



Belly Blade

Installation Instructions

Kubota M5040, M6040, M7040 - Cab
Without Factory Loader

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
4	16-1415040	14mm x 1.50mm x 40mm Metric Hex Bolt Gr. 8.8 Fine
4	16-1615040	16mm x 1.50mm x 40mm Metric Hex Bolt Gr. 10.9 Fine
6	16-1615050	16mm x 1.50mm x 50mm Metric Hex Bolt Gr. 10.9 Fine
2	16-21064	3/8" x 1" Carriage Bolt
4	16-20036	5/16" X 1 1/2 " Hex Bolt Gr 5 NC
2	16-20064	3/8" x 1" Hex Bolt Gr 5 NC
8	16-21218	3/4" x 2" Carriage Bolt Gr 5 NC
3	16-35C616	3/8" x 1" Flanged Bolt
1	18-11735-R	Rear Bracket - Right
1	18-11735-L	Rear Bracket - Left
1	18-14445	Valve Cover
1	31-11740	Straight #8 British x -10JIC (4051-10-08)
2	31-11741	Straight #12 British x -10JIC (4051-10-12)
2	31-34054	Straight Thread Elbow 90° JIC x O-Ring (6801-10-12)
2	31-34101	Swivel Nut Elbow 90° JIC (6500-10-10)
1	31-34045	Straight JIC x O-Ring (6400-10-12)
10	31-34149	Straight Thread Elbow 45° JIC x O-Ring (6802-4-8)
2	35-10204-0360	36" x 5/8" -10JIC-10JIC Hose
1	35-10204-0390	39" x 5/8" -10JIC-10JIC Hose
1	43-7767	Cylinder Hitch Pin Clip
1	43-7995	Pin 1" x 2.125"
1	44-14443	Bottom Brace Plate
1	44-14448	Handle Connecting Plate
1	44-14441	Valve Control Box Plate
1	44-14442	Extension Plate
1	54-11755	Undercarriage Assembly
1	56-10280-F	Belly Blade Electric Valve System
4	57-20742	3/8" Flat Washer
8	57-20747	3/4" Flat Washer
6	57-20741	5/16" Flat Washer
4	57-20834	14mm Lock Washer
10	57-20835	16mm Lock Washer
10	59-34950	Zip Ties (large)
4	70-20602	3/8" Hex Nut Gr 5 NC
8	70-20607	3/4" Hex Center Lock Nut Gr 5 NC
6	70-20611	5/16" Hex 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

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

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 the step on the left side of the tractor.
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.

9. If skid plate is present, remove the skid plate below the gas tank to make room for the undercarriage. Reattach the nuts before attaching the undercarriage.

Plumbing

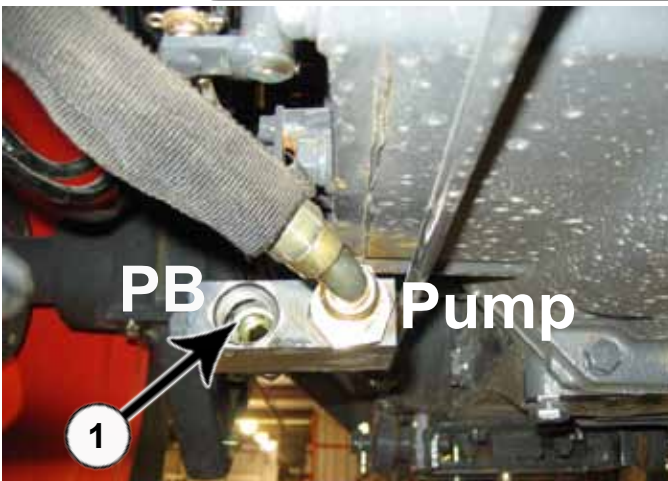
- Note:**
1. Have a catch pan available to collect hydraulic oil when removing hydraulic lines.
 2. Before removing any hydraulic lines, release all hydraulic pressure with the engine off.



