



Belly Blade

## Installation Instructions

### Generic Undercarriage

Purchase Date
Serial Number
Model Number
Tractor Model
Dealer

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## Bolt Torque Specifications

Bolt Dia. (inch)	Thread per inch	Grade 5	Grade 8
		Torque (ft·lbs.)	Torque (ft·lbs.)
1/4	20	8	12
1/4	28	10	14
5/16	18	17	25
5/16	24	19	29
3/8	16	30	45
3/8	24	35	50
7/16	14	50	70
7/16	20	55	80
1/2	13	75	110
1/2	20	90	120
9/16	12	110	150
9/16	18	120	170
5/8	11	150	220
5/8	18	180	240
3/4	10	260	380
3/4	16	300	420
7/8	9	430	600
7/8	14	470	660
1	8	640	900
1	12	710	990

Bolt Dia. (mm)	Pitch	Grade 8.8	Grade 10.9
		Torque (ft·lbs.)	Torque (ft·lbs.)
4	0.70	2	
5	0.80	4	
5	1.00	7	11
7	1.00	12	
8	1.25	17	26
8	1.00	18	
10	1.50	35	51
10	1.20	37	
10	1.00	39	
12	1.75	59	88
12	1.50	62	
12	1.25	65	
14	2.00	94	139
14	1.50	101	
16	2.00	146	210
18	2.50	210	
20	2.50	292	
22	2.50	398	
44	3.00	503	

# Kit Inventory

Qty.	PN	Description
3	16-20062	3/8" x 3/4" Hex Bolt Gr 5 NC
2	16-21218	3/4" x 2" Carriage Bolt Gr 5 NC
1	18-10248	2-1/2" U-bolt Clamp Assembly
5	39-10199	Belly Blade Control Handles
1	43-7767	Cylinder Hitch Pin Clip
1	43-7995	Pin 1" x 2.125"
1	44-10293	Plate, Valve Tube to Valve
1	44-10471	Plate, Valve Tube to Undercarriage Mount
1	53-11836	Generic Tube
1	54-11835	Undercarriage Assembly
1	56-10280-B	Belly Blade Valve System
2	57-20747	3/4" Flat Washer
3	57-20762	3/8" Lock Washer
10	59-34950	Zip Ties (large)
2	70-20607	3/4" Hex Center Lock Nut Gr 5 NC

## Note:

This generic Belly Blade is designed to be adapted to certain tractors in which there is not a current Belly Blade undercarriage designed.

It is expected that there will be a certain amount of work needed to fit your particular tractor.

Use this installation manual as a general guide in adapting this generic Belly Blade to your tractor.

Blade Assembly - Shipment includes one of the following		
Qty	PN	Description
1	15-10300-60	6 ft. Moldboard
1	15-10300-70	7 ft. Moldboard
1	15-10300-80	8 ft. Moldboard
1	15-10300-90	9 ft. Moldboard
1	15-10300-100	10 ft. Moldboard

# General Information

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Locate the Belly Blade assembly identification number and record the information on the front of this manual. This will be needed when contacting any service center or your dealer.



## Using Your Manual

Read this manual completely prior to assembling to help you and others avoid injuries. This manual provides information on the proper way of installing the Belly Blade to prevent injuries and any machine damage.

These instructions show the Belly Blade installation process with the tractor on a hoist. All references to the tractor or undercarriage are taken from the view at the tractor's seat.

Your machine may vary slightly from the machine in this manual, but the same installation procedure will be compatible.

## Important Messages

This manual contains messages that will bring attention to potential safety concerns and machine damage. Read all of the information carefully and thoroughly to avoid injury and machine damage. Below is an example.

⚠Caution⚠

Avoid Injury! This text will explain the possible hazards or death to the bystanders or the operator if the correct procedures are ignored.

# Safety Information

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1. Wear protective eye wear.
2. Always block tractor safely.
3. Engage parking break before raising the tractor.
4. Follow all tractor manufacturing safety recommendations when working on the tractor.

## Accident Prevention

An accident prevention program can be successful when a responsible equipment operator is cooperating. An operator can prevent accidents when they accept a full measure of their responsibility. The designers, manufacturers, and engineers can help, but a single careless act by the operator can outweigh all of their efforts.

No equipment can be safer than the person running the controls. A careful, informed operator is the best safety device.

# Preparing Tractor For Installation

1. Park the tractor on a smooth, level surface.
2. Set parking brake and block front tires to keep from rolling.
3. Remove steps on the tractor if necessary.
4. Disconnect the battery.

**Note:** To ease assembly, remove rear tires and support the tractor safely.

**IMPORTANT:** Raise the tractor high enough for the undercarriage to fit under the rear axle when installing the undercarriage.



