



# **Ag Pro Plus/Ag Pro SS**

## **Versatile 350-550 Wheeled**

### **Undercarriage Installation Instructions**

Purchase Date
Serial Number
Model Number
Tractor Model
Dealer

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## To The Owner

This manual contains information concerning the operation, adjustment, and maintenance of the Ag Pro Plus dozer system. You have purchased dependable, long lasting equipment, but only by proper care and operation can you expect to receive the performance and long service built into our products. Please have all operators read this manual carefully and keep the manual available for ready reference. If you have any questions or concerns, contact Grouser Products.

## Torque Specifications

All bolts should be tightened to the specifications that are stated. If specifications are not stated, follow torque charts below.

Size	Torque - Dry (ft-lbs)			
	SAE Grade 5		SAE Grade 8	
	UNC	UNF	UNC	UNF
5/16	19	20	29	31
3/8	33	36	47	51
7/16	54	58	78	85
1/2	78	85	119	129
9/16	114	124	169	184
5/8	154	167	230	250
3/4	257	280	380	414
7/8	382	416	600	654
1	587	639	903	984

Size	Torque - Dry (ft-lbs)
M18 x 2.00	236
M20 x 2.50	432
M22 x 2.50	394
M24 x 3.00	570

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# Safety Precautions

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A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read and take the following precautions before operating this equipment. In addition to these precautions, please follow all safety and operational instructions supply by your tractor manufacturer.

## **The Dozer:**

1. The Ag Pro Plus Dozer should be operated only by those who are responsible and instructed to do so.
2. Read the owner's manual carefully before using this equipment. Lack of operating knowledge can lead to accidents.
3. Keep the dozer maintained and in good condition to ensure your safety.
4. Make sure the area around you is clear of people before moving any equipment.
5. Do not modify or permit anyone else to modify or alter the equipment and its components without first consulting Grouser Products.

## **Servicing the Dozer:**

1. Read and follow all safety instructions provided by the tractor manufacturer.
2. Always use proper personal safety gear when performing maintenance on equipment.
3. Before servicing, relieve hydraulic pressure, stop engine and fully engage parking brake.
4. Escaping hydraulic fluid under pressure can penetrate skin causing serious injury. If fluid is injected into skin, obtain medical attention immediately.
  - DO NOT use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks.
  - Stop the engine and relieve trapped hydraulic pressure before connecting or disconnecting lines.
  - Tighten all connections before starting the engine or pressurizing lines.

## **Storing the Dozer:**

1. Thoroughly clean the dozer before storage. Use paint where necessary to prevent rust.
2. Check for worn or damaged parts. Install new parts as required.
3. Lubricate all pins and joints.

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# Unpacking Components

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Unstrap and remove any components that are attached for shipping. If any components are missing, call Grouser.

# Undercarriage Installation

## Caution:

- Always use caution when working around any equipment.
- Always wear safety glasses.
- Follow tractor manufacturer's safety guidelines when installing this product.
- Use paint where necessary to prevent rust.
- Do not modify or permit anyone else to modify or alter the equipment and its components without first consulting Grouser Products.

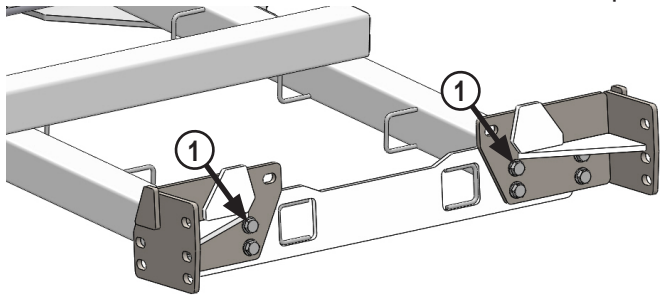
## Note:

- When installing hardware, only finger tighten until all hardware is in place.
  - A full diagram of the assembly with the full list of parts is on pages 6-7.
  - Tractor frame not shown in some diagrams for clarity.
  - Unstrap and remove any components that are attached for shipping.
  - Read all instructions prior to performing installation.
1. Remove existing toolboxes, front weights, and tow cable holder if equipped. Tow cable holder can be reinstalled later with the undercarriage.

