



Belly Blade

## Installation Instructions

# Kubota M135X Series

Loader/No Loader - With Cab

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	Bolt Dia. (mm)	Pitch	Grade 8.8	Grade 10.9
		Torque (ft·lbs.)	Torque (ft·lbs.)			Torque (ft·lbs.)	Torque (ft·lbs.)
1/4	20	8	12	4	0.70	2	
1/4	28	10	14	5	0.80	4	
5/16	18	17	25	5	1.00	7	11
5/16	24	19	29	7	1.00	12	
3/8	16	30	45	8	1.25	17	26
3/8	24	35	50	8	1.00	18	
7/16	14	50	70	10	1.50	35	51
7/16	20	55	80	10	1.20	37	
1/2	13	75	110	10	1.00	39	
1/2	20	90	120	12	1.75	59	88
9/16	12	110	150	12	1.50	62	
9/16	18	120	170	12	1.25	65	
5/8	11	150	220	14	2.00	94	139
5/8	18	180	240	14	1.50	101	
3/4	10	260	380	16	2.00	146	210
3/4	16	300	420	18	2.50	210	
7/8	9	430	600	20	2.50	292	
7/8	14	470	660	22	2.50	398	
1	8	640	900	44	3.00	503	
1	12	710	990				

# Kit Inventory

Qty	PN	Description
2	16-1212525	12mm x 1.25mm x 25mm Metric Bolt Gr 10.9 Fine
2	16-1212535	12mm x 1.25mm x 35mm Metric Bolt Gr 10.9 Fine
4	16-1815070	18mm x 1.5mm x 70mm Metric Bolt Gr 10.9 Fine
16	16-21218	3/4" x 2" Carriage Bolt Gr 5 NC
1	18-14425-L	Rear Bracket - Left
1	18-14425-R	Rear Bracket - Right
1	18-10539	Center Bracket
1	18-14428-L	Front Bracket - Left
1	18-14428-R	Front Bracket - Right
16	57-20747	3/4" Flat Washer
4	57-20816	5/8" Flat Washer
4	57-20823	12mm Flat Washer
16	70-20607	3/4" Center Lock Nut
1	54-14420	Undercarriage
1	31-11740	Straight -10JIC x #8 BSPP
1	31-34045	Straight JIC x O-Ring (6400-10-12)
2	31-34054	Straight Thread Elbow 90° JIC x O-Ring (6801-10-12)
3	31-34101	Swivel Nut Elbow 90° JIC (6500-10-10)
2	35-10204-1190	-10 FJIC x -10 FJIC - 119"
1	35-11689-0980	-8 FJIC x -10 FJIC - 98"
4	16-20004	1/4" x 1" Hex Bolt
4	16-20064	3/8" x 1" Hex Bolt
4	16-610025	6mm x 1.00mm x 25mm Metric Hex Bolt
1	18-14430	Valve Mount
1	18-14433	Valve Cover
1	18-14434	Electric Control Bracket
1	44-14427	Valve Mount Plate
8	57-20740	1/4" Flat Washer
4	57-20742	3/8" Flat Washer
4	57-20820	6mm Flat Washer
4	70-20580	1/4" Hex Nut
2	70-20611	5/16" Nyloc Nut

## 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 brake 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. 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.



## Caution



Avoid injury! If the parking brake is not set or the tires are not blocked, the tractor could roll and an injury could occur.

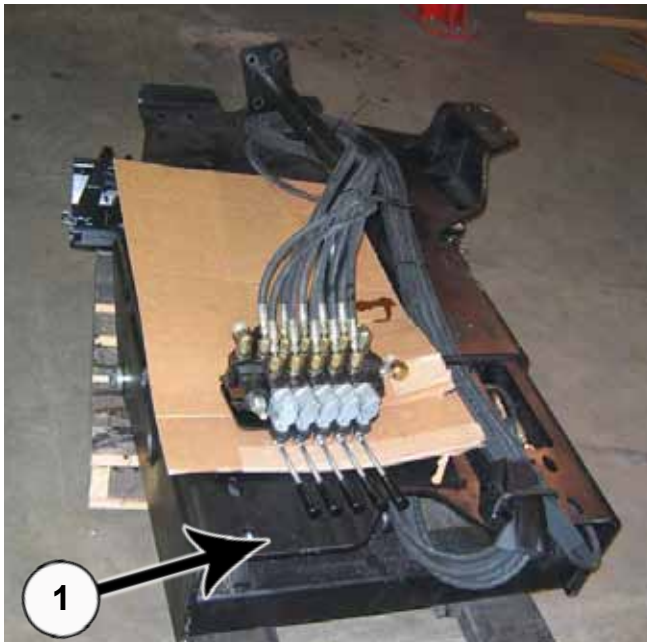


## Caution



Avoid injury! Follow standard shop procedures for proper lifting and supporting of the tractor.