5. The Belly Blade will arrive on a pallet. Unwrap and set the blade aside. Remove the undercarriage assembly from the pallet (1).

6. Check the inventory and ensure that all parts are included with the Belly Blade Kit. If any parts are missing, contact your dealer.

7. If the rear tires are not removed, raise the back of tractor, and place blocks safely underneath the tractor tires or use an appropriate hoist. Keep enough distance between the blocks, so the undercarriage will fit.

8. If the rear tires are removed, raise the back of the tractor and use jack stands that are recommended for your tractor to support the tractor safely. Keep enough distance between the jack stands, so the undercarriage will fit.

## Plumbing

- Note:**
1. Have a catch pan available to collect hydraulic oil when removing hydraulic lines.
  2. Before removing any hydraulic lines, release all hydraulic pressure with the engine off.



### Caution



Avoid injury! Hydraulic oil that is under pressure will penetrate the skin and cause a serious injury. If this occurs, it needs to be surgically removed by a doctor familiar with this type of injury within a few hours or gangrene may result.

**Note:** The fittings and hoses needed in this section are not supplied for this undercarriage.

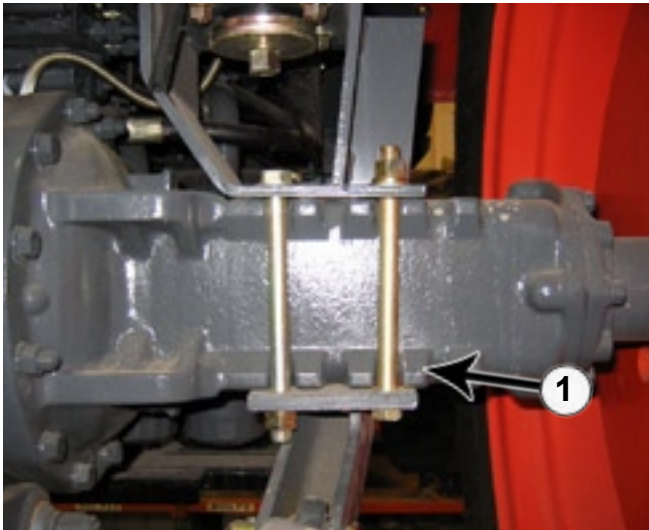
9. Install hydraulic fittings into the Tank, Power Beyond, and the Return ports on the tractor.

10. Attach a hydraulic hose to each of the previously installed fittings. Lay the other end of the hoses on the operator's platform. The hoses will be attached later to the Belly Blade Control Valve (BBCV) in Steps #26-28.

# Bracket Locations

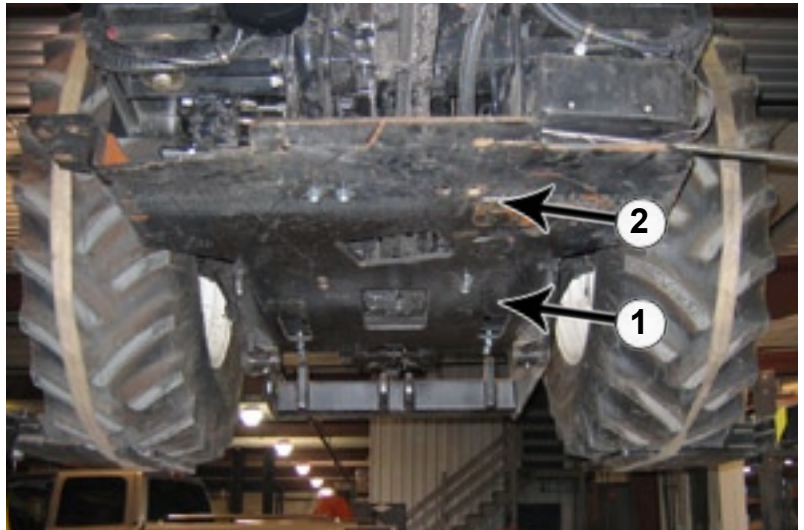
**Note:** For this undercarriage, generic brackets for the rear of the machine are supplied. Brackets will need to be modified to fit your machine.

**Note:** Your machine may vary from the machine shown in the following pictures, but the instructions are still compatible.



**11.** Use brackets to attach the undercarriage to the rear axle (1).

**12.** Some bent plates and gussets are included with your undercarriage to make the rear brackets. You will have to weld or bolt the plates together and also drill holes for mounting the plates.