Caution



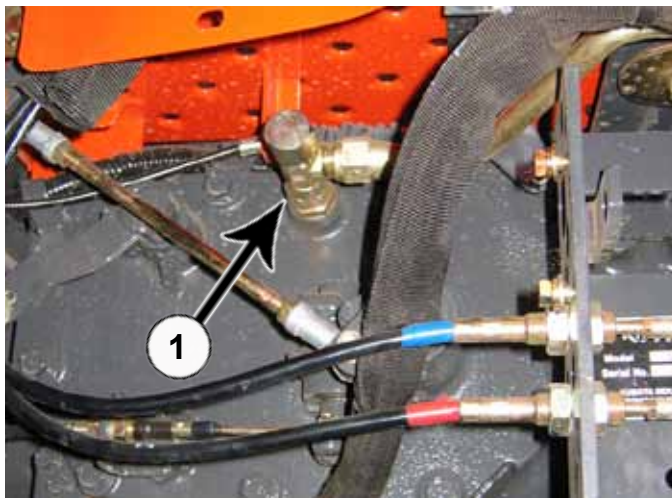
Avoid injury! Hydraulic oil that is under pressure will penetrate the skin and cause a serious injury. If this occurs, it needs to be surgically removed by a doctor familiar with this type of injury within a few hours or gangrene may result.



10. Remove plugs (1) from the outlet block located under the operator platform and replace with 2 - #12 fittings (PN: 31-11741) including the bonded seal.

Note: Tractors with no factory loader, will have 2 plugs in the outlet block instead of 2 fittings and hoses (as shown).

11. Attach a 36" hose (PN: 35-10204-0360) to each previously installed fitting. Set the other end of the hoses aside to be attached to the BBCV later in Step #40-41 on Page 11.



12. Remove plug from the Tank Port located under the operator platform and replace with a #8 fitting (PN: 31-11740) including the bonded seal (1).

Note: Tractors with no factory loader, will have a plug in the Tank Port instead of a T-fitting (as shown).

13. Attach a 39" hose (PN: 35-10204-0390) to the previously installed fitting. Set the other end of the hose aside to be attached to the BBCV later in Step #42 on Page 11.

Electric Valve Control Box



14. Attach the brace plate (PN: 44-14443) to the platform on the right side of the seat (1). Use the original hardware.



15. Attach the connecting plate (PN: 44-14448) to the handle by the front right window (1). Use 2 - u-bolts.

16. Attach valve control box plate (PN: 44-14441) to the connecting plate with 2 - 3/8" x 1" bolts (PN: 16-20064), 2 - 3/8" flat washers (PN: 57-20742), and 2 - 3/8" nuts (PN: 70-20602).

17. Use the extension plate (PN: 44-14442) to attach the control box plate to the brace plate with the 2 - 3/8" x 1" carriage bolts (PN: 16-21064), 2 - 3/8" flat washers (PN: 57-20742), and 2 - 3/8" nuts (PN: 70-20602) (2).

18. Install the valve controller to the control box plate. Attach with 2 - 5/16" flat washers (PN: 57-20741) and 2 - 5/16" lock nuts (PN: 70-20611).

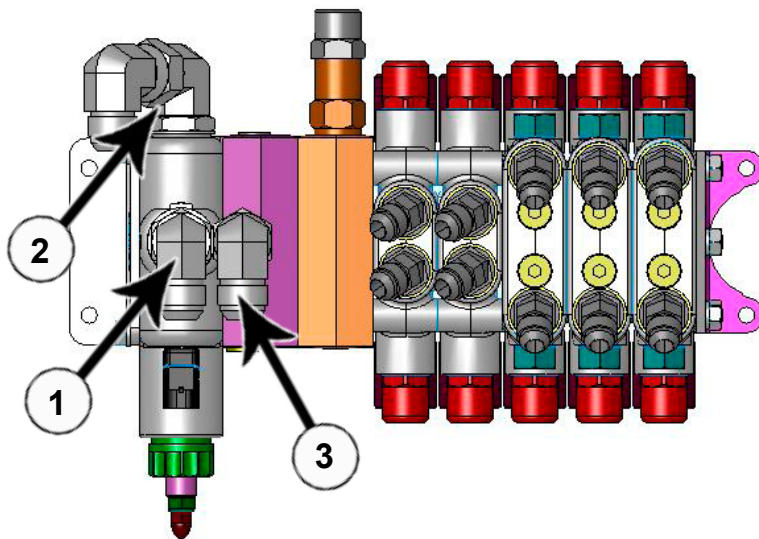
19. After positioning the valve controller to the operator's preference, tighten all hardware.



20. Attach the power cord from the valve controller to the auxiliary power socket (1).

21. Run the wire harness to the electric valve. Connect the colored wires from the wire harness to their corresponding port on the back of the electric valve. Refer to the diagram on Page 13-14.

Valve Installation



22. If hydraulic fittings are not installed, install a 90° fitting (PN: 31-34054) in the **In** (1) and **Out** (2) Ports on the electric valve.

