



# ***CLAAS XERION 12 Series***

## ***Ag Pro Undercarriage***

### ***Installation Instructions***

**For Models:**

**CLAAS XERION:** 12.590, 12.650

Model Year 2023-Current

Purchase Date
Serial Number
Model Number
Tractor Model
Dealer

# To The Owner

This manual contains information concerning the installation of the undercarriage. 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 read this manual carefully and keep the manual available for ready reference. If you have any questions or concerns, contact Grouser Products.

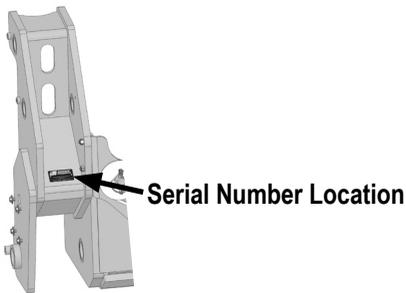
## Caution:

- 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.
- Operate within your own capabilities. Recommended operating speed is 3-5 MPH (5-8 km/h).

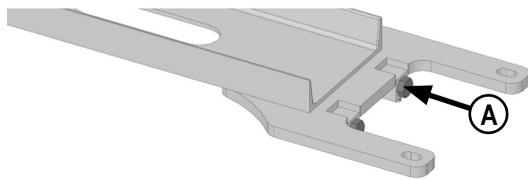
## Note:

- Read all instructions prior to performing installation.
- 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 10-11.
- Tractor frame not shown in some diagrams for clarity.
- Unstrap and remove any components that are attached for shipping.

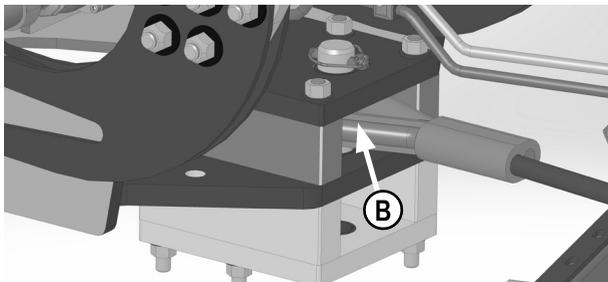
 To ensure the safety of those working under and around the machine, apply parking brake, and remove key from ignition before working on the machine.



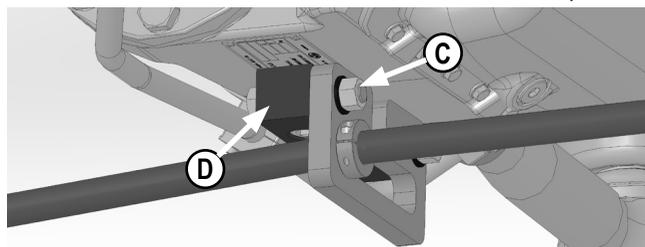
## Pre-Installation



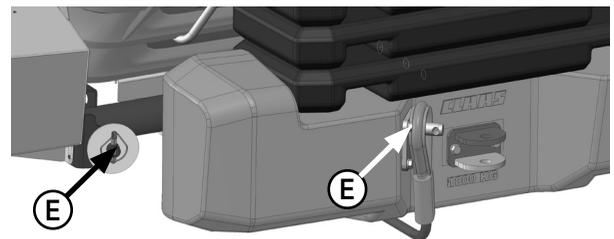
1. Completely thread 2 - 1" x 2" adjustment bolts (A) at rear of rear undercarriage. The bolts will be adjusted after undercarriage is installed.



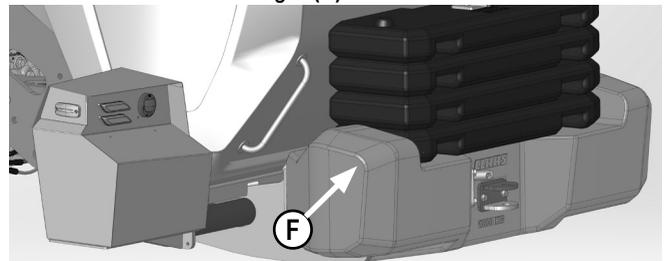
2. If applicable, remove tow cable at rear of tractor (B). Tow cable and hardware will be reinstalled in a later step.



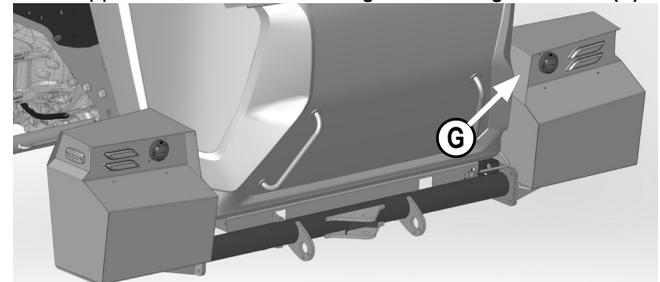
3. If applicable, remove tow cable, bracket (C) and block from below front axle (D).



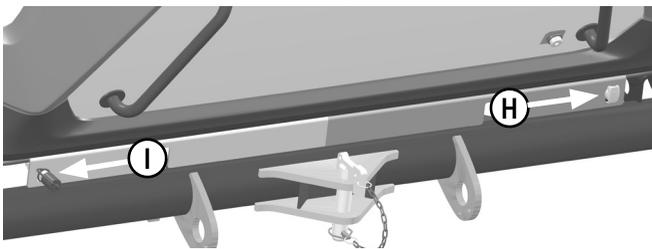
4. If applicable, remove tow cable and bracket from front of tractor or front of weight (E).



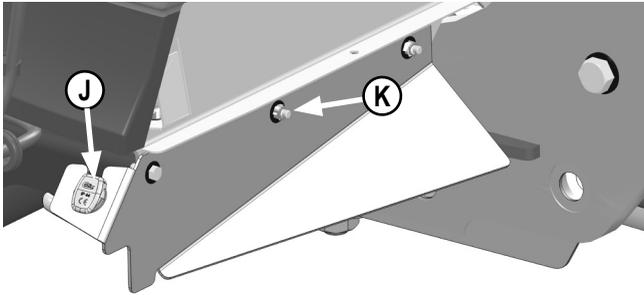
5. If applicable, remove front weights and weight bracket (F).



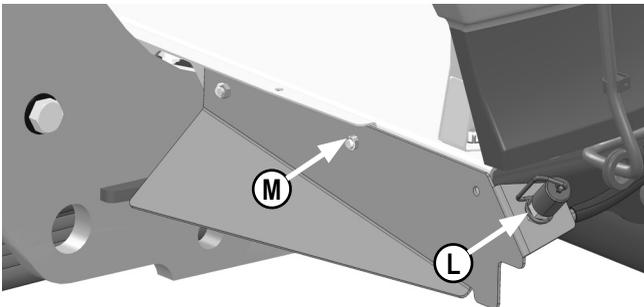
6. If applicable, disconnect wire harness from lights and remove front toolboxes. Keep hardware to reattach in a later step (G).



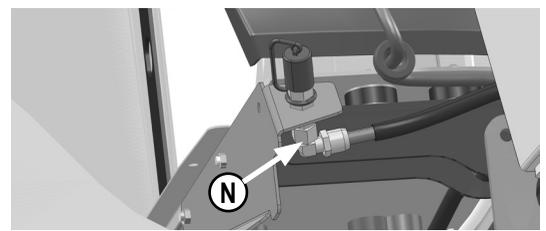
- Remove front 120V Plug In (H) and Air Connector (I). Both will be reinstalled in a new location.
- Clean all mounting surfaces free of debris on tractor before installing any new brackets.