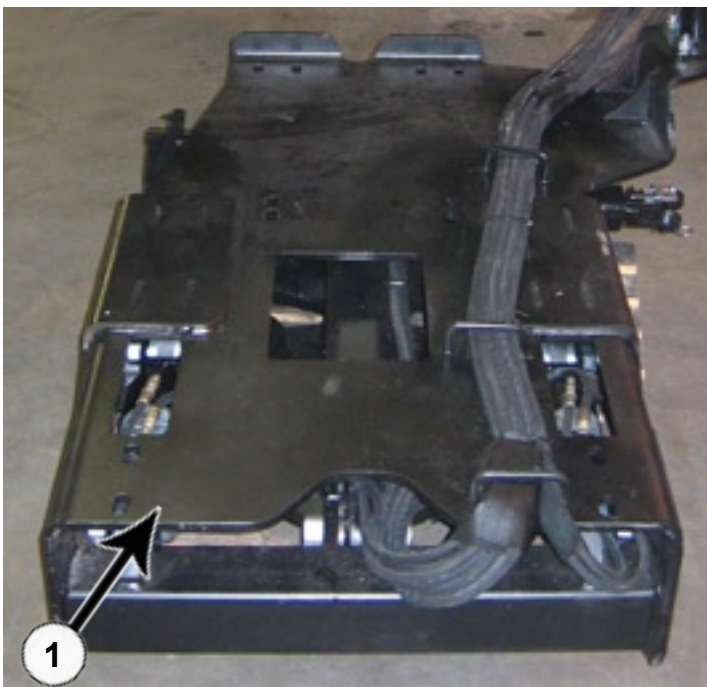


**13.** Use brackets approximately at the middle of the undercarriage to attach the undercarriage to the tractor. The brackets should be located above the lifting system (1).

**14.** Use brackets at the front of the undercarriage to attach the undercarriage to the tractor (2).

**15.** See Page #12-15 for some pictures of brackets that we have made for other specific tractors. You will have to make your brackets to fit your machine.

## Placing Undercarriage Under Tractor



**16.** Align the undercarriage (1) behind the tractor. Lay out the valve (PN: 56-10280-B) in front of the undercarriage.

**17.** Guide the undercarriage and the valve stand under the tractor. Make sure that the valve and valve stand exit the right side of the tractor between the front and rear tires.

# Installing Undercarriage

**Note:** When jacking up the undercarriage, make sure to not jack too high or you may hit other parts of the tractor.

**Note:** When raising the undercarriage, properly guide the hoses to avoid pinching them between the tractor frame and the undercarriage.

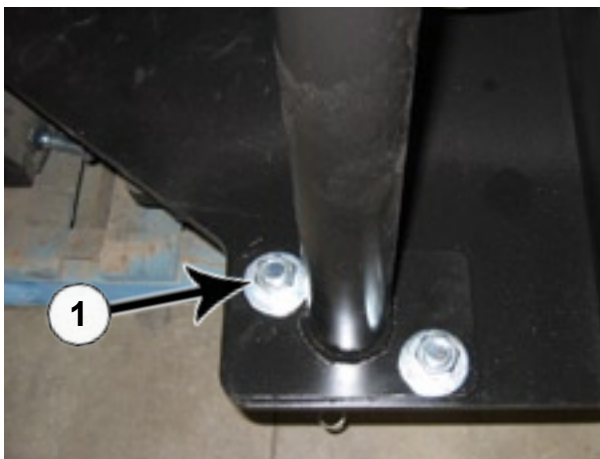


**18.** Bolt or weld the undercarriage to all of the installed brackets.

**19.** Reinstall tires on the tractor, lower the tractor and remove the jacks. The undercarriage installation is complete.

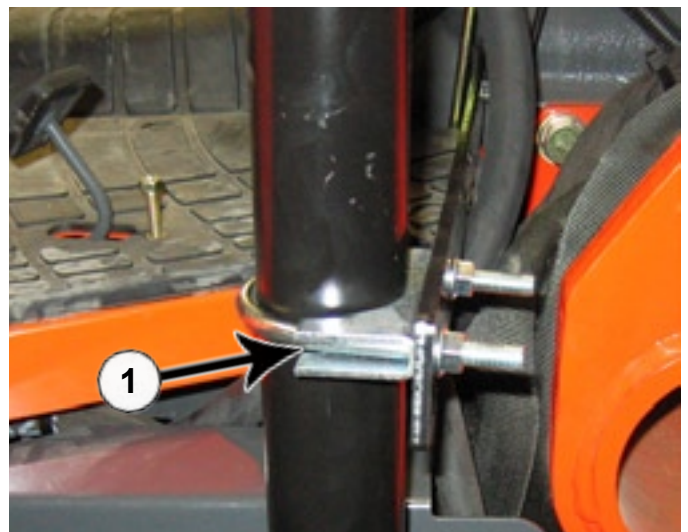
## Control Valve and Stand Installation

**Note:** Make sure that the hoses stay above the undercarriage on the right side of the tractor to keep them away from the blade.



