Windrow Merger Attachment

For John Deere R450 Self-Propelled Windrower

Operator Manual

Includes installation, operating, adjustment, maintenance, technical, repair parts and safety instructions for the windrow merger attachment.

Please retain this document for future reference.

RCI Engineering LLC
www.RCIengineering.com

RC052363 Rev B (16December2011)

RCI Engineering LLC
New Attachments for Agricultural Equipment
Warranty Statement

RCI Engineering LLC, hereinafter referred to as RCI, warrants new RCI attachments, to the Original Retail Purchaser to be free from defects in material and workmanship for a period of one (1) year from the date of sale.

RCI warranty includes:

Genuine RCI parts costs required to repair or replace equipment at the selling dealer's business location.

RCI MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, EXPRESSED OR IMPLIED (INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR PARTICULAR PURPOSE), EXCEPT AS EXPRESSLY STATED IN THIS WARRANTY STATEMENT.

RCI WARRANTY DOES NOT INCLUDE:

1. Transportation to the selling dealer's business location or, at the option of the Original Retail Purchaser, the cost of a service call.
2. Freight costs above standard shipping costs for the replacement parts.
3. Labor to make the repair or installation of the failed component.
4. Used equipment.
5. Components covered by their own non-RCI warranties, such as tires and trade accessories.
6. Repairs or adjustments caused by: improper use; non-intended use; failure to follow recommended maintenance procedures; use of unauthorized attachments; accident or other casualty.
7. Liability for incidental or consequential damages of any type, including, but not limited to lost profits or expenses of acquiring replacement equipment or damage to machines to which the attachment is installed.

No agent, employee, or representative of RCI has any authority to bind RCI to any warranty except as specifically set forth herein. Any of these limitations excluded by local law shall be deemed deleted from this warranty; all other terms will continue to apply.

Note regarding the belt used in the windrow merger attachment:

The belts used in this product are warranted against defects in material and workmanship for the period stated above. This warranty does not include damaged caused to the belt by debris, foreign material, misalignment or other tracking issues, or from contact with other components that are misadjusted by the operator.

Windrow Merger Attachment for John Deere R450

Intended Use:
For merging windrows with an R450 in front of a Self-Propelled Forage Harvester or in conditions that do not require wide swaths for dry-down. This bundle can eliminate the need for an operation of raking or merging. This attachment works with 994 (4.5 m) and 995 John Deere Rotary Platforms.

Additional Information:
An additional kit needs to be installed on the rear axle for proper operation of the WMA. Bundle BE32216 Narrow Axle Wedge Kit, RH, is available from John Deere to allow the right rear tire to be moved in completely to allow for room for the windrow at the right side of the machine.

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Safe Operation of Machine

Operator Authorization

The machine owner must provide the operator of the machine this manual and ensure that the operator reads and understands the contents. This must be performed before the machine is put into operation.

Safety Alert Symbol

This safety alert symbol is used to alert the operator to the potential for personal injury. Whenever this symbol is noticed in this manual or on the machine, be alert to the situation and read the message near the symbol. Always be alert for the potential for personal injury.

General Safety Precautions / Accident Prevention

Before operation of the machine each time, check the entire machine for operational and road safety. Refer to the Operator's Manual for the 4995 Self-Propelled Windrower for all information regarding the windrower. This manual is for the windrow attachment and only covers items related to the operation of the attachment.

1. The warning and safety decals on the attachment provide important information to ensure safe operation of the machine. Read and follow these instructions at all times to remain safe.

2. Before operation of the machine, familiarize yourself with all controls of the machine and attachment as well as the function of the unit.

3. Check all guards and shields to make sure they are in place and functional. Replace any defective or missing guards, shields, or components before operation.

4. Avoid loose fitting clothing. The operator should always wear close-fitting clothing and sturdy footwear.

5. When traveling on public roads or transporting the machine, obey all regulations for the area. See TRANSPORTING THE MACHINE for more information on proper machine setup for transportation.

6. Before harvesting begins each time the machine is operated, inspect the area around the machine. Ensure that no one is close to the machine for bystander safety.

7. Keep clear of the working and danger area of the machine.

8. Use caution when working on moveable components of the machine. There are many pinch and shear points.

Safety Warning Signs

Safety Messages
Whenever the words and symbols shown below are used in this manual or on the machine, the instructions MUST be followed as they relate to personal safety.

DANGER in white letters on a red background indicates an imminently hazardous situation that, if not avoided, will cause death or very serious injury.

WARNING in black letters on an orange background indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION in black letters on a yellow background indicates a potentially hazardous situation that, if not avoided, may result in minor injury.

Safety Sign Locations

1

2

3

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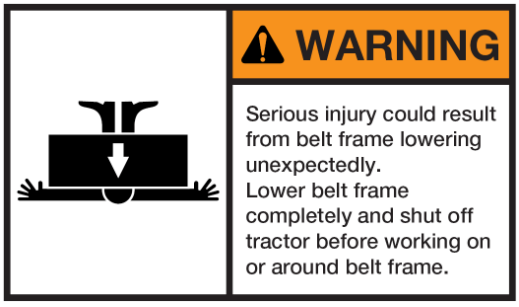

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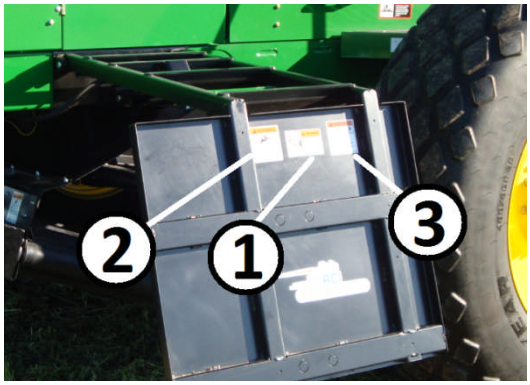
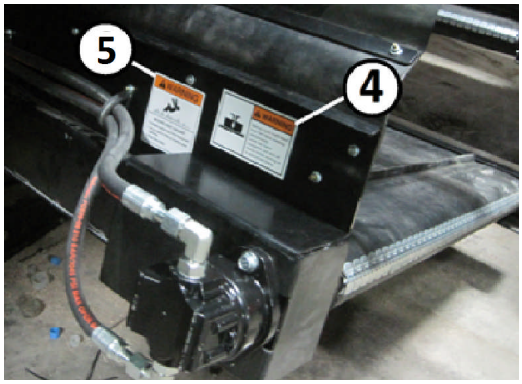
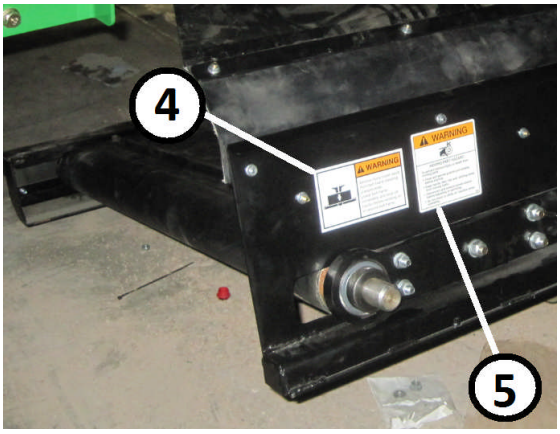
Safety Sign Locations



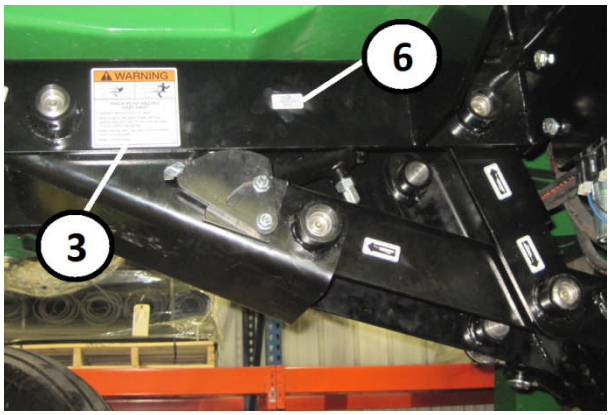
Deflector



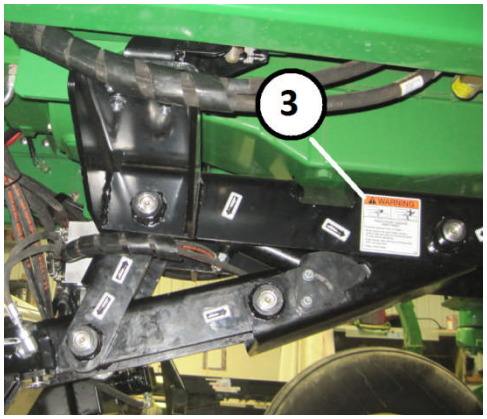
Right End of Cross Belt



Left End of Cross Belt



Right Side of Pivot Mechanism
Note: Key 6 is Serial Number Decal



Left Side of Pivot Mechanism

Ladder

MACHINE TRANSPORT

This procedure is to be followed when transporting the machine with the tires removed. Always follow all transportation procedures outlined in the R450 Self-Propelled Windrower Operator's Manual.

First, with the engine running, disable the windrow merger attachment. See ENABLE/DISABLE THE WINDROW MERGER ATTACHMENT Section of the OPERATING THE ATTACHMENT Section.

Second, move the deflector cylinder to the outer hole at the base. Move the rod end of the cylinder to the hole closest to the cylinder. See Figure 1.

Figure 1. Deflector Positions
Key 1 – Rod End Positions
Key 2 – Base End Positions

If removing the platform, it may be advantageous to use a 4"x4"x 102" to 110" long board (or equivalent) to support the front of the Power Table (Front Belt Frame) on the lift arms and keep the Power Table attached to the R450 for transport. See Figure 2.

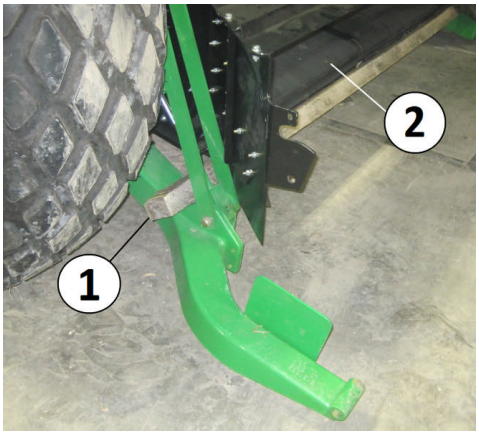


Figure 2. Support of Power Table
Key 1 – 4"x4" Board
Key 2 – Power Table

When removing the platform, follow the procedure outlined in the Platform Operator Manual. However, remove the lower bolts that fasten the Power Table to the forming shield mounting location first, taking care to allow the Power Table to rest on the board before removing the platform.

When reinstalling the platform, check to make sure the top bolts and bushings for the forming shields are loosely installed first before connecting the machine. Once the platform is attached, tilt the platform back to align and attach the Power Table to the platform. For prepping for the field from shipping, reverse all adjustments made in this section and follow the OPERATING THE ATTACHMENT Section of this manual.

OPERATING THE ATTACHMENT

Preparing for the Field

CAUTION: To avoid bodily injury, disengage platform and shut off windrower engine before starting prechecks.

1. Conveyor down stops are adjusted (See CROSS BELT DOWN STOP in INITIAL SETTINGS section).

2. Deflector panel is adjusted for proper ground clearance (See DEFLECTOR PANEL in INITIAL SETTINGS section).

3. Trash and debris are removed from the machine, especially around bearings and above top deflector.

4. All shields and guards are properly installed and tightened. Replace any damaged or missing shields and guards.

5. Belt speed is adjusted for crop conditions (See ADJUSTING BELT SPEED in this section).

6. Deflector position is adjusted for crop conditions and mode of harvesting (See DEFLECTOR ACTUATOR in INITIAL SETTINGS section.)

7. Service items are completed (See MAINTENANCE section).

8. Belt Condition and Tension are proper (See BELT ADJUSTMENTS in ADJUSTMENTS section).

9. Belt frame is properly installed and hardware is properly fastened (See BELT FRAME INSTALLATION in SERVICE section).

10. All warning labels and signs are visible and in place. Replace any warning labels that are missing or damaged (See SAFETY SIGNS at beginning of this manual).

11. Checklist for Windrower is complete (See OPERATING WINDROWER, PREPARING FOR THE FIELD section of R450 Windrower Operator's Manual).

12. Checklist for Platform is complete (See PRESTARTING CHECKS section of the Platform Operator's Manual).

13. All adjustments for crop conditions have been made (See INITIAL SETUP CONDITIONS in PERFORMANCE section).

Enable/Disable the Windrow Merger Attachment

Refer to the R450 Self-Propelled Windrower Operator's Manual for operation of controls of Windrower.

The Windrow Merger Attachment, or WMA, needs to be ENABLED for automatic operation.

To enable the attachment, press the WMA Enable / Disable Control on the hydrostatic control handle as indicated in Figure 1.

An icon will appear in the top view of the cornerpost to indicate when the WMA is enabled.

The vertical bars with an angled belt as shown by Key 1, Figure 2, indicate that the WMA Option is installed on the machine.

When enabled, arrows are displayed as shown by Key 2, Figure 2, indicating that the WMA is active.

When activated, the WMA will deliver the windrow automatically to the side of the R450. The cross belt will raise and lower automatically when the platform is raised and lowered.

To disable the WMA, simply press the Disable Control on the Hydrostatic Control Handle, Key 3, Figure 1. This will raise the unit to transport position, disable the cross belt from turning, and turn off the WMA Enabled Icon in the Upper Cornerpost Display.

Figure 1. Hydrostatic Control Handle
Key 1 – Directional Control
Key 2 – Deflector Control
Key 3 – WMA Enable / Disable Control

Figure 2. Upper Cornerpost Display
Key 1 – WMA Installed
Key 2 – WMA Enabled

Raising or Lowering the Cross Belt
The belt frame lift mechanism uses a hydraulic cylinder independent of the platform lift circuit and is designed to automatically raise and lower at the same time as the platform.

If there is ever a need to raise or lower the cross belt independently of the platform, this can be achieved by pressing the cross belt raise or lower switches as shown in Figure 3, Key 1 and Key 2.

Note: After the cross belt is moved independent of the platform, the cross belt will resume automatic position control with the next platform position control.

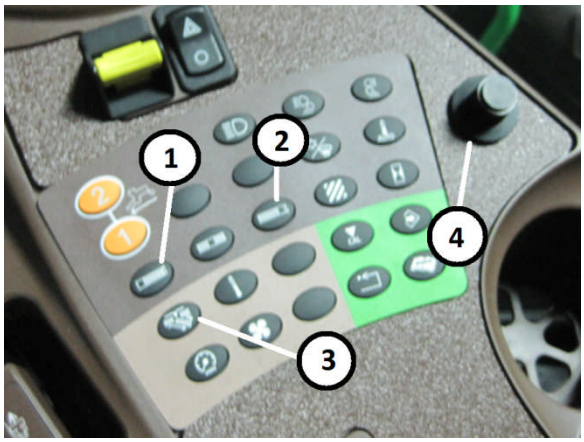


Figure 3. Cross Belt Controls
Key 1 – Cross Belt Raise
Key 2 – Cross Belt Lower
Key 3 – Cross Belt Speed Adjust
Key 4 – Adjustment Dial

Adjusting Belt Speed
Belt speed is adjusted by first pressing the Cross Belt Speed Adjust Control on the armrest (Key 3, Figure 3) followed by turning the dial (Key 4, Figure 3) clockwise for an increase in belt speed or counterclockwise for a decrease in belt speed.

Turn the dial slowly to adjust speed. Each detent (click) of the dial will adjust the belt speed 10 per cent (10%). Once the desired belt speed is selected, the controller will retain the information in memory automatically. The indicator will disappear approximately five seconds after the last adjustment is made.

Belt speed will affect windrow formation and the distance that the windrow is moved to the side of the windrower. Lower belt speeds will tend to increase the life of the belt. Use the slowest acceptable belt speed for the conditions the machine is operating in to produce the desired windrow effect.

Figure 4. Lower Cornerpost Display
Key 1 – Cross Belt Speed Adjust Indicator

Adjusting the Deflector

The side deflector is adjusted to prevent crop from contacting standing crop in the first pass of a double-windrow formation as well as to assist in windrow formation in some crop conditions.

The side deflector position is adjusted by pressing the deflector raise / lower control on the hydrostatic control handle in the appropriate direction for the desired result (Key 2, Figure 5).

Changing Discharge Side

The WMA for the R450 has the capability of discharging to the left or to the right side of the machine.

To change the cross belt to discharge to the left, raise the platform completely with the WMA enabled. Press the left side of the directional control, Key 1, Figure 5, on the hydrostatic control handle. Then continue to operate the unit in normal operation.

To change the cross belt to discharge to the right, raise the platform completely with the WMA enabled. Press the right side of the directional control, Key 1, Figure 5, on the hydrostatic control handle. Then continue to operate the unit in normal operation.

The cross belt will change direction and angle to accommodate the discharge direction required. This setting will remain in the controller memory until it is changed.

IMPORTANT: Always verify that the cross belt is rotating the proper direction. If the direction selection is made without the platform in the fully raised position, it is possible that the belt direction may not reverse due to physical limitations of hydraulic components. When the platform is in the fully raised position, the cross belt motor will stop, allowing the valve to change direction.

Figure 5. Hydrostatic Control Handle
Key 1 – Directional Control
Key 2 – Deflector Control
Key 3 – WMA Enable / Disable Control

When discharging to the left side, no deflector is used. It is important to consider this operation and the impact on standing crop if using this in an opening pass or in heavy crop conditions. See FIELD OPERATION in this section.

To discharge to the left side of the machine, first ensure that the ladder on the machine is rotated to a raised position.

With the engine turned off, hold the handle at the ladder and release the ladder latch with a foot while maintaining contact with the guard rail for stability. See Figure 6 for more details.

Rotate the stair case and release the latch. When the ladder reaches 90 degrees (horizontal), the latch will reengage.

Figure 6. Raising Ladder for LH Discharge
Key 1 – Ladder Key 2 – Latch
Key 3 – Handle Key 4 – Guard Rail

To lower the ladder, hold the handle and remove the pressure on the latch. Disengage the latch with your foot and rotate the ladder to a lowered position. See Figure 7 for more details.

Figure 7. Lowering Ladder
Key 1 – Ladder Key 2 – Latch
Key 3 – Handle Key 4 – Guard Rail

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FIELD OPERATION

Note: Refer to the R450 Self-Propelled Windrower Operator's Manual for operation of controls of Windrower.

Summary

This following describes operation of the machine with the WMA installed for three modes of harvesting

a. Single Windrowing
b. Double Windrowing
    i. Side-by-side
    ii. Two-in-one
    iii. Left side discharge

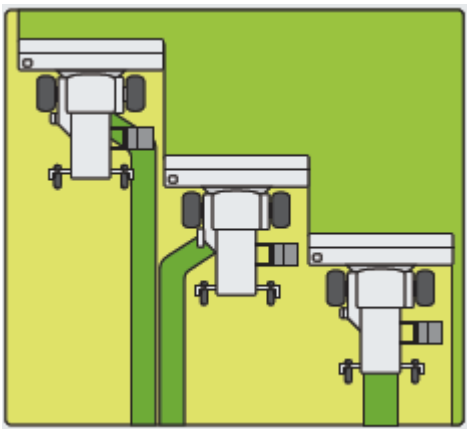

Figure 1. Discharge Options

Single Windrowing

The belt frame can remain installed for swathing operations.

Disable the WMA as indicated in the OPERATING THE ATTACHMENT Section of this manual.

Proceed with windrowing operation. The material will travel over the PowerTable and beneath the cross belt of the WMA

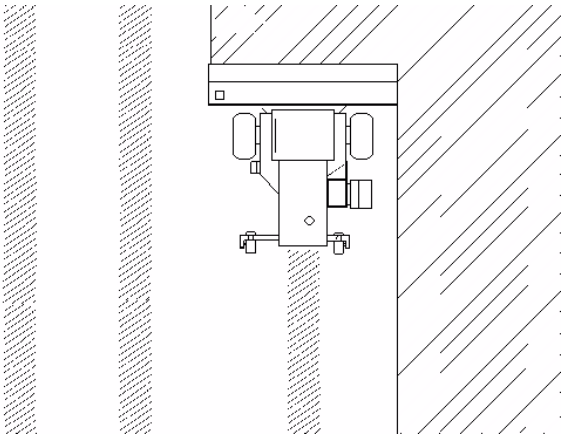

Figure 2. Single Windrowing

Double Windrowing
Two harvesting patterns are possible when double windrowing:

a/ Side-By-Side
b/ Two-In-One

Side-By-Side Double Windrowing
Side-by-side double windrowing is achieved when two windrows are merged to be placed next to each other without overlap. This windrowing method is used when drying time is needed for proper dry-down of the windrowed materials.

In light conditions, adjust the belt speed alone to reach the desired windrow. The deflector may not be needed and can remain in the raised position.

In heavy conditions, increase the belt speed as high as necessary for the conditions.

Important: Slower belt speeds increase the life of the belt.

In heavy conditions, adjust the deflector to produce the desired windrow spacing.

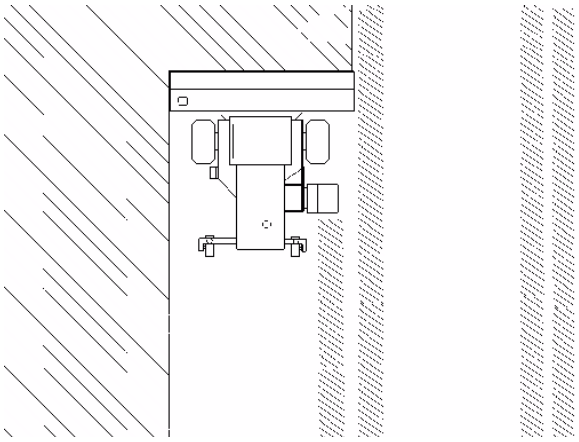

Figure 3. Double Windrowing, Side-by-side

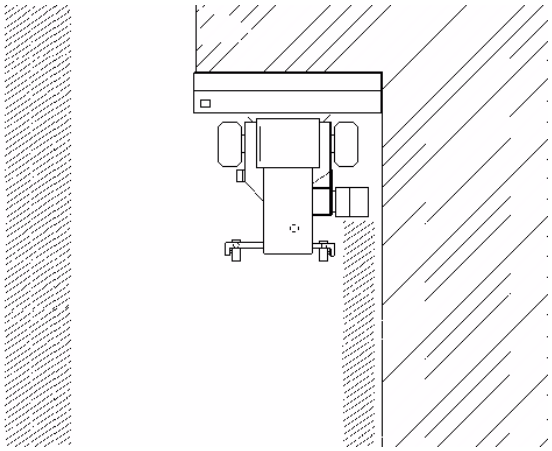

Figure 4. Double Windrowing, First Pass (Two-in-one)

Two-In-One Double Windrowing
Two-in-one double windrowing is achieved by the following steps.

a/ In the first pass, set the deflector down (heavy conditions) or slow the belt speed (light conditions) to prevent the harvested crop from contacting standing crop (see Figure 4).

b/ In the second pass, raise the deflector (heavy conditions) or increase the belt speed (light conditions) to deliver the second windrow on top of the first windrow (See Figure 5).