2. Remove the front cover on the undercarriage if necessary.

3. For tractor models 450-550, continue with Step #5.

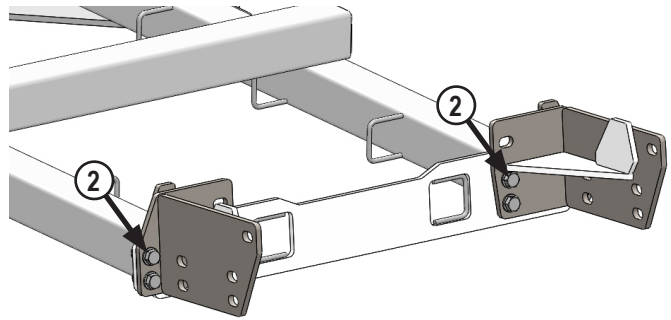
4. For tractor models 350-400, continue with Step #7.



5. Attach the rear brackets to the rear of the undercarriage with 8 - 3/4" x 2" bolts, 16 - 3/4" washers, and 8 - 3/4" nuts (1).

**Note:** The left bracket (long plate against undercarriage) attaches on the left side of the undercarriage and the right bracket on the right side.

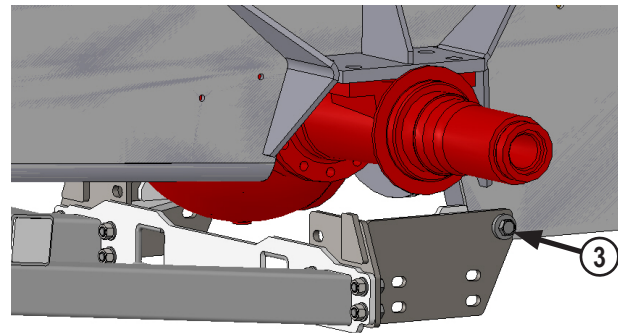
6. Continue with Step #8.



7. Attach the rear brackets to the rear of the undercarriage with 8 - 3/4" x 2" bolts, 16 - 3/4" washers, and 8 - 3/4" nuts (2).

**Note:** The right bracket (short plate against undercarriage) attaches on the left side of the undercarriage and the left bracket on the right side.

8. Position the undercarriage under the tractor and center on the frame of the tractor.

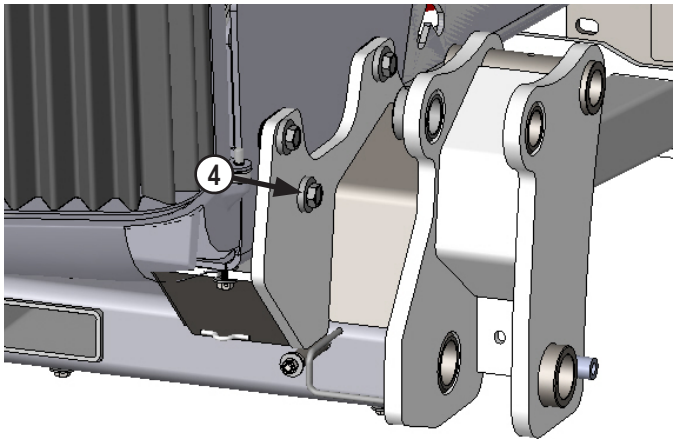


9. Raise the rear of the undercarriage and attach the rear brackets to the frame of the tractor behind the front axle with 2 - 20mm x 70mm bolts, 4 - 3/4" ID thick washers and 2 - 20mm nuts (3).

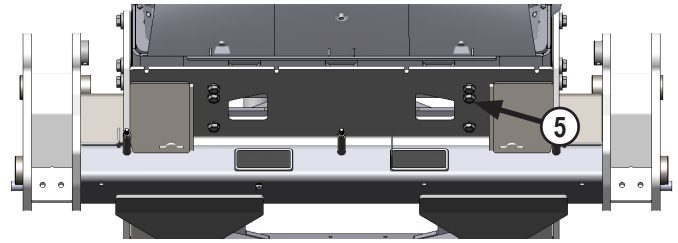
**Note:** The above photo shows the brackets installed on a narrow frame but the installation is the same for the wide frame.