- Reroute 120V Receptacle and attach to new mount plate (J). Attach mount plate to tractor behind hood on left side with original hardware (K). Remove original plate if applicable.

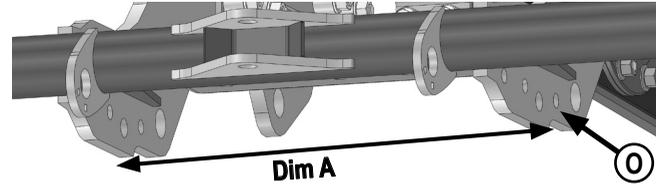


- Reroute Air Receptacle and attach to new mount plate (L). Attach mount plate to tractor behind hood on right side with original hardware (M).

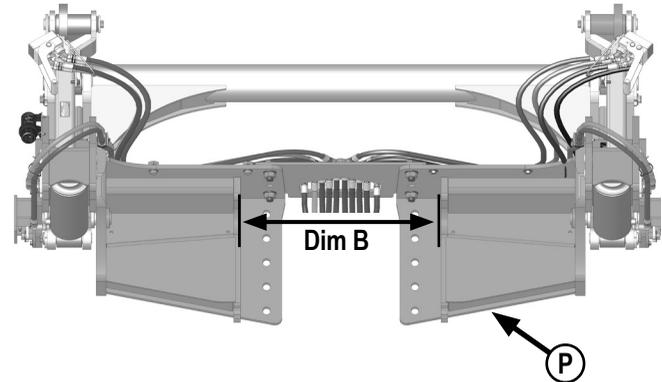


- Remove 90° fitting (N) from air receptacle and reconnect air line with only straight fitting to reduce tension on air line.

**NOTE: Due to manufacturing tolerances, some measuring of frames is necessary before any bracket installation.**



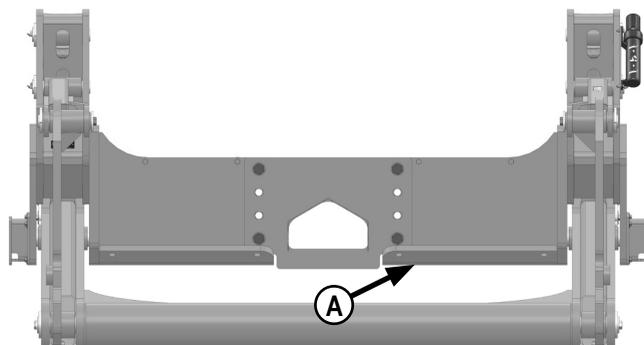
- Measure outside dimension (Dim A) of front frame of tractor (O).



- Verify that left and right mounts (P) are set to the furthest outward position for easier installation.
- Measure between the mounting surfaces on front left and right mounts at location shown (Dim B).
- Record each dimension and refer to table on Page 9 to know how many total shims to use for installation.

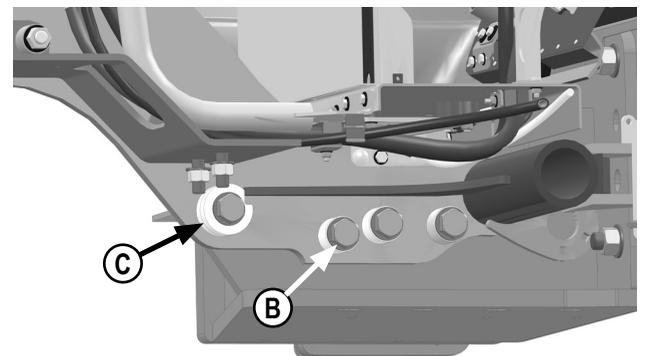
## Undercarriage Installation

**NOTE: When lifting undercarriage, watch for any potential pinching of hoses or any other components to prevent damage.**

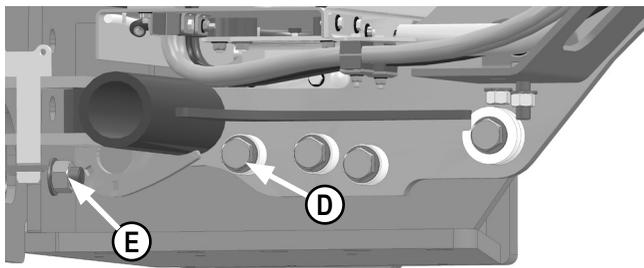


- Position assembled left front mount, front plate, right front mount and lift system under tractor (A). Uncoil hoses and lay out under tractor. Lift assembly until holes of front mounts line up with holes in tractor frame.

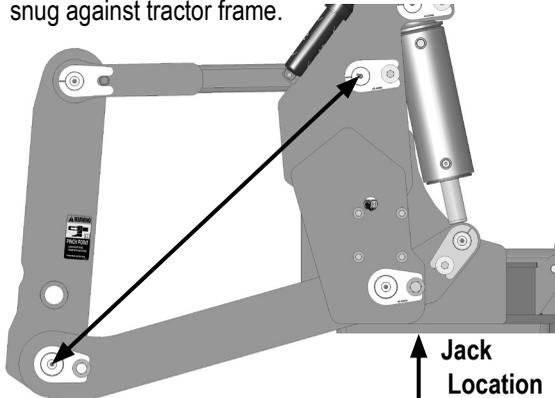
**NOTE: Hoses are not shown for clarity.**



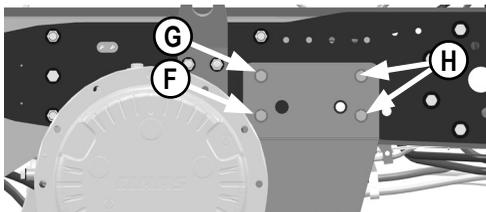
- Position shims between tractor frame and undercarriage mount. Use the correct amount of shims that was determined above in Step #15. Do Not put all shims on one side.
- Attach left mount to front of tractor with 3 - 1" x 4" bolts, 3 - 1" hardened washers, 3 heavy duty spacers and shims between frames if necessary in front 3 holes (B). Finger tighten only.
- Use 1 - 1" x 4" bolt, 2 - clipped washers and shims already installed in Step #3 in the rear hole (C). Finger tighten only.



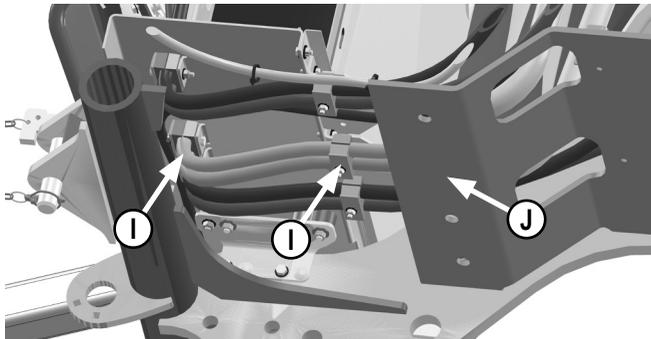
5. Follow steps #2-4 for the right side (D).
6. Loosen 1" bolts on front plate (E). **IMPORTANT STEP**
7. Tighten front 1" bolts (D) on each mount until mounts are snug against tractor frame.