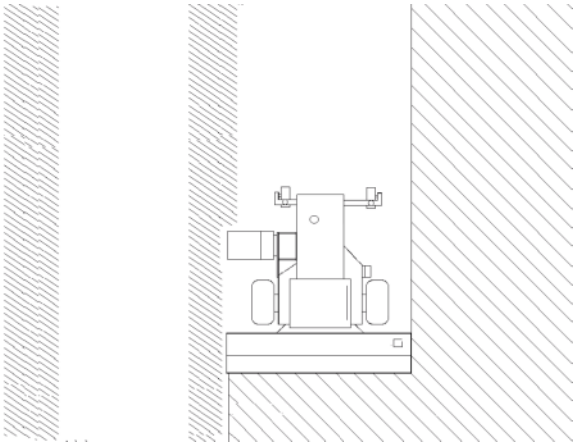

Figure 5. Double Windrowing, Second Pass (Two-in-one)

Left Side Discharge
Discharging to the left side of the machine may be used in some scenarios.

"Team Harvesting" is accomplished when one machine discharges to the left while following a machine that is discharging to the right.

Harvesting in crop circles can be a use of this option where the machine can continue to harvest around the crop circle without changing direction. This also provides for even differential in crop drying between the two windrows that are side-by-side

Power Table Function
This attachment features a front belt frame ahead of the cross belt that is referred to as the "Power Table."

The purpose of this belt frame assembly is to deliver material that drops out of the traditional crop mat passing above, back to the cross belt. It is not designed to carry the entire crop load from the platform, only the material that drops out from the main flow.

This will aide in the function of the machine in adverse crop conditions.

This belt frame is comprised of two belts that are aligned side-by-side over a set of rollers with grooves at the ends to assist with tracking.

See Figures 6 and 7 for more details.

IMPORTANT
When lowering the WMA to harvest, hold the down button on the hydrostatic handle until the cross belt is lowered completely to the stops. The unit will not lower automatically in order to maintain operator awareness of the attachment.

Figure 6. Left Side Discharge Setup

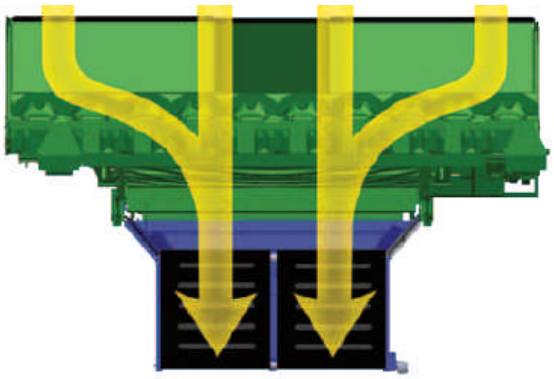

Figure 6. Bottom View of Power Table

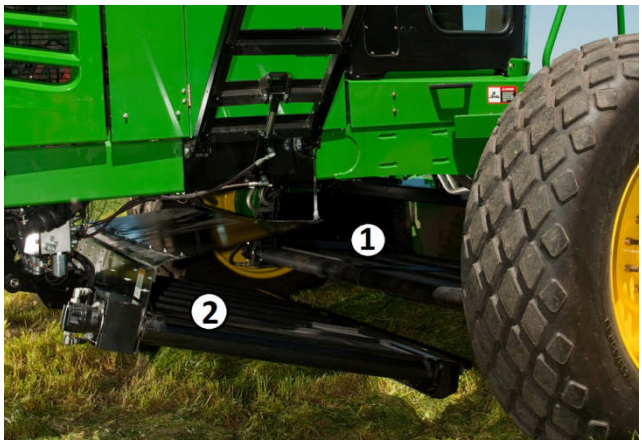

Figure 7. Power Table and Cross Belt
Key 1 – Power Table
Key 2 – Cross Belt

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INITIAL SETTINGS

Deflector

There are three sets of mounting holes at the rod end of the deflector cylinder. The closest hole to the cylinder is the standard mounting location. The other holes can be used when a lower deflector position is needed in specialty crops. See Key 1, Figure 1.

IMPORTANT:
Keep in mind that while closer ground clearance can help with specific crop conditions, extra care must be taken to prevent contact with the deflector to the ground.

At the base end of the cylinder, the pivot can be moved to the outer hole for transport on a trailer such that the deflector will not extend past the final drives on the front wheels. See Key 2, Figure 1.

Figure 1. Deflector Cylinder Postions
Key 1 – Rod End of Cylinder
Key 2 – Base End of Cylinder

Swathboard Setting

The swathboard directly behind the conditioner of the platform must be properly adjusted such that crop can pass efficiently to the WMA.

The initial setting for the swathboard is in the third notch from the completely raised position. See Figure 2.

If the swathboard is adjusted too high, crop flow may interfere with the PowerTable frame and decrease performance. If the swathboard is adjusted too low, crop flow may fall short of the cross belt and limit machine capacity.

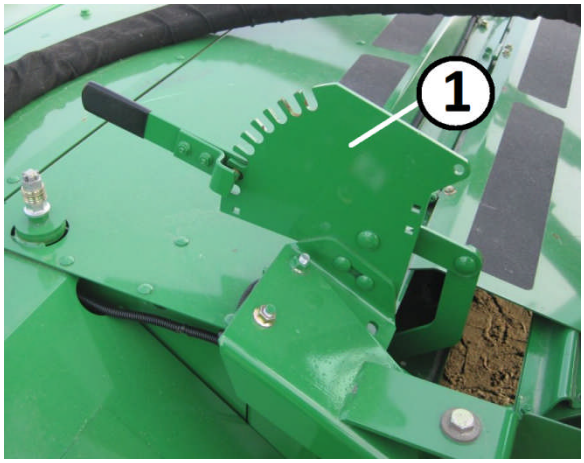


Figure 2. Swathboard Setting
Key 1 – Swatboard Control Arm

Directional Control

Select proper discharge setup. See CHANGING DISCHARGE SIDE in the OPERATING THE ATTACHMENT Section of this manual.

Conditioner Gap, Speed and Tension
The springs of the conditioner should be adjusted to factory specification such that the conditioner has enough pressure to contact the crop with enough force to eject the crop to the windrow merger attachment. Conditioner roll clearance should be set as tight as possible for best performance. Recommended setting is ½ (half) turn above "rumble" or contact point. See Operator's Manual for the platform (header) for adjustment procedure.

The platform should be operated at or above 2100 rpm for proper crop flow to the cross belt. If slower speeds than this are necessary, consider installing the 1000-rpm conditioner sheaves to drive the conditioner faster. These are available through your local John Deere dealer through the Deere parts system. Part numbers can be found in the parts catalog for your platform.

Mirror – Right Side
Adjust the RH cab mirror for visibility of the deflector and windrow. Proper adjustment will allow the operator to see the performance of the attachment during harvesting while having visibility to the rear of the machine without having to turn in the seat to look out the rear window. See Figure 3.

Camera
Adjust the camera at the right side of the machine to allow for proper viewing of crop flow to the belt. See Figure 4.

Belt Speed
Adjust the belt speed to at least half speed for starting harvesting. Failure to do so may result in poor performance of the machine.

Final belt speed adjustment is made while harvesting.

See OPERATING THE ATTACHMENT section of this manual for more information.

Figure 3. RH Mirror
Key 1 – Mirror

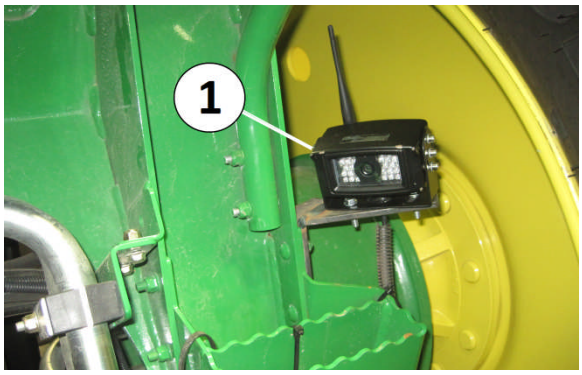


Figure 4. Camera Adjustment
Key 1 – Camera, near RH drive wheel

ADJUSTMENTS

Front Crop Guide Adjustment

The front crop guide of the belt frame prevents crop from entering the area at the front side of the belt.

Improper adjustment of this crop guide may result in premature wear and/or failure of the belt.

Always make sure area is free of debris before making adjustments.

To adjust, loosen the front bolts of the crop guide and slide to adjust the distance between the guide and the belt.

Measurement: The distance between the guide and the belt must be 6 mm (0.25 in) at the closest point. Adjust the crop guide to be as level as possible, parallel to the belt. See Figure 1 for more detail.

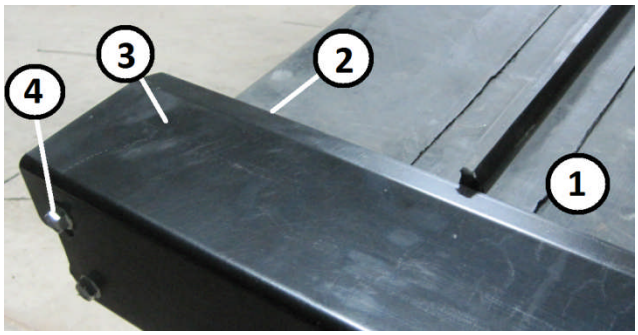


Figure 1. Front Crop Guide
Key 1 – Belt Key 2 – Gap Adjustment
Key 3 – Crop Guide Key 4 – Front Bolts

Rear Crop Guide Adjustment

The rear crop guide of the belt frame prevents crop from entering the area at the rear side of the belt.

Improper adjustment of this crop guide may result in premature wear and/or failure of the belt. Always make sure area is free of debris before making adjustments.

To adjust, loosen the carriage bolts of the crop guide and slide up or down to adjust the distance between the guide and the belt.

Measurement: The distance between the guide and the belt must be 6 mm (0.25 in) at the closest point. Adjust the crop guide to be as level as possible, parallel to the belt. See Figure 2 for details.

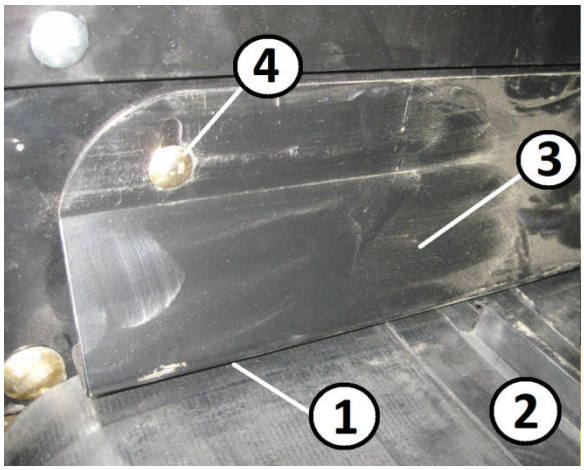


Figure 2. Rear Crop Guide
Key 1 – Gap Adjustment Key 2 – Belt
Key 3 – Crop Guide Key 4 - Bolts

Belt Tension Adjustment

The belt tension for all belts is maintained by a set of springs on the idler roller of the belt frame assembly. These springs are used to apply a specific amount of load on the belt for proper tensioning.

First, always inspect the rollers to make sure they are clean of debris. Clean as necessary.

Note: : The three M12 Lock nuts that retain the bearing carrier to the belt frame must be tightened such that the washer under the lock not cannot freely turn and the bolt head is completely engaged in the slot (approximately 10 lbf-ft (14 N-m)).

Over-tightening will not allow the bearing carrier to slide in the slots of the belt frame, which will lead to improper adjustment of belt tension. Do not tighten the bolts further after the belt tension adjustment is made as the bearing carrier must be able to slide along the frame as the belt stretches over time.

Note: Failure to maintain proper belt tension may result in poor belt performance, belt slippage, and overall shortened belt service life.

Important: Once tensioned, only relieve the belt tension for service work. Do not relieve the belt tension when the WMA is not in use (i.e. in the off-season). Releasing belt tension and then re-tensioning may cause belt reliability issues.

Follow the steps below to adjust belt tension. Begin at the rear of the belt frame.

First, loosen the jam nut (Key 3) on the adjustment bolt (Key 2).

Tighten the adjustment nut (Key 1) to compress the spring and move the idler roller (Key 4) outward to tension the belt.

Continue to tighten the adjustment nut (Key 1) until the stop bushing (Key 5) can no longer freely turn by hand. Tighten the jam nut (Key 3).

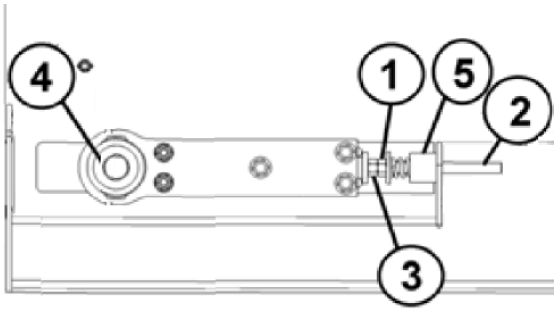


Figure 3. Roller Adjustment
Key 1 – Adjustment Nut
Key 2 – Adjustment Bolt
Key 3 – Jam Nut Key 4 – Idler Roller
Key 5 – Stop Bushing

Repeat process on the front side of the belt frame at the idler roller only.

IMPORTANT: The belt tensioning for the belts of the Power Table (Front Belt Frame) operates in an identical manner as the cross belt.

Cross Belt Down-Stop Adjustment

To adjust the down-stop position for the cross table, first lower the unit to the down position, lower the platform to the ground, and shut off the engine.

Place a jack or other lifting device under the leading edge of the cross belt. Relieve the pressure on the cross belt by lifting the leading edge.

Loosen the bolts on both sides of the pivot mechanism at the stops as indicated by Figure 4.

Lower the cross belt using the jack until there is approximately 6" (150 mm) of ground clearance under the leading edge of the belt.

Rotate the stops until contact is made between frame members and tighten bolts to specification.

SPECIFICATION:
Down-stop bolt torque: 59 ft-lbs (80 N-m)

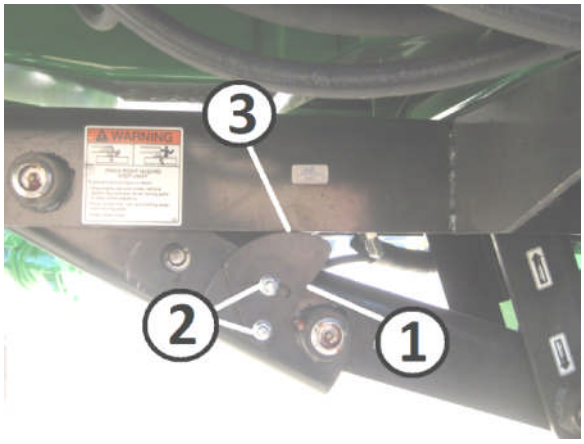
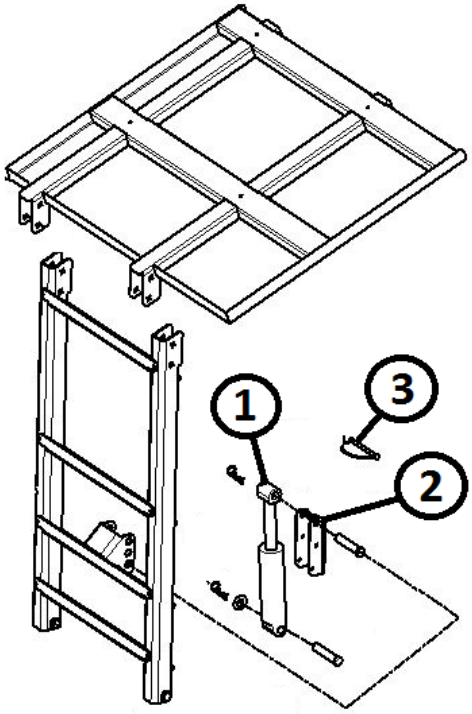


Figure 4. Down-Stop Adjustment
Key 1 – Down Stop
Key 2 – Bolts
Key 3 – Contact Point

Deflector Cylinder Lockout

A cylinder lockout is provided for the deflector lift cylinder. Use this lockout during any service of the machine in the area under the deflector. See Figure 5.



Key 5. Deflector Cylinder Lockout
Key 1 – Cylinder Key 2 – Lockout
Key 3 – Lockout Pin

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MAINTENANCE

Lubrication

The following is a list of all required lubrication points on the Windrow Merger Attachment.

Refer to the R450 Self-Propelled Windrower Operator's Manual for lubrication requirements of the windrower.

Location	Frequency	Requirement
Pivot Pins	10 hours	8 total
Stair Pivot	50 hours	1 total
Hydraulic Cylinders (3)	10 hours	6 places

Note: For grease, use same grease as recommended with the R450 and platform.

Fire Prevention

Due to the environment that this attachment operates in, the risk of fire is present. Regular inspection and cleaning can reduce the risk of fire.

Keep the attachment free of debris to limit the risk of fire.

Inspect the machine daily for any signs of damage or failed components. This includes but is not limited to sounds that may indicate an early warning of a failure and unusual wear patterns that indicate misalignment or an early sign of failure.

IMPORTANT: Keep rollers and drive components clear of debris. Clean as necessary.

Belt Care

The belt compound includes polyester-reinforced-rubber. Although designed for durability, the following is important to consider to maximize the life of the belt.

1/ Always store the unit out of direct sunlight in a cool, dry place free of rodents.

2/ Always keep the belt and rollers free of debris, moisture (when not in use), oil, grease, and any other chemicals that may affect the belt.

3/ Do not treat the belt with any belt dressing of any kind.

4/ Prevent damage to the belt by avoiding foreign objects that may cause cuts or damage to the belt.

5/ Make any necessary repairs to the edges of the belt if they are damaged by improper adjustment or any other outside force.

6/ Use the lowest belt speed allowable for the crop conditions. Higher belt speeds typically result in lower belt life.

7/ Keep the area under the crop guides clear of crop build-up. Over time, crop debris can accumulate and cause heavy wear on the belt.

8/ Regularly inspect and adjust belt tension as needed. Improperly tensioned belts can result in belt slippage on the drive roller or excessive wear.

SERVICE

Bolt Torque Values

Note: Bolt torque values can be found at the beginning of the INSTALLATION INSTRUCTIONS section of this manual.

Belt Replacement

To replace the cross belt, lower the attachment to the down position, lower the platform to the ground, and shut off the engine.

Release the belt tension (see BELT TENSION ADJUSTMENT in the ADJUSTMENTS Section).

Remove the belt from the belt frame.

Install new belt and adjust the belt tension. (see BELT TENSION ADJUSTMENT in the ADJUSTMENTS Section).

To replace the belts of the Power Table, lower the attachment to the down position, lower the platform to the ground, and shut off the engine.

Release the belt tension (see BELT TENSION ADJUSTMENT in the ADJUSTMENTS Section).

Remove the belts from the belt frame.

Install new belts and adjust the belt tension. (see BELT TENSION ADJUSTMENT in the ADJUSTMENTS Section).

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THEORY OF OPERATION

Electrical System

The electrical system for the windrow merger attachment is integrated to the electrical system of the R450 Windrower by use of a CAN controller.

The system uses 12 volts and has a 20 amp fused limit.

This electrical system is designed such that the belt frame will raise and lower automatically with the platform. This is accomplished through the CAN controller.

Belt speed is also controlled through the controller and regulated through a PWM output on the solenoid valve.

The following diagram is the functional schematic for the wire harness used in the attachment.

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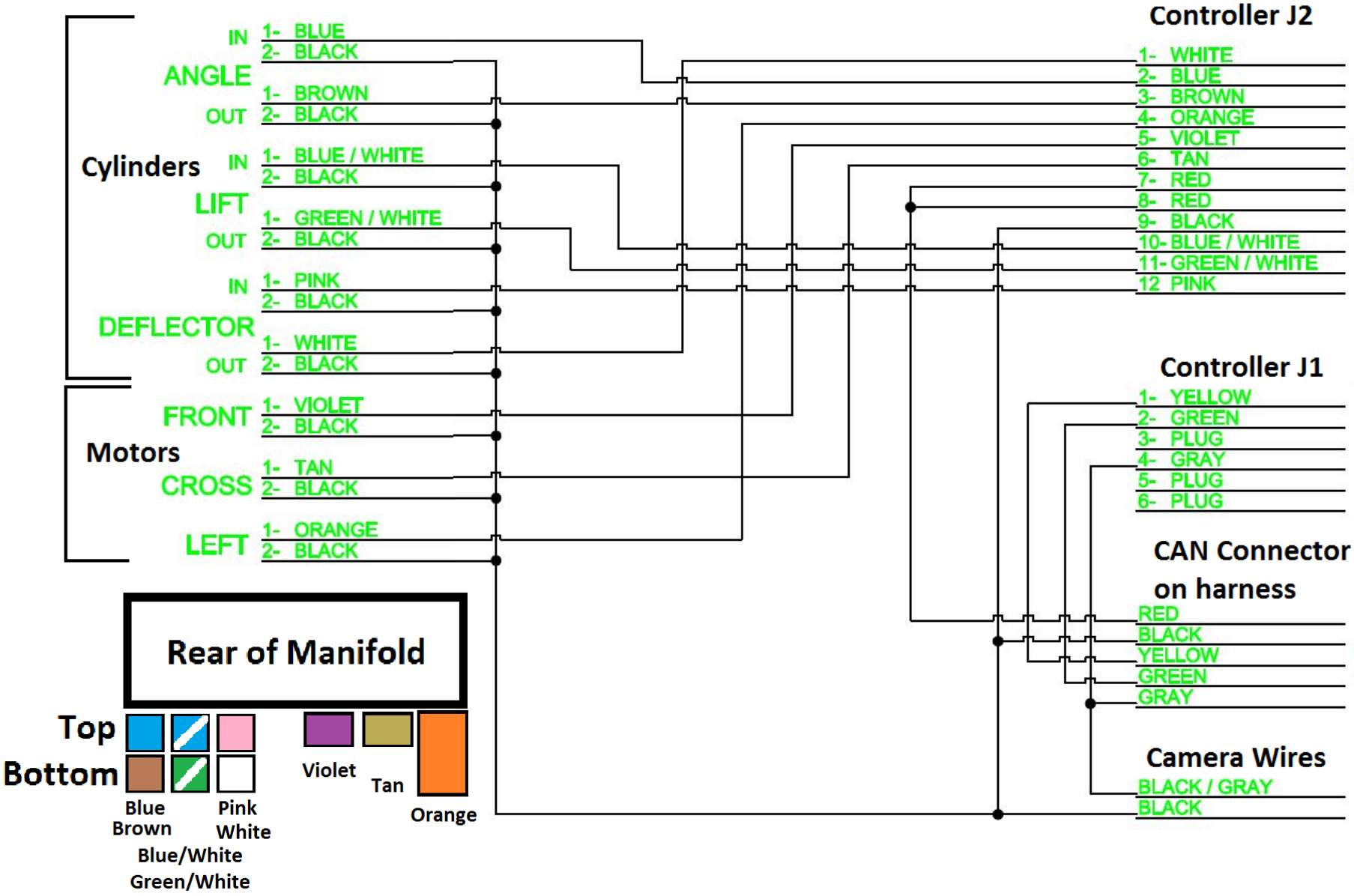
Windrow Merger Attachment Wire Harness
Functional Schematic



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Hydraulic System

The hydraulic system of the windrow merger attachment uses a dedicated circuit of the machine for all functions related to the attachment.