4. 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.
5. If removing the rear tires, 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. Remove tires.



6. The Belly Blade will arrive on a pallet (PN: 54-10460-A and 23-10390-1). Unwrap and set the blade aside. Remove the undercarriage assembly from the pallet.
7. Check the inventory and ensure that all parts are included with the Belly Blade Kit. If any parts are missing, contact your dealer.

# Bracket Installation

**NOTE: Do Not tighten until all mounting bolts have been installed.**



**8.** Remove 3-point hitch from rear axle bracket from the left and right side.



**9.** Remove nut and washer from rear bolt on the 3-point hitch bracket on rear axle. Remove remaining 3 bolts, washers, and nuts along with the 3-point hitch bracket.



**10.** Attach the rear brackets (PN: 14425-R,L) to the rear axle with the original hardware the same way as the originals were attached. Verify that the 3-point hitch connection is pointing in the correct direction.



**11.** Attach the 3-point hitch to the new bracket with the original hardware.



**12.** Remove toolbox from left side of tractor.

**13.** Attach the left and right front brackets (PN: 18-14428-R,L) in front of the fuel tanks. Use 2 - 18mm x 45mm bolts (PN: 16-1815045) with a 5/8" flat washer (PN: 57-20816) on each bolt for each side. Use the 2 holes closest to the fuel tanks. Verify that the lip of the bracket is facing the center of the tractor when attached.

**NOTE:** If loader bracket is present, remove the two rear bolts closest to the fuel tanks. Attach the left and right front brackets (PN: 18-14428-R,L). Use 2 - 18mm x 70mm bolts (PN: 16-1815070) with a 5/8" flat washer (PN: 57-20816) on each bolt for each side.

**NOTE:** Refer to diagram on Page 9 for further clarification.





**14.** Remove fuel tank cross protection tube from under the tractor.

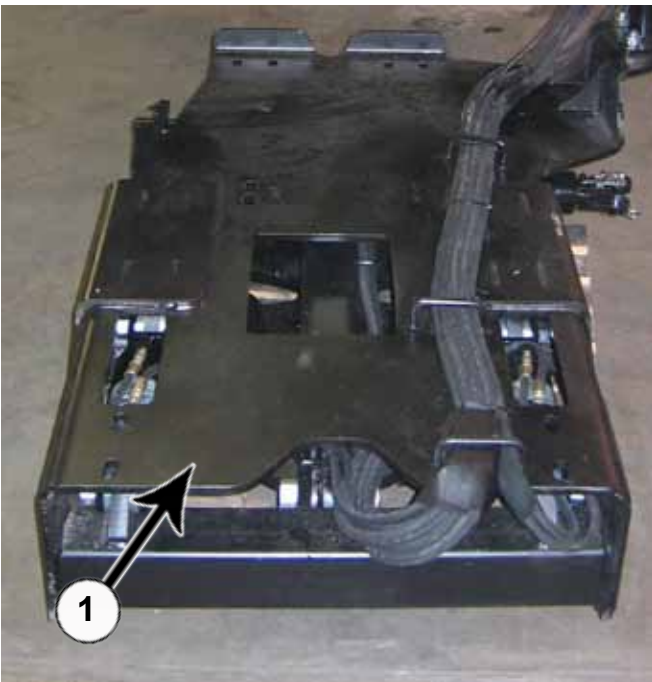


**15.** Install the center bracket (PN: 18-10539) so the open section faces the rear and the fuel tank hoses are protected in the bracket. Use 12mm x 25mm bolts (PN: 16-1212525) and a 12mm washer (PN: 57-20823) in the rear holes and 12mm x 35mm bolts (PN: 16-1212535) and a 12mm washer (PN: 57-20823) in the front holes.