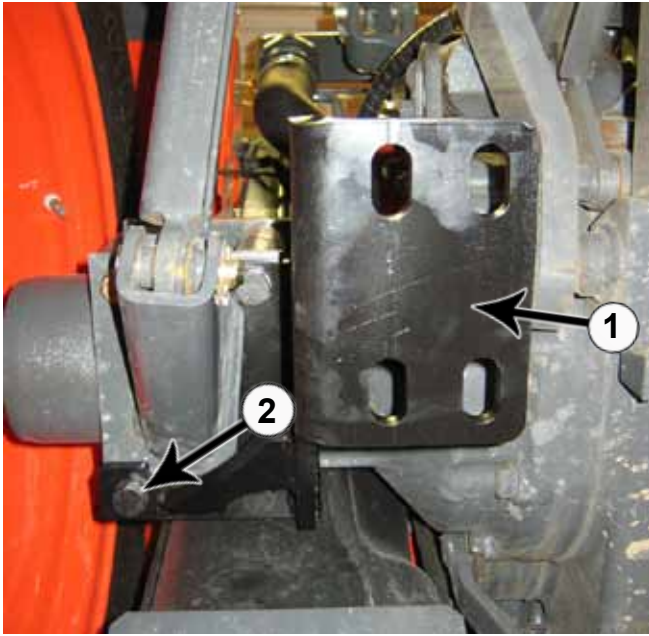
23. Install a 90° swivel fitting (PN: 31-34101) on the 90° fitting in the Out Port (2).

24. Install a straight fitting (PN: 31-34045) and a 90° swivel fitting (PN: 31-34101) in the **Tank** Port on the electric valve (3).

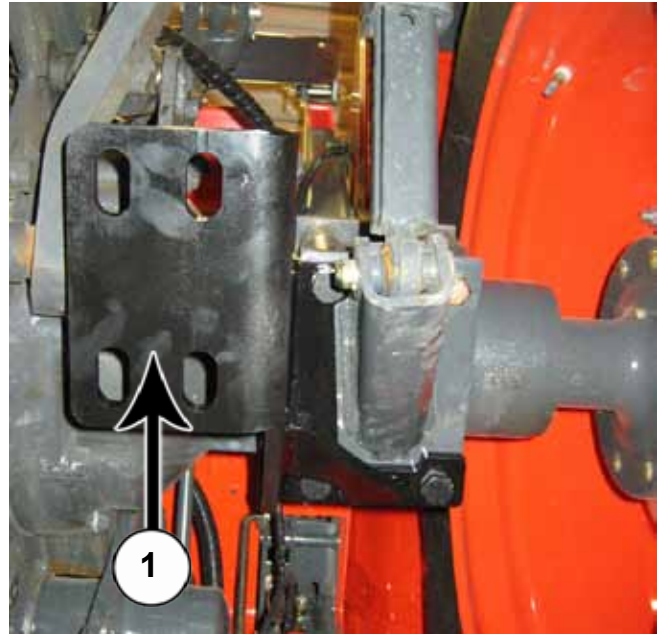
25. Install 45° fittings (PN: 31-34149) into all remaining ports.

26. Use 4 - 5/16" x 1-1/2" bolts (PN: 16-20036), 5/16" washers (PN: 57-20741), and 5/16" nuts (PN: 70-20611) to attach the electric valve to the top of the undercarriage on the right side.

Bracket Installation



27. Remove three bolts from the 3-point hitch brace from the bottom of the left rear axle. Attach left rear bracket (PN: 18-11735-L) (1) with three 16mm x 50mm bolts (PN: 16-1615050) and a 16mm lock washer (PN: 57-20835) on each bolt (2).



28. Repeat Step #27 for the right side with the right rear bracket (PN: 18-11735-R) (1).

Note: Verify the correct orientation of the rear brackets.

Placing Undercarriage Under Tractor



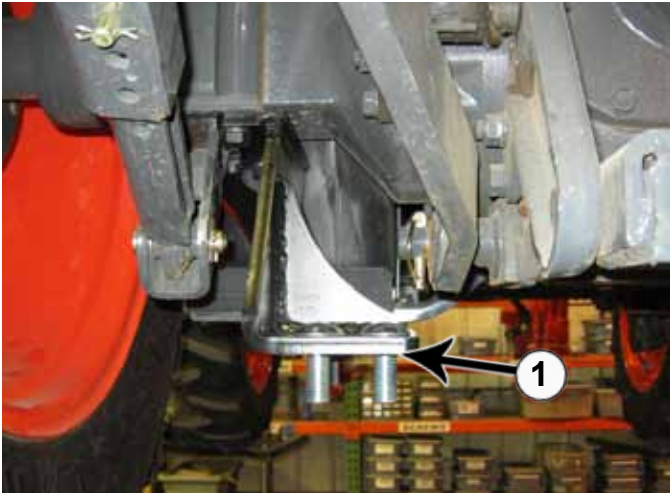
29. Align the undercarriage (1) behind the tractor.