The circuit is supplied with oil from the a dedicated pump. The reservoir for the circuit is shared with the R450 Windrower.

See Figure 1 for more details.

SPECIFICATIONS:

System relief pressure:

20,684 kPa (3000 psi) maximum

Cylinder Circuits Relief Pressure:

10,342 kPa (1500 psi) maximum

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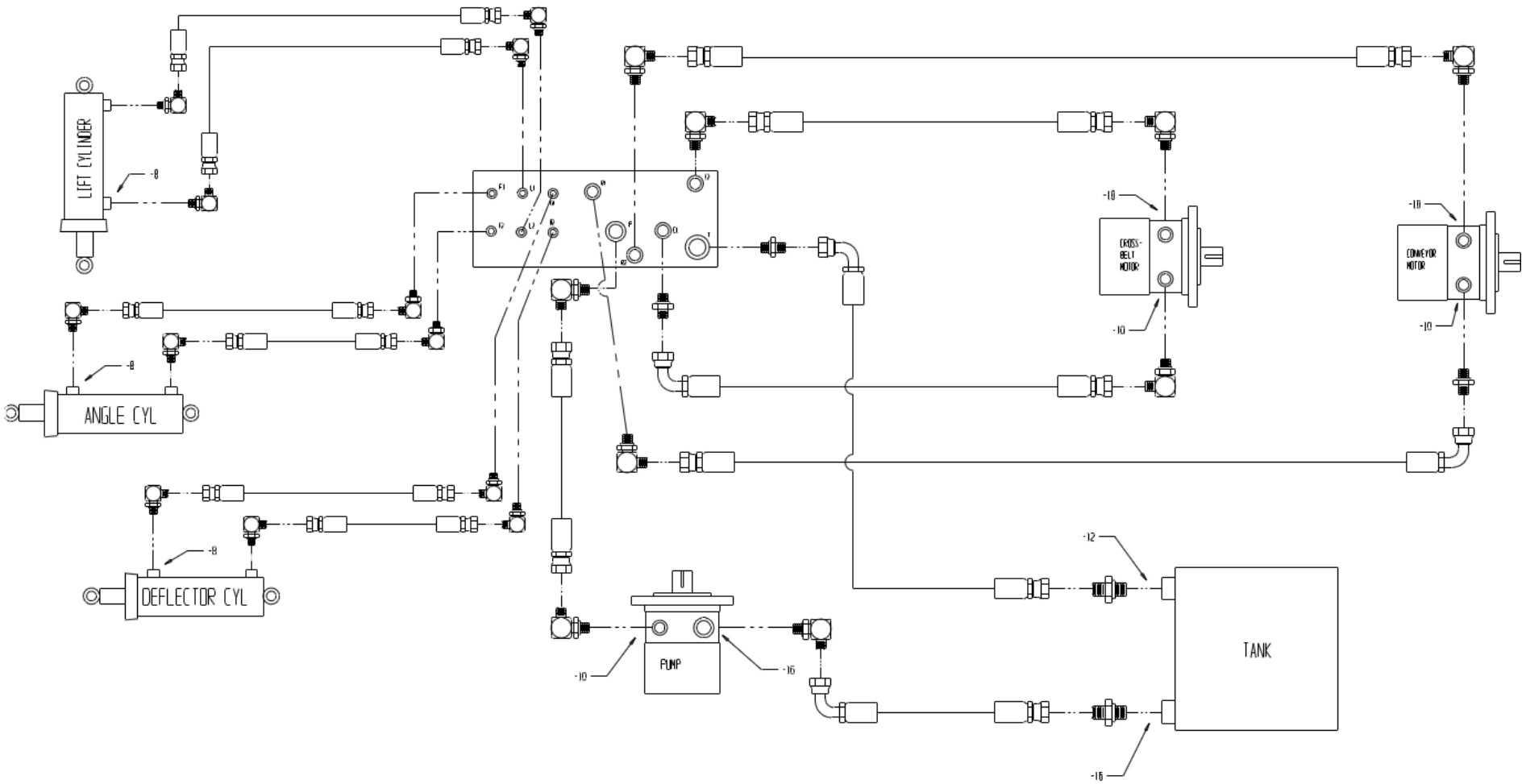

Figure 1. Hydraulic System Layout

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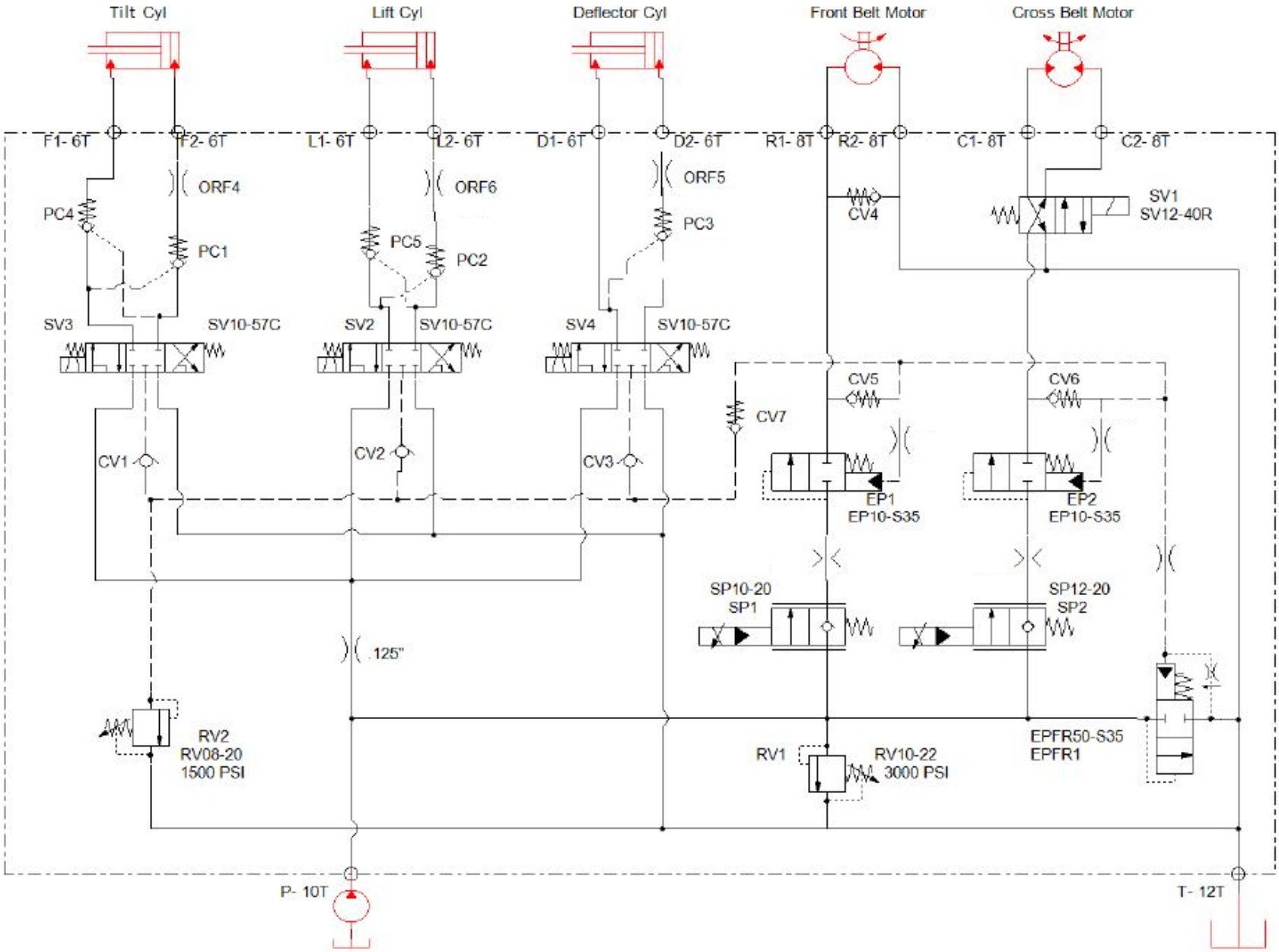
Windrow Merger Attachment

Hydraulic Valve Functional Schematic



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SPECIFICATIONS

Dimensions And Weights (all values are approximate)

Shipping Weight: 1095 kg (2415 lbs)

Shipping Dimensions:

Width: 160 cm (63 in)

Height: 150 cm (59 in)

Length: 320 cm (126 in)

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INSTALLATION INSTRUCTIONS

General Comments

1/ Removing the platform from the base machine is required for proper installation of the windrow merger attachment.

For instructions on removing the platform, refer to the R450 SELF-PROPELLED WINDROWER OPERATOR'S MANUAL.

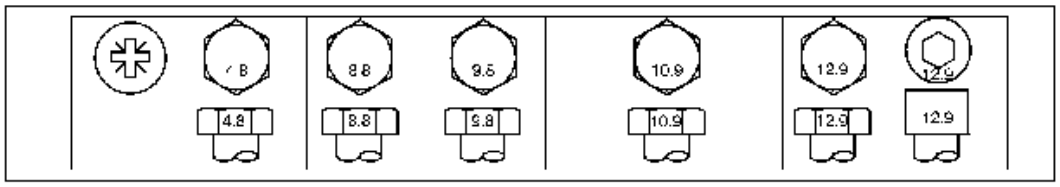
2/ When the platform is removed, also remove the forming shields from the platform. The WMA features a front conveyor / Power Table that replaces the forming shields on the machine.

3/ The following is a list of special tools that will be needed to complete the installation.

a/ hydraulic reservoir vacuum device (or shop vacuum to place vacuum on hydraulic system for short amount of time to change components)

b/ 13/16" (20 mm) drill bit and drill

Metric Bolt and Screw Torque Values



Bolt or	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
Screw	Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]		Lubricated[a]		Dry[b]	
Size	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in
M6	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
									N·m	lb-ft	N·m	lb-ft	N·m	lb-ft	N·m	lb-ft
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
			N·m	lb-ft	N·m	lb-ft	N·m	lb-ft								
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
	N·m	lb-ft														
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a]"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C zinc flake coating.

[b]"Dry" means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B zinc flake coating.

Standard Bolt and Screw Torque Values

Bolt or	SAE Grade 1				SAE Grade 2[a]				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
Screw	Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]		Lubricated[b]		Dry[c]	
Size	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in	N·m	lb-in
1/4	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N·m	lb-ft	N·m	lb-ft
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N·m	lb-ft	N·m	lb-ft				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N·m	lb-ft	N·m	lb-ft	N·m	lb-ft								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N·m	lb-ft														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

[a] Grade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

[b] "Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C zinc flake coating.

[c] "Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B zinc flake coating.

Pivot Mechanism Installation

Preparation of Machine

Ensure that the engine is shut off, key is removed, and area is clear of clutter and hazards.

Loosen hose routings on R450 under engine mounts at right side under cross member in frame. Loosen clamps if needed to rotate to provide adequate slack to allow for frame to be mounted below engine mounts.

See Figure 1.

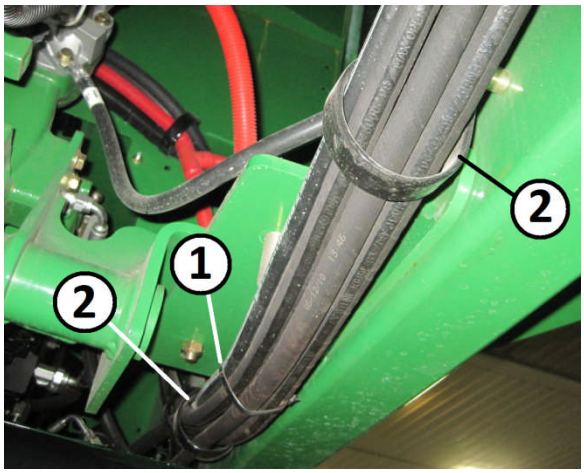


Figure 1. RH Hose Routing
Key 1 – Tie Band Key 2 – Hose Clamps

Remove the hose mount at the left frame rail under the engine mount. See Figure 2, Key 1. Cut the hose clamp support rod, Figure 2, Key 2, from the frame rail. Loosen the hose clamp shown in Figure 2, Key 3.

IMPORTANT: Take care during removal of the threaded rod to prevent damage to any other components on the machine. Grind rod flush with frame rail and leave no burrs.

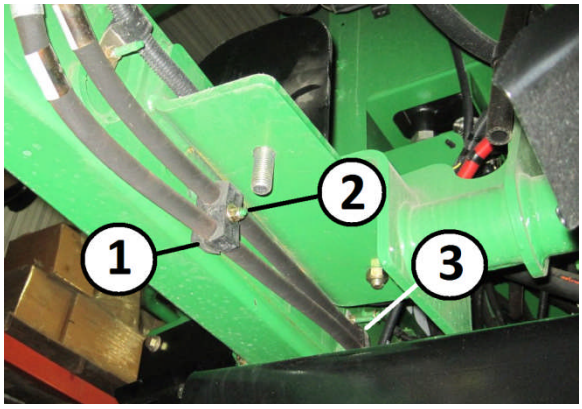


Figure 2. LH Hose Routing
Key 1 – Hose Mount Key 2 – Support Rod
Key 3 – Hose Clamp

Drill out the exposed bolt holes on the engine mount plate of the main frame. Use a 13/16” (20 mm) drill to drill the holes, using the existing holes as a pilot. Clear any debris and burrs after drilling. See Figure 3.

Lift the pivot frame into place using a forklift or other lifting device from the rear of the machine. It may be beneficial to use a forklift with fork extensions from the rear of the R450 to lift the unit into position

IMPORTANT: Take care to properly secure any loads properly to the lifting device to avoid injury.

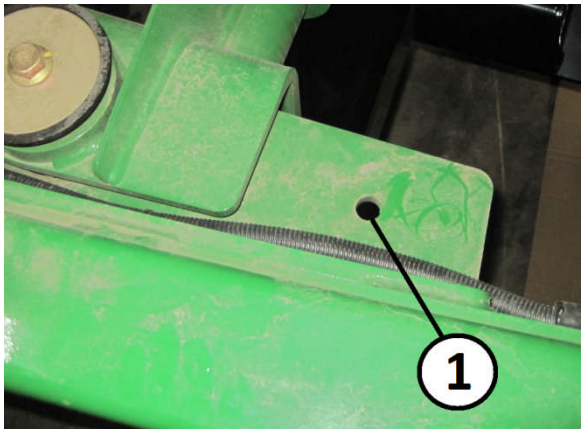


Figure 3. Engine Mount Bracket Drilling
Key 1 – Hole to be drilled (1 per side)

Installation of Pivot Mechanism

The holes at the ears at the rear of the pivot frame will align with the holes in the rear weight rack of the R450. See Figure 4.

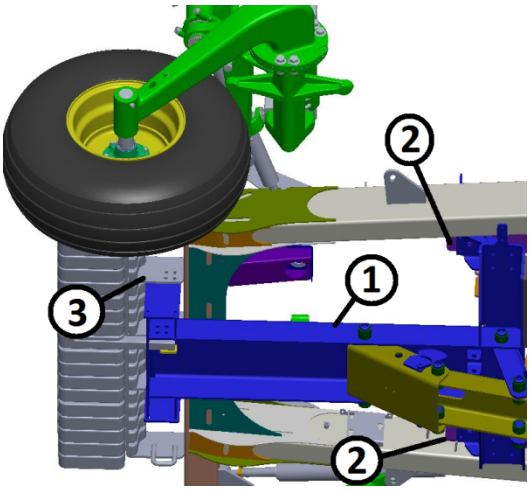


Figure 4. Pivot Frame Mounting
Key 1 – Pivot Frame (Blue)
Key 2 – Engine Mounts
Key 3 – Weight Rack Mounting

Install eight of the M12x40 Gr. 10.9 bolts and matching nuts at the rear bolt holes. See Figure 5. Hand-tighten only at this time.

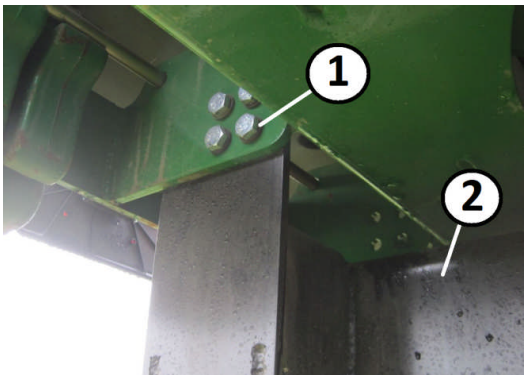


Figure 5. Pivot Frame Mounting.
Key 1 – M12x40 Gr. 10.9 Bolts
Key 2 – Pivot Frame

Install the top support brackets at each side of the engine mounts using the provided M20x60 Gr. 10.9 bolts and matching nuts. Hand-tighten only at this time. The ear of the part that makes contact with the top of the frame rail should be facing towards the front of the machine.

Install eight of the M12x40 bolts on the adapter between the engine mount and pivot mechanism on each side of the machine. Tighten to specification. Then tighten the M20 bolts to specification. See Figure 6.

SPECIFICATION:
M20 main mounting bolt torque
625 N-m (500 ft-lbs)

M12 mounting bolt torque
140 N-m (105 ft-lbs)

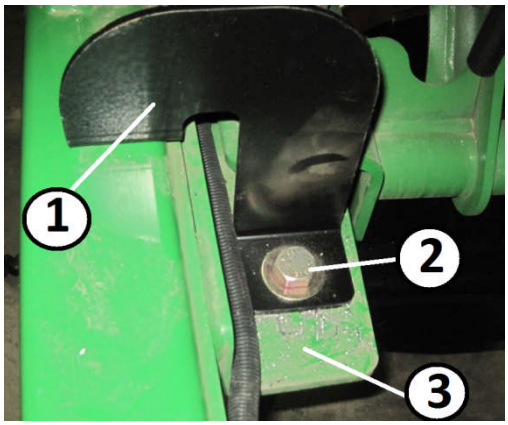


Figure 6. Support Bracket Installation
Key 1 – Support Bracket Key 2 – M20 Bolt
Key 3 – Engine Mount

Route left side hoses on windrower along frame rail tightly under new frame. Wrap affected areas with hose wrap and tighten hose clamps that were previously loosened. See Figure 7.

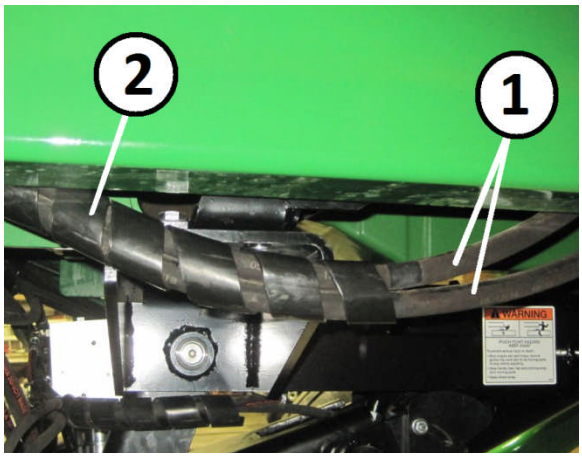


Figure 7. LH Hose Routing
Key 1 – LH R450 Hoses
Key 2 – Hose Wrap

IMPORTANT: Route air conditioning and fuel lines above the new pivot frame and avoid all sharp edges in the routing. Do not pull hoses with other hoses as this may result in machine damage. Secure hoses by properly orienting the hose clamps on frame rail. Add tie bands and secure bundle of hoses to the tip of the pivot frame through two holes provided. See Figure 8.

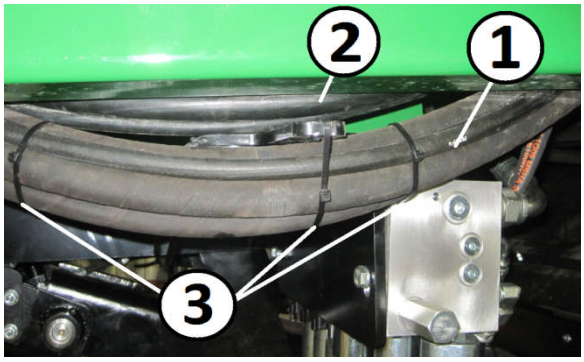


Figure 8. RH Hose Routings
Key 1 – Primary RH Hoses
Key 2 – A/C and Fuel Lines
Key 3 – Tie Bands

Hydraulic Installation

Preparation of Machine

Drain hydraulic reservoir. (To drain reservoir, see DRAIN AND FILL HYDRAULIC RESERVOIR in R450 Windrower Technical Manual.)

Remove cover plate on auxiliary pump drive on LH pump stack on R450. This is the shorter of the two stacks. See Figure 9 for reference.

Install Hydraulic Pump

Install new gear pump with o-ring, aluminum spacer, and two 3/8"x 2" Gr. 8 bolts at pump drive location. A coupler is provided to mate the existing shaft to the pump. Re-use o-ring from cover with the aluminum spacer block to the pump mount. Orient the pump such that the suction port is facing the left side of the machine. See Figure 10. Tighten bolts to specification.

SPECIFICATION:
Pump mount bolt torque: 63 N-m (46 lb-ft)

Remove plug at tank. Install SAE ORB-ORFS adapter. Install suction hose from tank to pump. See Figure 11. Route hose such that fittings align as shown in Figure 10.

