Owners Manual

Precision®
PLANTING

Owners Manual

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Precision Planting Warranty & Liability Policy (Revision effective 7-1-10)

Warranties, Disclaimers, and Limitation of Remedies:
These terms and conditions represent the entire agreement between the parties hereto and there are no collateral, oral, or other agreements or understandings, unless expressly stipulated.

Precision Planting warrants that all Precision Planting products, equipment and merchandise are free from defects in material and workmanship. The term of the express warranty recited herein shall be limited to one (1) year from the date of sale by Precision Planting. This warranty shall only extend to the dealer if this warranty is properly presented to the Customer. With respect to 20/20 SeedSense, AirForce and RowFlow, the express warranty recited herein shall only apply if such products are properly registered by the Customer.

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The express warranty recited herein does not extend to any costs or damages other than one of the following, which Precision Planting shall elect at its sole discretion: replacement, repair, or refund of the purchase price.
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Precision Planting is NOT LIABLE FOR CONSEQUENTIAL DAMAGES of any nature whatsoever, including without limitation lost yield, replanting cost, supplies or other expenses. Precision Planting is NOT LIABLE FOR INCIDENTAL DAMAGES of any nature whatsoever, including without limitation diagnostic and installation expenses, travel expenses, and shipping expenses. The limitations of remedy recited herein apply to any action by the Customer whether or not such action is based in warranty.

Some states or jurisdictions do not allow the exclusion or limitation of implied warranties, incidental damages or consequential damages; so the above limitations or exclusions may not apply to you.

Liability:
Customer assumes all liability for damages from accidents caused by or incurred in the use of transportation of said equipment. Customer agrees to indemnify and hold harmless the said Precision Planting, its officers, agents, and employees from any and all damages and/or liability to any person whomsoever arising out of or resulting from the use, storage, or transportation of said equipment by the Customer or anyone else while the equipment is in the custody of the Customer. The Customer acknowledges receipt of the equipment in good working condition and repair. In the event of any accident involving said equipment, Customer shall promptly furnish to Precision Planting a complete report in writing, with names and addresses of witnesses and parties involved and Customer shall make all reports required by law. Customer agrees to review and follow any published safety instructions in the product manual.

Notice of Non-Waiver:
The failure by Precision Planting, at any one or more time, to insist upon the strict performance by the Customer of the covenants, conditions and/or terms of this agreement, shall not be construed as a waiver of Precision Planting's right to demand strict compliance with and performance of all covenants, conditions and/or terms hereof. Notice of demand for strict compliance is hereby waived by the Customer, and time is expressly made of the essence of this agreement.

Choice of Law:
Any dispute or claim arising from or related to this Policy, or related to a product governed by this Policy, shall be governed by the laws of the State of Illinois.

Safety Information

Always wash your hands after working on or around agricultural equipment prior to eating, drinking, smoking, chewing, etc…

Always use the proper Personal Protective Equipment (PPE) for any task.

Examples include: Gloves when handling sharp or abrasive materials

Eye protection when handling contents or systems under pressure (i.e. Hydraulic, Pneumatic, Water)

Welding helmet, Welding gloves, and welders clothing when welding/torching

Prior to working under or at ground level of any equipment secure the machinery from movement; accidental user operation or simple rolling of equipment. This should involve Lock-Out tags at the battery, removal of the Ignition key, “Do Not Operate” signs placed at key locations, as well as wheel chocks as necessary.

When working on a vehicle or implement’s hydraulic system, suspended components may suddenly drop. If you are working on or around the implement at this time serious injury could result. If possible lower the implement or attachment to the ground before beginning any work. Alternatively; use mechanical lock-up devices to secure any components in their lifted positions.

Agricultural equipment may have been exposed to many types of chemicals. Any chemicals or residues should be removed from the planter prior to beginning work.
Obey all existing (new & original) warning signs and caution labels on all equipment.

When working on or around equipment that has been or is running many components may get extremely hot. To avoid injury &/or serious burns allow all equipment components to properly cool before working on or around them.

Avoid wearing loose or ragged clothing or jewelry around equipment, with special attention to avoid moving parts.

Route and secure all wires and connections to avoid crimping or damaging. This may result in unexpected shortages and shocks.

Use extreme caution when working on pressurized systems (Air, Water, Oil). Relieve all pressure from a system before disconnecting lines, fittings, etc… Use a cloth or other obstruction to divert possible spray when disconnecting hose connections, fittings, fill caps, breathers, etc. Always use gloves, NEVER use bare hands. To locate or check for leaks use cardboard, never your hand.