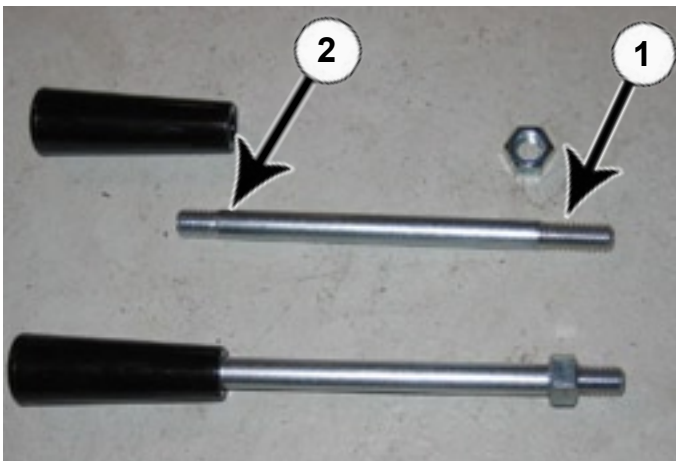
**20.** Position the valve and valve stand in a location preferred by the operator.

**21.** Attach the valve stand to the undercarriage with two 3/4" x 2" carriage bolts (PN: 16-21218), two 3/4" flat washers (PN: 57-20747), and two 3/4" center lock nuts (PN: 70-20607) (1).

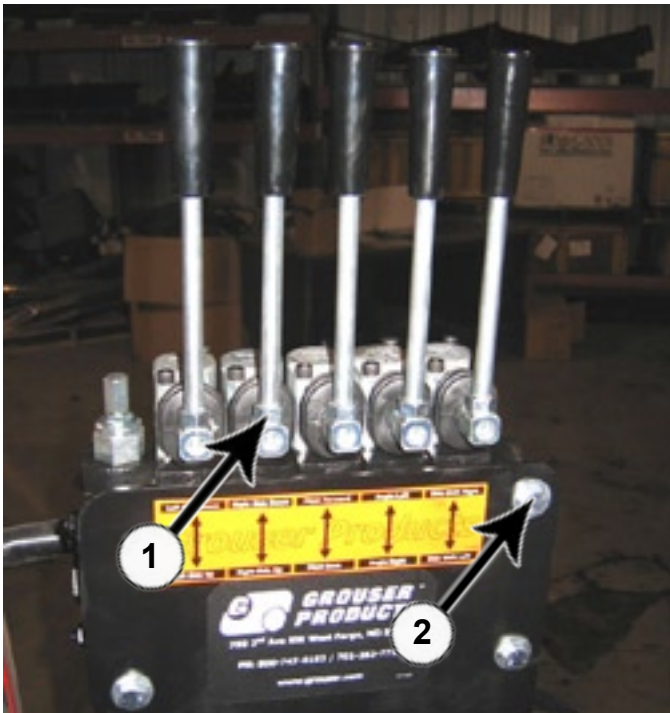


**22.** Attach valve stand to a bracket or to the operator platform with a 2-1/2" muffer clamp (PN: 18-10248) (1).



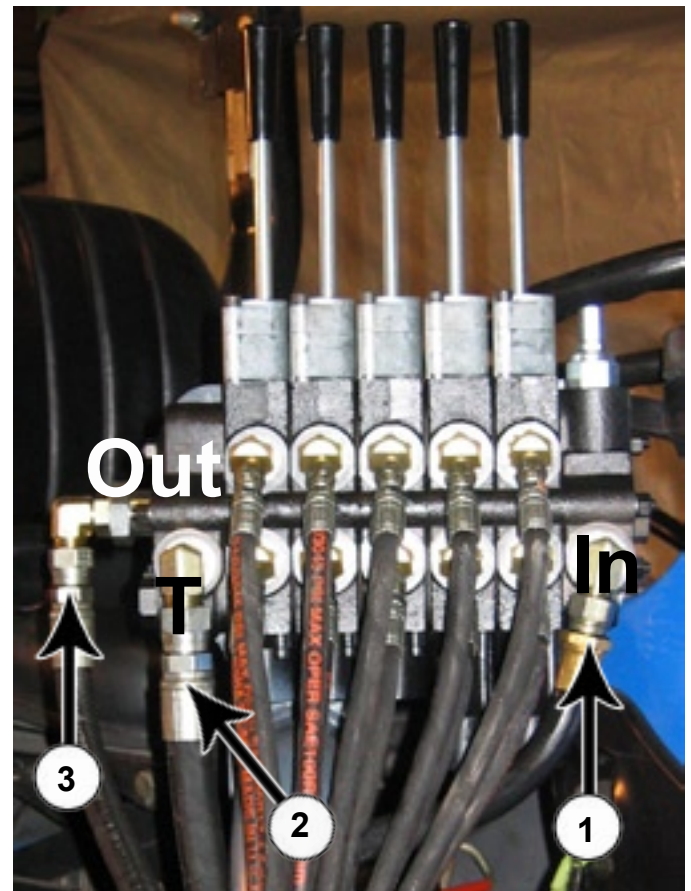


**23.** Assemble control valve handles (PN: 39-10199). Put the nut on the side of the bolt that has longer threads (1). Put the black handle on the other end that has shorter threads (2).



