Always ensure that the Hydraulic U/V Angle Blade is properly attached to the machine coupling system before operating or making adjustments.
- 5) Always ensure that all personnel or objects are at the recommended O.E.M. safe working distance from the operating area of the machine.
- 6) Always ensure that the attachment will be uncoupled in a safe, stable position. Unexpected or sudden movement could cause damage, injury or death.
- 7) Always conduct a workplace hazard assessment prior to work commencing. Address any dangers or potential dangers arising out of the use of the equipment and attachments.
- 8) It is the owners' responsibility to ensure proper maintenance and inspection programs are developed and followed.
- 9) Only qualified personnel shall complete maintenance and inspection operations.
- 10) Prior to all maintenance or inspection operations ensure that the attachment is resting on the ground and/or properly supported.
- 11) Always wear the proper protective equipment when performing maintenance operations.

 **DANGER**

Improper operation and maintenance of the Hydraulic U/V Angle Blade could result in serious injury or death. Read and understand this manual prior to operating and/or maintaining this equipment.

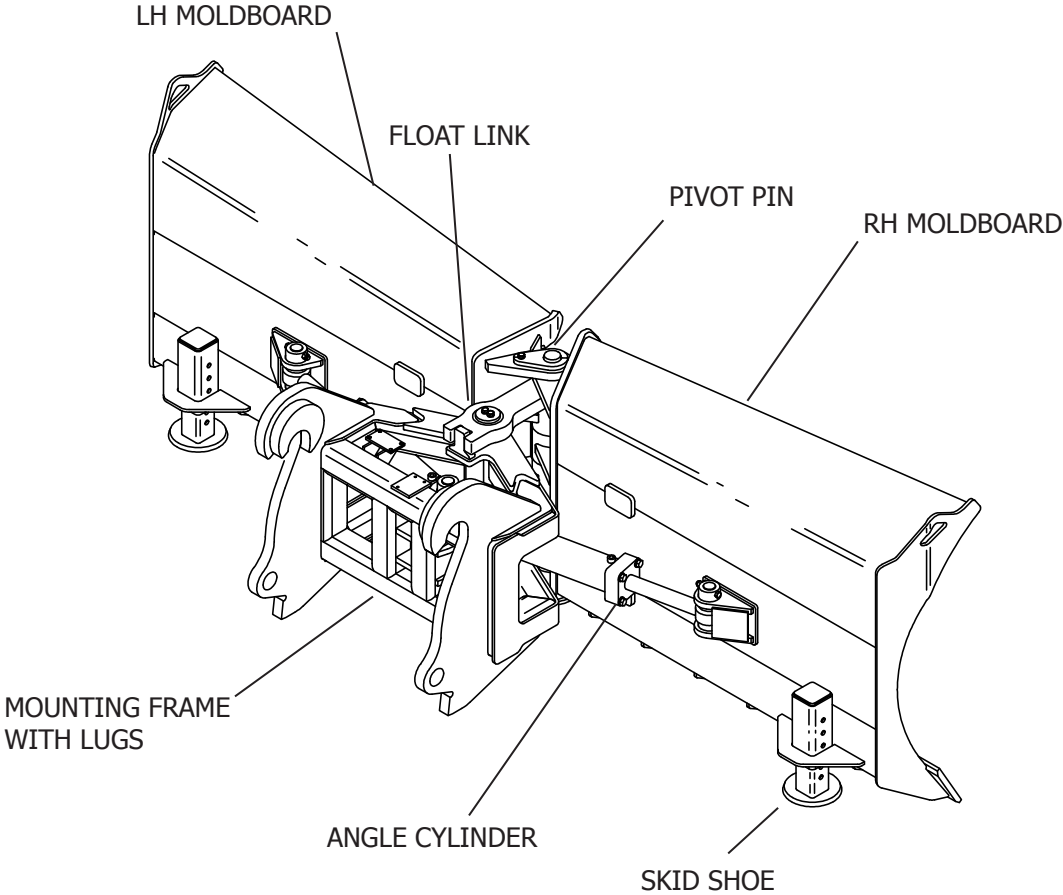
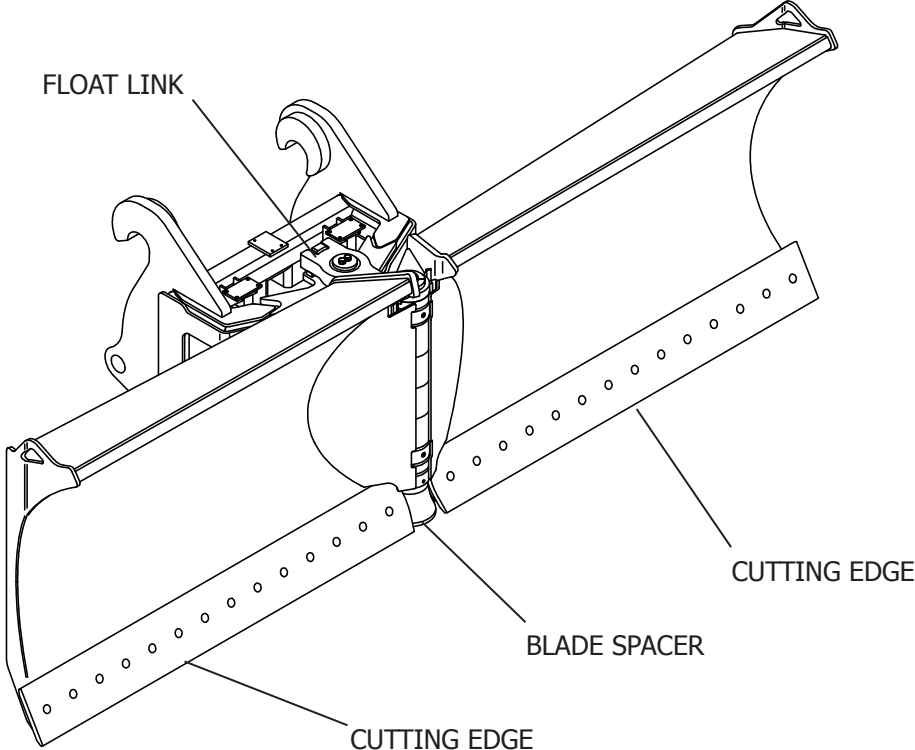
 **DANGER**