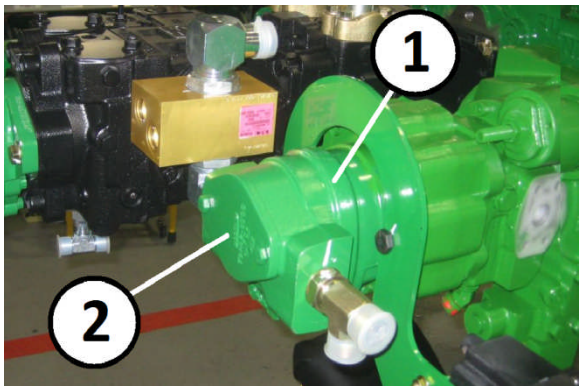


Figure 9. Pump Drive Location
(Note: components removed for clarity)
Key 1 – LH Pump Stack Key 2 - Cover

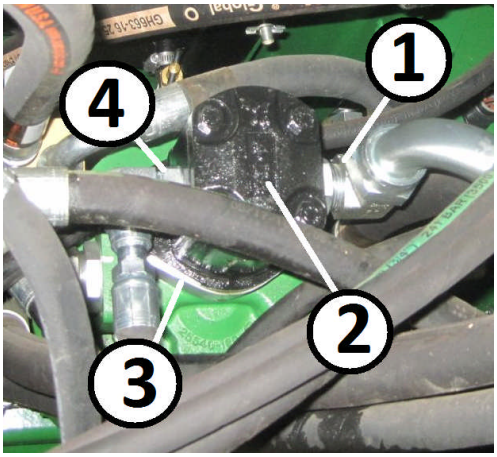


Figure 10. Pump Installation
Key 1 – Suction Fitting Key 2 – Pump
Key 3 – Adapter Key 4 – Pressure Port

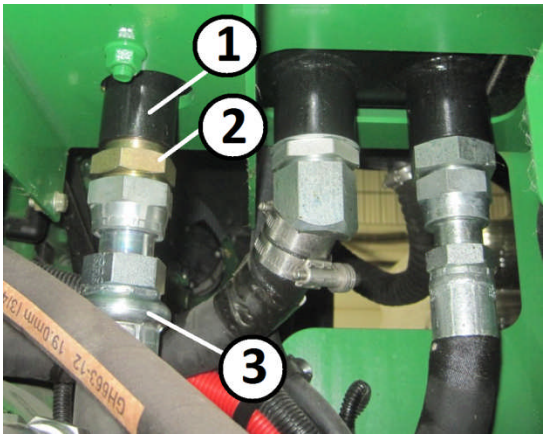


Figure 11. Suction Port at Left End of Tank
Key 1 – Suction Port Key 2 – Adapter
Key 3 – Suction Hose

Install Hydraulic Manifold

Install hydraulic manifold assembly at the right side of the pivot frame using four M10x35 Flange bolts. Orient manifold such that solenoid coils are facing down. Tighten hardware properly. See Figure 12.

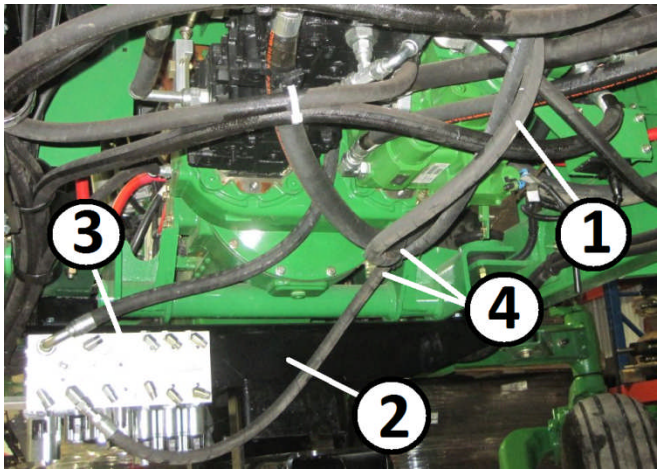


Figure 12. Manifold Assembly Installation
(Note: Parts removed for clarity.)
Key 1 – Pressure Hose Key 2 – Pivot Frame
Key 3 – Manifold Key 4 – Tie Bands

Install pressure line from manifold to the pump. The line is connected to the P-Port of the manifold. Route the pressure line under the pump stacks, directly toward the engine, and then down to the manifold. Secure line to other hydraulic lines as indicated with tie bands. See Figure 12.

IMPORTANT: It is critical to keep the routing of the hoses high so that there is no interference with moving components of the windrower merger attachment.

Remove fitting from the remaining port at the center of the hydraulic tank directly in front of the engine. This fitting is accessed best from the RH side of the machine at the engine compartment door. Loosen adjacent fittings to rotate the other hoses for clearance. See Figure 13.

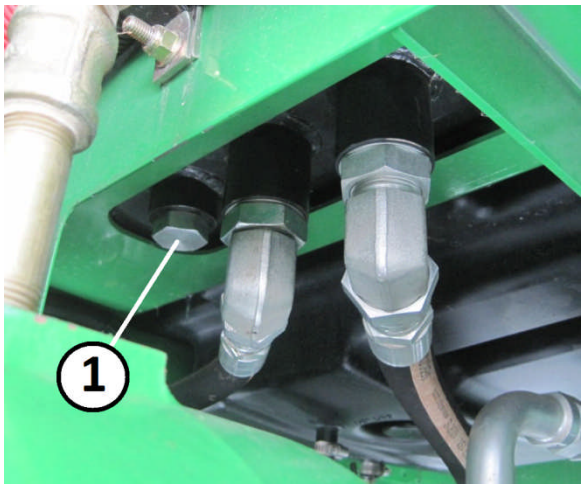


Figure 13. Tank Return Port
Key 1 - Plug

Adjust the hose support bracket that supports the adjacent hose to provide for clearance of new hose and fitting. See Figure 14.

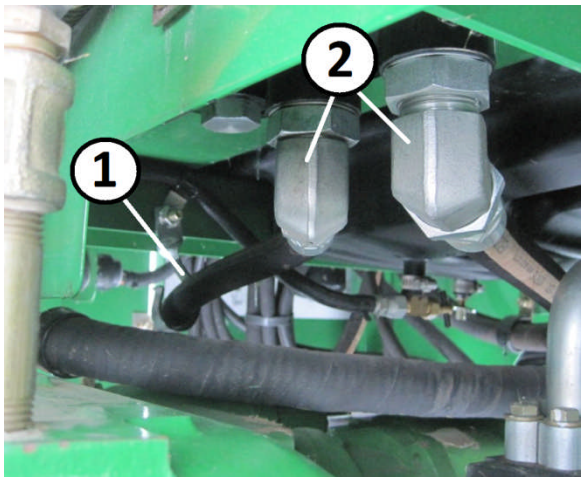


Figure 14. Hydraulic Line Adjustment
Key 1 – Hose Support Bracket
Key 2 - Fittings

Install return fitting at tank and route hose from T-Port of Manifold to the fitting at the tank. See Figure 15. Route hose straight down between pump stacks and over to the manifold.

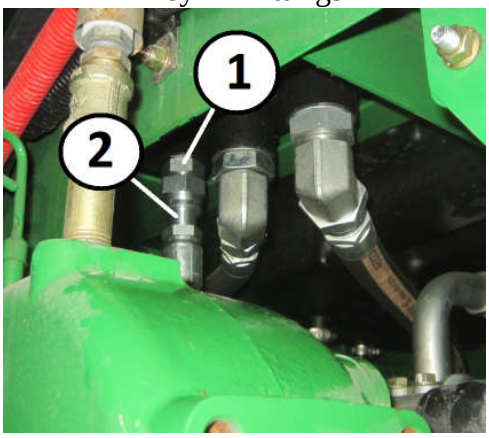


Figure 15. Return Line Installation
Key 1 – Adapter Fitting
Key 2 – Return Hose

Install Lift Cylinder Hoses

Route hoses from manifold to the lift cylinder inside the pivot mechanism. Attach the hoses to the cylinder as indicated below.

Conveyor Lift Circuit:
From Port L2 to Base end of Lift Cylinder

Conveyor Lower Circuit
From Port L1 to Rod end of Lift Cylinder

Wrap hoses at area around frame with hose wrap provided. See Figure 16.

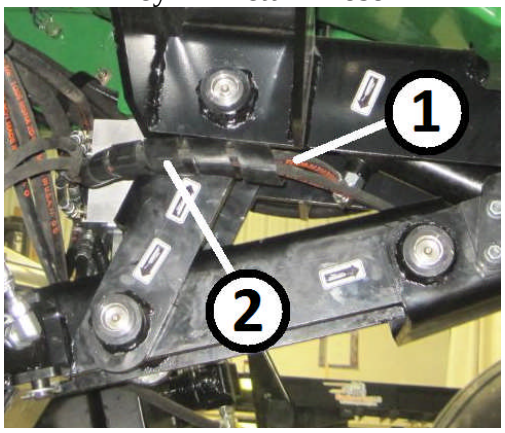


Figure 16. Lift Cylinder Hose Installation
Key 1 – Lift Cylinder Hoses
Key 2 – Hose Wrap

Install Tilt Cylinder Hoses

Route hoses from manifold to the tilt cylinder at the left side of the pivot mechanism. Attach the hoses to the cylinder as indicated below.

Left Tilt Circuit:
From Port F2 to base end of Tilt Cylinder

Right Tilt Circuit:
From Port F1 to rod end of Tilt Cylinder

Note: Fitting orientation at tilt cylinder is important. See Figure 17.

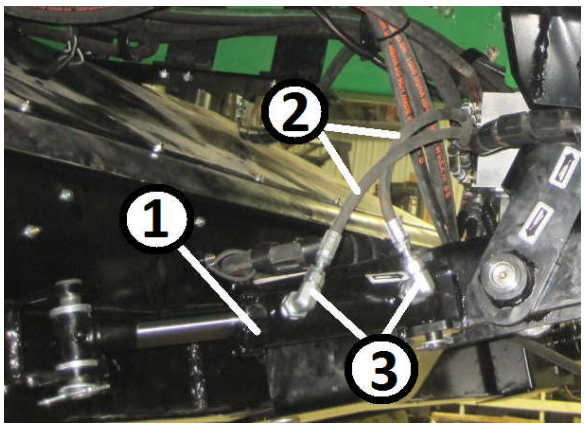


Figure 17. Tilt Cylinder Hose Installation
Key 1 – Tilt Cylinder Key 2 – Hoses
Key 3 - Fittings

Route Hoses for Power Table

Route hoses for the Power Table to the left frame rail and towards the front of the machine. Secure with tie bands at the small hose clamp as indicated. Route hoses through the larger hose clamps towards the front of the machine along the frame rail. The hoses will be connected to the motor at a later time. Keep hoses secure to the bottom side of the R450 so that they do not interfere with new components being mounted under the machine. See Figure 18.

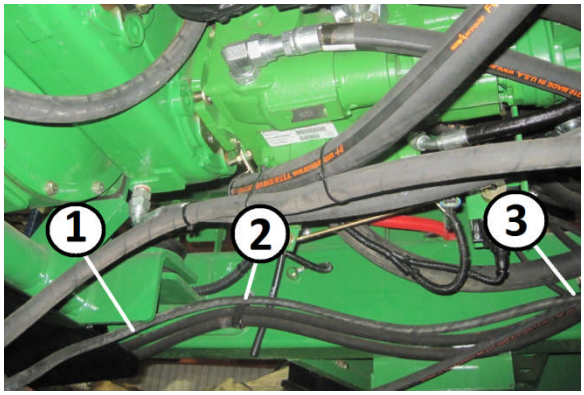


Figure 18. Power Table Hose Routing
Key 1 – Motor Hoses Key 2 – Tie Band
Key 3 – Large Hose Clamp

Install Electrical Components

Install Controller

Install the controller at the large wire harness near the R450 Fuse Panel at the access door on the right side of the machine. Use a tie band at each end of the controller and secure to the harness. See Figure 19.

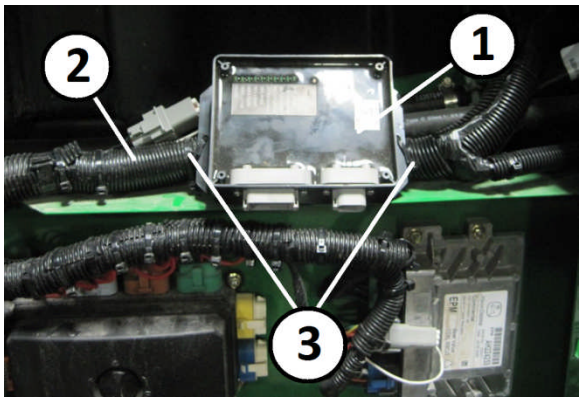


Figure 19. Controller Installation
Key 1 – Controller
Key 2 – R450 Harness Key 3 – Tie Bands

Install Wire Harness

Route the wire harness from the manifold to the controller. From the manifold, route harness along hydraulic hoses for R450. Secure the harness to the top and outside of the large hose clamps on the frame with tie bands. See Figure 20.

Note: The wire colors at the manifold are defined for reference in the THEORY OF OPERATION – ELECTRICAL Section of this manual on Page 31.

At the side access panel, route the harness to the controller along the existing wire harness using tie bands.

Remove the connector from the CAN terminal end on the R450 Harness. Remove the white wire from the cap. See Figure 22. The white wire is for retention of the cap only and is not connected to any circuitry. Wrap the white wire back on the harness and cover with electrical tape.

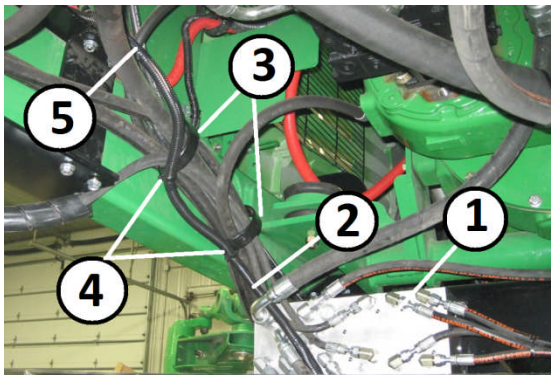


Figure 20. Wire Harness Routing
Key 1 – Manifold Key 2 – Harness
Key 3 – Hose Clamps Key 4 – Tie Bands
Key 5 – Routing to Controller

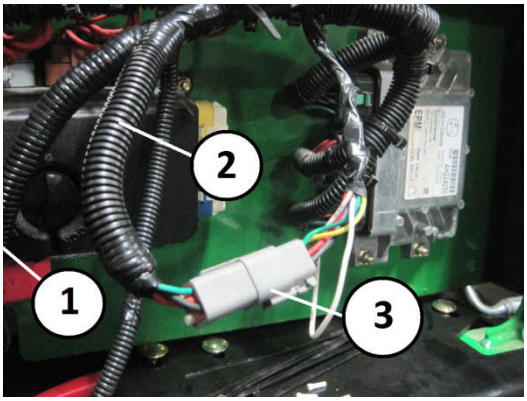


Figure 21. Harness Routing at Controller
Key 1 – Existing Harness
Key 2 – New Harness
Key 3 – CAN Connector

Install the 6-pin connector that was removed on the branch of the WMA harness that has only Deutsch Pins installed. Match the colors of the wires to the colors on the existing R450 harness and reinstall the connector on the harness. See Figure 21.

Secure the connector to the harness with a tie band.

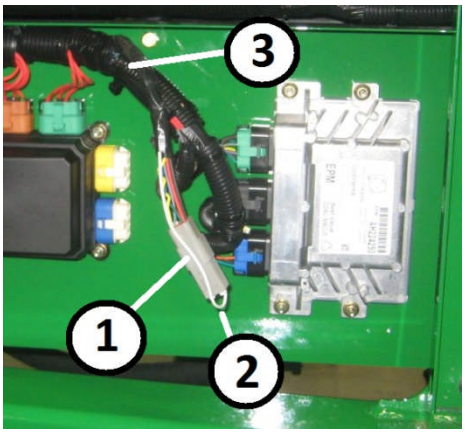


Figure 22. CAN Connector
(WMA Harness removed for clarity.)
Key 1 – CAN Connector
Key 2 – White Wire
Key 3 – R450 Harness

Install Camera

Mount the camera and bracket using existing hardware at the inside of the second step at the right wheel drop as indicated in Figure 23. The camera will fasten to the bracket using the hardware installed in the bracket. Adjust the camera to approximate a view of the cross belt and crop flow from the conditioner and power table.

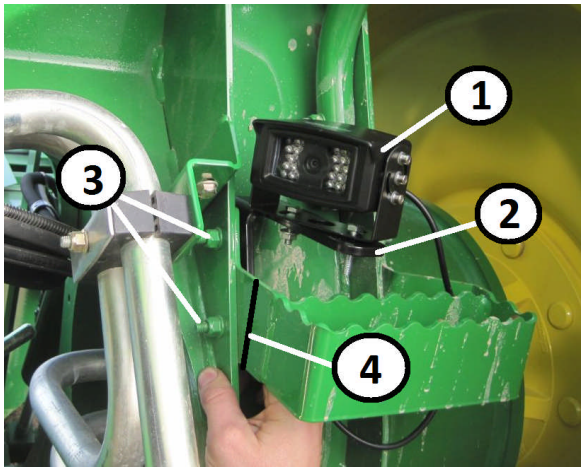


Figure 23. Camera Installation
Key 1 – Camera Key 2 – Bracket
Key 3 – Existing Bolts Key 4 – Tie Band

The power wires for the camera are incorporated in the main wire harness for the WMA. Route these wires for camera power from the access panel through to the inside of the frame rail. See Figure 24.

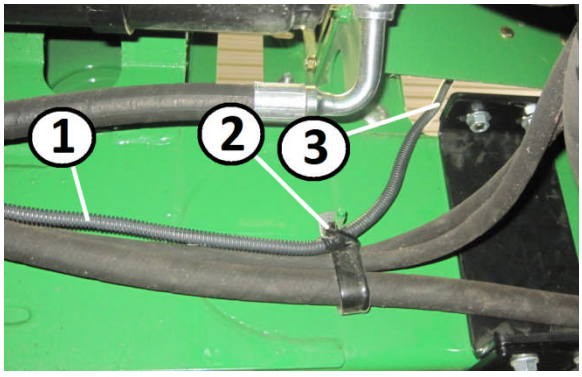


Figure 24. Camera Harness Routing
Key 1 – Harness Key 2 – Tie Band

Key 3 – Harness from Controller
At the right wheel drop, follow the hose routing with the harness and secure the harness using tie bands as indicated in Figure 25.

Connect to the camera and secure the harness to the side support of the step using tie bands as shown in Figure 23. Take care to not have the harness exposed to trash collection or interference with the operator's foot during mounting and dismounting from the machine.

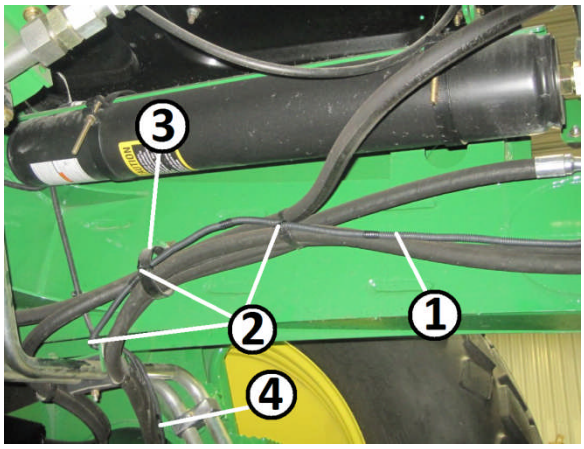


Figure 25. Harness Routing
Key 1 – Harness Key 2 – Tie Bands
Key 3 – Hose Clamp
Key 4 – Harness at Hose

Install Monitor

Install the monitor on the armrest of the machine by using two self-tapping screws provided. Mark the holes from the bracket and drill a 1/8" (3mm) pilot hole prior to screw installation. See Figure 26.

IMPORTANT: Do not over tighten hardware.

Note: An alternate mounting location is to the frame above the side window as shown in Figure 27. Install to customer preference.

Connect harness to power strip at right side of cab along window.

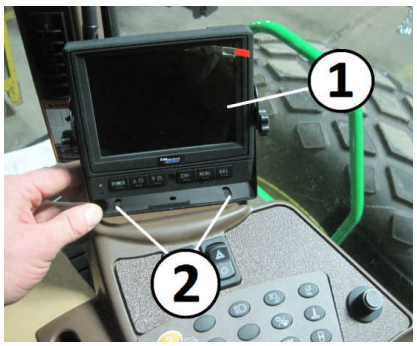


Figure 26. Monitor Installation
Key 1 – Monitor Key 2 – Screw Location

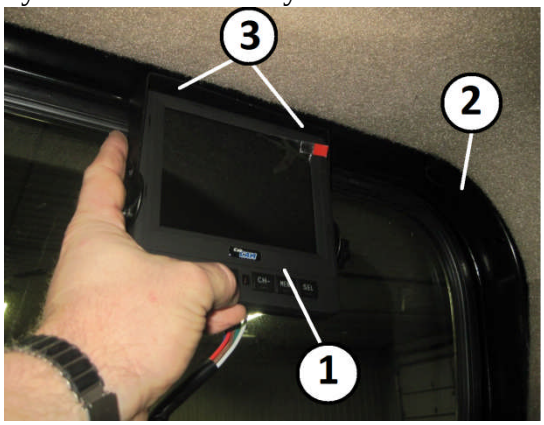


Figure 27. Alternate Installation
Key 1 – Monitor Key 2 –Cab Corner
Key 3 – Screw Locations

Change Software

The software of the R450 Self-Propelled Windrower must be changed to acknowledge the installation of the WMA.

To change the settings, press and hold the "Diagnostic" button on the armrest of the machine while turning the key to the "On" position.

WARNING:

DO NOT START THE ENGINE. FAILURE TO DO SO MAY RESULT IN MACHINE DAMAGE.

Immediately after the display is illuminated, navigate to the CAB controller address 67. For more information on the navigation in the display, consult the R450 Self-Propelled Windrower Operator Manual.

Change the fifth digit in this address from a "zero" to a "one". The display should read as follows:

XXXX
1 XXX

Save the setting. Exit the address. Turn the key to "Off" and remove the key from the ignition. See Figure 28.

Figure 28. Display for CAB Controller

Cross Belt Installation

Install Cross Belt

Lift the cross belt assembly with a forklift or other portable lifting device from the right side discharge end of the belt.