**24.** Insert assembled handles into belly blade control valve. Tighten the lock nut on each (1).

**25.** Attach the control valve to the valve stand with three 3/8" x 3/4" bolts (PN: 16-20062) and 3/8" lock washers (PN: 57-20762) (2).

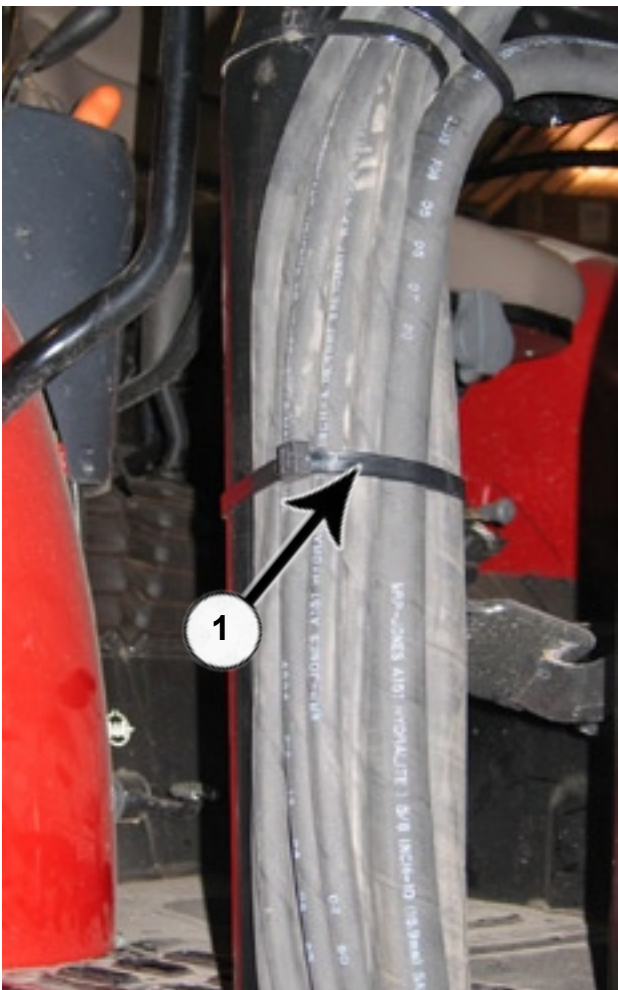


**26.** Attach the previously installed hose from the **PB** Port on the tractor to the **In** Port on the BBCV (1).

**27.** Attach the previously installed hose from the **Tank** Port on the tractor to the **Tank Port (T)** on the BBCV (2).

**28.** Attach the previously installed hose from the **Return** Port on the tractor to the **Out** Port on the BBCV (3).





**29.** After all hoses are in place, group hoses together and secure hoses with zip ties (1) (PN: 59-34950).

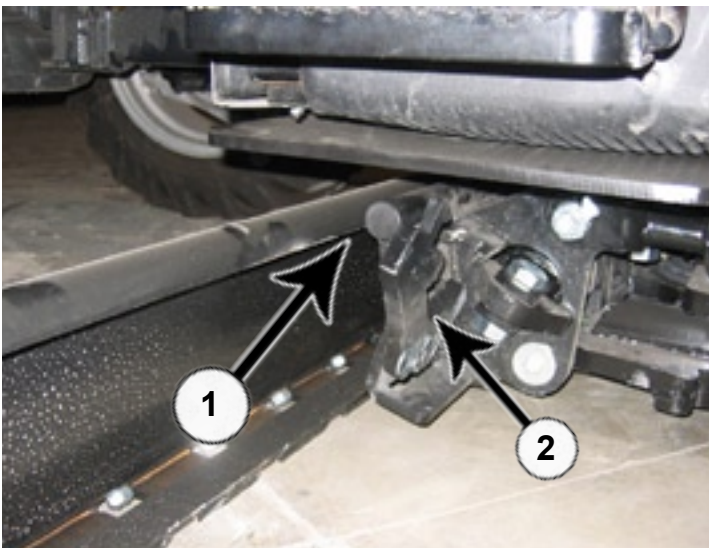
**30.** Reconnect the battery.