10. Raise the front of the undercarriage until the holes line up with the holes on the tractor.

**Note:** Add shims between the undercarriage and the tractor frame to reduce any gap if necessary. Use shims until there is a gap of 1/16" or less on the front. See attached diagram for the proper location and orientation of each shim. Don't put all the shims on one side of the undercarriage.



**11.** Install 8 - 20mm x 70mm bolts, 8 - 3/4" ID thick washers, 8 - 3/4" washers and 8 - 20mm nuts into the side holes of the undercarriage, shims if necessary, and the tractor frame **(4)**.



**Note:** If the tow cable bracket was equipped, reinstall the bracket when installing the front 6 vertical bolts. See Page 9 for more hardware and installation information.

**12.** At the front of the undercarriage, install 6 - 20mm x 70mm bolts, 12 - 3/4" washers and 6 - 20mm nuts into the front vertical holes of the undercarriage and the tractor frame **(5)**. The bolt has to be inserted from the bottom.

**13.** Push the undercarriage back until the rear brackets are pushing against the tractor frame.

**14.** Torque the rear 20mm bolts to 432 ft-lbs, the 3/4" bolts to 257 ft-lbs, the front vertical 20mm bolts to 432 ft-lbs, and then the side 20mm bolts to 432 ft-lbs.

**15.** If the front cover was removed, reattach with the original hardware.

**Note:** Installer is responsible to route hoses in a practical manner. The hoses need to be routed away from sharp and moving objects and need to be secure. Install all hoses when assembling the lift system in the Owner's Manual and Parts Book. Refer to Page 8 for some hose routing pictures.