30. Guide the undercarriage under the tractor. Make sure not to hit the valve on anything.

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.

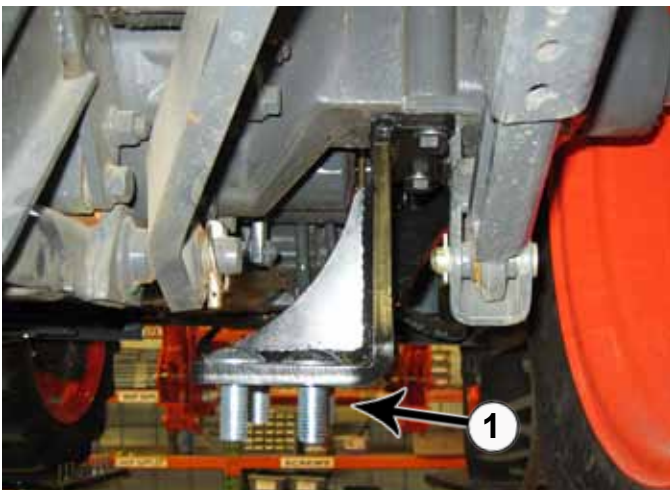


31. Insert four 3/4" x 2" carriage bolts (PN: 16-21218) into the installed rear left bracket (1). These should be inserted from the top and will be used to attach the undercarriage.



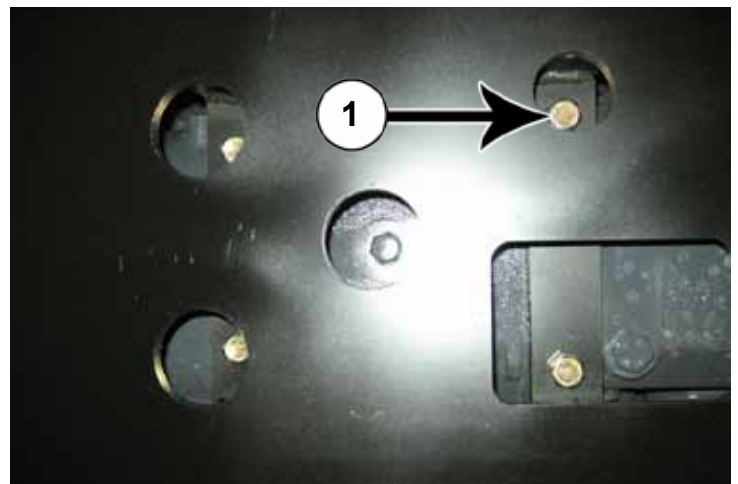
33. Raise the undercarriage up to the installed tractor brackets and the tractor frame. The bolts are already in the brackets. Line up the undercarriage so all bolts go through their corresponding holes on the undercarriage and the holes on the undercarriage line up with the holes in the tractor frame (1).

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

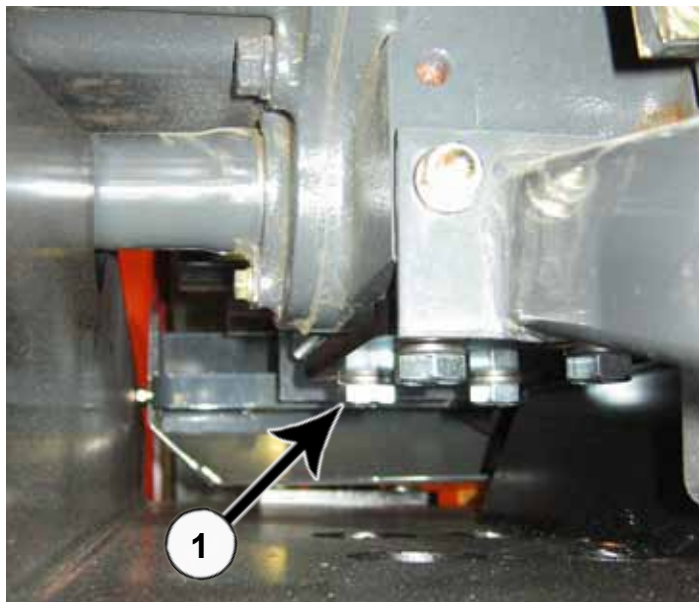


32. Insert four 3/4" x 2" carriage bolts (PN: 16-21218) into the installed rear right bracket (1). These should be inserted from the top and will be used to attach the undercarriage.