IMPORTANT:
Use fork extensions or other device when picking up the belt. Take care to not damage the belt during this operation. Properly secure the cross belt assembly to the lifting device. Failure to follow these guidelines may result in personal injury or damage to components.

Approach the machine from the right side. See Figure 29.

Move the cross belt assembly under the machine in front of the pivot mechanism. Rest the cross belt assembly on at least 6 in. (150 mm) tall blocks.

Using a rolling floor jack or other lifting device, carefully raise the rear of the belt frame to align with the lower lift arm of the lift mechanism.

IMPORTANT:
Ensure that the front of the cross belt assembly is supported sufficiently on blocks such that movement of the assembly will not cause it to fall from the blocks. Secure the cross belt assembly properly to the lifting device. Failure to do so may result in personal injury or component damage.

Install the center pivot pin from the top of the lower lift arm of the pivot mechanism. Secure the pin with the bushing and self-tapping bolt provided.

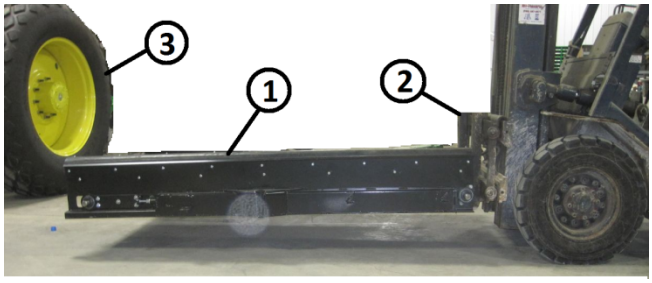


Figure 29. Cross Belt Handling
Key 1 – Cross Belt Assembly
Key 2 – Lifting Device
Key 3 – Right Side of R450

Note: In the event of difficulty in installation, the front pivot pins of the lower link may be removed to facilitate installation of the pivot pin for the cross belt. See Figure 30. This is not necessary if the front of the belt frame is properly supported on blocks.

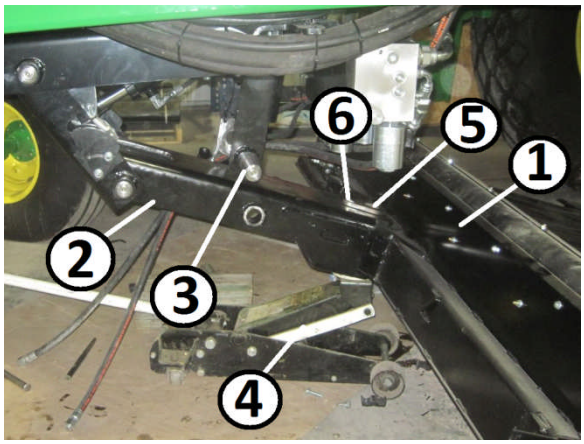


Figure 30. Cross Belt Installation
Key 1 – Cross Belt Key 2 – Lower Lift Arm
Key 3 – Pivot Pin Key 4 – Lifting Device
Key 5 – Pivot Pin
Key 6 – Self Tapping Bolt and Bushing

Connect the tilt cylinder to the cross belt assembly as shown in Figure 31. Center the rod end of the cylinder using the washers provided.

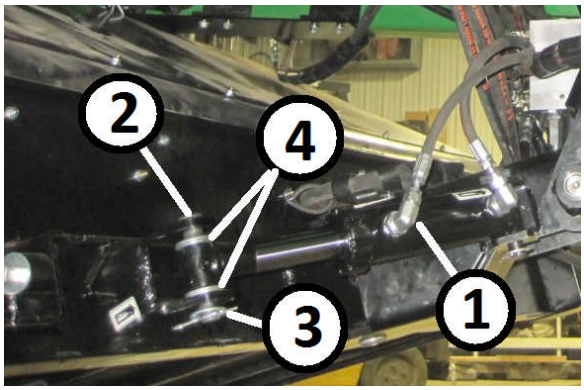


Figure 31. Tilt Cylinder Connection
Key 1 – Tilt Cylinder
Key 2 – Pin Key 3 – Clip and Washer
Key 4 – Washers (as required)

Install the gear motor on the belt drive roller by sliding the coupler over the roller shaft. Slide the assembly in completely until the mounting bracket fits over the tab and rests against the frame on the inside.

Tighten the coupler properly. Take care to ensure that the coupler is tightened evenly across all bolts.

Install cotter pin at tab. See Figure 32.

Route the hydraulic hoses through the three P-Clamps at the back side of the cross belt assembly.

Connect the hose from port C2 at the manifold to the top port of the motor.

Connect the hose from port C1 at the manifold to the bottom port of the motor. See Figure 32.

Install hose wrap at bend area in contact with frame. See Figure 32.

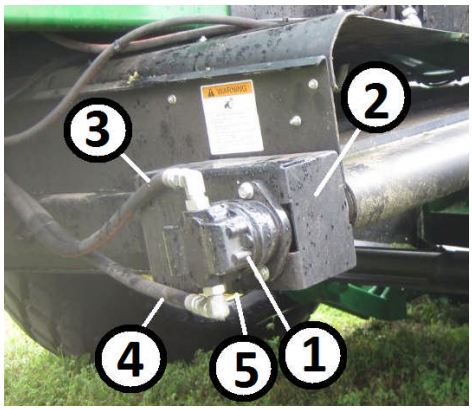


Figure 32. Cross Belt Motor Installation
Key 1 – Motor Key 2 – Coupler (Hidden)
Key 3 – C2 Hose Key 4 – C1 Hose
Key 5 – Cotter Pin (Hidden)

Install two tie bands at the tilt cylinder and lift cylinder hoses as indicated in Figure 33.

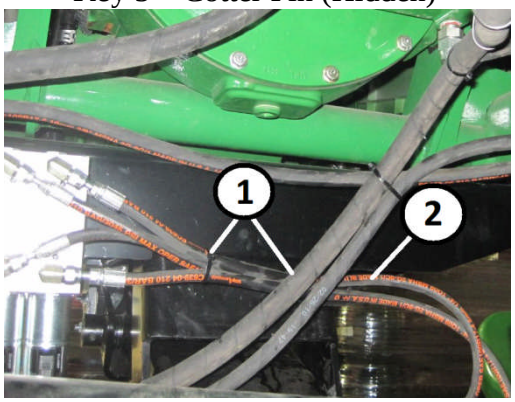


Figure 33. Tie Band Installation
Key 1 – Tie Bands Key 2 – Tilt Hoses

Attach the elastic cords at the front of the top sheet on the cross belt assembly to the hook points directly above the points as indicated in Figure 34 and 35. These locations are accessible through the side access doors of the R450.

IMPORTANT. Ensure that cords do not significantly contact any sharp edges or hydraulic hoses throughout the range of travel. Adjust as needed. Failure to do so may result in reduced life of the elastic cords.

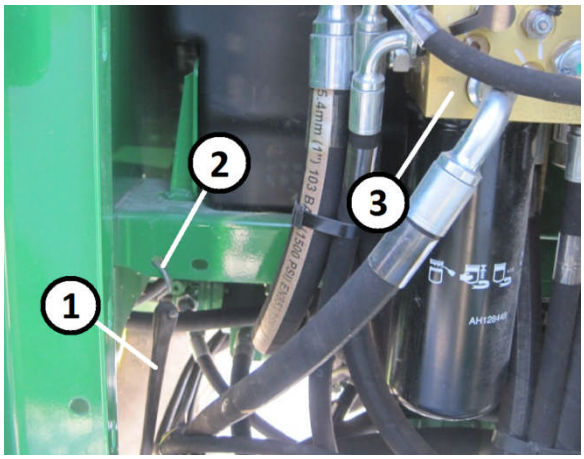


Figure 34. Left Cord Installation
Key 1 – Cord Key 2 – Hook Point
Key 3 – R450 Manifold (Reference)

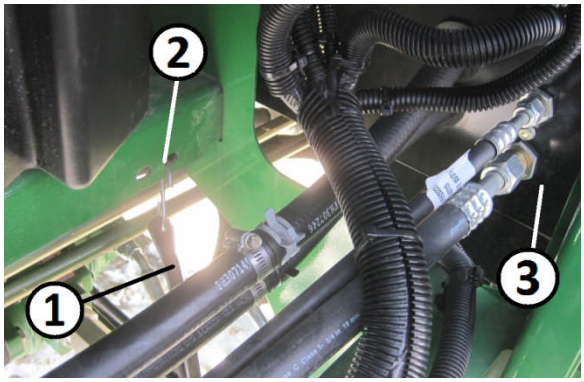


Figure 35. Right Cord Installation
Key 1 – Cord Key 2 – Hook Point
Key 3 – Back of Cab (Reference)

Power Table Installation

Install Power Table

The power table is installed by mounting to the platform in the same position as the original forming shields. Using a forklift or other lifting device, lift the Power Table from the discharge end and set into position at the platform. See Figure 36.

IMPORTANT: ALWAYS USE BUSHINGS AT PIVOT FOR PLATFORM IN SAME MANNER AS ORIGINAL FORMING SHIELDS. FAILURE TO DO SO MAY RESULT IN MACHINE DAMAGE.

Bolt the Power Table to the platform in a manner similar to that of the original forming shields using the same hardware.

At the R450, route the hydraulic hoses for the Power Table along the wheel motor hoses for the left front wheel. Route hoses through the hose clamps mounted on the frame. See Figure 37. Secure with tie bands as indicated.

Connect the hoses to the motor assembly as follows.

The motor hose from port R1 at the manifold is routed to the bottom fitting on the motor. This hose has a 90 degree fitting at the end. See Figure 38.

The hydraulic hose from port R2 at the manifold is routed to the top fitting on the motor. This hose has a straight fitting at the end. See Figure 38.

IMPORTANT: HOSE ROUTING IS CRITICAL. FAILURE TO CONNECT THE PROPER HOSE TO THE PROPER FITTING MAY RESULT IN MACHINE DAMAGE. VERIFY PORT TO PORT ALIGNMENT BEFORE COMPLETION.

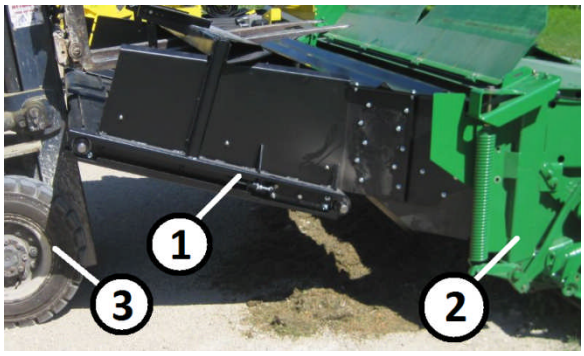


Figure 36. Power Table Installation
Key 1 – Power Table Key 2 – Platform
Key 3 – Lifting Device

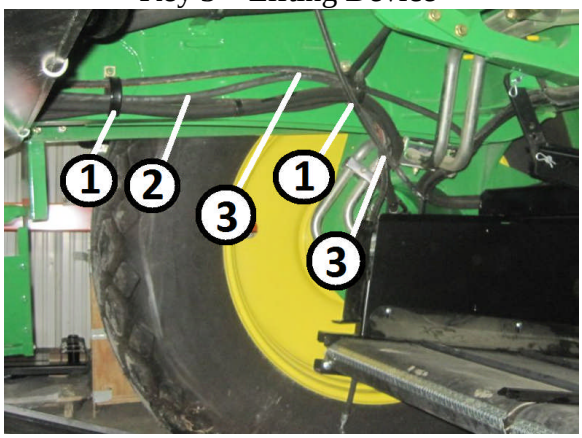


Figure 37. Power Table Hose Routing
Key 1 – Hose Clamp Key 2 – Hoses
Key 3 – Tie Band Locations

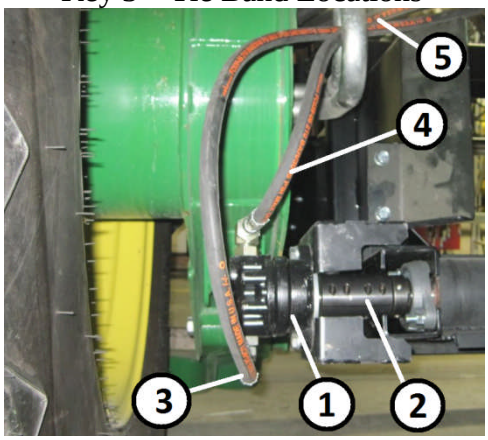


Figure 38. Hose Routing
Key 1 – Motor Key 2 – Coupler
Key 3 – Hose at R1 Key 4 – Hose at R2
Key 5 – Tie Band Location

Secure the motor to the frame of the R450 with tie bands at this time in an area that will not interfere with any moving components or be affected by moving the machine (i.e. under the operator platform). This will allow the machine to be operated without the Power Table installed. The motor can be installed after the platform is installed.

Attaching Power Table

This section is provided as a reference of how to connect the Power Table to the R450 AFTER the installation of all other components is complete.

IMPORTANT: DO NOT ATTEMPT TO START THE MACHINE UNTIL ALL OTHER INSTALLATIONS ARE COMPLETE. FAILURE TO DO SO MAY RESULT IN MACHINE DAMAGE.

Once all other installations and checks are completed, the Power Table is attached to the R450 in a manner that is similar to attaching the standard forming shields.

Straddle the Power Table with the R450 while attaching the platform. For more information regarding the attachment of the platform, see the Platform Operator Manual.

Once the platform is attached, use a lifting device to lift the Power Table at the frame ends of the drive roller.

Attach the link arms at the end holes to the rear-most hole in the frame of the Power Table. See Figure 39.

IMPORTANT:
The Power Table must be connected at the furthest holes in each component. Failure to do so may result in an interference that may cause machine damage in some configurations.

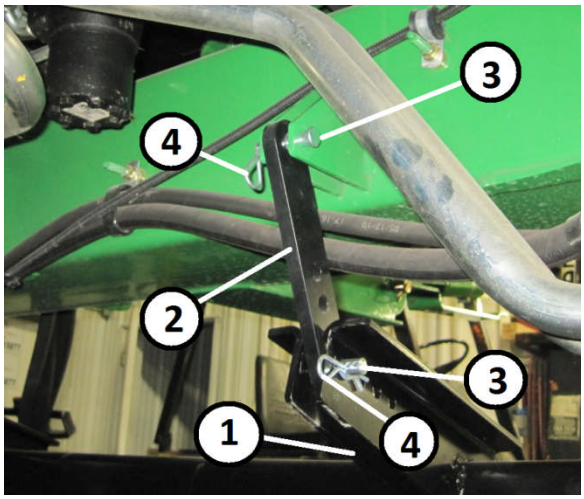


Figure 39. Power Table Link Arm Install
Key 1 – Power Table Key 2 – Link Arm
Key 3 – Pin Key - Clip

Connect the motor to the assembly by sliding the coupler over the left end of the drive roller. Slide the coupler in until the housing contacts the frame rail. Secure using the coupler. Tighten hardware evenly and properly to ensure proper motor alignment. See Figure 40.

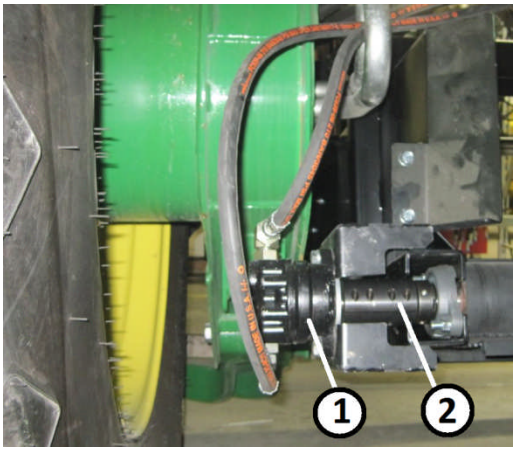


Figure 40. Coupler Connection
Key 1 – Motor Key 2 – Coupler

IMPORTANT:
The wire harness for the platform must be routed along the tilt cylinder for the platform. Use tie bands as appropriate to attach the wire harness to the sheet metal around the tilt cylinder and allow for full travel of the cylinder throughout the range of motion. Failure to do this may result in damage to the wire harness.

See Figure 41.

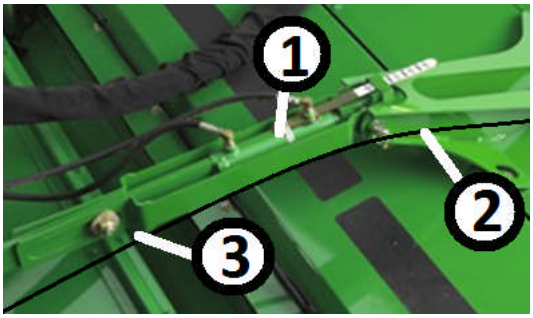


Figure 41. Platform Harness Routing
Key 1 – Tilt Cylinder Key 2 – Wire Harness
Key 3 – Tie Band

IMPORTANT:
If installing this unit on a platform with an impeller conditioner, break the front corners off of the filler plates at the front of the belt frame along the line cut in the plate with reliefs. Grind any burrs and repaint as necessary. See Figure 42.

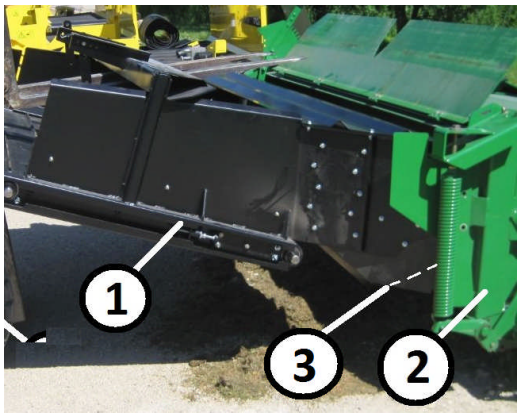


Figure 42. Impeller Conditioner Modification
Key 1 – Front Belt Frame
Key 2 – Platform
Key 3 – Cut line

Adjusting for Clearance

This segment applies only to R450 Windrowers that have hydraulic hoses installed for wheel motor lines instead of steel tubing.

At right wheel motor hoses mounting location, remove P-Clamp for lift cylinder hoses and rotate 180 degrees to raise the hoses out of the path of travel of the Power Table. See Figure 43.

At the P-Clamp for the lift cylinder hoses on the RH wheel drop, remove the hoses from the clamp and tighten clamp back into position. Install spiral hose wrap over hoses at point closest to supports in frame to prevent wear. Secure hoses as necessary with tie bands. See Figures 44 and 45.

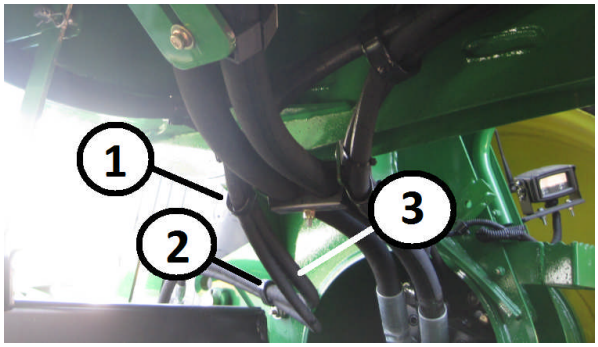


Figure 43. RH Hose Routing
Key 1 – P-Clamp
Key 2 – Lift Hose P-Clamp
Key 3 - Lift Hoses

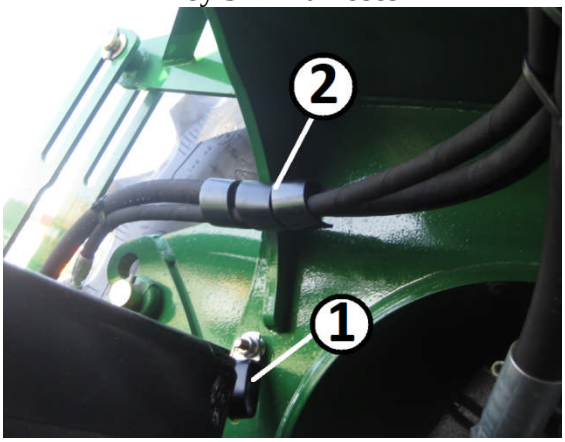


Figure 44. Lift Hose Routing
Key 1 – P-Clamp Key 2 – Spiral Wrap

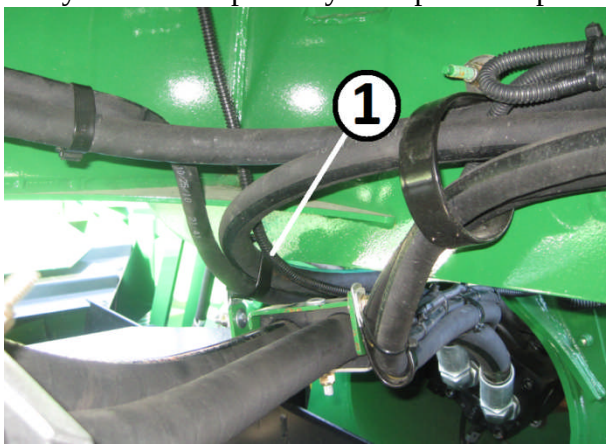


Figure 45. Final Routing
Key 1 – Inverted P-Clamp

At the hanging bracket for the forming shields, ensure there is enough clearance for the pivot arm to pass properly without interference with the hoses. Adjust as necessary. Keep in mind that the new pivot arms will travel further than the original parts (to approximately 60 deg from vertical). It may be beneficial to relocate the hoses to above the pivot point for more clearance on the right side. On the left side, it may be beneficial to bend the P-Clamps to allow the hose to move further forward, out of the pivot area. See Figure 46.

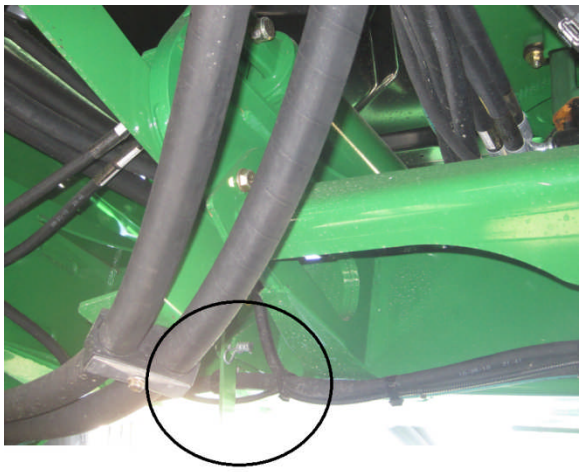


Figure 46. Clearance at Pivots

At the left wheel motor hoses, cut the tie band at the drain line. Use tie bands to secure the hoses to the front wheel motor hose. Route hoses higher than previously installed. Secure cab a/c drain line gently to other hoses at the rear of the hose pack, but maintain a constant routing down to prevent moisture from pooling in the hose. See Figures 47 and 48.