**16.** Insert four 3/4" x 2" carriage bolts (PN: 16-21218) into the center bracket for attaching the undercarriage.

**17.** Torque **only** the 12mm bolts to the correct specifications.

## Placing Undercarriage Under Tractor



**18.** Align the undercarriage (1) behind the tractor.

**19.** Guide the undercarriage under the tractor.

# 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.



**NOTE:** Parts not shown for clarity.



**20.** Raise the undercarriage and attach to the center bracket with a 3/4" washer (PN: 57-20747) and 3/4" lock nut (PN: 70-20607) on each of the previously installed carriage bolts. Tighten until undercarriage is up against the bracket.

**21.** Attach the undercarriage to the front brackets with 4 - 3/4" x 2" carriage bolts (PN: 16-21218). Insert the carriage bolts from the bottom and install a 3/4" washer (PN: 57-20747) and a 3/4" lock nut (PN: 70-20607) on each bolt.

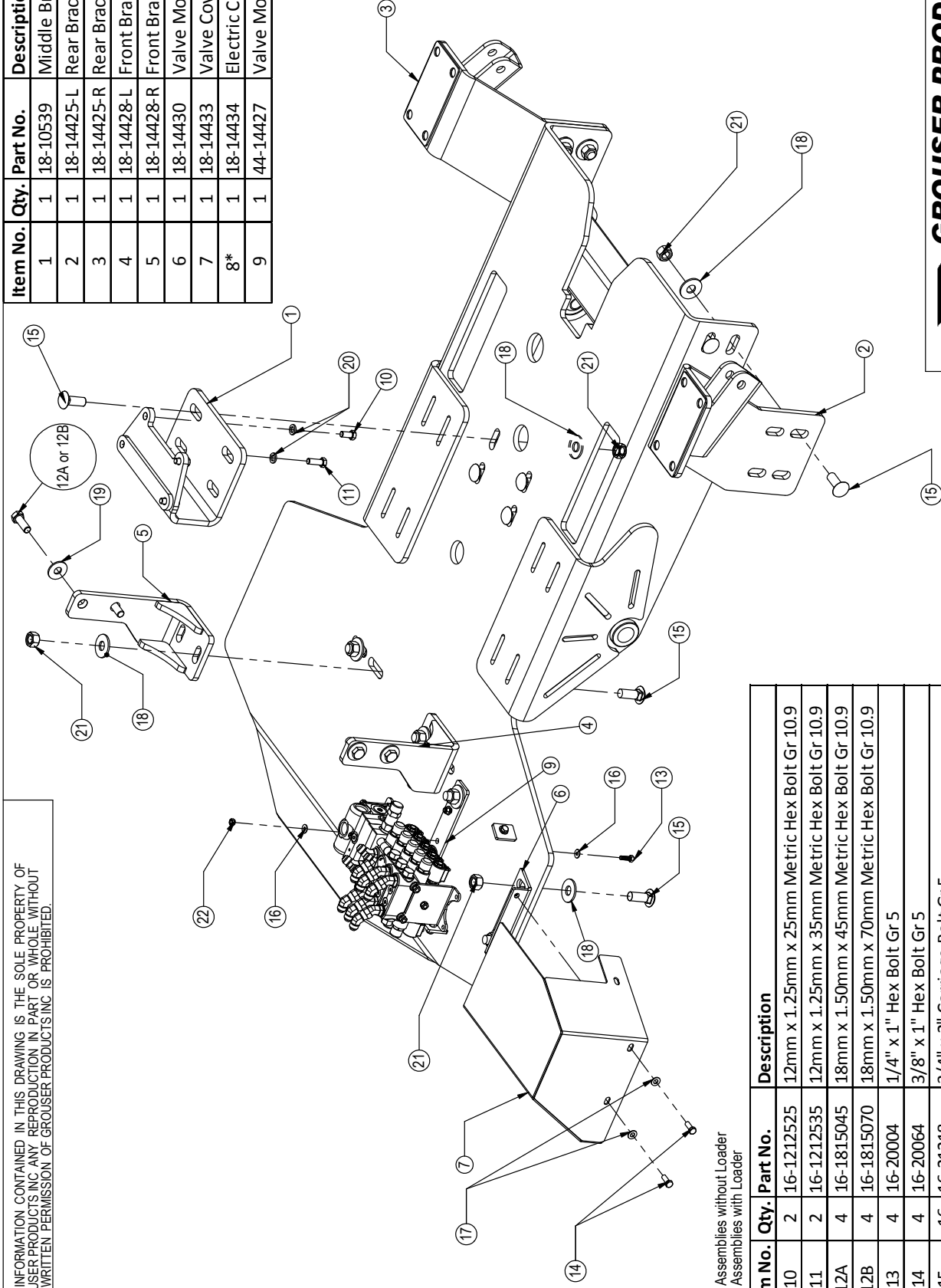
**22.** Attach the undercarriage to the two rear brackets. Insert the 8 - 3/4" x 2" carriage bolts (PN: 16-21218) from the tractor frame side and install a 3/4" washer (PN: 57-20747) and 3/4" lock nut (PN: 70-20607) on each bolt on the inside of the undercarriage.