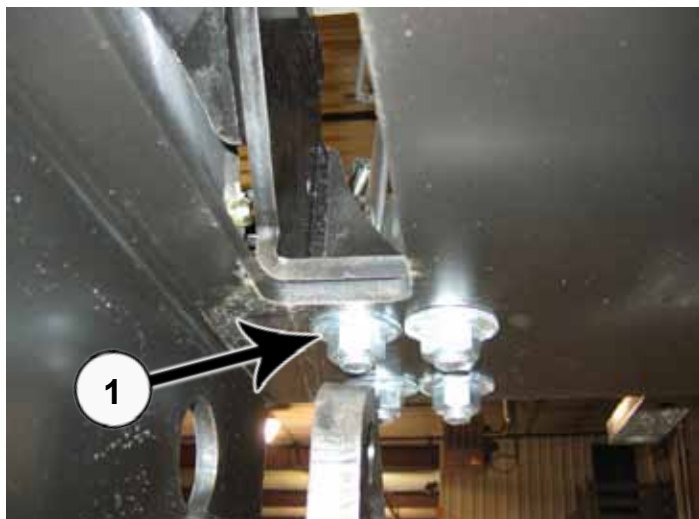
NOTE: When raising the undercarriage, be careful not to pinch any hoses between any parts on the tractor and the undercarriage.



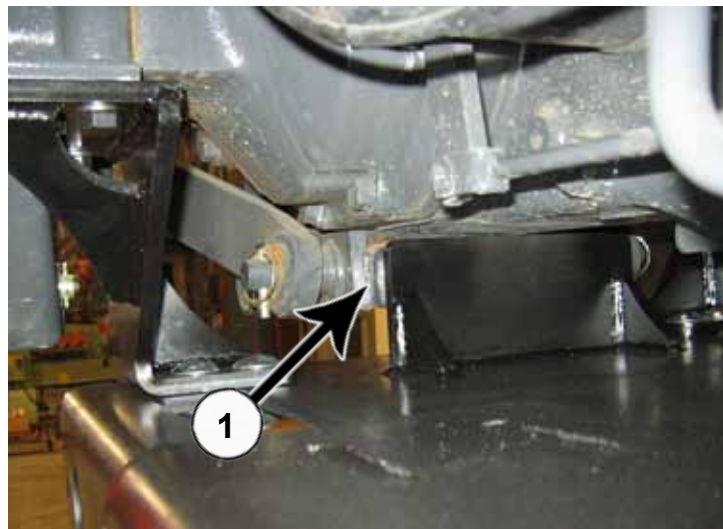
34. Use four 14mm x 40mm bolts (PN: 16-1415040) with a 14mm lock washer (PN: 57-20834) on each bolt to attach the middle of the undercarriage to the tractor (1).



35. Attach the front of the undercarriage to the tractor with four 16mm x 40mm bolts (PN: 16-1615040) with a 16mm lock washer (PN: 57-20834) on each bolt (1).



36. Use eight 3/4" flat washers (PN: 57-20747) and 3/4" center lock nuts (PN: 70-20607) to attach the undercarriage to the rear brackets (1).



37. Push undercarriage against drawbar mount (1).

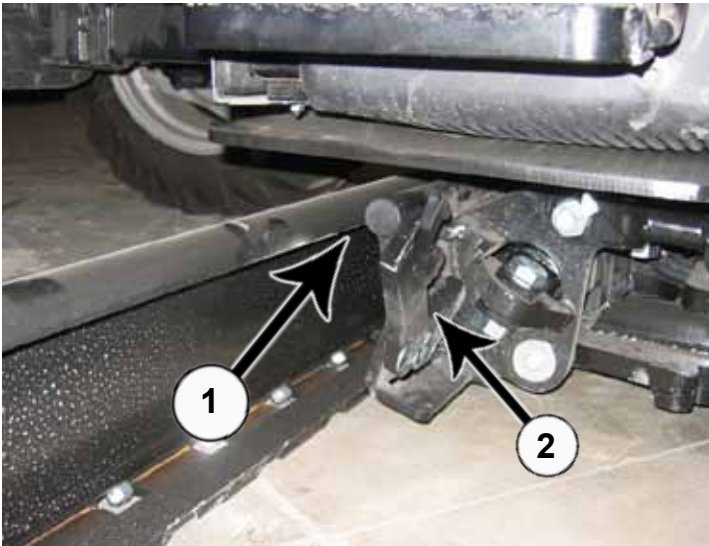
38. Torque all fasteners to the correct specifications after all bolts and nuts have been installed.