**31.** Start the tractor and run the controls to check for any leaks.

**Note:** Watch the blade carefully for any collisions when running the controls.

**32.** Check hydraulic oil level after all cylinders have been cycled. Add hydraulic oil if necessary.

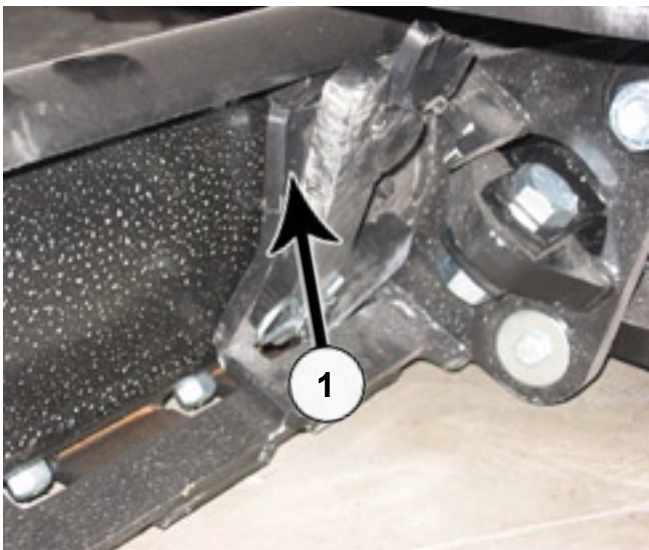
## Blade Installation



**33.** Slide blade under tractor until the quick attach is in line with the center of the blade (1). Make sure that the quick attach locking levers are still up (2)



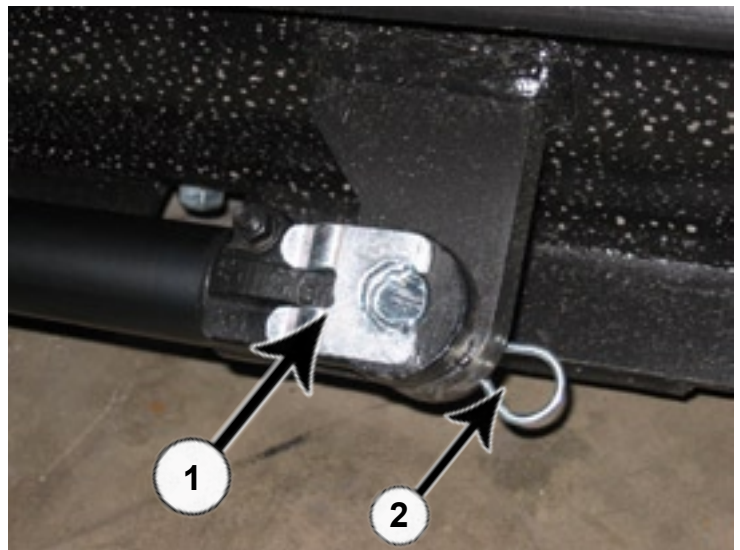
**34.** Pitch the male quick attach forward. Position the blade so the top round bar will hook under blade lip (1).



**35.** Pitch the male quick attach back to lift the blade off the ground (1).



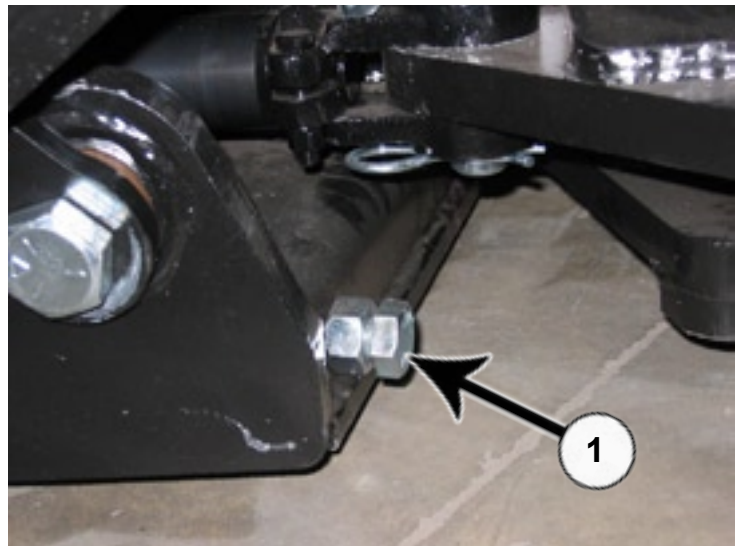
**36.** Lock the quick attach lever on each side (1). Verify that the lever engaged the corresponding slot on the bottom of the blade.



**37.** Extend the side shift cylinder out to the cylinder connector. Insert pin (PN: 43-7995) (1) and the clip pin (PN: 43-7767) on the bottom (2).