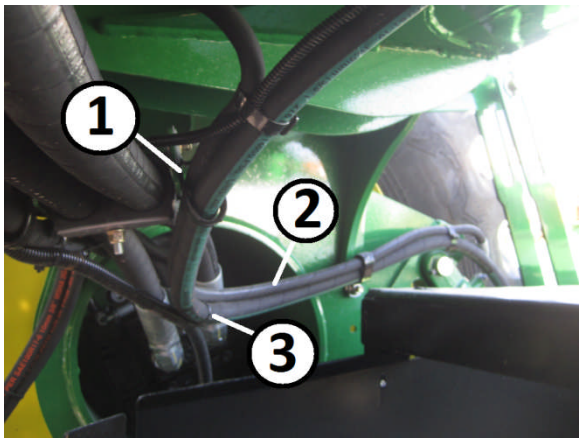


Figure 47. Left Hose Routing
Key 1 – P-Clamp Key 2 – Lift Hoses

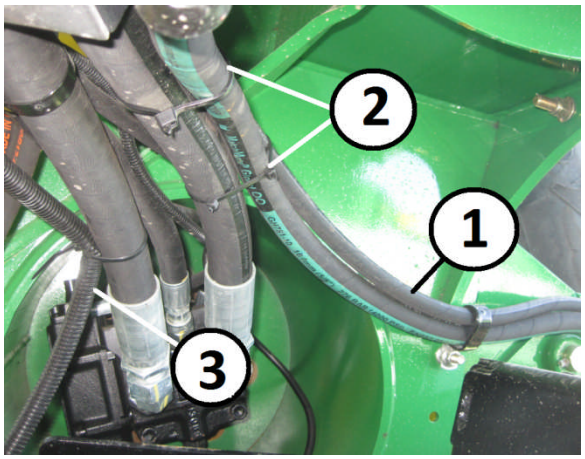


Figure 48. Final Left Hose Routing
Key 1 – Lift Hoses Key 2 – Tie Bands
Key 3 – A/C Drain Line

DEFLECTOR INSTALLATION

Install Base Plate

Locate the base plate for the deflector and mount over the RH frame rail at the access panel location on the right side of the machine.

Note: It may be easiest to install at an angle, starting with the end towards to the rear of the machine. Once over the frame, slide the frame into position centered on the open area. See Figure 49.

Install C-Shaped Retaining Brackets on the inside of the frame rail behind the hoses. Fasten the brackets using the M10x35 Carriage Bolts and Flange Nuts provided. See Figure 50.

The lower, forward-most pair of carriage bolts need to be installed from the bottom to the top so that the top sheet of the cross table does not interfere with the hardware. All other carriage bolts are installed from the top – down. See Figure 50.

Verify that the battery cable is resting in a manner that is not in contact with the deflector base plate or any sharp edges. See Figure 49.

Inspect for interference at the corner of the access panel. Depending on fit-up of the body panels on the R450, a slight interference may occur on the corner of the support bend in the door. Trim access door corner support as necessary. See Figure 49.

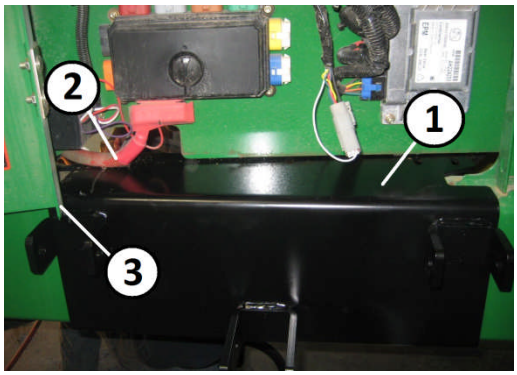


Figure 49. Base Plate Installation
Key 1 – Base Plate Key 2 – Battery Cable
Key 3 – Potential Door Interference

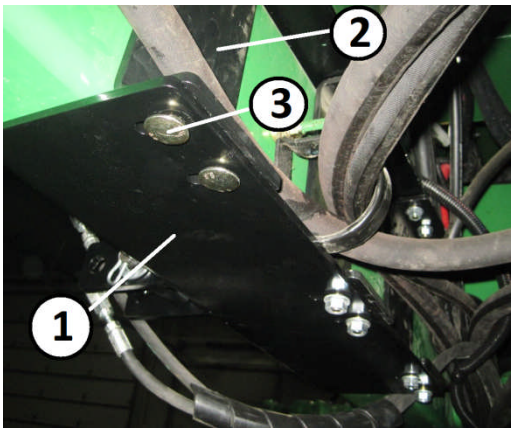


Figure 50. – Bracket Installation
Key 1 – Base Plate Key 2 – Brackets
Key 3 – Lower Front Carriage Bolts

Install Deflector

Install the deflector at the base plate using the provided pins, washers, and clips.

Install the hydraulic cylinder with the base end at the inner hole of the base plate and the rod end and the inner-most hole on the deflector frame. Use the provided pins, washers, and clips. Keep the deflector stop in position. See Figure 51.

Route the hydraulic hoses for the deflector cylinder from the manifold to the deflector cylinder through the hose clamps on the main frame of the R450 as shown in Figure 52.

Connect the hose from Port D2 on the manifold to the base end of the deflector cylinder. Connect the hose from Port D1 on the manifold to the rod end of the deflector cylinder. Wrap the hose with hose wrap provided at area under the frame rail. See Figure 53.

Assemble outer deflector board to deflector frame using hardware provided. Assemble with carriage bolts from the outside in.

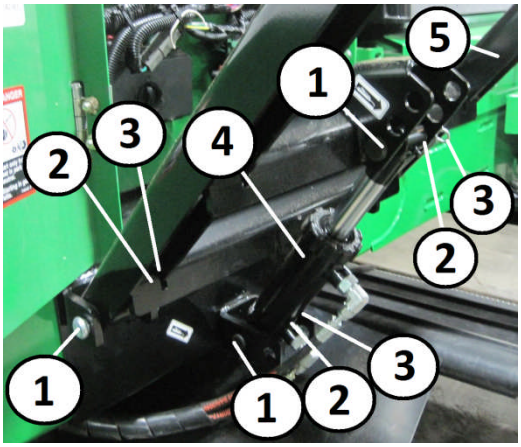


Figure 51. Deflector Installation
Key 1 – Pin Key 2 – Washer Key 3 - Clip
Key 4 – Cylinder Key 5 – Deflector

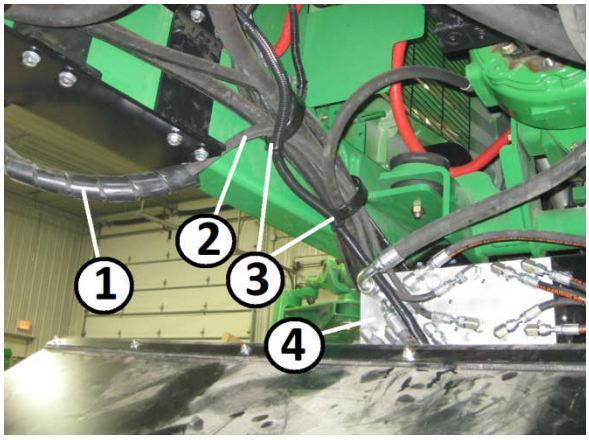


Figure 52. Hose Routing
Key 1 – Hose Wrap Key 2 – Hoses
Key 3 – Clamps on R450 Key 4 – Manifold

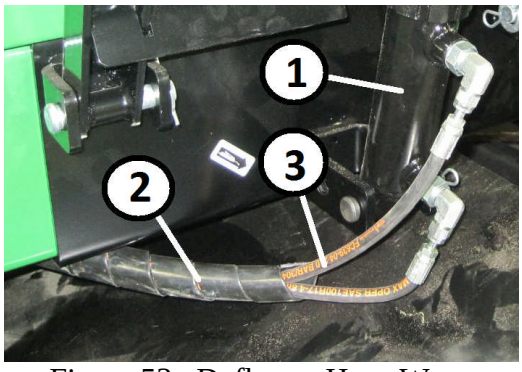


Figure 53. Deflector Hose Wrap
Key 1 – Deflector Cylinder
Key 2 – Wrap Key 3 – Hoses

LADDER PIVOT INSTALL

Install Ladder Pivot

Remove ladder assembly from the frame of the R450. Retain all hardware for re-use.

Install the pivot base in the original ladder location using M10x40 Flange Bolts and Flange Nuts provided. See Figure 54.

Grease exposed pin of base and tube in outer pivot weldment.

Install ladder on outer pivot weldment at holes provided. Use original hardware with ladder and tighten properly. See Figure 55.

Install the outer pivot weldment over the base and retain with washer plate, 1-3/8" x 1" roll pin, and M12x30 Grade 10.9 provided. Tighten bolt to specification.

SPECIFICATION
Ladder Pivot Bolt Torque
140 Nm (105 lb-ft)

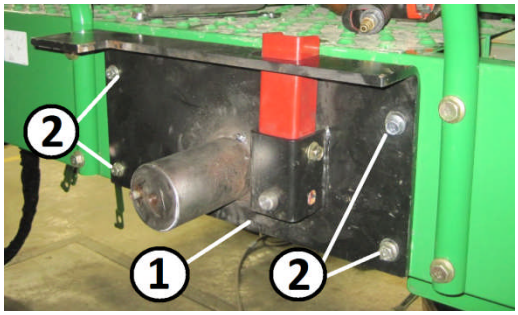
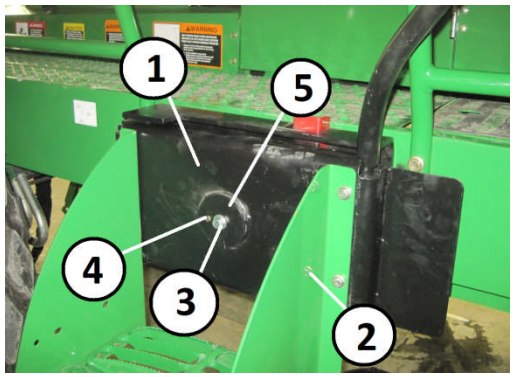


Figure 54. Pivot Base Installation
Key 1 – Pivot Base Key 2 – Bolts



Key 55. Pivot Weldment Installation
Key 1 – Pivot Weldment Key 2 – Ladder
Key 3 – Bolt Key 4 – Roll Pin
Key 5 - Washer

FINAL UNIT PREPARATIONS

Install Narrow Axle Wedge Kit

A kit needs to be installed on the rear axle for proper operation of the WMA.

Bundle BE32216 Narrow Axle Wedge Kit, RH is available from John Deere to allow the right rear tire to be slid in completely to allow for room for the windrow at the right side of the machine. Install this bundle per the instructions included with the bundle.

Bundle BE32215 Narrow Axle Wedge Kit, LH, is also available from John Deere for the left side of the R450. This bundle is only needed if the operator intends to keep the windrow tight to the machine (i.e. within the end of the platform) by running the belt speed slow. This is a rare occurrence and the windrow will clear the left rear tire when mounted in the inner-most position permitted WITHOUT the bundle installed. See Figure 56.

Figure 56. Left Side Discharge

Fill Hydraulic Reservoir

Fill the hydraulic reservoir. (To fill reservoir, see DRAIN AND FILL HYDRAULIC RESERVOIR in R450 Windrower Technical Manual.)

Final Installation Inspection List

The following is an inspection checklist for the windrow merger attachment. Complete this inspection list prior to delivery of the machine to the customer.

1) Check for leaks on all components after a few seconds of run time. Shut off engine and remove key prior to inspection.

   WARNING: Be aware of any potential high pressure leaks and avoid as necessary. Failure to do say may result in serious personal injury.

2) Start engine. Press yellow button on hydrostatic handle to enable the WMA. See ENABLE / DISABLE THE WINDROW MERGER ATTACHMENT section in this manual.

   Verify that the icon appears properly in the corner display. If it does not, investigate the change to CAB controller address 67 performed as part of these installation instructions.

3) Press the button on the armrest to adjust the belt speed. See ADJUST BELT SPEED section in this manual.

   Verify the blue icon appears. Rotate dial clockwise 7 turns to set the belt speed to full speed.

4) With the WMA enabled, raise the platform to the highest position. Adjust the platform angle to full tilt forward. Shut off the engine. Remove key. Lock out the platform. Perform a visual inspection of the attachment and all new components to verify there is no interference of any components, hoses, or other issues.

   If any issues arise, safely start machine, lower platform to ground, shut off engine and remove key before performing any adjustments. Safely address any issues as needed.

5) Repeat Step 4 with platform lowered to floor and platform tilt angled completely forward.

6) Perform all initial settings of machine and attachment. See INITIAL SETTINGS section of this manual.

7) Operate attachment and simulate normal machine operations. See OPERATING THE ATTACHMENT section of this manual.

8) Verify that during the lowering of the platform with the platform engaged, the cross belt shifts to the right, lowers, and the belt turns to discharge to the right when right-side discharge is selected.

9) Verify that during the raising of the platform, the cross belt shifts to the left and raises.

10) Verify that during lowering of the platform with left-side discharge selected and platform engaged that the cross belt remains shifted to the left, lowers, and the belt turns to discharge to the left.

11) Verify that the Power Table belt rotates when the platform is engaged. This belt is visible from the operator station from the seat by looking down out the front window.

    Note: When new and when new belts are installed, the front belts may start very slowly until broken in. In the event that the belts do not turn, lower the platform to the ground, shut off engine, remove key and manually rotate the roller and belts to free the belts. Slightly loosening these belts may help to some extent to allow the motor to turn the tight belts.

    Once the front belts are rotating, it may be beneficial to allow the front belts to turn at mid-range engine rpm for 15 minutes to help break-in the belts.

    IMPORTANT:
    It is important to advise the customer of this condition as well with new belts. The belt is visible from the operator station. Do not operate the machine in crop without the front belt turning. The front belt is designed to operate anytime the platform is engaged, regardless of the status of the cross belt.

REPAIR PARTS

General Comments

The following pages include information regarding parts for the windrow merger attachment. Right or left hand parts are determined by sitting in the operator's seat facing forward. The abbreviation "A.R." in the "USED" column indicates "As Required." This is because a different number of the specific component may be needed for proper assembly depending on the tolerance of the individual machine.

All parts listed for the windrow merger attachment are available through your local dealer.

Attention: Dealer – Contact RCI directly for all part orders for this attachment. In general, any fabricated component painted black is an RCI part and any part that is painted John Deere green is a John Deere part and can be located in the Parts Manual for the machine to which the attachment is installed. Please include a serial number and model of the attachment when placing a parts order. The serial number plate is attached to the rear plate of the belt frame.

Replacement Hardware

All bolts, cap screws, washers and machine screws are metric grade 8.8 and zinc plated unless markings on the part indicate otherwise. Flange bolts and flange nuts are metric grade 8.8 and zinc plated unless markings on the part indicate otherwise.

The use of improper hardware in any location can result in the failure of the component fastened with the hardware or related structures, and can cause personal injury, further damage to the product, or loss of property.

Replacement Parts

Replacement parts may have occasional differences to the parts being replaced. This difference is typically providing the benefit of a design change made after the release of this publication.

Recommended Spare Parts Listing - Dealer

The following spare parts are recommended for stocking purposes and include common wear items for this attachment.

Part Number	Description	Qty per Unit
RC049009	Belt (Main Cross)	1
RC052266	Belt (Power Table)	2
RC0359	Bearing	8
RC0358	Bearing, Flange	4

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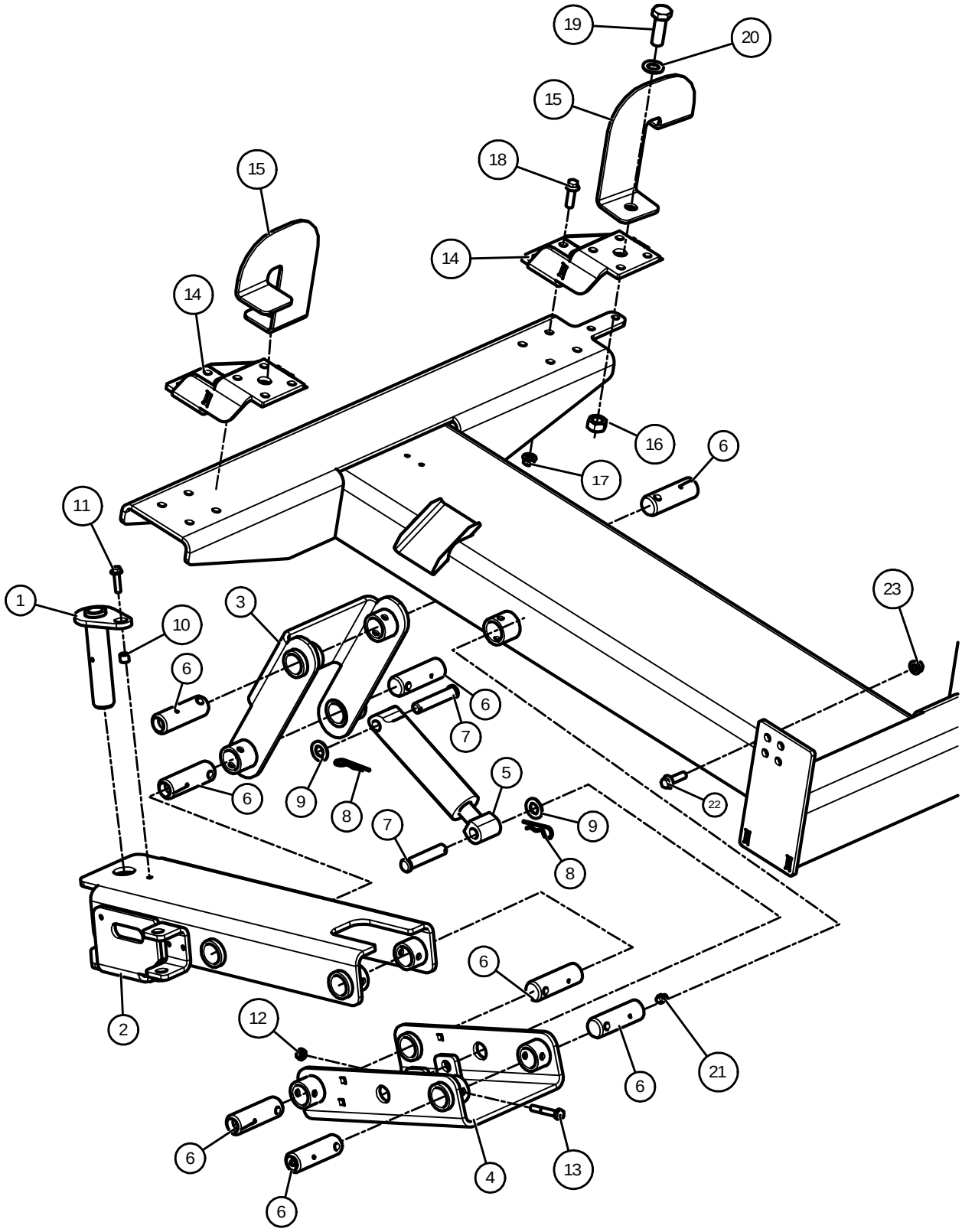
Repair Parts Alphabetical Index

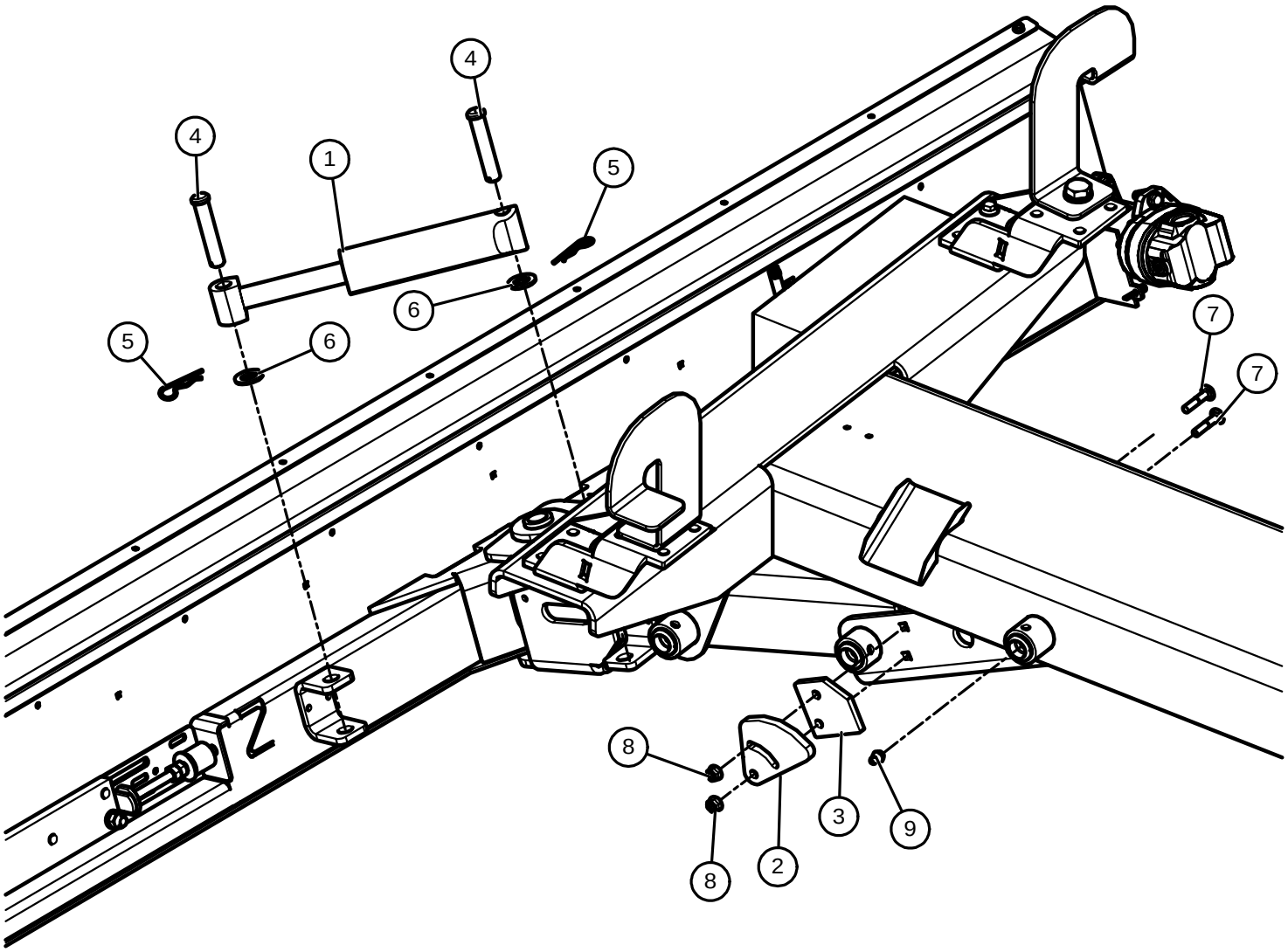
Mounting Frame



Mounting Frame

Key	Part Number	Description	Qty	Comment
1	RC052233	Pin, Pivot	1	
2	RC052042	Arm	1	
3	RC052043	Link	1	
4	RC052041	Pivot, Primary	1	
5	RC052045	Cylinder	1	
6	RC052026	Pin	8	
7	156791	Pin, 3/4 Clevis	2	
8	45286	Pin, #11 Hitch Clip	2	
9	33092	3/4 Flat Washer	2	
10	RC04321	Bushing	1	
11	32470	Screw, 3/8 x 1 1/2 TRD Cutting	1	
12	40167	Nut, M10 Lock	8	
13	38663	Bolt, M10 x 65 Hex	8	
14	RC052037	Spacer	2	
15	RC052224	Gusset	2	
16	O153644	Nut, M20 Hex	2	
17	90703	Nut, M12 X 1.75 Flange	8	
18	11115696	Bolt, M12 x 40 Flange	8	
19	154046	Screw, M20-2.5 X 60 MM GR10.9	2	
20	1140363	Washer, M20 Flat	2	
21	496006	Fitting, M10 Grease	8	
22	11115696	Bolt, M12 x 40 Flange	8	
23	90703	Nut, M12 X 1.75 Flange	8	