Do not modify any part of the Hydraulic U/V Angle Blade unless authorized by Weldco-Beales Mfg. Doing so may cause structural damage to the Hydraulic U/V Angle Blade and may result in property damage or serious injury or death.

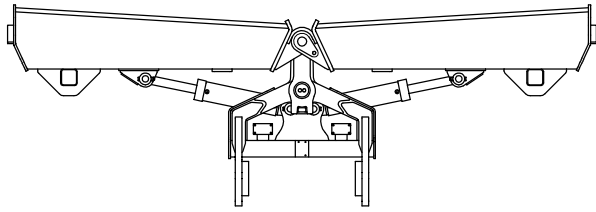
### General Information:

The Weldco-Beales Hydraulic U/V Angle Blade is the most versatile snow removal blade available for wheel loaders. The U/V blade has two moldboards which pivot on a vertical centreline pin. The blade can be used in straight, angled (left or right), U or V configurations. The blade orientation is controlled from the operators cab, using angle cylinders. Hydraulic pressure is supplied from the machines 3rd valve and feeds through a solenoid activated diverter valve. Skid shoes stabilize the blade and increase cutting edge wear life. Optional 3° "float" allows the blade to follow uneven contours of roads and highways.

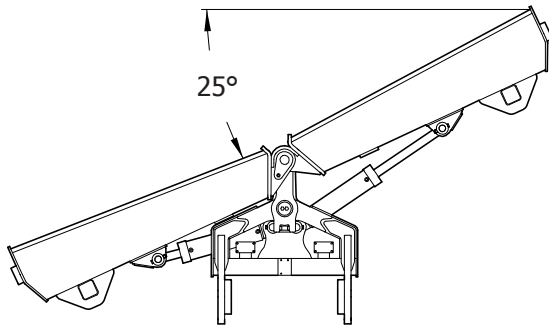
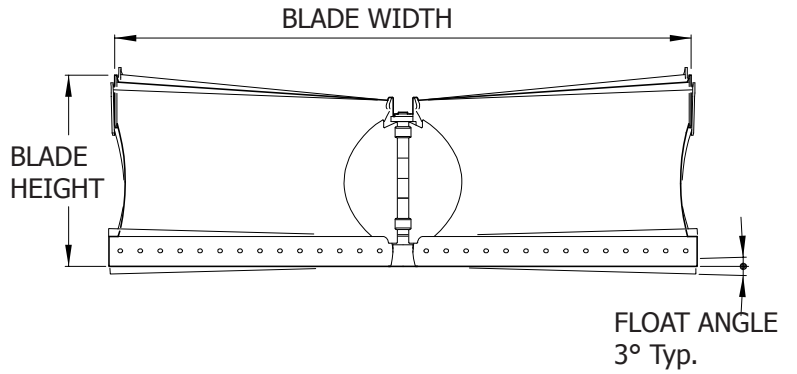
# Hydraulic U/V Angle Blade Terminology