**38.** After mounting the blade, apply up and down pressure to verify proper blade installation.

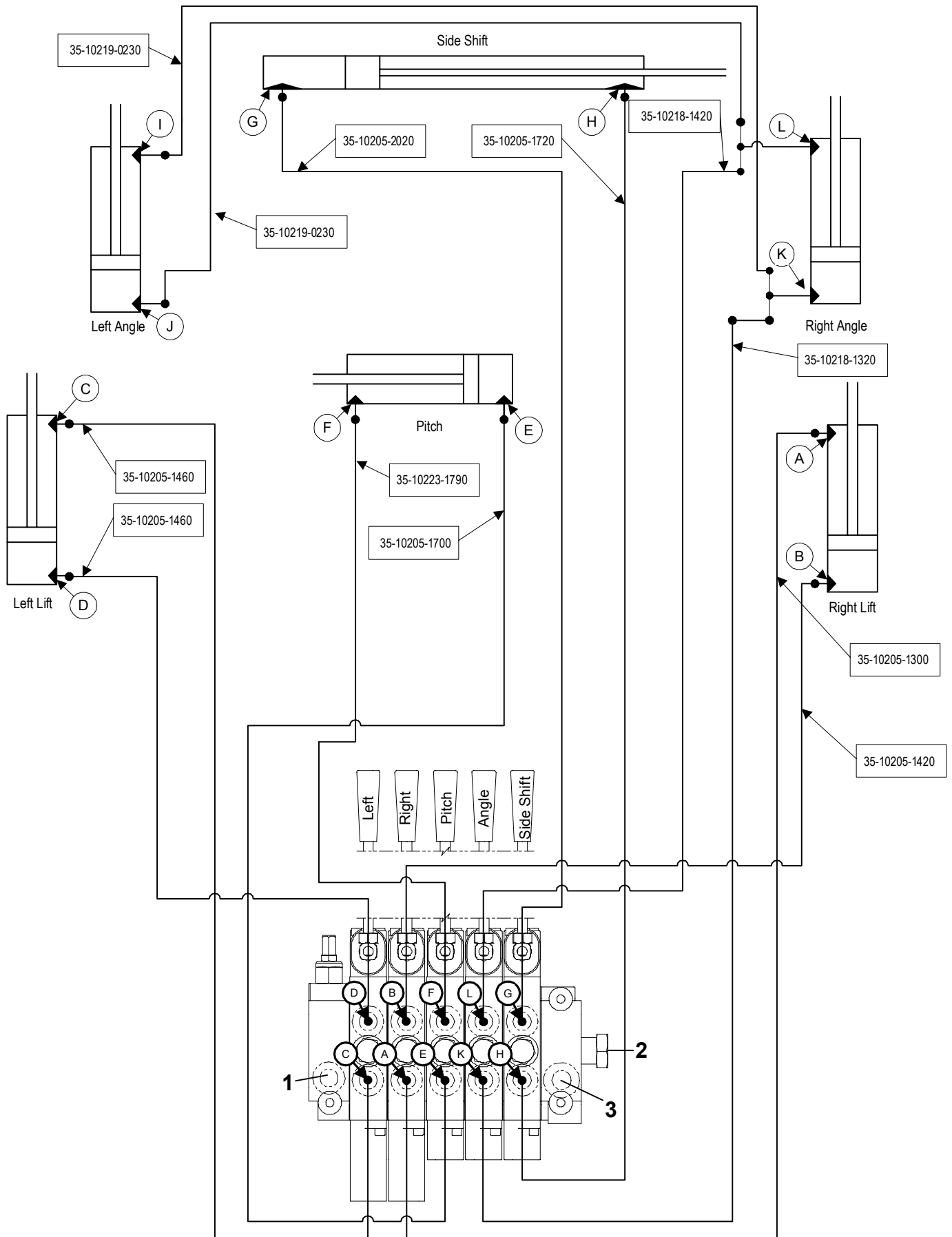
**39.** Cycle through blade functions checking for interferences.



**40.** Adjust angle stops (1) so blade does not interfere with tires during angle of blade. Use a wrench to loosen the nut and to the turn the bolt either in or out depending if the blade is hitting the tire. After adjustment, tighten the nut.

**41.** Tractor and blade are ready for use. Refer to the blade operator's manual for safety, operation, and maintenance information.