**23.** Torque all fasteners to the correct specifications after all bolts, washers, and nuts have been installed.

**NOTE:** Refer to diagram on Page 9 for any clarification.



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Item No.	Qty.	Part No.	Description
1	1	18-10539	Middle Bracket
2	1	18-14425-L	Rear Bracket - Left
3	1	18-14425-R	Rear Bracket - Right
4	1	18-14428-L	Front Bracket - Left
5	1	18-14428-R	Front Bracket - Right
6	1	18-14430	Valve Mount Bracket
7	1	18-14433	Valve Cover
8*	1	18-14434	Electric Controller Bracket
9	1	44-14427	Valve Mount Plate

\* Part Not Shown.

A - Assemblies without Loader  
B - Assemblies with Loader

Item No.	Qty.	Part No.	Description
10	2	16-1212525	12mm x 1.25mm x 25mm Metric Hex Bolt Gr 10.9
11	2	16-1212535	12mm x 1.25mm x 35mm Metric Hex Bolt Gr 10.9
12A	4	16-1815045	18mm x 1.50mm x 45mm Metric Hex Bolt Gr 10.9
12B	4	16-1815070	18mm x 1.50mm x 70mm Metric Hex Bolt Gr 10.9
13	4	16-20004	1/4" x 1" Hex Bolt Gr 5
14	4	16-20064	3/8" x 1" Hex Bolt Gr 5
15	16	16-21218	3/4" x 2" Carriage Bolt Gr 5
16	8	57-20740	1/4" Flat Washer
17	4	57-20742	3/8" Flat Washer
18	16	57-20747	3/4" Flat Washer
19	4	57-20816	5/8" Flat Washer Gr 8 (USS)
20	4	57-20823	12mm Flat Washer
21	16	70-20607	3/4" Hex Center Lock Nut
22	4	70-20580	1/4" Hex Nut



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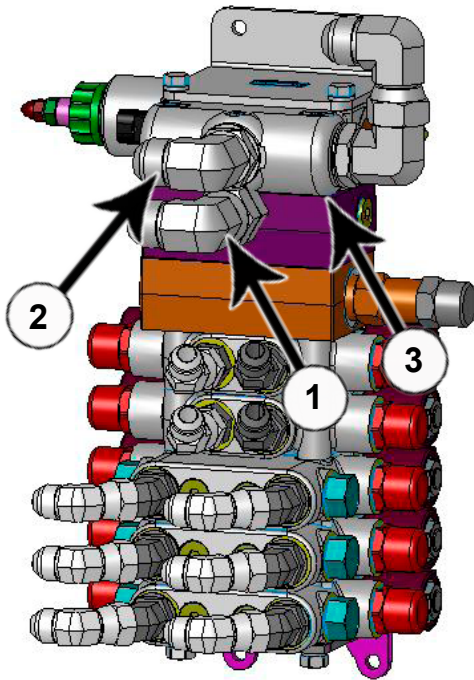
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Date: 6/11/2010 DWG. NO.: 14420-A