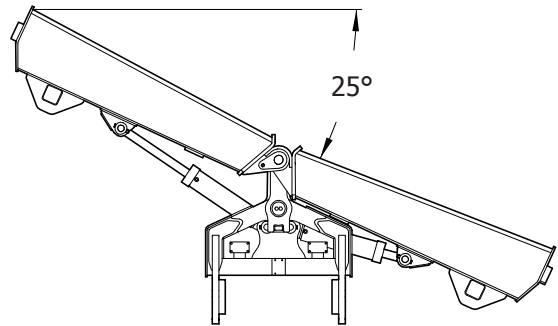
# Hydraulic U/V Angle Blade Terminology



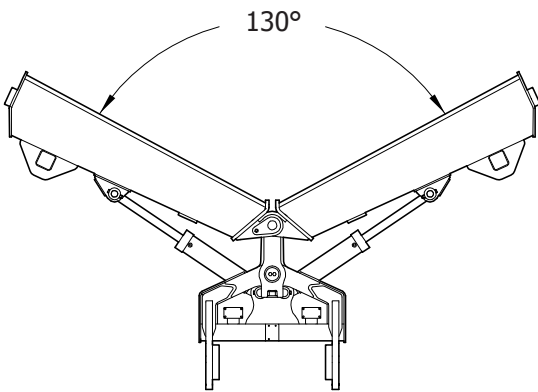
**STRAIGHT BLADE**  
Straight forward pushing and clearing



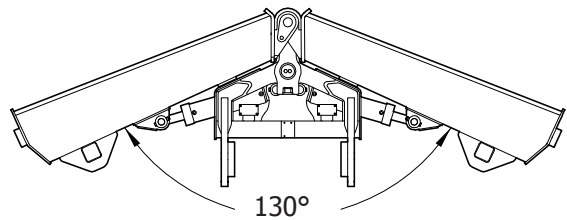
**ANGLE LEFT**  
25° angle for left side casting



**ANGLE RIGHT**  
25° angle for right side casting



**"U" BLADE**  
130° "U" angle for stock piling or carrying



**"V" BLADE**  
130° "V" angle for penetration, with right of way casting

## MAINTENANCE

### Daily Inspections:

Perform visual daily inspections on/for all of the following items, with the Hydraulic U/V Angle Blade resting on the ground and the machine turned off:

- 1) Structural integrity of the Hydraulic U/V Angle Blade and its' accompanying components. Inspect all welds and components for cracks or damage.
- 2) Excessive wear on components that would impede or impair proper operating procedures.
- 3) Hydraulic components (hoses, hose ends, fittings, valves) and connections for leakage or damage.
- 4) Hydraulic U/V Angle Blade cylinders for structural integrity, cracks, damage and leakage.
- 5) Sufficient amount of grease at all locations.

### DANGER

All cracks or component damage must be repaired; all worn components or missing parts must be replaced before operation of the Hydraulic U/V Angle Blade. Failure to repair or replace damaged or worn components may result in serious injury or death.

### WARNING

Use proper protective equipment when inspecting hydraulic components for leaks and damage. Failure to do so could result in serious injury or death

### DANGER

Do not modify any part of the Hydraulic U/V Angle Blade unless authorized by Weldco-Beales Mfg. Doing so may cause structural damage to the Hydraulic U/V Angle Blade and may result in property damage or serious injury or death.

### End of Season Storage:

Prior to placing the Hydraulic U/V Angle Blade in storage, perform the following end of season inspections:

- 1) Cutting Edges: Replace broken and excessively worn cutting edges. Use Grade 8 Plowbolts, washers and nuts.