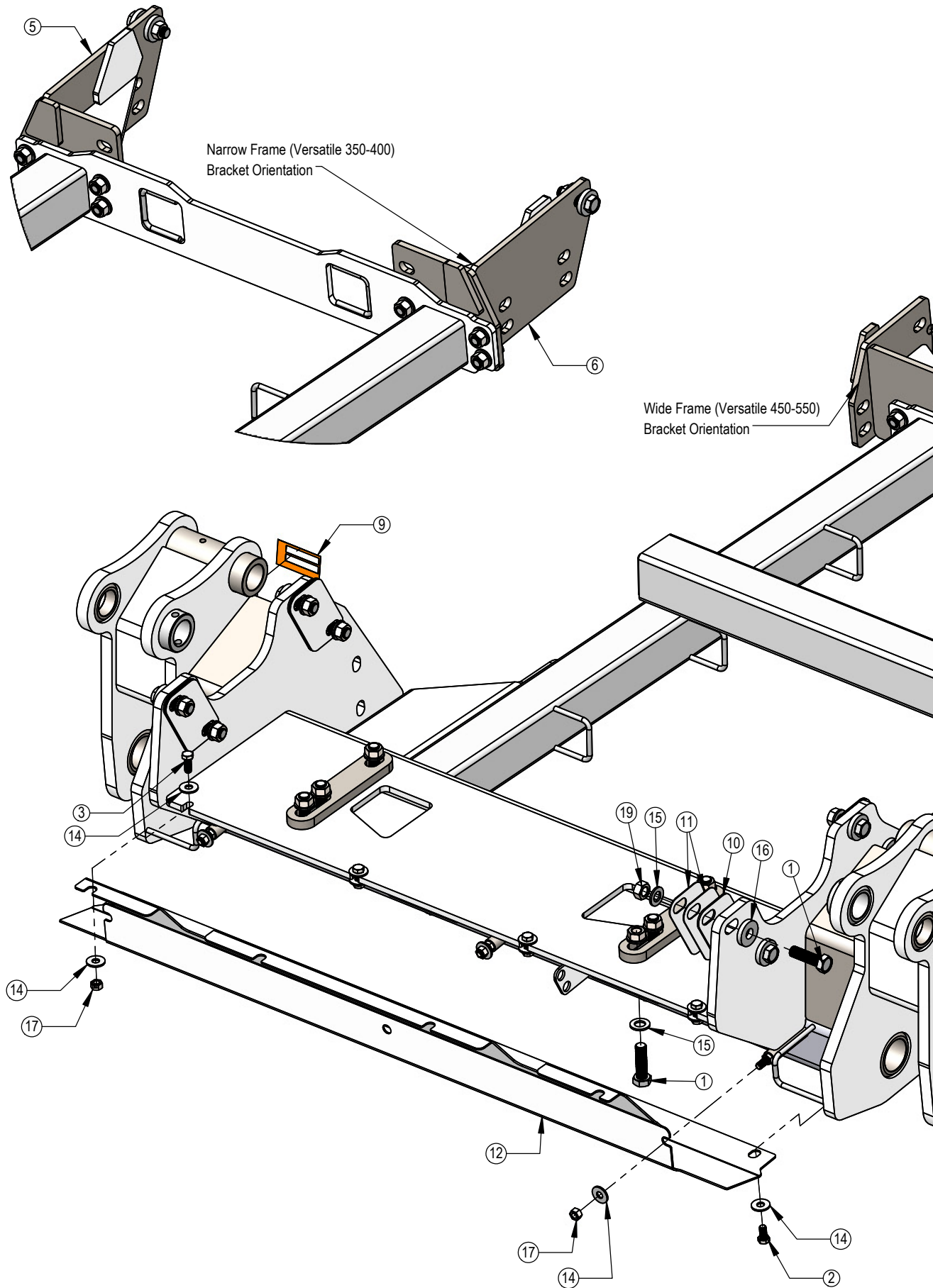
## Maintenance

1. After first 8 hours of use, re-torque all bolts.
2. Check all fasteners regularly to ensure proper operation of equipment.
3. Inspect all equipment for existing or potential damages every 10 hours or less.
4. Make sure all non-rotating pins are secured properly.
5. Lubricate all joints with high quality grease.