8. Measure distance from center of front lift frame pin to center of top arm pin on undercarriage mount on both sides. If measurements are not same, place jacks under each mount and raise or lower frames as necessary until measurements are the same.
9. Torque left and right mount 1" bolts (B,C & D) to 903 ft-lbs.

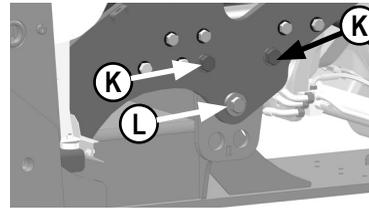


10. Remove factory hardware from F & G locations.
11. Attach side brackets to tractor frame with 1 - 20mm x 120mm bolt, 2 - 20mm washers and a 20mm nut in front bottom bolt hole on each side (F).
12. Install 1 - 20mm x 100mm bolt and 1 - 20mm washer in front top hole on each side (G).
13. Install 2 - 20mm x 100mm bolts, 4 - 20mm washers and 2 - 20mm nuts in rear bolt holes on each side (H).

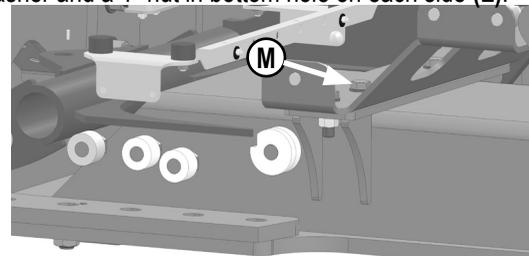


14. Loosen hose clamps and adjust hoses into cooler area to prevent hoses from rubbing on subframe that will be installed next (I). Hoses need to be higher than bottom of plate under radiator (J).

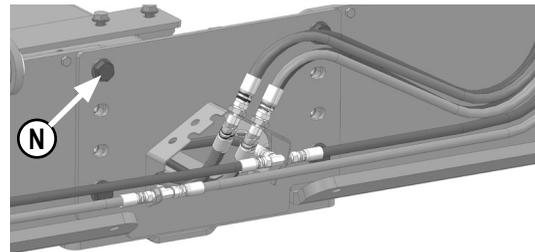
**NOTE:** Tire size and amount of air in tires can affect ground clearance and may require raising tractor to allow enough clearance for subframe to be placed under tractor.



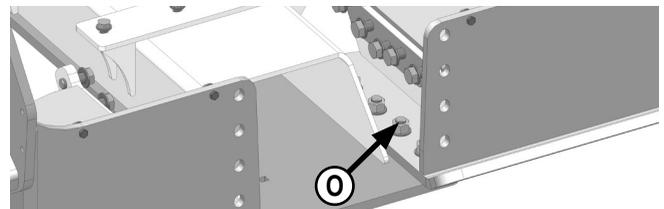
15. Position front subframe under tractor and center on tractor frame. Route hoses down subframe. Lift frame until holes line up with tractor frame.
16. Attach front subframe to tractor frame in front of front axle with 2 - 1" x 3-1/4" bolts, 4 - 1" hardened washers and 2 - 1" nuts in top 2 holes on each side (K).
17. Use a 1" x 3-3/4" bolt, a 1" heavy washer, a 1" hardened washer and a 1" nut in bottom hole on each side (L).



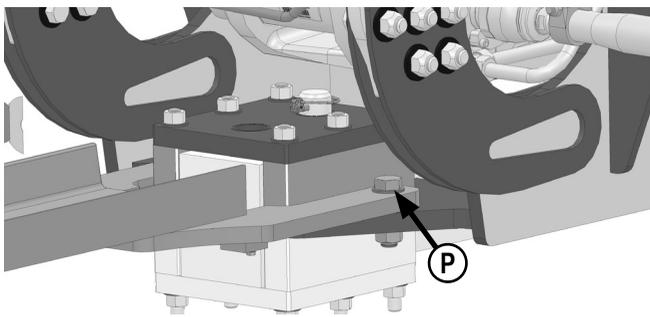
18. Attach front subframe to bracket under radiator with 4 - 3/4" x 2-1/2" bolts, 8 - 3/4" hardened washers and 4 - 3/4" nuts (M).



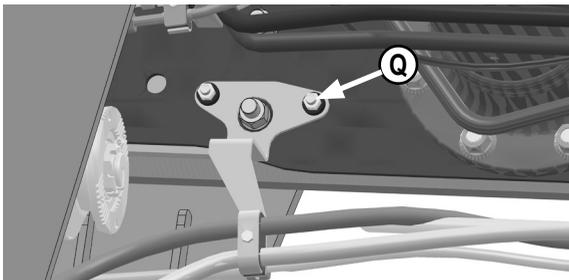
19. Keep hoses attached and remove front plate (N) to gain access to bolts behind front plate.



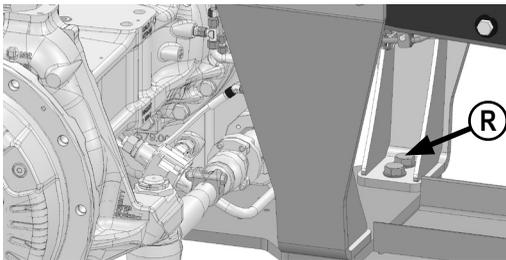
20. Attach front subframe to left and right front mounts with 10 - 1" x 3-1/2" bolts, 20 - 1" hardened washers and 10 - 1" nuts (O). Install bolts from bottom.
21. Torque the side 1" bolts (K & L) to 903 ft-lbs.
22. Torque the bottom vertical 3/4" bolts (M) to 380 ft-lbs.
23. Torque the front bottom vertical 1" bolts (O) to 903 ft-lbs.
24. Remove radar. Radar will be reinstalled with original hardware in a later step.



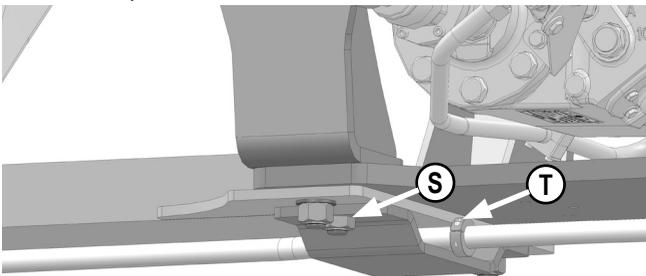
25. Position rear undercarriage under tractor and center on tractor frame. Route hoses down subframe. Lift frame until holes line up with tractor frame.
26. Attach rear undercarriage to top drawbar bracket with 2 - 1" x 3-1/2" bolts, 4 - 1" hardened washers and 2 - 1" nuts (P).



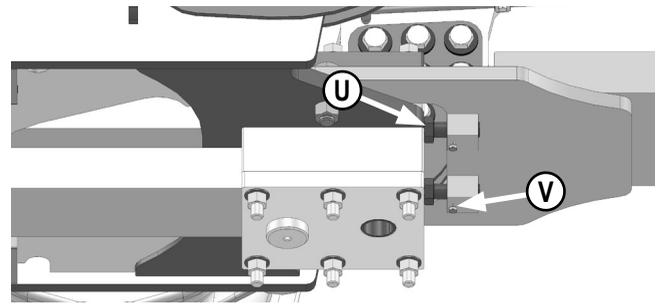
27. Early production tractors will need spacers (not supplied) added to space out hose brackets on both sides of tractor behind front axle (Q).