Electrical components and devices may contain high voltages and should be kept dry and closed. There are no serviceable components in this unit. Do not open this display unit, the AirForce Module, Row Flow Module, or the Smart Connector. Opening of the covers should be done by, or with guidance from trained personnel.

Table of Contents

CleanSweep

Available Components, Kits, & Accessories

Control Kits

755025		Control Kit	Non-AirForce
	725258	Bracket Assembly	Metal Mounting Bracket
	755030	Controller	Regulator Control Interface
	755015	Wiring Harness	Tractor Power
	755090	Compressor Assembly	CleanSweep Compressor/Tank/Enclosure
755055		Control Kit	AirForce Installed
	755030	Controller	Regulator Control Interface
	725258	Bracket Assembly	Metal Mounting Bracket

Cylinder & Bracket Kits

755023	Cylinder	Assembled Cylinder
755190	Cylinder Bracket Kit	Martin C125 MTS, MTS-XP, MTS-81, MTS-IH
755195	Cylinder Bracket Kit	Martin C125 MTR, MTR-XP, MTR-81, MTR-IH
755200	Cylinder Bracket Kit	Martin BD, BK, BW 1360
755205	Cylinder Bracket Kit	Martin BDC 1360
755175	Cylinder Bracket Kit	Yetter 2967-035 Short Bracket
755180	Cylinder Bracket Kit	Yetter 2967-035 Standard Bracket
755185	Cylinder Bracket Kit	Yetter 2967-007
755160	Cylinder Bracket Kit	Yetter 2967-042, 2967-043
755170	Cylinder Bracket Kit	Yetter 2967-115
755210	Cylinder Bracket Kit	Yetter 2967-029
755225	Cylinder Bracket Kit	Martin C125 MTR, MTR-XP, MTR-81, MTR-IH
755230	Cylinder Bracket Kit	Yetter 2967-035 (Low Mount Position)

Air Lines and Fittings Kits

755035	Tubing Kit	8 Row
755040	Tubing Kit	12 Row
755085	Tubing Kit	16 Row
755045	Tubing Kit	24 Row
755050	Tubing Kit	36 Row
755065	Tubing Kit	48 Row
755070	Tubing Kit	54 Row

Treader Wheel Kits

755060	Treader Wheel Kit	2 wheels
755075	Hardware Kit	Martin 4-Bolt
755080	Hardware Kit	Yetter 4-Bolt
755110	Hardware Kit	Martin 3-Bolt

Accessories

755100	Wiring Harness	12' Power Ext. CleanSweep Compressor
725236	Bracket	RAM Articulated Arm Mount
725270	Adapter	JD Power Strip
755202	Stop Kit	JD 7200+ Row Unit Height
755135	Tubing	25' Extension
755145	Tubing	50' Extension
755150	Tubing	75' Extension
725254	Splitter	12 Volt 3 pin power
755159	Shim	Cylinder Base Mount (For JD Coulter)

Quick Start Guide

Step 1: Cab Installation

Begin installing your CleanSweep by mounting the Controller within the cab of the tractor. Position the Controller within reach during operation without compromising safety or visibility from the cab. Route the hoses from the rear of the Controller to the hitch-point at the rear of the tractor. The provided unions at the far end create a quick disconnect point for the CleanSweep system. See page 9.

Step 2: Connecting to the Air Supply Source

Ensure supplied air is clean and dry.

"Contaminated Air" will lead to premature cylinder failure.

When sourcing from AirForce Compressor: Use the supplied installation components to tap into the Tank Circuit of the AirForce system. This connection will be made AFTER the water separator and BEFORE the AirForce control manifold. See page 11.

When sourcing from CleanSweep Compressor: Connect the supply tube from the controller to the output side of the water separator within the compressor module.

Step 3: Installing CleanSweep Compressor

NOT APPLICABLE TO OWNERS UTILIZING AIRFORCE COMPRESSORS

Begin by connecting and routing the Tractor Battery Power Cable on the tractor to source 12V power from either the battery or starter. Next locate a suitable mounting location for the compressor assembly. Placement of the compressor assembly will vary on the make and model of the planter. Note: Be sure to check clearance of compressor assembly in all locations, especially noting tractor tires and folding/unfolding the planter for transport mode. See pages 13-20.

Step 4: Install Bracket Kits and Cylinders

Install the Row Cleaner Bracket Kits and Cylinders. Refer to specific instruction sheets, pages 21-44.