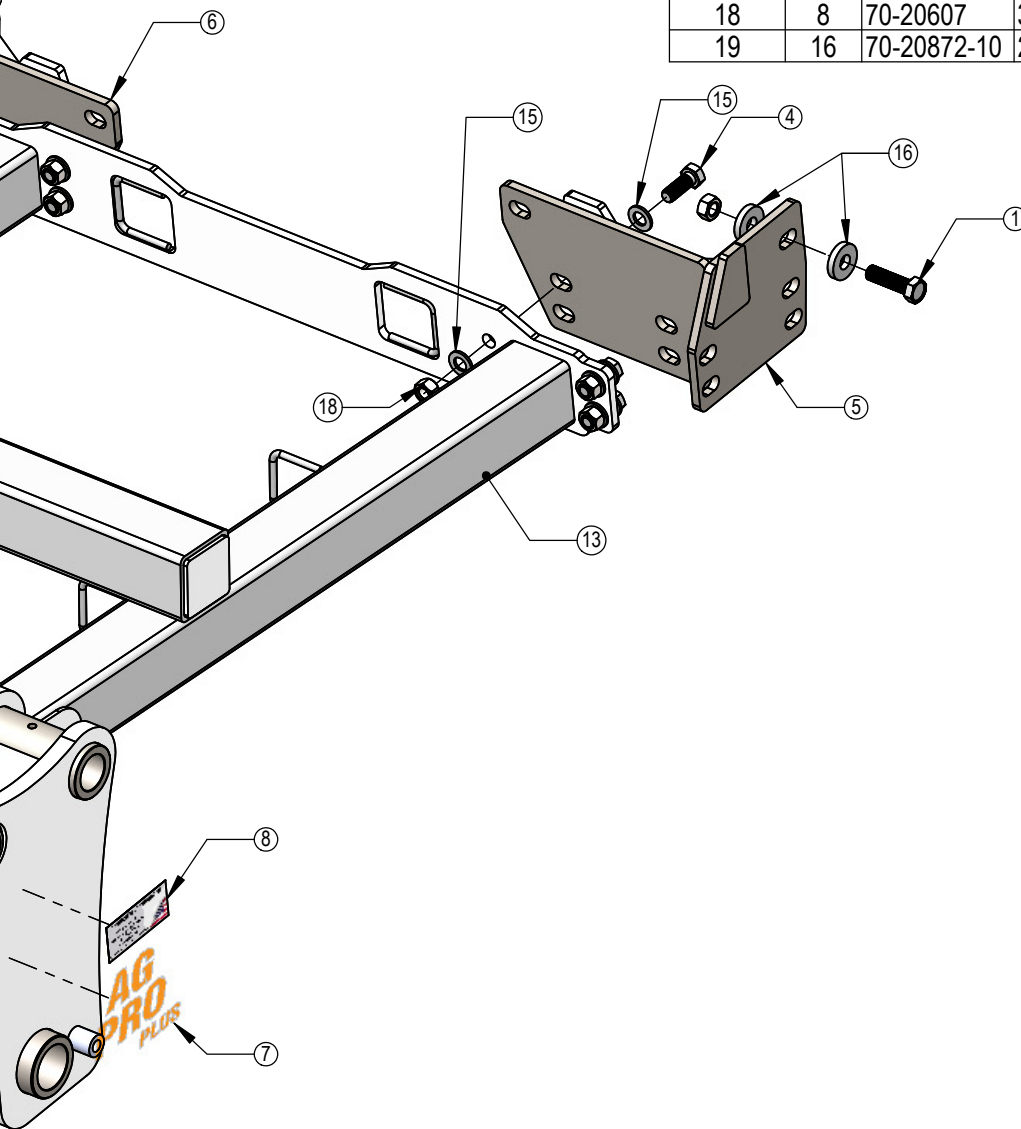
## Assembling Lift Components

Refer to the Ag Pro Plus Owner's Manual & Parts Book for instructions on how to assemble the lift components.

**Note: Narrow frame uses the left rear bracket on the right side of the undercarriage and the right bracket on the left side of the undercarriage as shown in the diagram below.**



ITEM NO.	QTY.	PART NO	DESCRIPTION
1	16	16-1876	20mm x 2.5mm x 70mm Gr. 10.9 Hex Bolt
2	4	16-20124	1/2" x 1" Hex Bolt Gr.5 NC
3	4	16-20125	1/2" x 1-1/4" Hex Bolt Gr 5 NC
4	8	16-20218	3/4" X 2" Hex Bolt Gr.5 NC
5	1	18-15945-L	Adapter Bracket
6	1	18-15945-R	Adapter Bracket
7	2	27-18880	Ag Pro Plus Decal
8	1	27-18887	Grouser Name Plate Decal
9	1	27-9506	Serial Tag Decal
10	4	44-15966	Versatile T4 Shim Plate (.125")
11	8	44-15967	Versatile T4 Shim Plate (.06")
12	1	44-19646	Plate, Hose Cover
13	1	54-19645	Undercarriage Weld, Ag Pro Plus
14	15	57-20744	1/2" Flat Washer
15	36	57-20757	3/4" Flat Washer - 1-1/2" OD
16	12	57-3680	3/4" ID x 2.00 OD x .375" Heavy Washer CZ Plated
17	7	70-20604	1/2" Center Lock Hex Nut
18	8	70-20607	3/4" Center Lock Hex Nut NC
19	16	70-20872-10	20mm Hex Nut 2.5 Pitch Class 10 Zinc



DWG. NO.: 19645-A

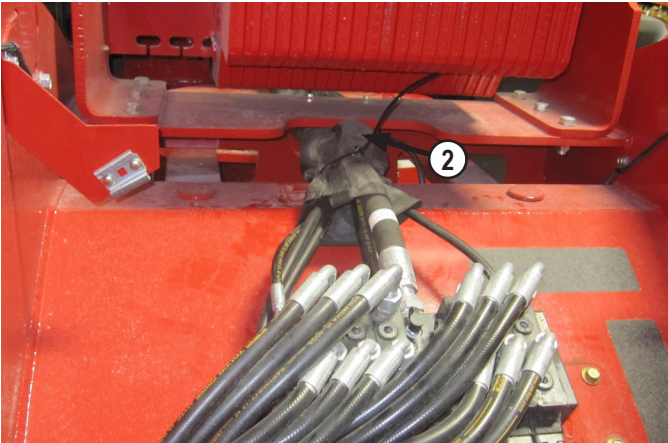


# Hose Routing

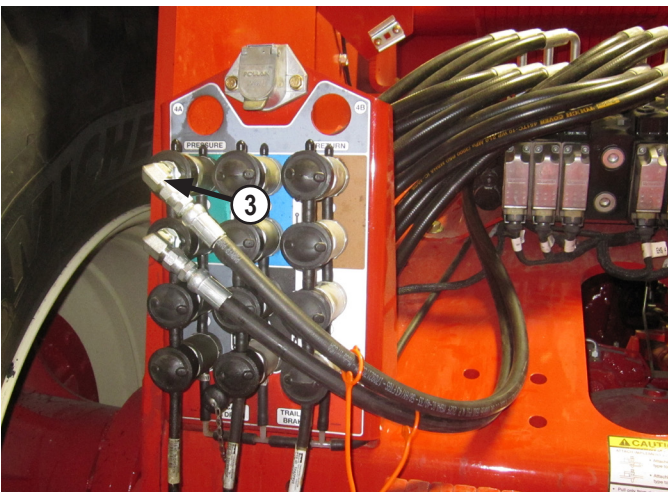
1. Route hoses through the hose loops on the undercarriage.