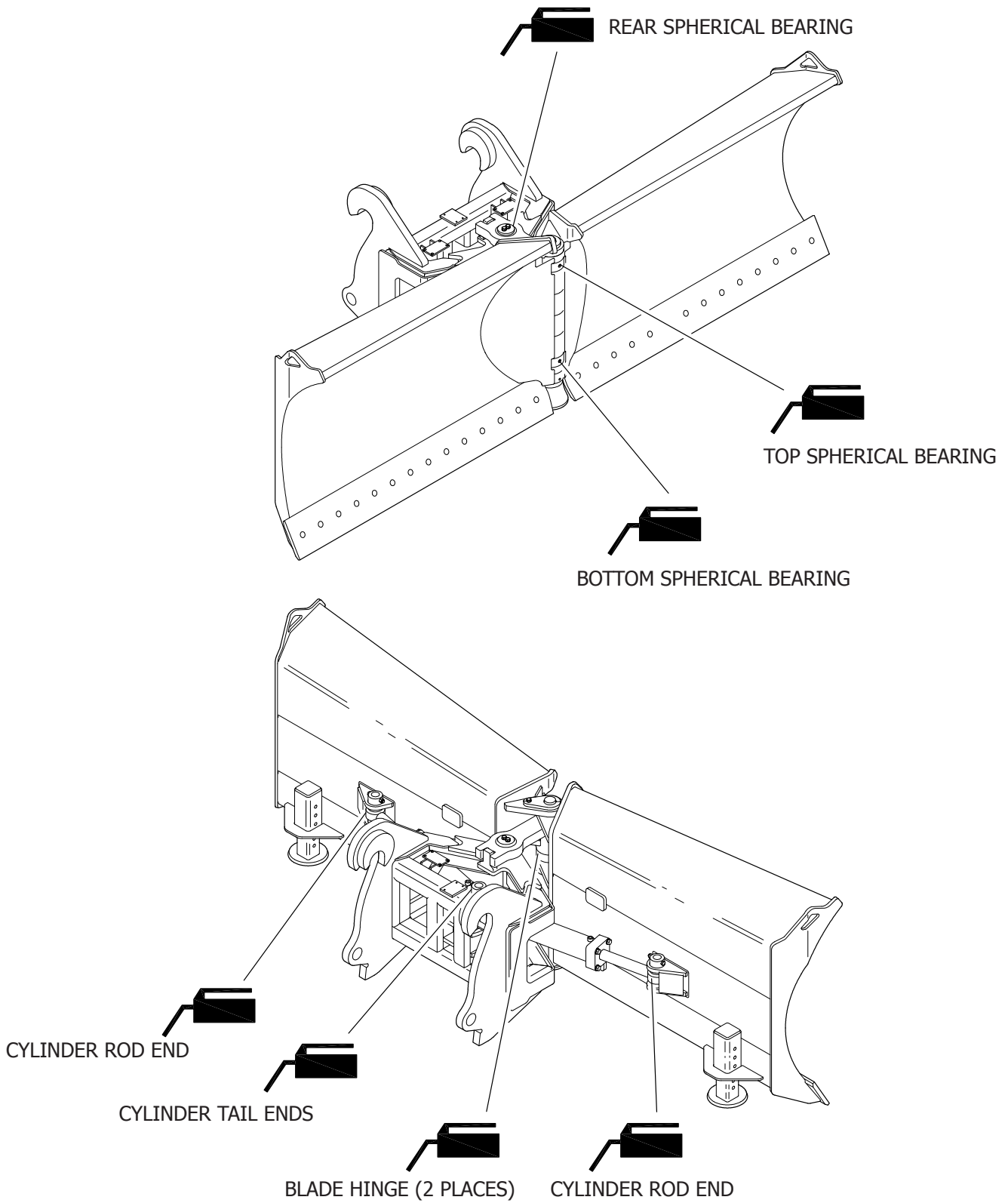
Bolt Size	Torque Value
3/4-11 UNC	380 ft-lbs
7/8-9 UNC	600 ft-lbs
1-8 UNC	880 ft-lbs
1¼-7 UNC	1975 ft-lbs

TIGHTEN TO FINAL TORQUE WORKING FROM THE MIDDLE OF EACH CUTTING EDGE OUTWARDS, ALTERNATING SIDE TO SIDE.

- 2) Skid Shoe Assemblies: Replace worn or broken skid shoes.
- 3) Fasteners: Replace any damaged, worn or missing nuts, bolts, washers or spring pins.
- 4) Hydraulic Components: Inspect hoses for wear, chafing, and leaks. Inspect fittings for damaged threads and mating surfaces. Cap or plug all open fittings and hoses.
- 5) Hydraulic Cylinders: Check seals and fittings for leaks. Inspect chrome rods for dents or scratches. Lightly coat chrome rods with grease.
- 6) Moldboard: Check weldment for cracks and broken welds.
- 7) Sufficient amount of grease at all locations.