Step 5: Connecting & Routing Air Lines

Install the air lines, down and lift pressure circuits, to the cylinders. Route the air lines safely from the cylinder and connect to the trunk line on the planter frame. Route the main trunk line forward to the rear of the tractor to connect with the hoses from the controller. See page 45-47.

Ensure supplied air is clean and dry.

"Contaminated Air" will lead to premature cylinder failure.

System Overview

The CleanSweep row cleaner control system consists of four primary components and kits. These parts include; the CleanSweep Controller, the air supply source, row cleaner cylinder kits, and the necessary lines and fittings.

CleanSweep Controller

755030

The CleanSweep controller will be cab mounted, giving control of the forces on the row cleaners. The controller has three analog gauges to display the pressures in each circuit. Note: only two gauges, at most, will ever have pressure at the same time. Moving the control lever to the left increases lift force, effectively removing weight from the row cleaners. Moving the control lever to the right increases the down force, effectively adding weight to the row cleaners.

Air Supply Source

20/20 AirForce™

OR

CleanSweep requires a stable air supply source that can provide 120+ psi of clean, dry air. The 'clean, dry air' is a key component of the air supply; moisture within the air supply can shorten the life-cycle of the cylinders.
The two approved sources to use are: an existing 20/20 AirForce compressor, or the CleanSweep Compressor. Both compressor systems are capable of supplying the required air pressure and volume.
The AirForce compressors are capable of supplying the pneumatic pressure required for a CleanSweep system in addition to any pneumatic clutches and down force already present.

System Overview

Air Cylinder and Cylinder Bracket Kits

Each row to be controlled will have an air cylinder and bracket kit to be installed on the row cleaner. Each kit will include the required brackets and hardware to pair with the cylinder to modify an individual row. These will be specific to the make and model of row cleaner to be controlled.

Lines and Fittings Kit

A line and fitting kit will be used to move air from the tank to the controller, and then out to each air cylinder. Each kit will include pneumatic lines for both circuits, down and lift, as well as the fittings to make connections and cable ties to securely fasten the lines to the planter.

Note: all AirForce and CleanSweep compressors include a tubing cutter within the service kit. This cutter should be used for every cut, to ensure a clean, square cut.

Installing the CleanSweep Controller

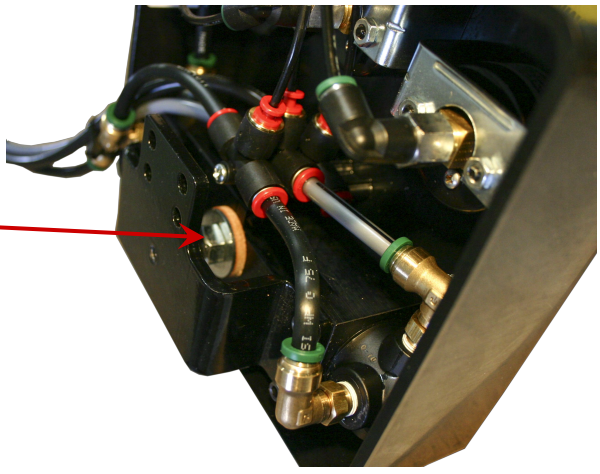
Once an adequate mounting location has been located, fix the base component of the Mounting Bracket (725258) in place. Fix the head component to the rear of the Controller and reconnect the two components of the Mounting Bracket.

Serial number and Registration Code can be found here.

725258

RAM mounting brackets may be used as an alternative means of mounting the Controller, but is not the preferred method.

Note: If the control lever becomes loose or begins to 'creep' while under pressure, using a 9/16" wrench tighten the lock nut on the rear of the regulator.



Connecting to the Air Supply Source

The air supply for CleanSweep may be sourced from an existing AirForce compressor (if present) or from the CleanSweep specific compressor. The CleanSweep system should have a ready supply of air at 120psi or greater that is clean and dry.