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

Hose Installation

40. Attach the 36" hose from the **Pump Port** that was installed in Step #11 to the 90° fitting installed in the **In Port** in Step #22.
 41. Attach the 36" hose from the **Power Beyond Port** that was installed in Step #11 to the 90° fitting installed in the **Out Port** in Step #23.
 42. Attach the 39" hose from the **Tank Port** that was installed in Step #13 to the 90° fitting installed in the **Tank Port** in Step #24.
 43. After all hoses are in place, group hoses together and secure hoses with zip ties (PN: 59-34950).
 44. Install the valve cover (PN:18-14445) with 3 - 3/8" x 1" flanged bolts (PN: 16-35C616).
 45. Reconnect the battery.
 46. Start the tractor and run the controls to check for any leaks.
- Note:** Watch the blade carefully for any collisions when running the controls.
47. Check hydraulic oil level after all cylinders have been cycled. Add hydraulic oil if necessary.

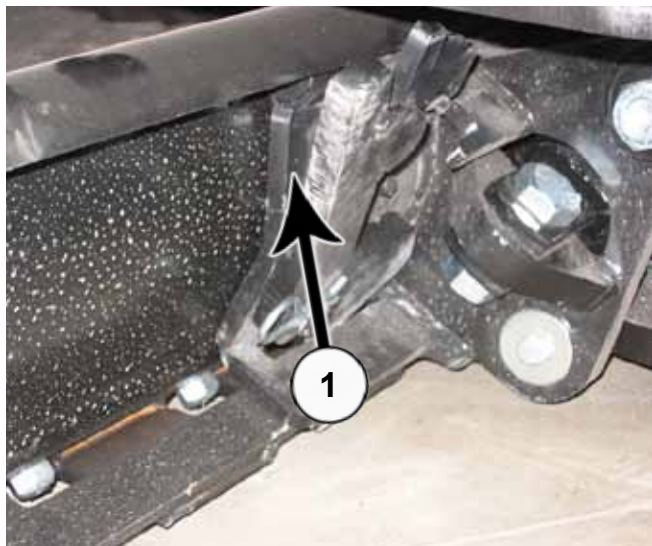
Blade Installation



48. 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)



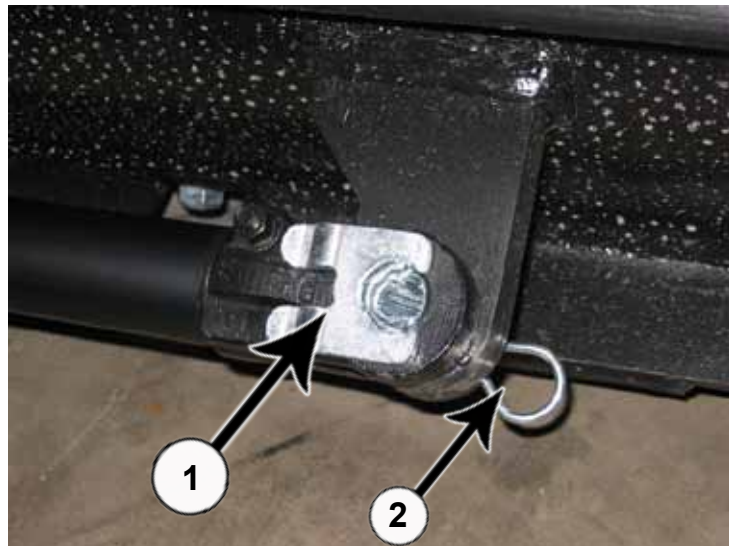
49. Pitch the male quick attach forward. Position the blade so the top round bar will hook under blade lip (1).