# MAINTENANCE

## Lubrication:



## OPERATION

### Before Using The Hydraulic U/V Angle Blade:

Ensure that it is securely attached to the machine and the hydraulics are properly connected.

Cycle the Hydraulic U/V Angle Blade through the dump and roll back positions to ensure the Hydraulic U/V Angle Blade is secured to the machine.

Fully retract and fully extend the angle cylinders to ensure the moldboards pivot smoothly and evenly.

### DANGER

When performing inspections or tests with equipment in a fully operable condition ensure all personnel and objects are at least the O.E.M. recommended safe working distance from the operating area of the machine. Failure to comply may result in property damage or serious injury or death.

### Hydraulic U/V Angle Blade Usage:

The Hydraulic U/V Angle Blade is a versatile piece of snow removal equipment. The blade configuration is controlled from the operators cab. Each blade configuration has an optimal role for clearing snow.

Straight: Move large volumes of snow for piling and final cleanup.

Angled: Left or right, to clear entirely to one side.

“U”: Push or pile snow.

“V”: Pierce and push right of way through large accumulations of snow.

Hydraulic requirements are supplied by the 3rd valve on the machine. Oil is fed into a solenoid operated diverter valve that the operator controls via a toggle switch in the cab. The operator can select either the left or right moldboard and position it in the desired orientation (U, V, angle or straight).

### DANGER

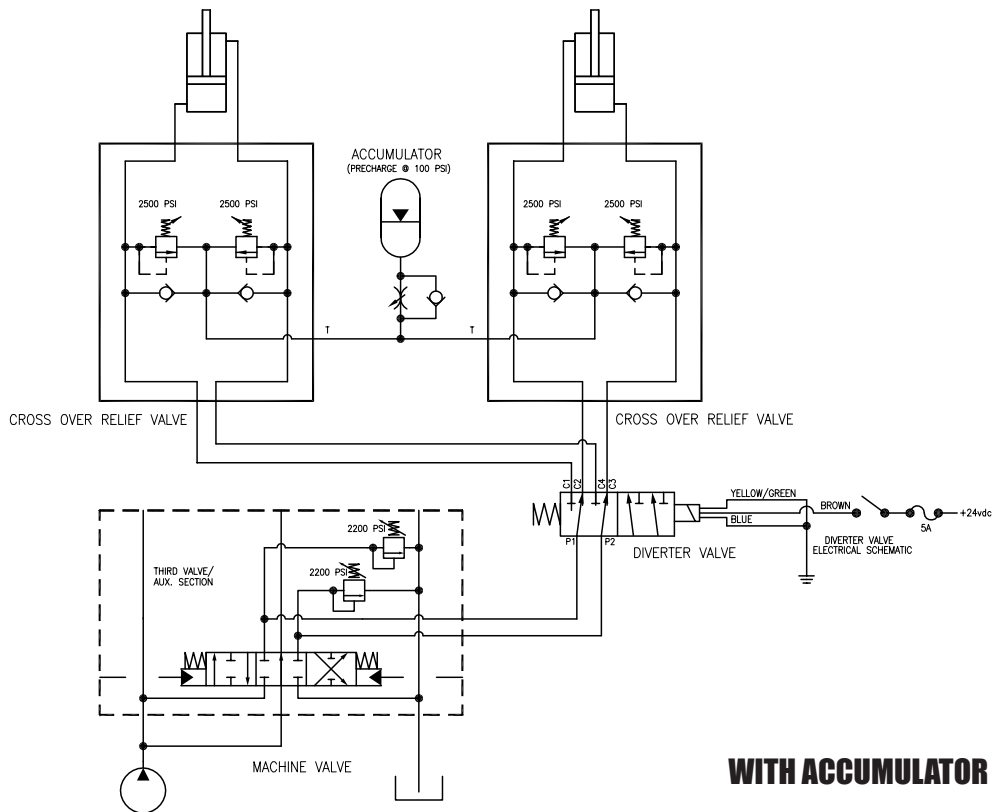
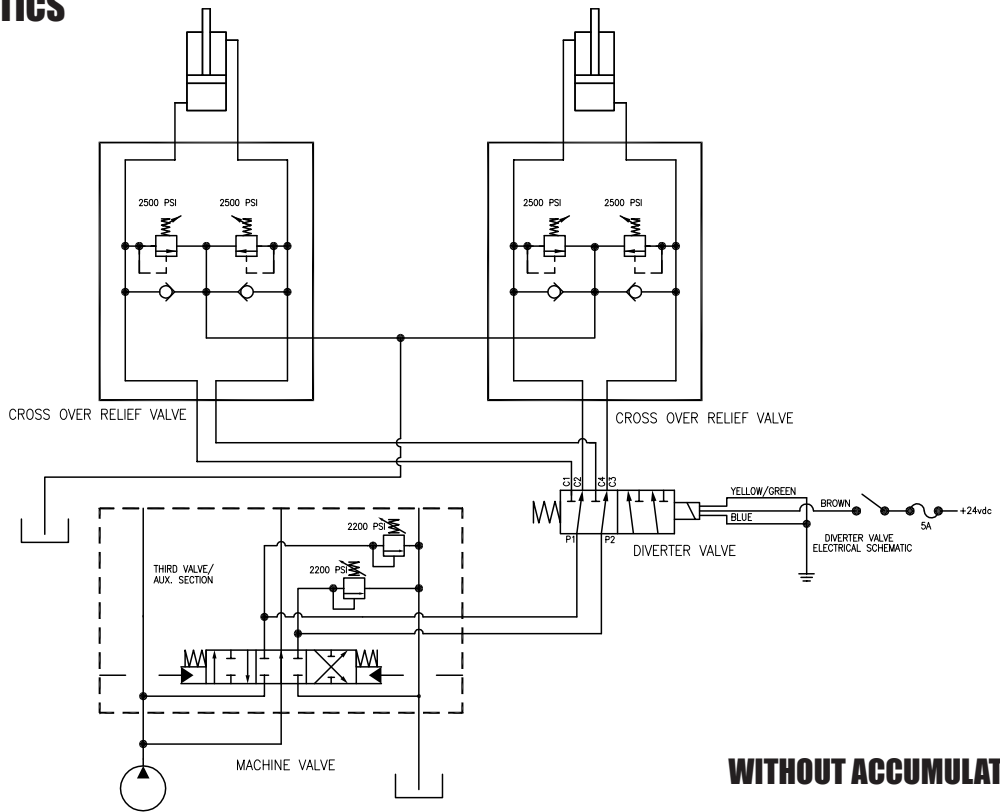
Do not operate the Hydraulic U/V Angle Blade if the moldboard is not pivoting properly. Failure to repair or replace damaged or malfunctioning components may result in property damage or serious injury or death.