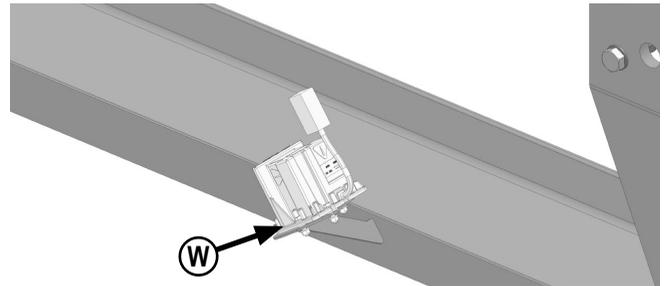
28. Attach to rear of front subframe and side brackets with 4 - 1" x 3-3/4" bolts, 8 - 1" hardened washers and 4 - 1" nuts (R). If tow cable will be reinstalled, leave hardware out of inner holes and continue with Step #29. If no tow cable, continue with Step #31.



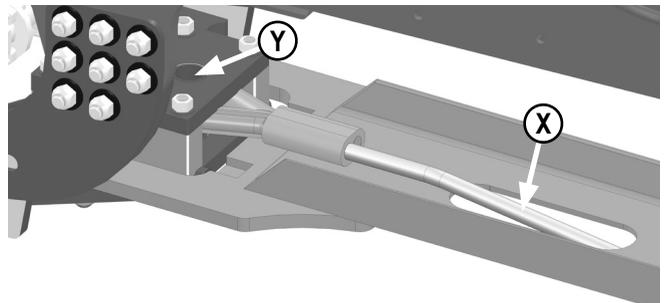
29. If applicable, install middle tow cable bracket, tow cable, and rear undercarriage with 2 - 1" x 4-1/2" bolts, 4 - 1" hardened washers and 2 - 1" nuts in inner holes (S).
30. Loosen collar to allow enough slack for tow cable to be installed in later steps (T).
31. Torque side bracket 20mm bolts (F, G & H) to 368 ft-lbs.
32. Torque front rear undercarriage 1" bolts (R & S) to 903 ft-lbs.
33. Torque rear undercarriage 1" bolts (P) to 903 ft-lbs.



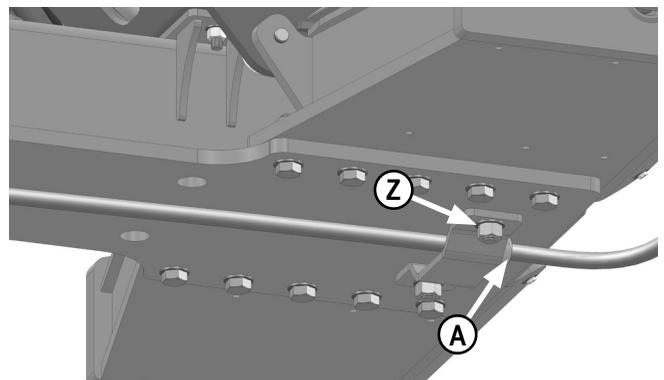
34. Evenly unscrew the 1" bolts at rear of rear undercarriage until they are tight against the drawbar bracket. Torque 1" bolts to 200 ft-lbs (U).
35. Install 2 - 5/16" x 3/4" bolts (V) into blocks at rear of undercarriage to lock each 1" x 2" bolt in place. Torque 5/16" bolts to 19 ft-lbs.



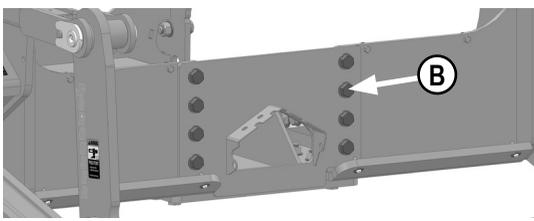
36. Move radar to new location provided and attach to plate on rear undercarriage with original hardware (W)..



37. If applicable, route rear tow cable through slot (X) in rear undercarriage and reinstall to drawbar bracket with original pin and pin retaining hardware (Y).



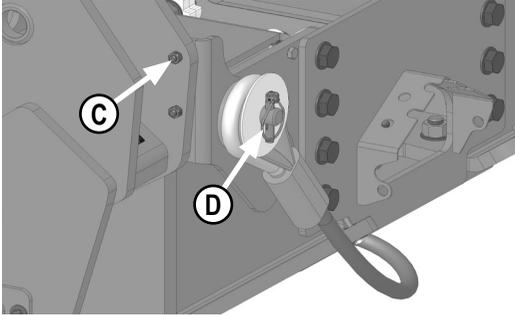
38. If applicable, install tow cable with front tow cable bracket to bottom of front subframe with 2 - 1" x 2-3/4" bolts, 2 - 1" hardened washers and 2 - 1" nuts (Z). Loosen collar to allow slack in tow cable (A).
39. Torque 1" bolts (W) to 903 ft-lbs.



**NOTE:** Hoses are not shown for clarity. Some hoses may have to be disconnected to tighten bolts. Reconnect hoses after torquing the bolts.

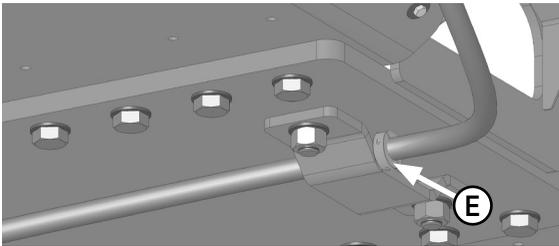
40. Reinstall front plate with 8 - 1" x 3" bolts, 16 - 1" hardened washers and 8 - 1" nuts (B).

41. Torque the front plate 1" bolts (B) to 903 ft-lbs.

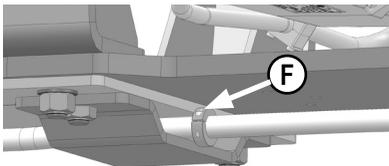


42. If applicable, install front tow cable bracket to the right front mount with 2 - 1/2" x 2" bolts and 2 - 1/2" lock nuts (C).

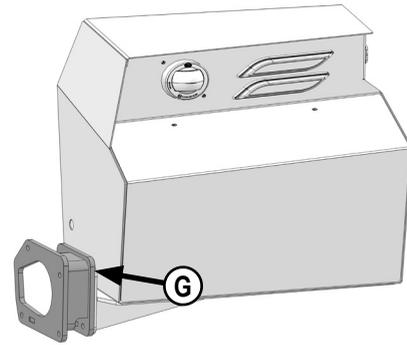
43. If applicable, attach tow cable to front bracket with original hardware (D).



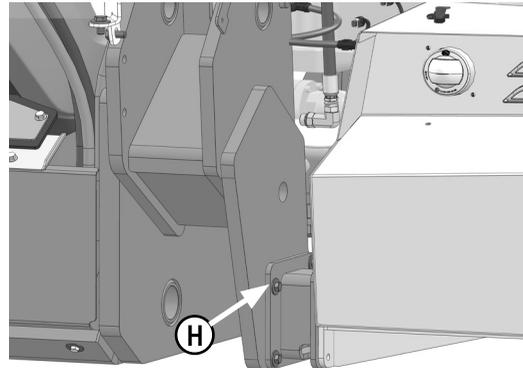
44. After tow cable is installed pull some slack to front, tighten collar in place (E).