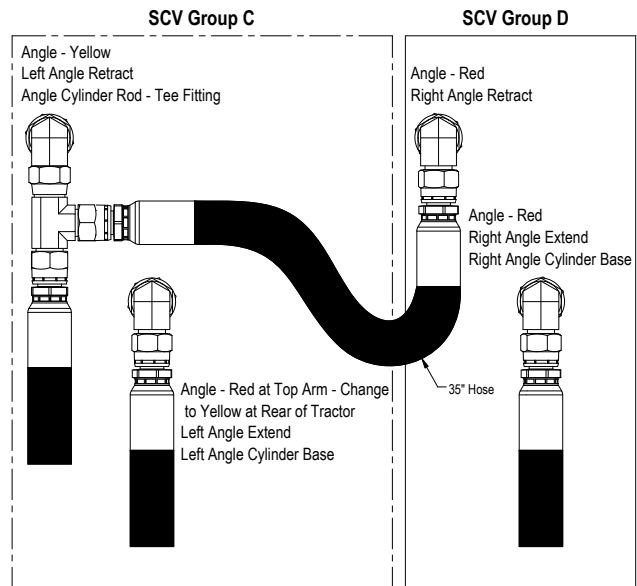
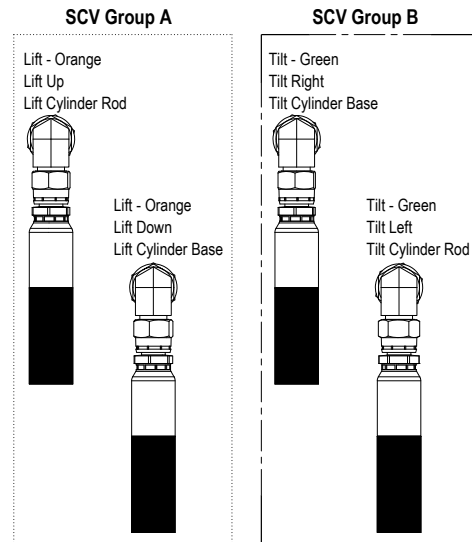
2. After routing the hoses through the undercarriage, route in the same location as the tractor's hoses (1). Replace zip ties if you run the hoses in the tractor's original hose cordura.



3. Exit the rear frame at the center of the frame as shown in the picture (2).
4. Use zip ties to attach hoses, where necessary, to avoid rubbing and pinch areas.



5. After installing the male couplers, plug each set into a set of rear SCV's (3).



Hoses Not Drawn To Scale

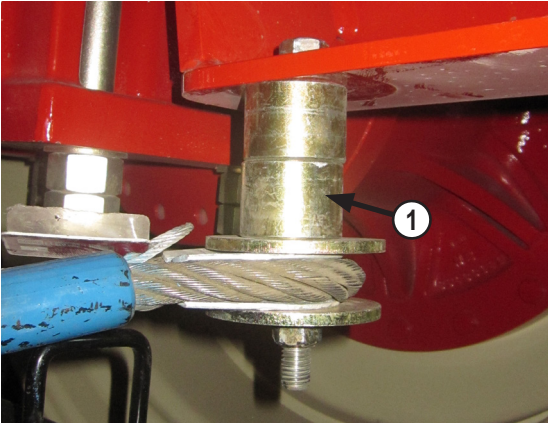
**NOTE:** The quantity of hoses may vary depending on blade system.

**NOTE:** If blade system has Dual Remote Hydraulic Angle, verify that the 35" hose is used and installed correctly. Refer to hydraulic schematic in the Owner's Manual & Parts Book if necessary.