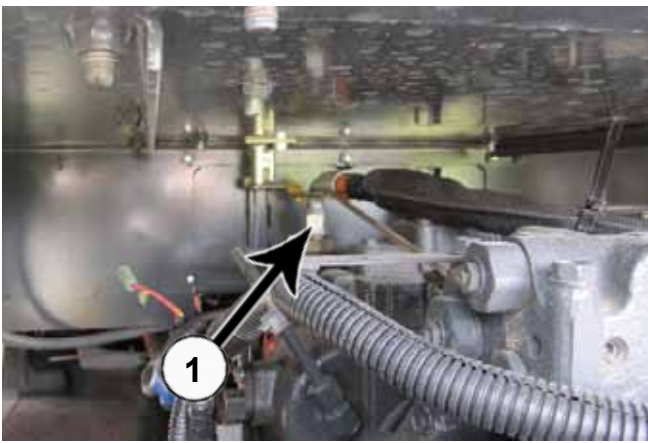
# Electric Valve

24. Refer to diagram on Page 9 for proper location of valve, valve cover and valve mounts.
25. Attach the valve mount plate (PN: 44-14427) to the undercarriage with 2 - 3/4" carriage bolts (PN: 16-21218) from the bottom and the 3/4" washer (PN: 57-20747) and 3/4" lock nut (PN: 70-20607) on each bolt on the top of the mount plate. Verify that the plate is in the correct orientation by verifying that the center 3/8" holes line up with the holes on the undercarriage.
26. Attach the valve mount bracket (PN: 18-14430) to the undercarriage with 2 - 3/4" carriage bolts (PN: 16-21218) from the bottom and the 3/4" washer (PN: 57-20747) and 3/4" lock nut (PN: 70-20607) on each bolt on the top of the mount bracket. Verify that the bracket is in the correct orientation by verifying that the edge of the bracket is towards the outside of the undercarriage.
27. Attach the valve to the mount bracket and mount plate with 4 - 1/4" x 1" bolts (PN: 16-20004). Insert the bolts from the bottom and attach with 8 - 1/4" flat washers (PN: 57-20740) and 4 - 1/4" nuts (PN: 70-20580). Verify that that nothing sticks below the undercarriage.
28. Attach the electric controller bracket (PN: 18-14434) to the right armrest in the cab. Remove the screws from the right side. Place the bracket and attach with 6mm x 25mm bolts (PN: 610025) and 6mm washers (PN: 57-20820).
29. Attach the valve controller to the bracket with 2 - 5/16" nuts (PN: 70-20611)
30. Attach the power cord from the valve controller to the power outlet located in the tractor cab.
31. Run the wire harness to the valve. Connect the colored wire from the wire harness to their corresponding port on the back of the electric valve. Refer to the diagram on Page 14.

# Plumbing



32. If hydraulic fittings are not installed, install a straight fitting (PN: 31-34045) in the **Tank** Port on the electric valve (1).
33. Install a 90° fitting (PN: 31-34054) in the **In** and **Out** Ports on the electric valve (2). Install a 90° swivel fitting (31-34101) onto the 90° installed in the **In** and **Out** Ports (3).



**34.** Remove hose running from under tractor seat to the loader valve (1).

**35.** Install a 90° swivel fitting (PN: 31-34101) and attach a 119" hose (PN: 35-10204-1190) to the fitting. Run the hose from under the tractor seat to the In Port on the electric valve.



**36.** Attach 98" hose (PN: 35-111689-0980) from the Out Port on the electric valve to the In port on the loader valve that the hose was removed from.



**37.** Install a straight fitting (PN: 31-11740) into the Tank Port at the rear of the tractor and then attach a 119" hose (PN: 35-10204-1190) and run the hose to the Tank Port on the electric valve.

**38.** Attach the valve cover (PN: 18-14433) to the undercarriage and mount bracket with 4 - 3/8" x 1" bolts (PN: 16-20064) and a 3/8" flat washer (PN: 57-20742) on each bolt.

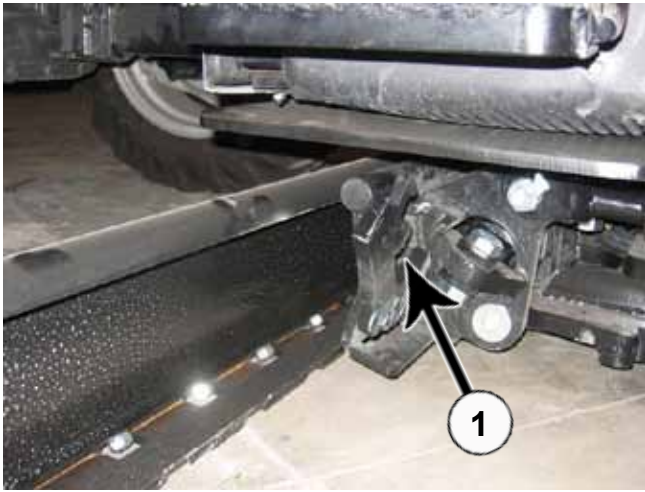
**39.** After all hoses are in place, group hoses together and secure hoses with zip ties (PN: 59-34950).