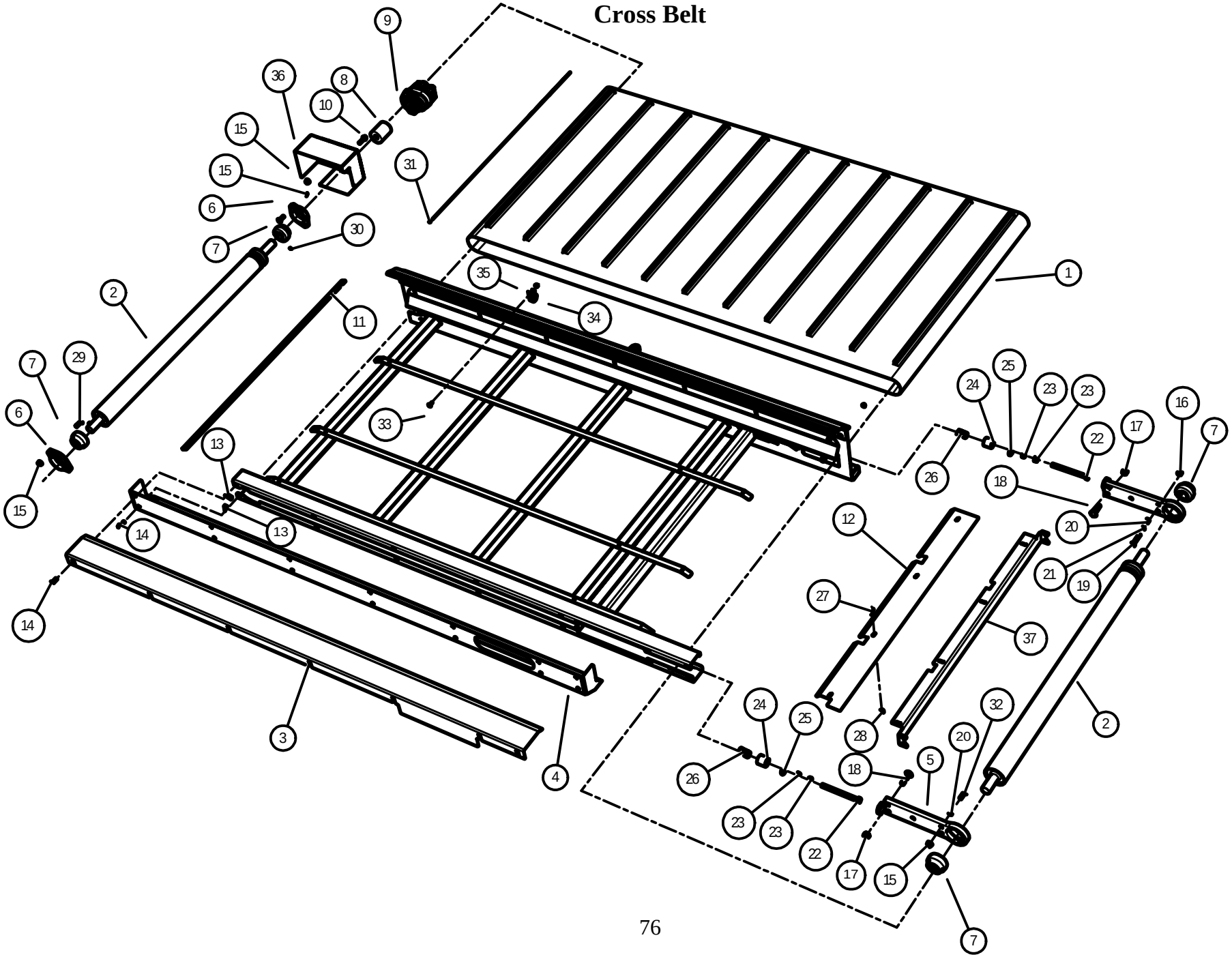
Pivot



Pivot

Key	Part Number	Description	Qty	Comment
1	RC052045	Cylinder	1	
2	RC052262	Stop	2	
3	RC052263	Spacer	2	
4	156791	Pin, 3/4 Clevis	2	
5	45286	Pin, #11 Hitch Clip	2	
6	33092	3/4 Flat Washer	2	
7	21826	Bolt, 1/2 x 2 Carriage	4	Replaces 3/8” Gr. 8 with s/n 575
8	33012	Nut, 1/2	4	Replaces 3/8” Gr. 8 with s/n 575
9	496006	Fitting, M10 Grease	8	

Cross Belt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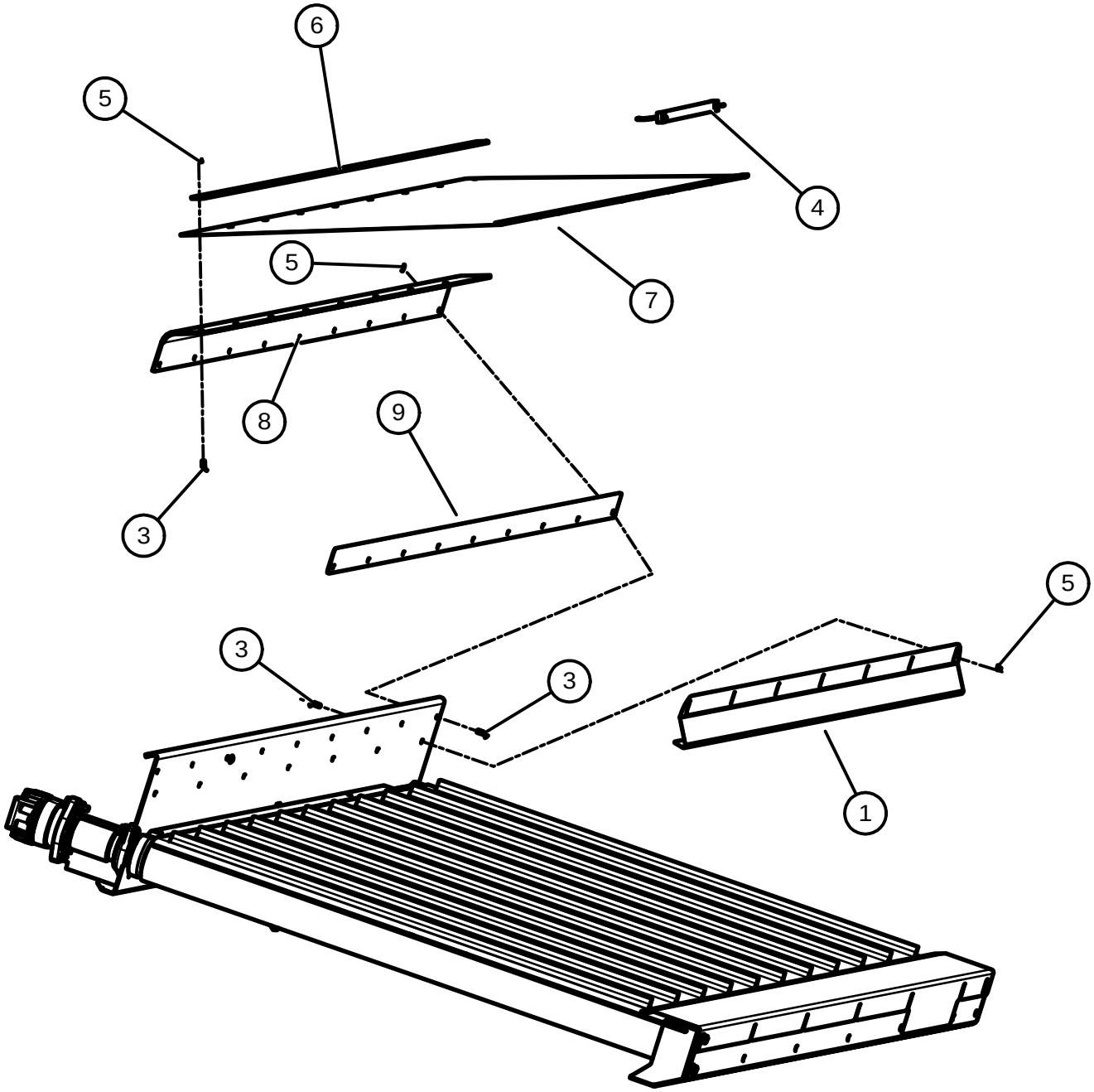
Cross Belt

Key	Part Number	Description	Qty	Comment
1	RC049009	Belt	1	
2	RC049003	Roller	2	
3	RC052016	Shingle	1	
4	RC052015	Shoe, Skid	1	
5	RC0410	Weldment, Bearing Support	2	
6	RC0358	Flange, Bearing	2	
7	RC0359	Bearing	4	
8	RC052229	Coupler	1	
9	RC052021	Motor, Hydraulic Gear	1	
10	161835	Bolt, M10 x 40 Flange	2	
11	RC052013	Scraper	1	
12	RC052097	Scraper	1	
13	RC052290	Nut, M10 Clip On	14	
14	161832	Screw, M10-1.5 X 25 Flange	14	
15	90702	Nut, M10 Flange	2	Use Loctite
16	90702	Nut, M10 Flange	2	Use Loctite
17	90683	Nut, M12 Top Lock	6	
18	11115279	Bolt, M12 x 50 Carriage	6	
19	0121824	Screw, M10 x 55 Hex	2	
20	RC0432	Bushing	2	
21	153662	Washer, M10	2	
22	121857	Screw, M12 x 150	2	
23	40309	Nut, M12 Hex	4	
24	RC0416	Bushing	2	
25	38406	Washer, M12 Fender	2	
26	RC0347	Spring	2	
27	11115252	Bolt, M8 x 25 Carriage	4	
28	90701	Nut, M8 Flange	4	
29	11115264	Bolt, M10 x 30 Carriage	4	
30	65123	Pin, 3/16 X 1 Cotter	1	
31	RC052268	Rod	1	
32	0121824	Bolt, M10 x 55 Hex	2	Use red loctite
33	11115245	Bolt, M6 x 20 Carriage	1	
34	110708826	Clamp, Vinyl Cushion	1	
35	90700	Nut, M6-1.0 Flange	1	
36	RC052022	Mount, Motor	1	
37	RC052096	Base	1	

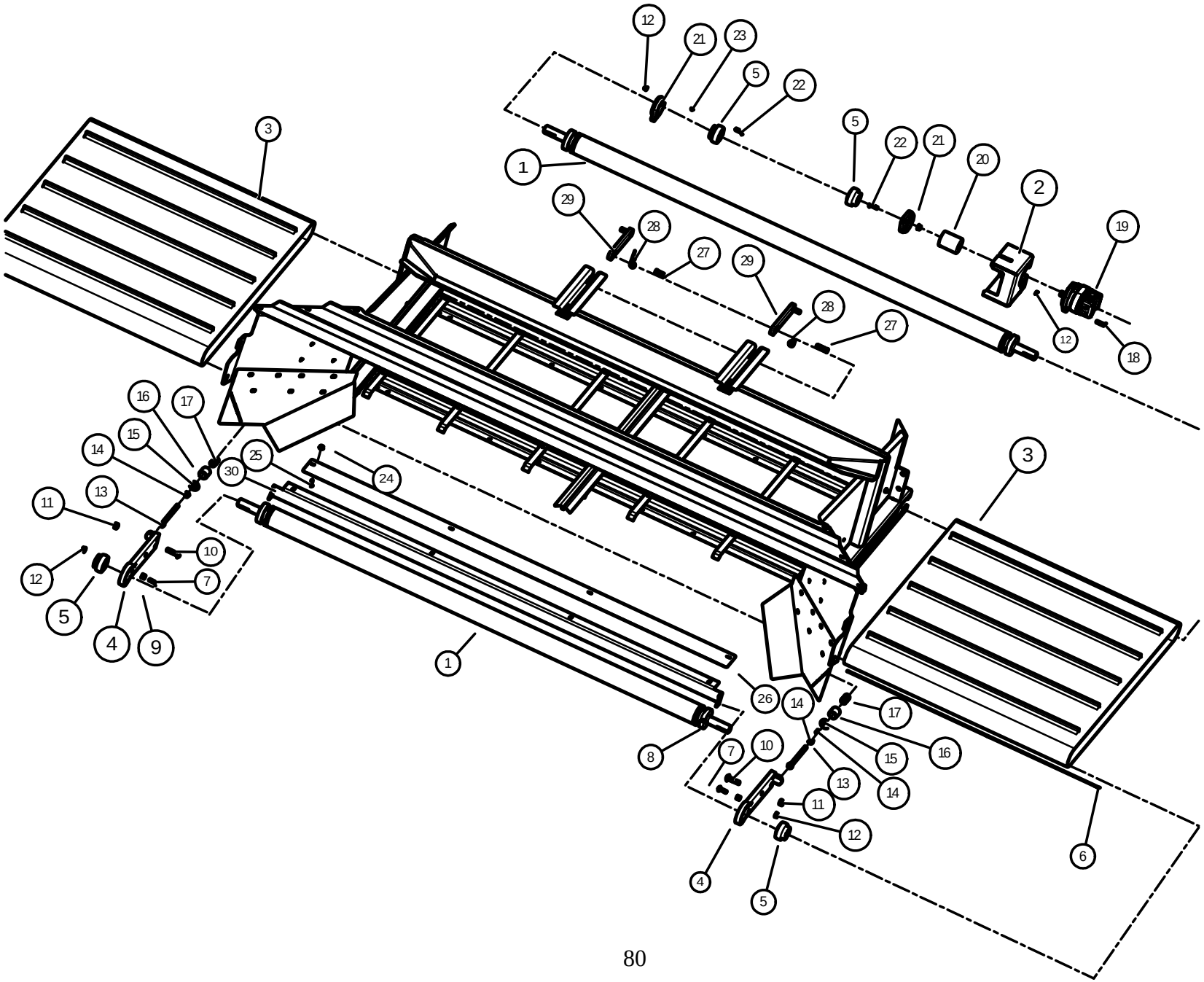
Cross Belt Shielding



Cross Belt Shielding

Key	Part Number	Description	Qty	Comment
1	RC0421	Shingle	1	
2	161832	Screw, M10-1.5 X 25 Flange	14	
3	11115245	Bolt, M6 x 20 Carriage	16	
4	8687T161	Cord, Bunge	2	
5	90700	Nut, M6-1.0 Flange	16	
6	RC052019	Strip	1	
7	RC052020	Sheet	1	
8	RC052017	Hinge, Rubber	1	
9	RC052018	Strip	1	

Power Table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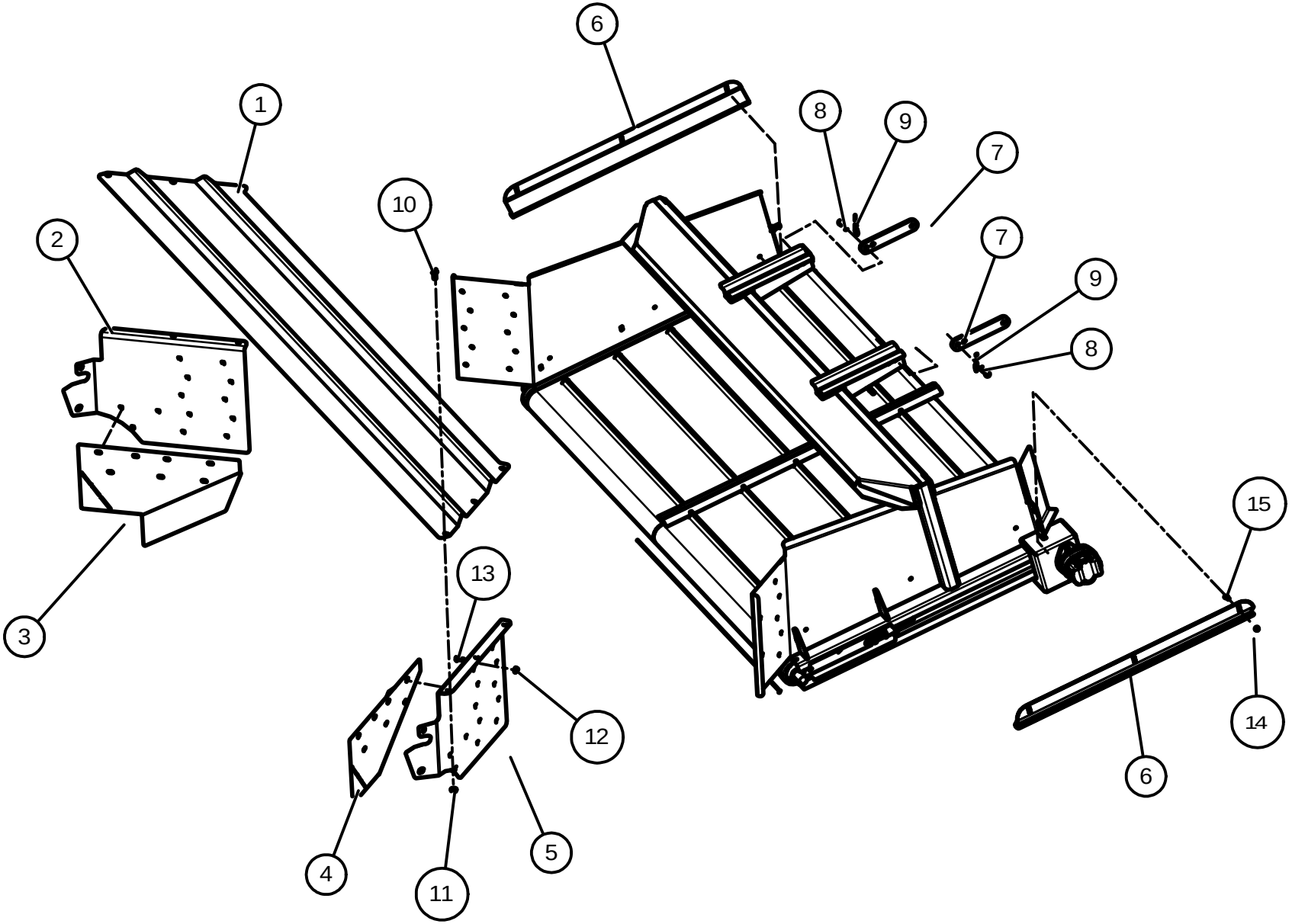
Power Table

Key	Part Number	Description	Qty	Comment
1	RC052227	Roller	2	
2	RC052109	Mount, Motor	1	
3	RC052266	Belt	2	
4	RC0410	Weldment, Bearing Support	2	
5	RC0359	Bearing	4	
6	RC052268	Rod	1	
7	11115314	Bolt, M10 x 55 Hex	4	Use red loctite
8	953159	Key 1/4 x 1/4 x 3/4	1	
9	RC0432	Bushing	2	
10	11115279	Bolt, M12 x 50 Carriage	6	
11	90683	Nut, M12 Top Lock	6	
12	90702	Nut, M10 X 1.5 FLG SER	6	
13	121857	Screw, M12 x 150	2	
14	40309	Nut, M12 Hex	4	
15	38406	Washer, M12 Fender	2	
16	RC0416	Bushing	2	
17	RC0347	Spring	2	
18	161835	Bolt, M10 x 40 Flange	2	
19	RC052228	Motor, Hydraulic Gear	1	
20	RC052229	Coupler	1	
21	RC0358	Flange, Bearing	2	
22	11115264	Bolt, M10 x 30 Carriage	4	
23	RC052291	Screw, 1/4-28 x 1/2 Button Head	2	
24	90701	Nut, M8 Flange	4	
25	11115252	Bolt, M8 x 25 Carriage	4	
26	RC052211	Scraper	1	
27	156770	Pin 1/2 x 1 3/4 Clevis	2	
28	45286	Pin, #11 Hitch Clip	2	
29	RC052209	Arm	2	
30	RC052210	Base	1	