45. Adjust tow cable to have slack on both sides of middle bracket and tighten collar in place (F).

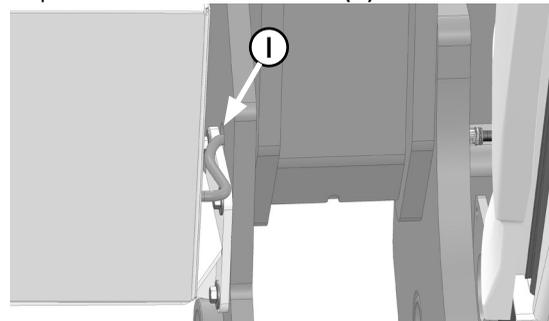


46. Reinstall front toolboxes to side of undercarriage mounts with original hardware (G). Torque to manufacturer's torque specifications.



47. Install toolbox relocation brackets to front mounts with 4 - 7/16 x 1-1/4" bolts and 4 - 7/16" flat washers (H).

48. Torque the 7/16" bolts to 54 ft-lbs (H).



49. Connect new light wire harness to lights and route through hole in undercarriage (I). Connect to original wire harness.

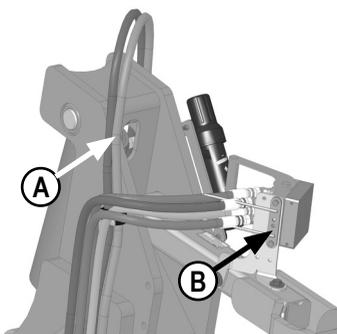
## Hose Routing

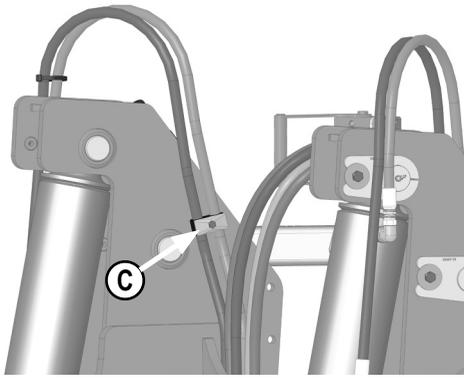
**NOTE:** The quantity of hoses may vary depending on blade system.

**NOTE:** Refer to Lift System Parts Book for correct hoses, amount of hoses, hose clamps, and hardware.

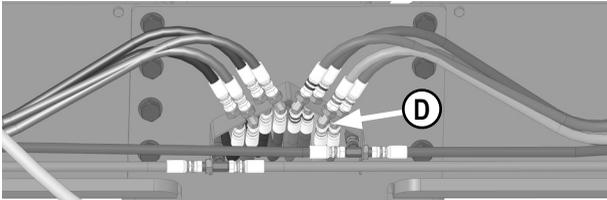
**NOTE:** If hoses are pre-installed, skip Steps # 1-5 and start with Step #6.

1. Attach lift hoses to correct ports on cylinders and route over the front mounts on each side. Use a zip tie to hold hoses to mount and away from tractor hood (A).
2. Attach function hoses to correct ports on multi-coupler and route hoses through hose guide (B). If applicable, do the same on the right side.

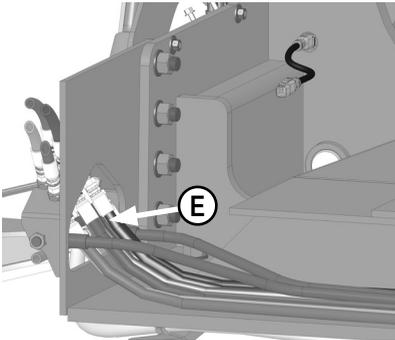




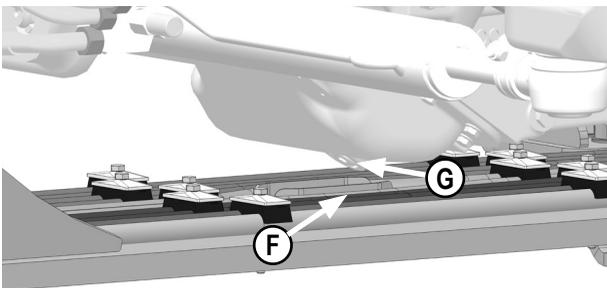
3. Attach lift hoses to the front mounts on each side with a clamp, clamp cover and bolt (C).



4. Attach all hoses to correct fittings on the front plate (D).

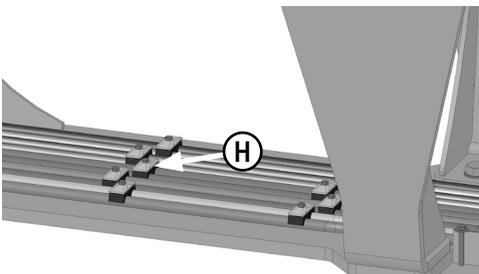


5. Attach hoses on the back side of the front plate and route hoses down the front subframe.(E).

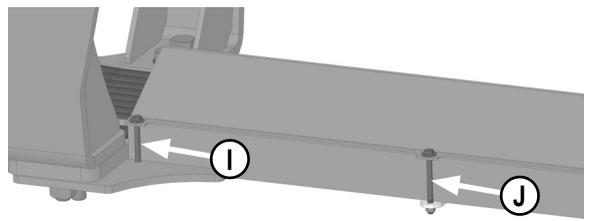


6. Route hoses around opening on subframe (F). Opening is for drain access (G).

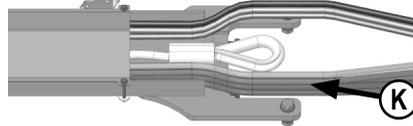
**NOTE: Hoses and clamps are very close to axle and if hoses are not secured in Step #7, axle could contact hoses.**



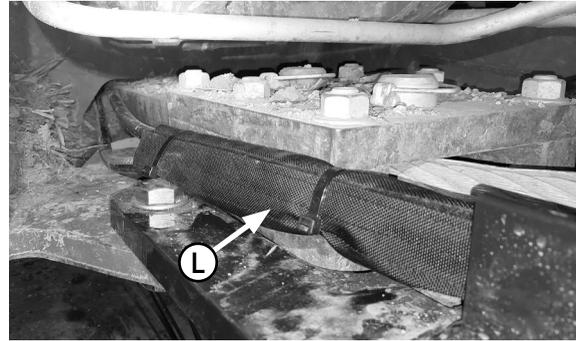
7. Secure each set of function hoses to front subframe before and behind front axle with a half clamp, clamp cover, bolt, fender washer, and nut (H).



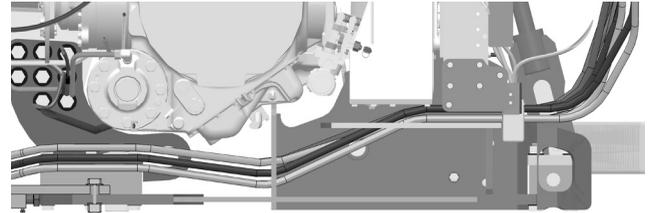
8. Continue to route hoses down rear undercarriage. Install push pole cover to front of rear undercarriage with 2 - 3/8" x 4" bolts, 2 - 3/8" flat washers, 2 - 3/8" nuts (I).
9. Finish installing front and rear push pole cover to rear undercarriage with 10 - 3/8" x 4" bolts, 10 - 3/8" flat washers, 5 cover plate brackets, and 10 - 3/8" nuts (J).