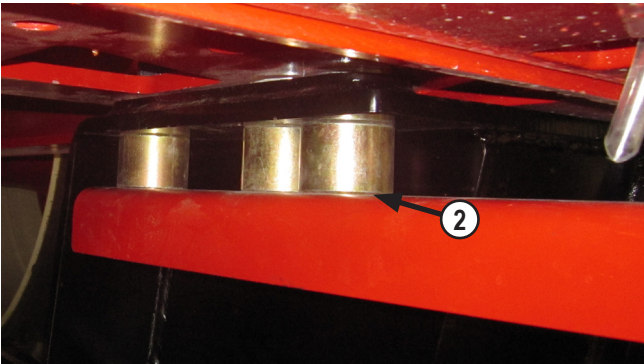


# Tow Cable Installation

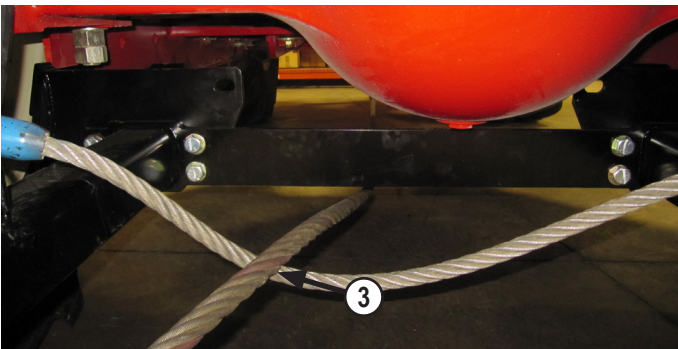
**Note:** Your undercarriage may vary slightly from the one shown in the pictures below, but the same installation procedure will be compatible.



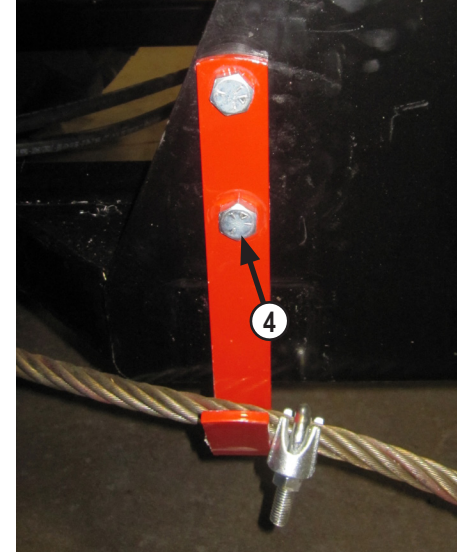
1. Add 2 spacers in between the cable holder and the tractor frame by the front tires. Use a 5/8" x 6" bolt (PN: 16-20200), 2 - 5/8" washers (PN: 57-20746) and a 5/8" top lock nut (PN: 70-20646) on each side (1).



2. Install the front cable support bracket at the front of the undercarriage. Install with 3 spacers on each side in between the undercarriage and the bracket. Use 3 - 20mm x 120mm (PN: 16-2489) to install the bracket and undercarriage. Use the same washers and nuts that were used in the mounting instructions on Page 5 (2).



3. Route the cable underneath the undercarriage, then over the cable support and under the undercarriage on the right side (3).



4. Install the original bracket to the side of the undercarriage with 2 - 3/4" x 2" bolts (PN: 16-20218) and 2 - 3/4" nuts (PN: 70-20607). Cable clamp is installed in Step #6.



5. Finish routing the cable under the lift frame and up over the cable bracket. Attach to the bracket with the original hardware (4).

6. Pull the cable so there is some slack at the front under the lift frame as shown in the picture above. Then put a cable clamp up by the side bracket as shown in the picture from Step #4 to keep the cable in place.

# Notes

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# Notes

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## Contact Us

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As always, if you have any questions about your Ag Pro Plus undercarriage or other products made by Grouser, feel free to contact us.

### **Grouser Products**

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## Improvements

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Grouser Products Inc. is continually striving to improve its products. We reserve the right to change prices, specification, or equipment at any time without notice. We also reserve the right to make improvements or changes when it becomes practical and possible to do so without incurring any obligation to make changes or additions to the equipment sold previously.

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## Warranty

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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 two years from date of original retail delivery. If such equipment is found to be defective within two years, 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 in the setup process.

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.