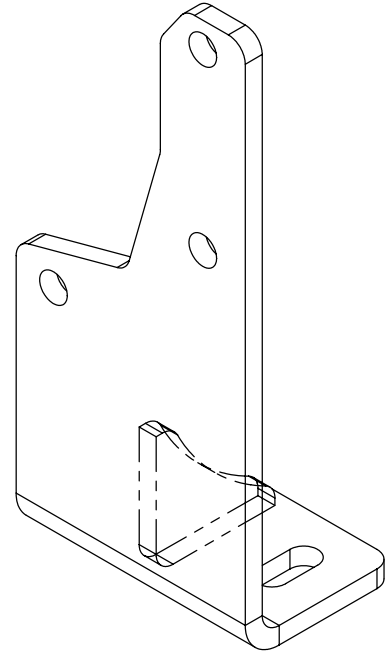
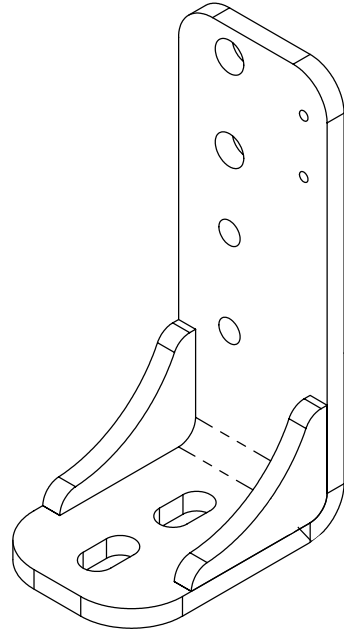
# Hydraulic Schematic



As Viewed From Drivers Seat

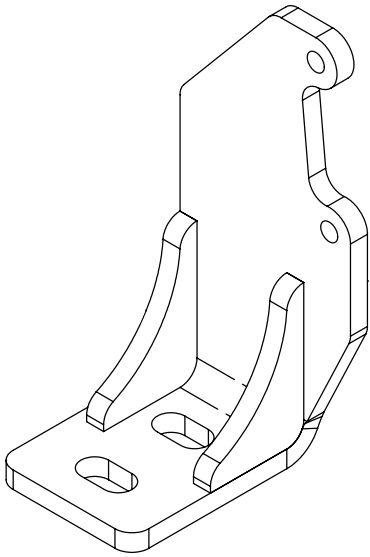
# Front Brackets

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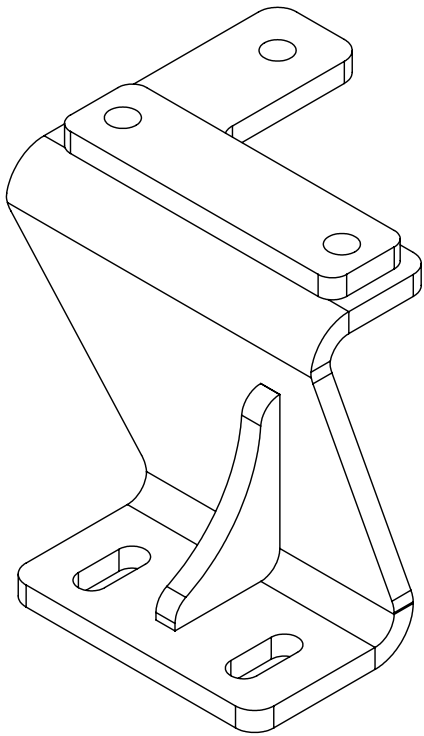
# Mid Brackets



# Rear Brackets







# Warranty Statement

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Grouser Products warrants to the original purchaser of each item that the product be free from defects in material and workmanship under normal use and service for a period of one year. If such equipment is found to be defective within one year, it is the obligation of Grouser Products under this warranty to repair or replace (exclusive of the cost of labor and transportation), any equipment or parts, in the judgment of Grouser Products to be defective in material or workmanship.

All equipment or parts claimed to be defective in material or workmanship must be made available for inspection at the place of business of a dealer authorized to handle the equipment covered by this warranty, or, upon request by Grouser Products, shipped to the Grouser Products factory in West Fargo, North Dakota. Grouser Products shall have no obligation to bear the cost of labor or transportation in connection with replacement or repair of any such defective parts. Grouser Products will pay \$35 / hr. on the modification or repair of defective parts in the setup procedure.

This warranty covers only defects in material and workmanship. It does not cover depreciation or damage caused by normal wear, accident, improper assembly, improper adjustments, improper maintenance including lack of proper lubrication, or improper use. Therefore, Grouser Products liability under this warranty shall not be effective or actionable unless the equipment is assembled, maintained and operated in accordance with the operating instructions accompanying the equipment. Grouser Products shall have no liability if the equipment has been altered or reworked without the written authorization of Grouser Products.

Grouser Products' parts, which are furnished under this warranty and properly installed, shall be warranted to the same extent as the original parts under this warranty if, and only if, such parts are found to be defective within the original warranty period covering the original equipment.

## **Contact Information**

1-800-747-6182 or 1-701-282-7710

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