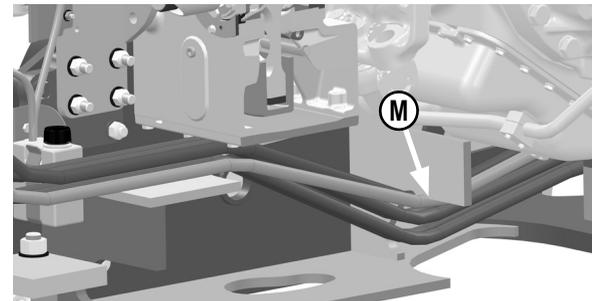
10. Continue to route hoses down rear undercarriage (K).



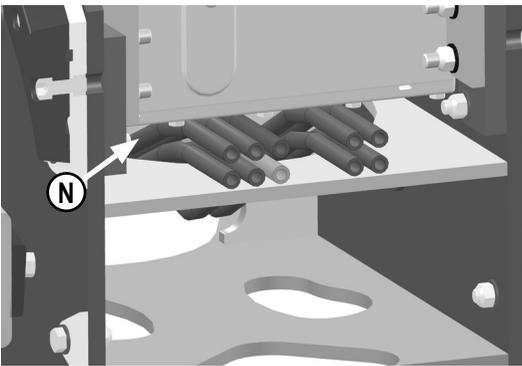
11. Wrap cordura around hoses at rear of rear undercarriage to protect hoses going around drawbar bracket (L).



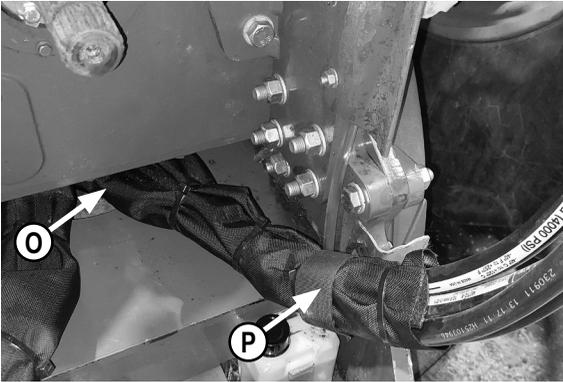
12. This is a side view with parts hidden to show hose routing for steps #13-15.



13. Route hoses behind drawbar bracket and through open cavity (M).



14. Route hoses up and through opening below rear PTO (N).

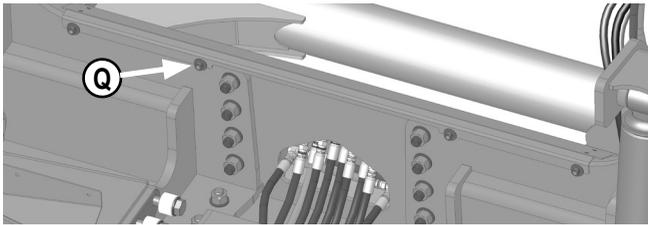


15. Wrap cordura around hoses at rear of tractor where hoses came through frame opening (O).

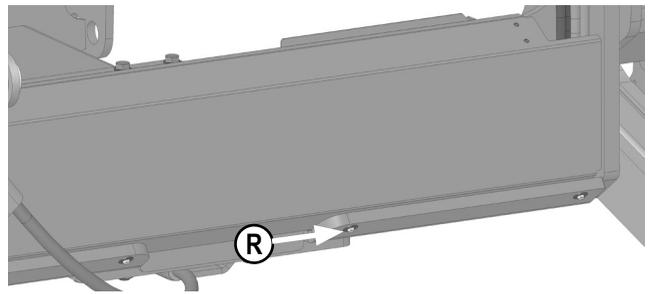
16. Install a velcro strap around each grouping of hoses and secure to rear tractor frame with original tractor hardware on each side (P).

17. Plug hoses into open SCV's at back of tractor.

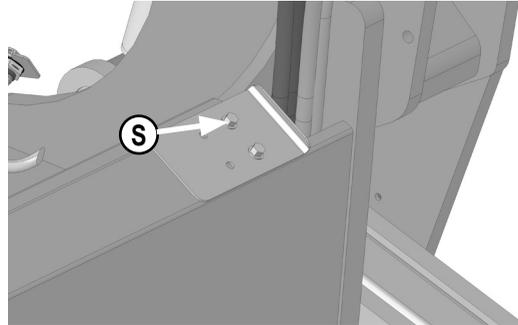
**NOTE:** In some instances, following the above hose routing is not applicable and it is installers responsibility to route hoses in a practical manner, to protect the hoses around sharp corners and moving objects, and secure hoses.



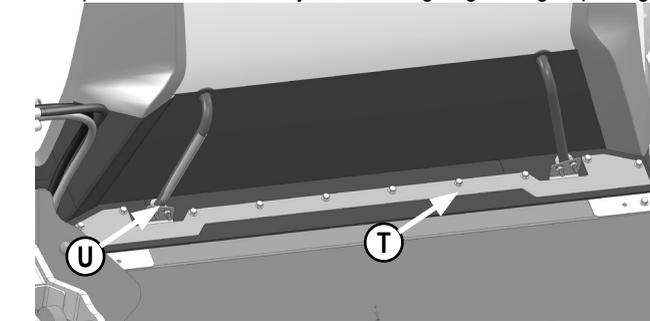
18. Attach front hose cover to backside of front mounts with 4 - 1/2" washers and 4 - 1/2" nuts (Q).



19. Attach front hose cover to front side of front mounts with 4 - 3/8" fender washers and 4 - 3/8" x 1-3/4" bolts (R).



20. Install a hose cover plate to each side of front hose cover with 2 - 3/8" x 1" flange bolts for each side (S). Position is dependent on how many hoses are going through opening.



21. Attach hood skirt rubber to mount plate with 10 - 3/8" x 1" flange bolts, 10 - 3/8" flat washers and 10 - 3/8" lock nuts (T).

22. Attach mount plate to hood handles with 2 - u-bolts (U). Install mount plate so rubber is tight against hood and front hose cover plate. Tighten u-bolts.



**Fully oscillate the blade angle and tilt, and the tractor steering, suspension and rear 3-point to check for adequate clearance. Adjustments to steering stops may be necessary if any interference with tires.**

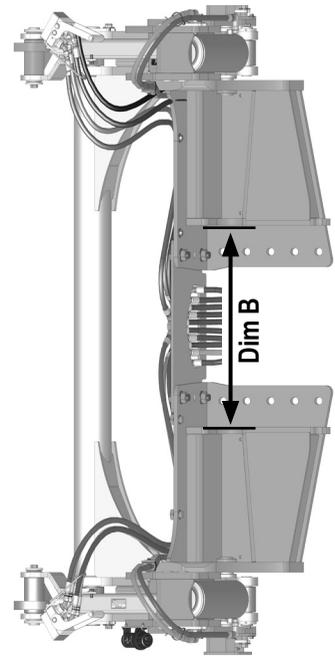
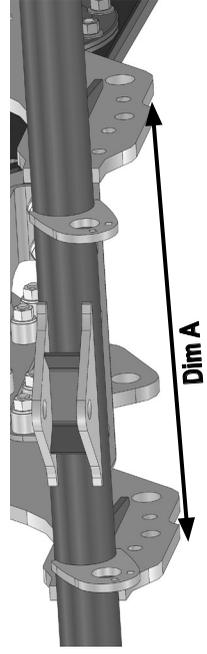
**The minimum clearance between any part on the blade and the front tires when the blade is fully angled, should be 3". If more clearance is necessary between the blade and front tires, call Grouser Products.**