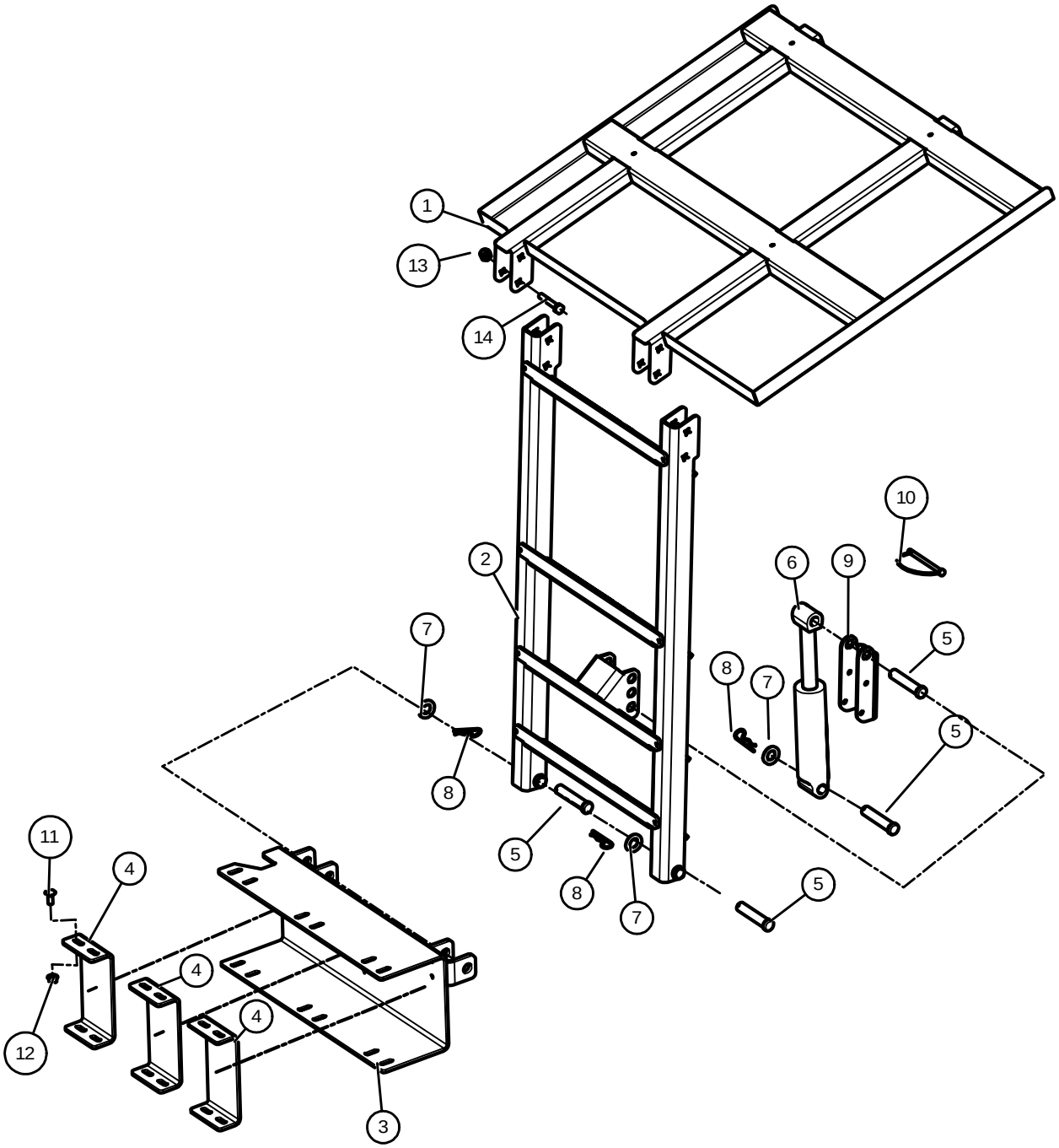
Power Table Parts



Power Table Parts

Key	Part Number	Description	Qty	Comment
1	RC052205	Cover	1	
2	RC052203	Support	1	
3	RC052454	Guide	1	Revised 6” longer with s/n 575
4	RC052455	Guide	1	Revised 6” longer with s/n 575
5	RC052204	Support	1	
6	RC052108	Shingle	2	
7	RC052209	Arm	2	
8	156770	Pin 1/2 x 1 3/4 Clevis	2	
9	45286	Pin, #11 Hitch Clip	2	
10	161832	Screw, M10-1.5 X 25 FLG HC	6	
11	90702	Nut, M10 X 1.5 FLG SER	6	
12	90701	Nut, M8 Flange	26	
13	11115252	Bolt, M8 x 25 Carriage	26	
14	90700	Nut, M6-1.0 FLANGE	6	
15	11115245	Bolt, M6 x 20 Carriage	6	

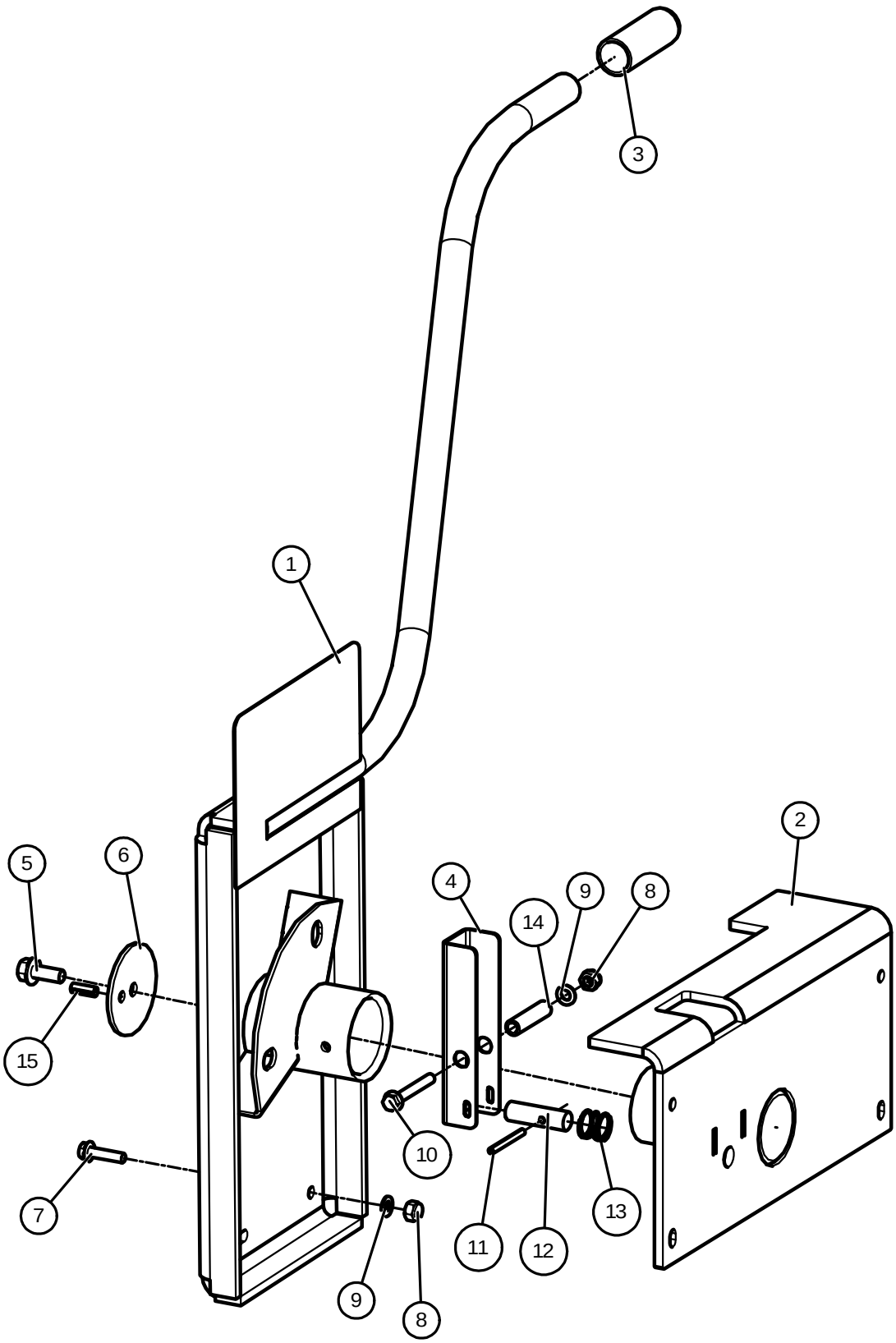
Deflector



Deflector

Key	Part Number	Description	Qty	Comment
1	RC052287	Panel, Deflector	1	
2	RC052240	Deflector	1	
3	RC052238	Frame	1	
4	RC052251	Strap	3	
5	156791	Pin, 3/4 Clevis	4	
6	RC052045	Cylinder	1	
7	33092	3/4 Flat Washer	3	
8	45286	Pin, #11 Hitch Clip	3	
9	RC052274	Stop	1	
10	97143A630	Pin, 5/16 Snapper	1	
11	11115263	Bolt, M10 x 25 Carriage	12	
12	90702	Nut, M10 X 1.5 Flange	12	
13	90702	Nut, M10 Flange	4	
14	0162262	Bolt, M10 x 75 Carriage	4	

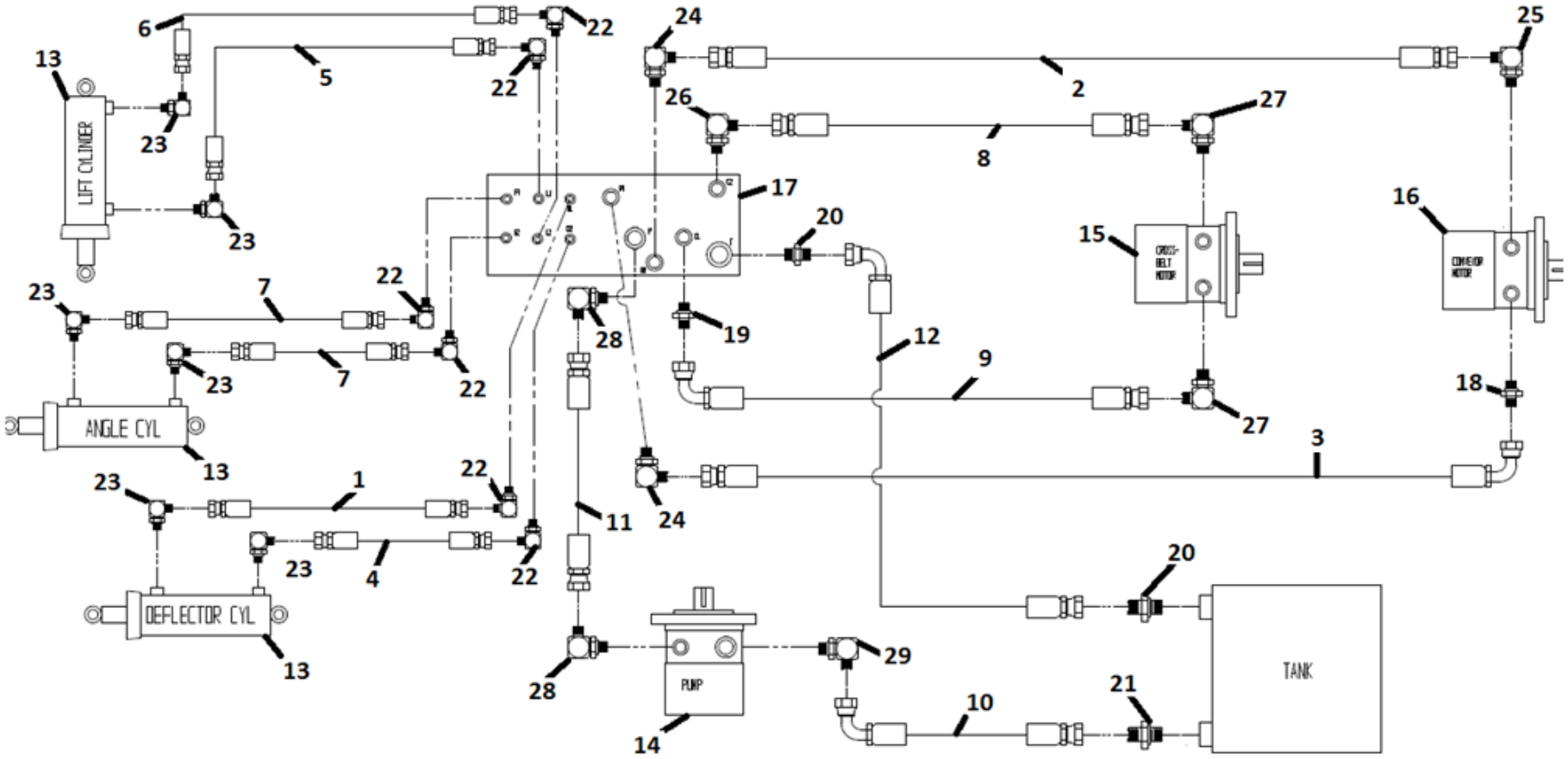
Ladder Pivot



Ladder Pivot

Key	Part Number	Description	Qty	Comment
1	RC052065	Pivot, Outer	1	
2	RC052064	Pivot, Base	1	
3	RC052272	Handle	1	
4	RC052068	Arm	1	
5	11115694	Bolt, M12 x 30 Gr. 10.9 Flange	1	
6	RC052078	Washer	1	
7	161835	Bolt, M10 x 40 Flange	4	
8	90682	Nut, M10 Top Lock	5	
9	40358	Washer, M10 Flat	4	
10	11115688	Bolt, M10 x 75 Gr.10.9 Flange	1	
11	64257	Pin, 1/4 x 2 1/2 Roll	1	
12	RC052069	Pin	1	
13	RC052286	Spring	1	
14	RC052071	Bushing	1	
15	166015	Pin, 3/8 x 1 Roll	1	
	RC052381	Bumper, Rubber	1	

Hydraulic


LIFT CYLINDER
ANGLE CYL
DEFLECTOR CYL
PUMP
TANK
CROSS BELT MOTOR
CONVEYOR MOTOR
1
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Hydraulic

Key	Part Number	Description	Qty	Comment
1	RC052313	Hose, Manifold to Rod Defl Cyl	1	
2	RC052308	Hose, Manifold R1 to Conveyor Motor	1	
3	RC052309	Hose, Conveyor Motor to Manifold R2	1	
4	RC052312	Hose, Manifold to Defl Cyl	1	
5	RC052311	Hose, Manifold to Rod Lift Cyl	1	
6	RC052310	Hose, Manifold to Base Lift Cyl	1	
7	RC052314	Hose, Manifold to Angle Cyl	2	
8	RC052306	Hose, Manifold C2 to Belt Motor	1	
9	RC052307	Hose, Belt Motor to Manifold C1	1	
10	RC052303	Hose, Tank to Pump	1	
11	RC052304	Hose, Pump to Manifold	1	
12	RC052305	Hose, Manifold to Tank	1	
13	RC052045	Cylinder, Hydraulic	3	
14	RC052302	Pump, Hydraulic Gear	1	
	RC052334	Kit, Pump Seal	1	
15	RC052021	Motor, Hydraulic Gear	1	
	RC052335	Kit, Motor Seal	1	
16	RC052228	Motor, Hydraulic Gear	1	
	RC052336	Kit, Motor Seal	1	
17	RC052095	Manifold, Hydraulic	1	
18	RC052348	Fitting, Adapter	1	
19	RC052349	Fitting, Adapter	1	
20	RC052350	Fitting, Adapter	2	
21	RC052351	Fitting, Adapter	1	
22	RC052352	Fitting, Adapter	6	
23	RC052353	Fitting, Adapter	6	
24	RC063400	Fitting, Adapter	2	
25	RC052354	Fitting, Adapter	1	
26	RC052355	Fitting, Adapter	1	
27	RC052356	Fitting, Adapter	2	
28	RC052357	Fitting, Adapter	2	
29	RC052358	Fitting, Adapter	1	
30	RC052359	Fitting, Adapter	1	
31	RC052360	Fitting, Adapter	2	
32	RC052361	Fitting, Adapter	2	

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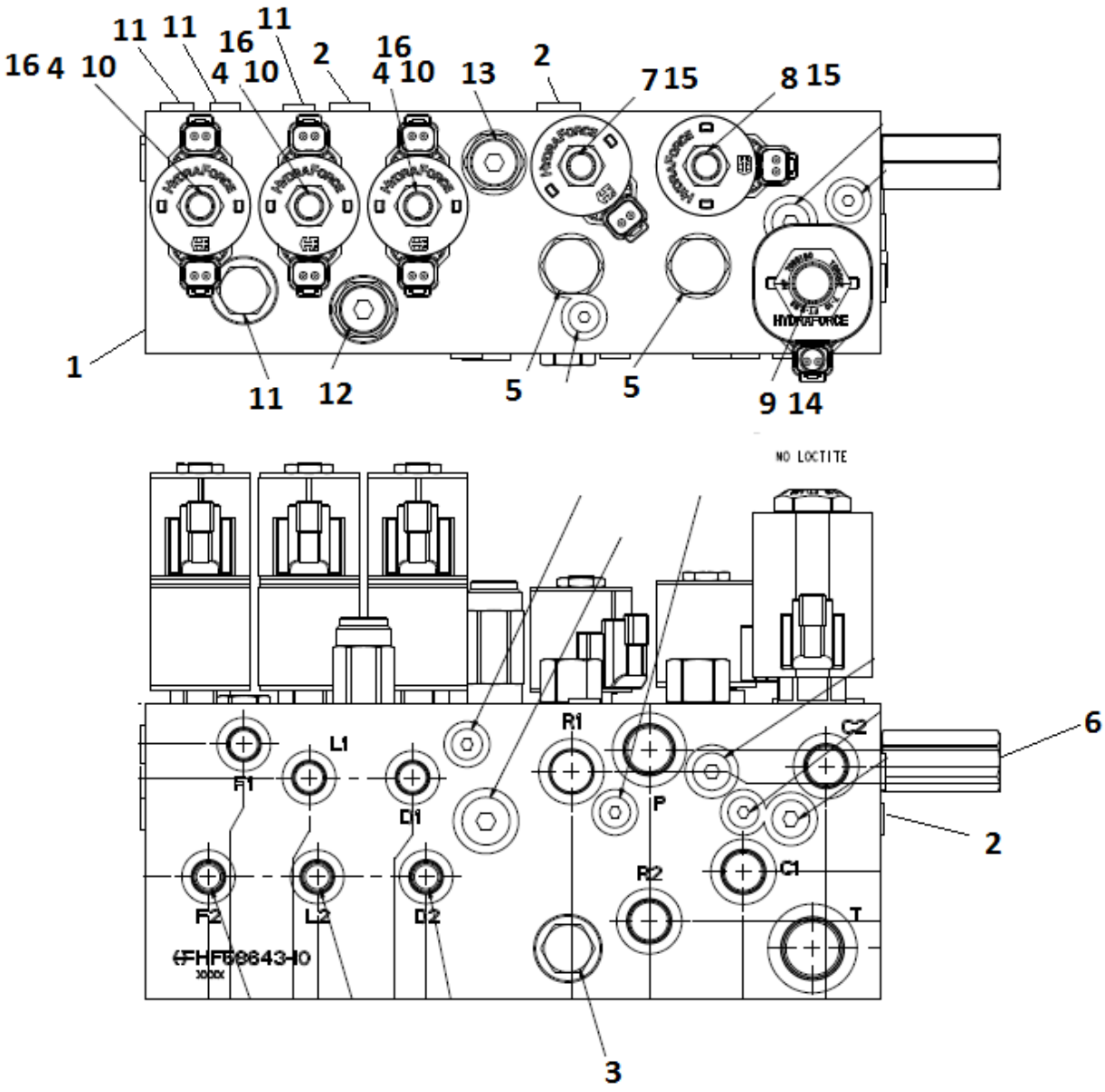
Manifold

Key	Part Number	Description	Qty	Comment
1	RC052095	Manifold, Hydraulic	1	Includes 2-16
2	RC052364	Check Valve	3	
3	RC052365	Check Valve	1	
4	RC052366	Check Valve, Drop-in	3	
5	RC052367	Logic Element Valve	2	
6	RC052368	Logic Element Valve	1	
7	RC052369	Proportional 2-way Valve	1	
8	RC052370	Proportional 2-way Valve	1	
9	RC052371	Solenoid, 4-way Valve	1	
10	RC052372	Solenoid, 5-way Valve	3	
11	RC052373	Check Valve, Piloted	4	
12	RC052374	Relief Valve, 1500PSI	1	
13	RC052375	Relief Valve, 3200PSI	1	
14	RC052376	Coil	1	
15	RC052377	Coil	2	
16	RC052378	Coil	6	


16 4 10
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16 4 10
11
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16 4 10
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7 15
8 15
1
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12
5
5
9 14
NO LOCTITE
L1
F1
D1
R1
C2
P
6
2
R2
C1
F2
L2
D2
T
3

Electrical

Key	Part Number	Description	Qty	Comment
	RC052201	Controller	1	
	RC052230	Harness, Main Wire	1	
	RC052273	Monitor	1	
	RC052288	Harness, Monitor Wire	1	
	RC052271	Camera	1	

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Pre-delivery Checklist

After the unit has been assembled and lubricated and prior to delivery to customer, the merger needs to be inspected thoroughly to ensure it is in proper working order. The following checklist must be reviewed and each item found to be satisfactorily completed.

- Windrow merger has been setup according to the instructions included in this manual.
- All grease fittings have been lubricated.
- All guards, shields and safety decals are in place, securely fastened, and operate correctly.
- All nuts and bolts have been tightened and inspected.
- Adjustments have been made as described in the Adjustments section of this manual
- Crop guides at belt installed properly.
- All moving parts operate freely..
- Belt tension set properly.
- All applicable warranty information recorded.

I acknowledge that the pre-delivery service was preformed and the unit is ready for delivery to the customer.

_____	_____	_____
Dealership's Name	Representative	Date
_____	_____	_____
Model Number	Serial Number	Date Sold

Owner's Name and Address

Name_____

Address_____

City, State, Zip _____

Original: Enclose in manual and give to customer at time of delivery.
Copy: Dealership
Copy: RCI Engineering LLC

RCI Engineering LLC
Fax: 920-387-9804
Email: info@rciengineering.com
Mail: 970 Metalcraft Drive, Mayville, WI 53050

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Delivery Checklist

The following items must be preformed when delivering the attachment to the customer. Check off each item as it is preformed.

- ☐ Provide the customer with the Operator's Manual and instruct them to read prior to operating the unit.
- ☐ Review and explain all safety information and operating adjustments.
- ☐ Review and explain maintenance and lubrication schedule that is required to ensure proper operation and long life.
- ☐ Show how to properly adjust the belt tension as instructed in the “Adjustments” section.
- ☐ Make it be known that if the customer can visit or call the dealership to discuss any questions or problems they may encounter.
- ☐ Complete the Owner’s Registration with the customer, ensure it is completely filled out, and return it to RCI Engineering.

_____

Date Delivered

_____

Signature

Original: Enclose in manual and give to customer at time of delivery.

Copy: Dealership

Copy: RCI Engineering LLC

RCI Engineering LLC
Fax: 920-387-9804
Email: info@rciengineering.com
Mail: 970 Metalcraft Drive, Mayville, WI 53050

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Owner Registration

Please fill out the following and return to RCI Engineering LLC.

_____	_____	_____
Dealership Name	Representative	Date
___RC052450_____	_____	_____
Model Number	Serial Number	**Date Sold**

_____	_____	_____
Customer Name	Customer Street Address	Customer City, State, Zip
_____	_____	_____
Customer Email	Customer Phone	Customer Fax

Original: Enclose in manual and give to customer at time of delivery.
Copy: Dealership
Copy: RCI Engineering LLC

RCI Engineering LLC
Fax: 920-387-9804
Email: info@rciengineering.com
Mail: 970 Metalcraft Drive, Mayville, WI 53050