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



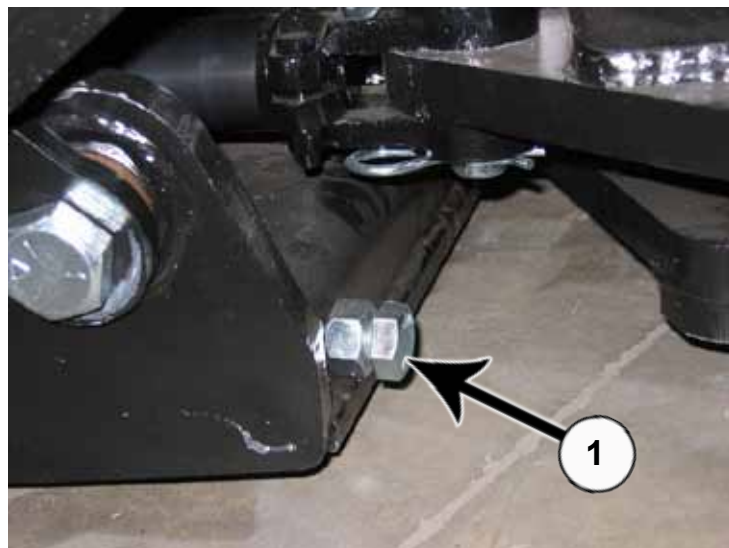
51. Lock the quick attach lever on each side (1). Verify that the lever engaged the corresponding slot on the bottom of the blade.



52. 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).

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

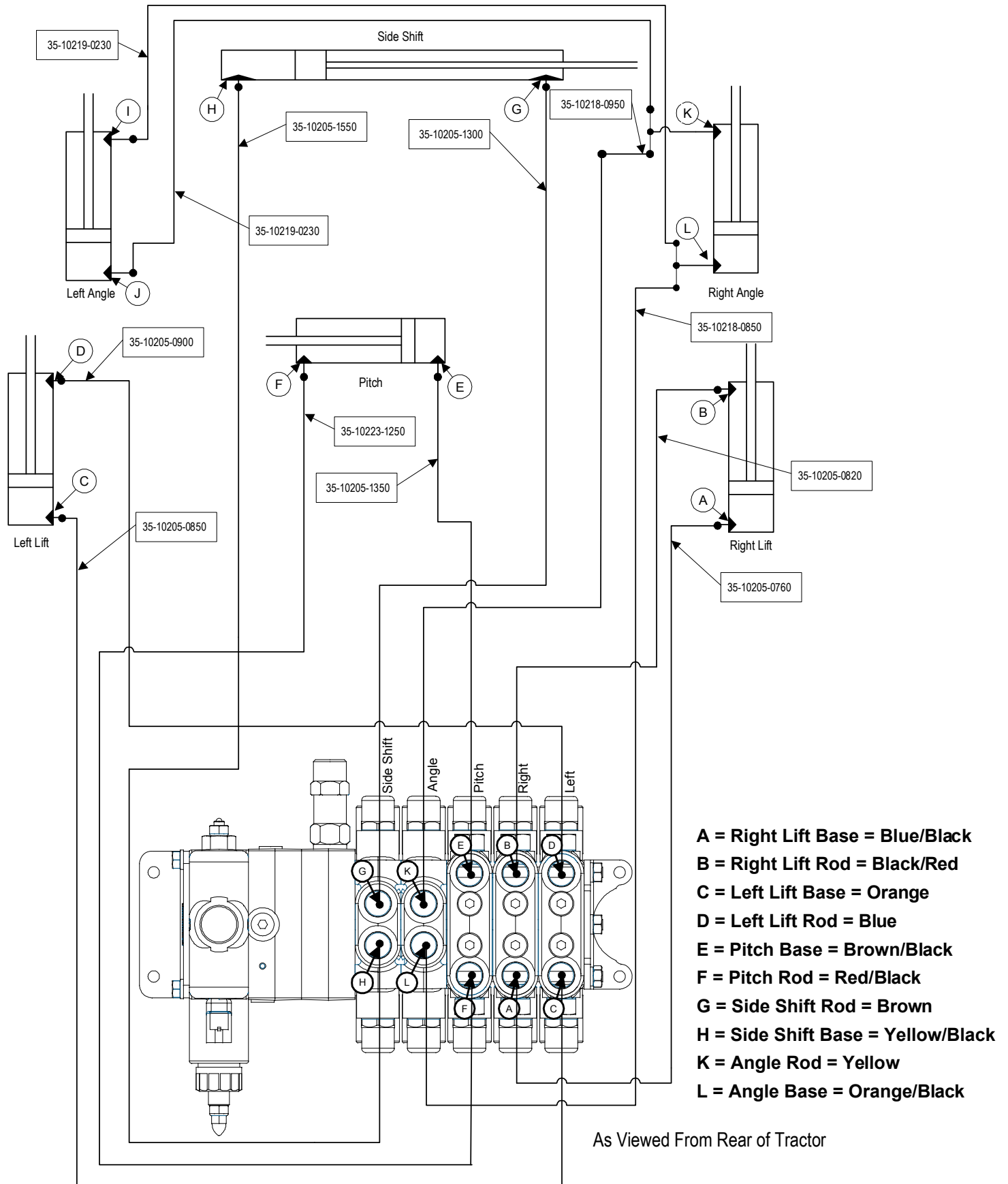
54. Cycle through blade functions checking for interferences.