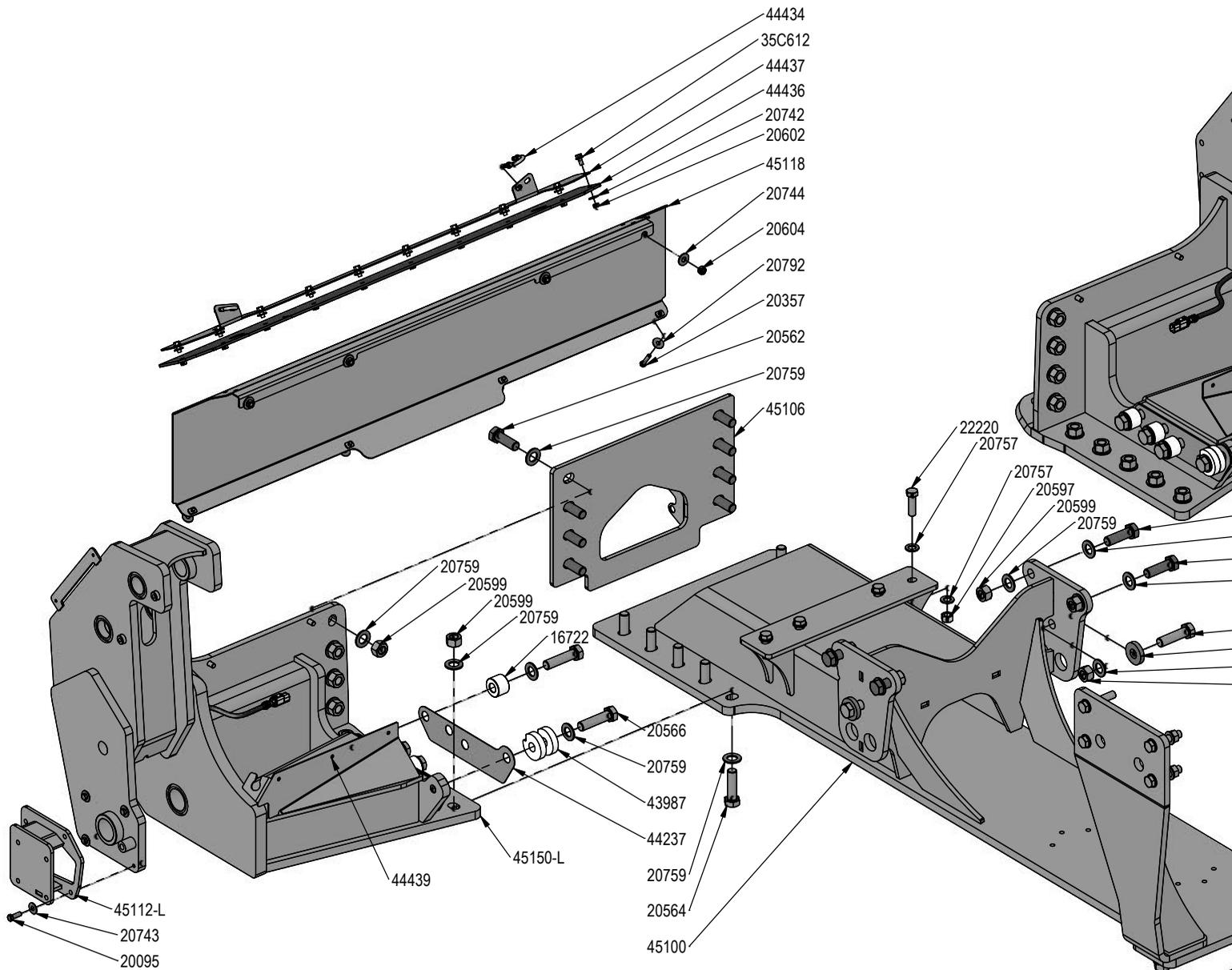
## Maintenance

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. Inspect hoses at articulation point and around lift system. Check for any abrasion or damage to hoses.

		Grouser Frame Width (DIM B)																					
		30.09	30.13	30.16	30.19	30.22	30.25	30.28	30.31	30.34	30.38	30.41	30.44	30.47	30.50	30.53	30.56	30.59	30.63	30.66	30.69	30.72	30.75
29.56	1.00		1.00	2.00	2.00	3.00	3.00	4.00	4.00	5.00	5.00	6.00	6.00										
29.59			1.00	1.00	2.00	3.00	3.00	4.00	4.00	4.00	5.00	6.00	6.00										
29.63				1.00	2.00	2.00	3.00	3.00	3.00	4.00	4.00	5.00	6.00	6.00									
29.66					1.00	2.00	2.00	3.00	3.00	3.00	4.00	5.00	6.00	6.00									
29.69						1.00	2.00	2.00	2.00	3.00	3.00	4.00	5.00	6.00	6.00								
29.72							1.00	1.00	2.00	2.00	3.00	4.00	5.00	6.00	6.00								
29.75								1.00	1.00	2.00	2.00	3.00	4.00	5.00	6.00	6.00							
29.78									1.00	1.00	2.00	3.00	4.00	5.00	6.00	6.00							
29.81										1.00	1.00	2.00	3.00	4.00	5.00	6.00	6.00						
29.84											1.00	2.00	3.00	4.00	5.00	6.00	6.00						
29.88												1.00	2.00	3.00	4.00	5.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00

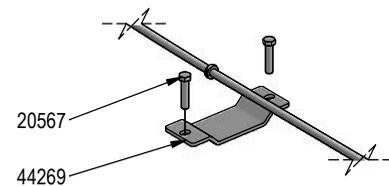
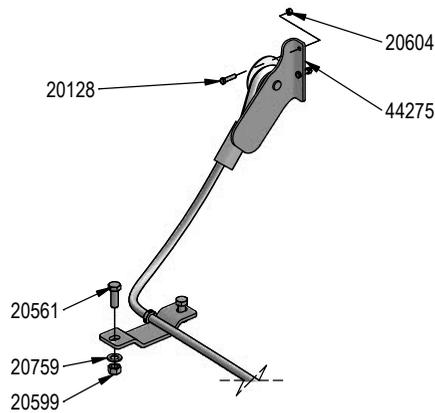
Total # of shim needed for Step #2 on Page 3