**40.** Reinstall tires on the tractor and lower the tractor. The undercarriage installation is complete.

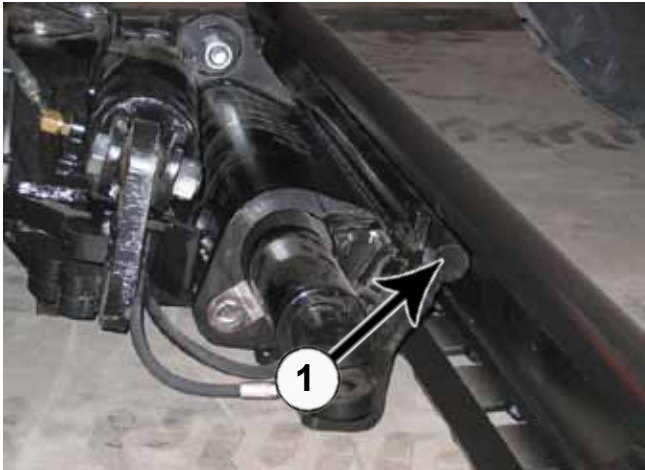
**41.** Reconnect the battery.

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

# Blade Installation



**43.** Slide blade under tractor until the quick attach is approximately in the center of the blade. Make sure that the quick attach locking levers are still open (1).



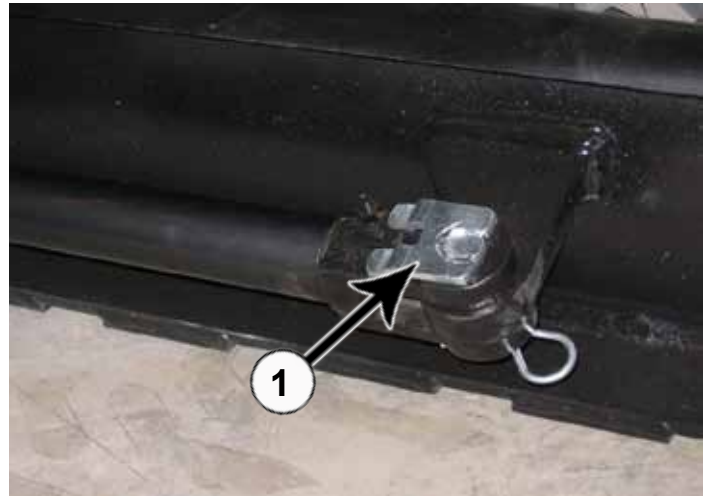
**44.** Pitch the male quick attach forward. Position the blade so the top round bar will hook under blade lip (1).



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



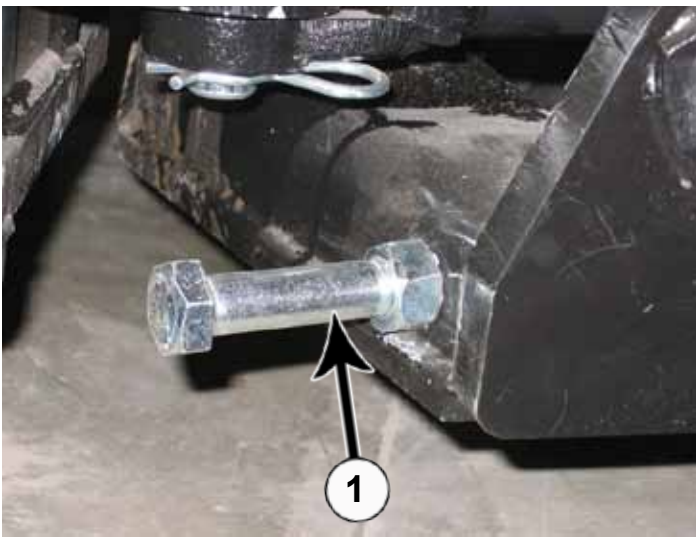
**46.** Lock the quick attach lever on each side (1). Verify that the lever engaged the corresponding slot on the bottom of the blade.