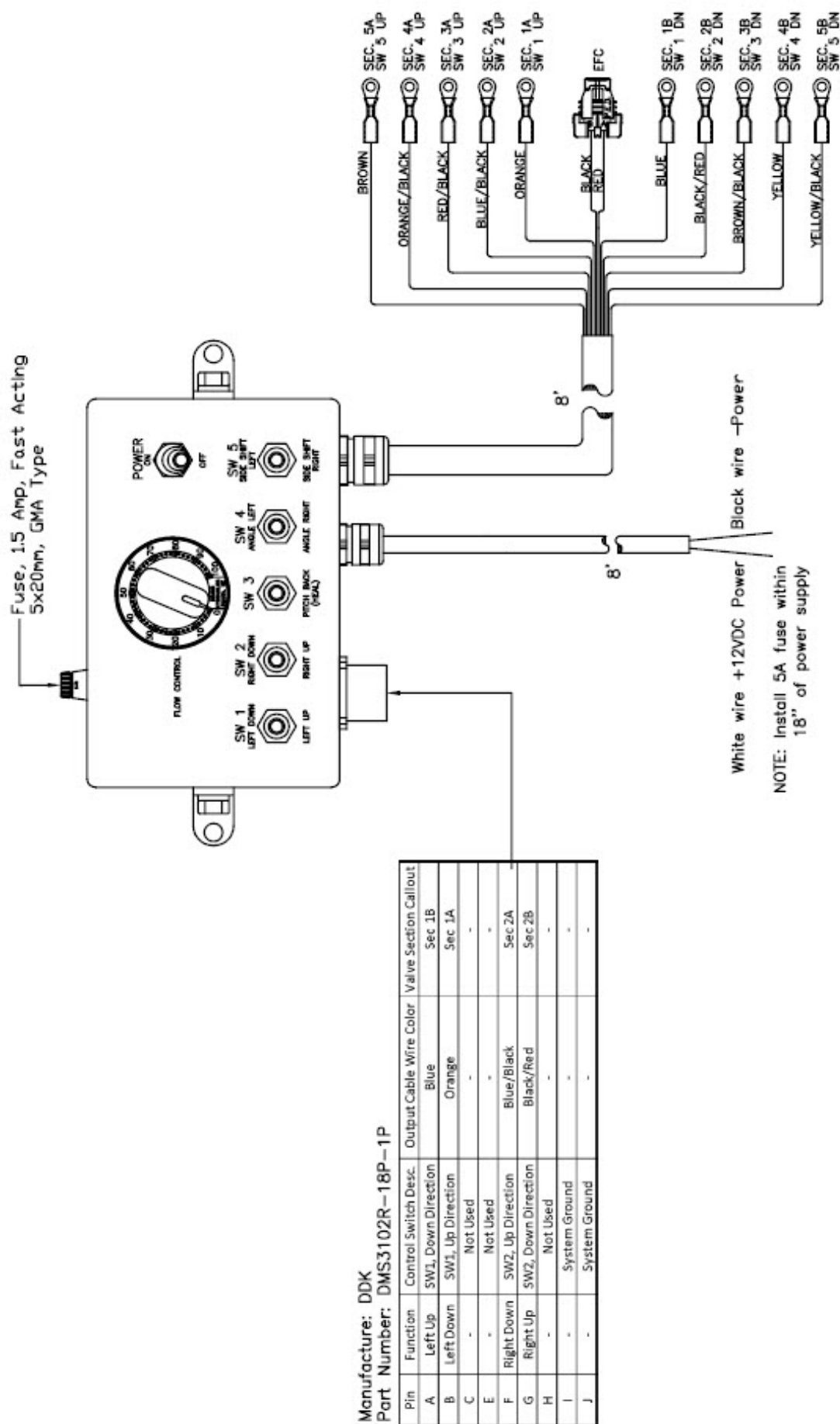
55. Adjust angle stops (1) so blade does not interfere with tires during angle of blade. Use a wrench to loosen the nut and to the turn the bolt either in or out depending if the blade is hitting the tire. After adjustment, tighten the nut.

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

Hydraulic Schematic



Control Box Wire Schematic



Notes

Warranty Statement

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

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