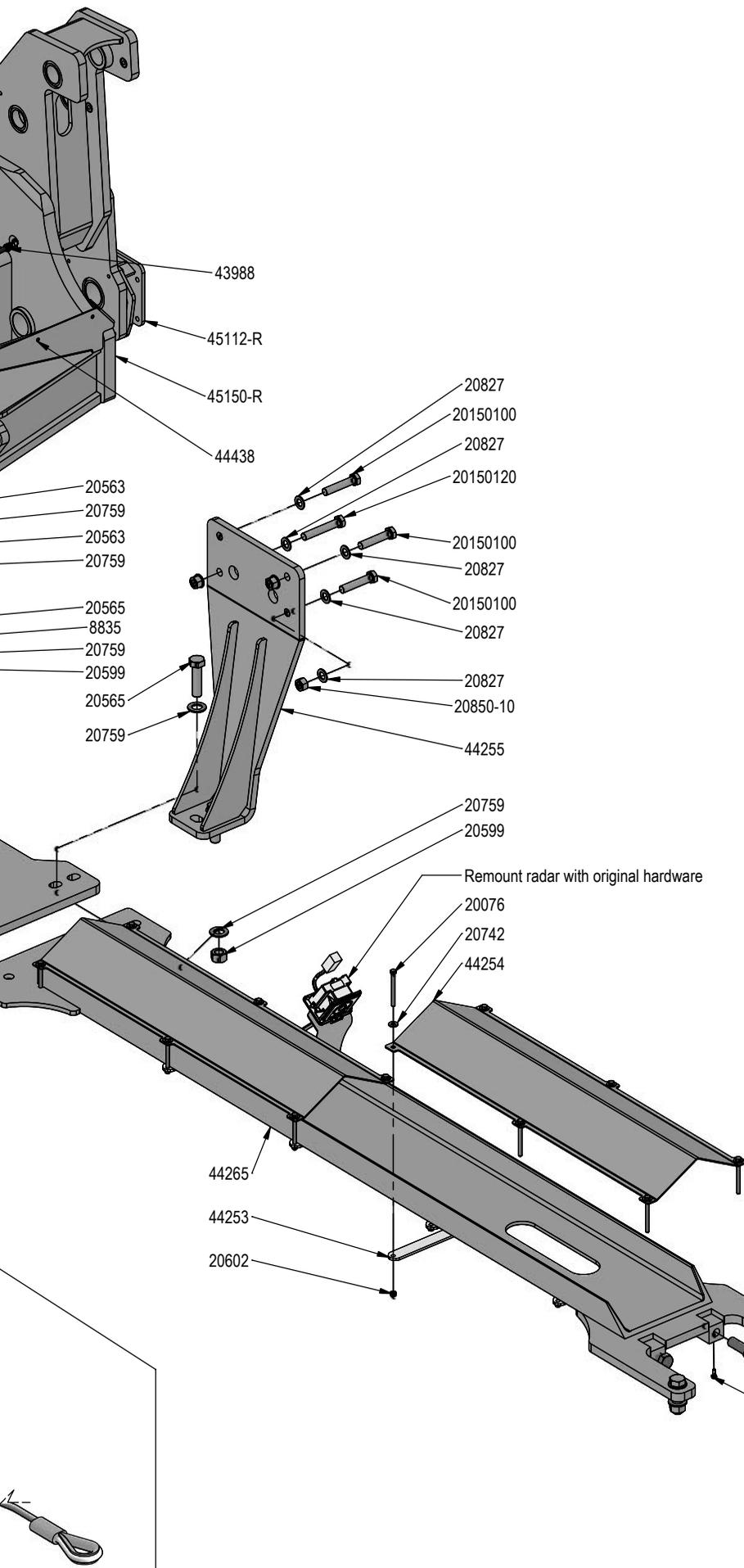




**45115 - Tow Cable Mounting Kit - Cable Not Included**

PART NO.	QTY.	DESCRIPTION
20128	2	1/2" X 2" Hex Bolt Gr 5 NC CZ
20561	2	1" X 2-3/4" Hex Bolt Gr 8 NC YZ
20567	2	1" X 4-1/2" Hex Bolt Gr 8 NC YZ
20599	2	1" Hex Nut Gr 8 NC CZ
20604	2	1/2" Hex Center Lock Nut Gr 5 NC CZ
20759	2	1" SAE Hardened Flat Washer - 2" OD
44269	1	Mid Cable Supprt
45116	1	Front Cable Supprt
44275	1	Front Cable Mount





PART NO.	Qty.	DESCRIPTION
35C612	10	3/8" x 3/4" Flange Bolt
8835	2	1.00" x 2.50" x .50" HD Washer CZ
16722	6	Spacer
20032	2	5/16" X 3/4" Hex Bolt Gr 5 NC CZ
20076	12	3/8" X 4" Hex Bolt Gr 5 NC CZ
20095	8	7/16" X 1-1/4" Hex Bolt Gr 5 NC CZ
20357	4	3/8" X 1-3/4" Hex Bolt Gr 8 NC YZ
20562	10	1" X 3" Hex Bolt Gr 8 NC YZ
20563	4	1" X 3-1/4" Hex Bolt Gr 8 NC YZ
20564	12	1" X 3-1/2" Hex Bolt Gr 8 NC YZ
20565	6	1" X 3-3/4" Hex Bolt Gr 8 NC YZ
20566	8	1" X 4" Hex Bolt Gr 8 NC YZ
20597	4	3/4" Hex Nut Gr 8 NC CZ
20599	30	1" Hex Nut Gr 8 NC CZ
20602	23	3/8" Hex Center Lock Nut Gr 5 NC CZ
20604	4	1/2" Hex Center Lock Nut Gr 5 NC CZ
20742	22	3/8" Flat Washer CZ
20743	8	7/16" Flat Washer CZ
20744	4	1/2" Flat Washer CZ
20757	8	3/4" SAE Hardened Flat Washer - 1-1/2" OD
20759	66	1" SAE Hardened Flat Washer - 2" OD
20792	4	3/8" Fender Washer (1.25" OD)
20827	14	20mm Flat Washer
20850-10	6	M20-1.5 Class 10.9 Hex Nut CZ
22220	4	3/4" X 2-1/2" Hex Bolt Gr 8 NC YZ
43987	4	Spacer
43988	1	Claas Light Harness Extension
44237	6	Shim
45100	1	Front Sub Weld
44253	5	Plate, Cover Bracket
44254	2	Plate, Push Pole Cover
44255	2	Side Plate
44265	1	Rear Undercarriage Weld
44434	2	U-Bolt
44436	1	Hood Skirt Rubber
44437	1	Hood Skirt Mount Plate
44438	1	Claas Air Connection Mount Plate
44439	1	Claas120V Mount Plate
45106	1	Front Plate Weld
45112-L	1	Toolbox Relocation Bracket, Left
45112-R	1	Toolbox Relocation Bracket, Right
45118	1	Front Cover Weld
45150-L	1	Left Mount Weld
45150-R	1	Right Mount Weld
20150100	6	M20-1.5 x 100mm Class 10.9 Hex Bolt CZ
20150120	2	M20-1.5 x 120mm Class 10.9 Hex Bolt CZ
NA	1	Serial Number Tag
43988	1	Claas Light Harness Extension

DWG. NO.: 45110-A

# 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.

## 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 (2) years for Agriculture Series Blades and one (1) year for Heavy Duty Series from date of original retail delivery.**

### The obligation of the consumer under this warranty:

1. To read the operators manual and to operate, lubricate, maintain and store equipment in accordance with the instructions listed in the operators manual.
2. To inspect equipment and if any part needs repair or replacement when continued use would cause damage or wear to other parts or safety.
3. 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.

### The obligation of the dealer under this warranty:

1. Complete warranty registration form and submit within 30 days of sale.
2. Contact Grouser Products for authorization prior to performing any warranty repairs or part replacement.
3. Complete warranty request form and submit with photos and supporting documentation.

### The obligation of Grouser Products under this warranty:

1. Repair or replace, any equipment or parts, in the judgment of Grouser Products to be defective in material or workmanship.
2. Grouser Products will cover the cost of parts and ground shipping at dealer invoice only.
3. 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.

### This warranty does not cover:

1. Depreciation or damage caused by normal wear, accident, improper assembly, improper adjustments.
2. Improper maintenance including lack of proper lubrication, or improper use. Including loose bolts, nuts, or fitting due to over tightening or vibration after 20 hours of operation.
3. Repairs or alterations without authorization from a Grouser Products representative.
4. 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.

**NO EMPLOYEE OR REPRESENTATIVE OF GROUSER PRODUCTS IS AUTHORIZED TO CHANGE THE WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.**

## Contact Us

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



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