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

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



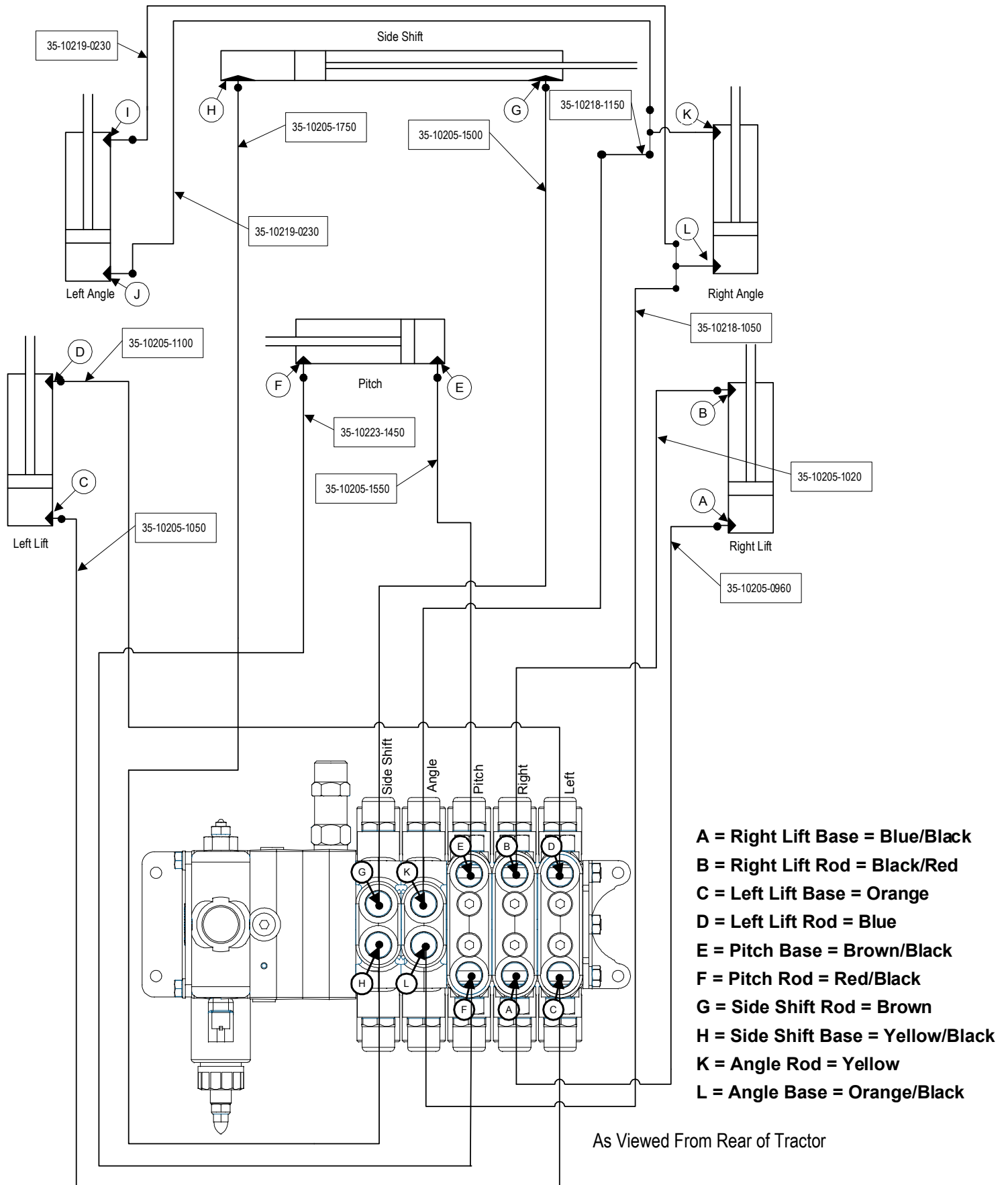


**49.** Adjust angle stops (1) so blade does not interfere with tires during angle of blade. Use a wrench to loosen the nut and to the turn the bolt either in or out depending if the blade is hitting the tire. After adjustment, tighten the nut.

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

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

# Hydraulic Schematic



# Notes

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# 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. The cast components of the 1300 Dozer carry a two year limited warranty.

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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