### DANGER

Do not attempt to adjust the moldboard configuration unless the Hydraulic U/V Angle Blade is securely attached to the machine. Failure to do so may result in property damage or serious injury or death.

**It is the responsibility of the owners and operators to ensure safe working procedures are followed in every application and circumstance. This manual is to be used as a guide but is not in itself a comprehensive safety program. A safety program should be developed that is specific to each application. For more information on safe work practices contact the nearest Weldco-Beales Mfg. Branch.**

# HYDRAULIC SCHEMATICS



**▲ DANGER**

Always arrange some method to drain the accumulator at shut down. (automatic or manual drain.) Never work on a circuit with an accumulator until you are sure it is depressurized. Failure to do so may result in property damage or serious injury or death.



**Contact Information:**

Visit us on the internet at: [www.weldco-beales.com](http://www.weldco-beales.com)

**Weldco-Beales Alberta**

12155-154<sup>th</sup> Street  
Edmonton, Alberta  
Canada, T5V 1J3  
Telephone: 780-454-5244  
Fax: 780-455-6770  
Toll Free: 1-800-661-4155

**Weldco-Beales British Columbia**

5770 Production Way  
Langley, British Columbia  
Canada, V3A 4N4  
Telephone: 604-533-8933  
Fax: 604-530-2206  
Toll Free: 1-800-665-0511

**Weldco-Beales Barrie**

515 Welham Road  
Barrie, Ontario  
Canada L4N 8Z6  
Telephone: 705-733-2668  
Fax: 705-733-2669  
Toll Free: 1-877-320-4286

**Weldco-Beales Tacoma**

11106 25th Ave E, Suite B  
Tacoma, Washington  
USA 98445  
Telephone: 253-383-0180  
Fax: 253-383-8061  
Toll Free: 1-800-547-6357