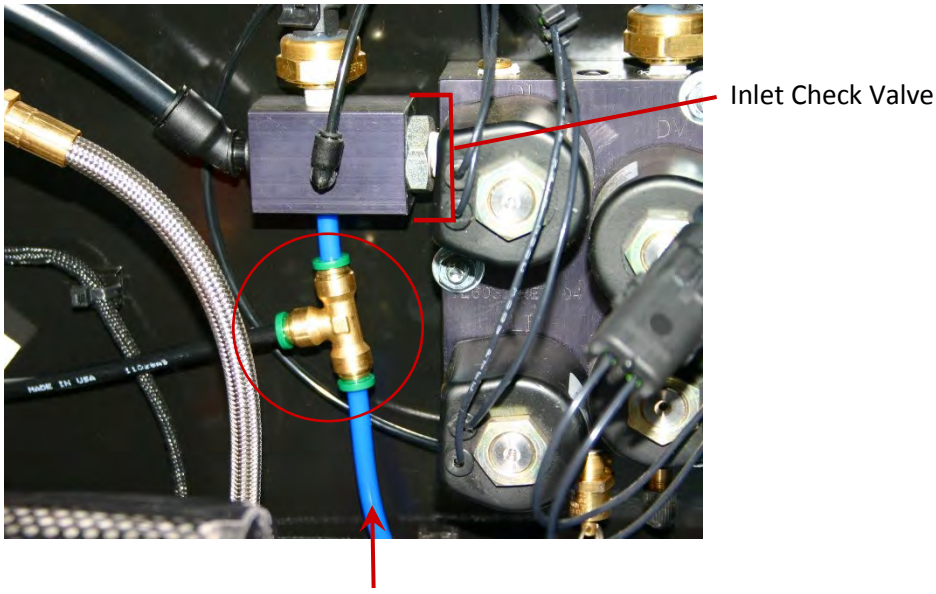
Connecting to AirForce:

Caution: drain the air tank of all pressure prior to proceeding to the following step.

12V Compressors

Using the tubing cutter supplied in the Service Kit Assembly, measure down 1-1/2" to 3" down from the inlet check valve assembly and cut the line leading to the accessory air chuck. Re-connect the accessory line with the addition of the provided 1/4" PTC Tee

If it becomes necessary to remove the accessory line from the inlet check valve, make a mark flush with the assembly body (or 7/16" from the end). Re-install the accessory line no further than this mark to prevent air flow disruption.



Complete the process by installing the 1" rubber grommet (726472) into the cutout in the base of the enclosure in the left rear corner behind the compressor. Route the 1/4" Supply Line through the cutout now protected, along the rear of the enclosure and connect into the Tee.
Route the opposite end of the Supply Tube forward and connect using the union at the hitch of the tractor to the supply line from the controller.

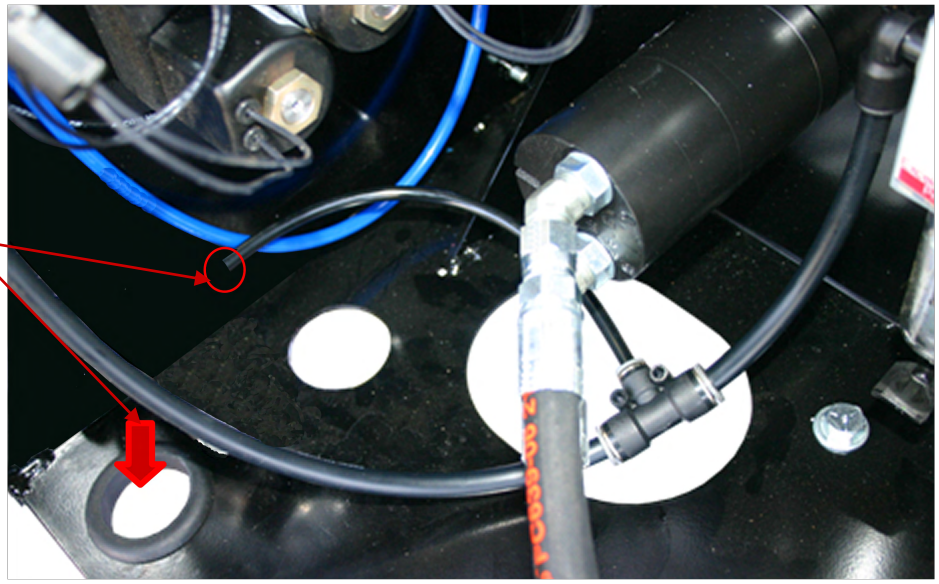
Connecting to AirForce (Continued):

Caution: drain the air tank of all pressure prior to proceeding to the following step.

Hydraulic Compressors

Using the tubing cutter supplied in the Service Kit Assembly, measure down approximately 6” from the outlet of the water separator and cut the line leading to the inlet check valve. Install, in line, the provided 3/8” X 3/8” X 1/4” PTC Tee as shown.
Install the 1.75” rubber grommet (726459) as shown in the cutout in the base of the enclosure.

Route the Supply Tube from the Tee through the grommet protected cutout and connect forward to the controller.



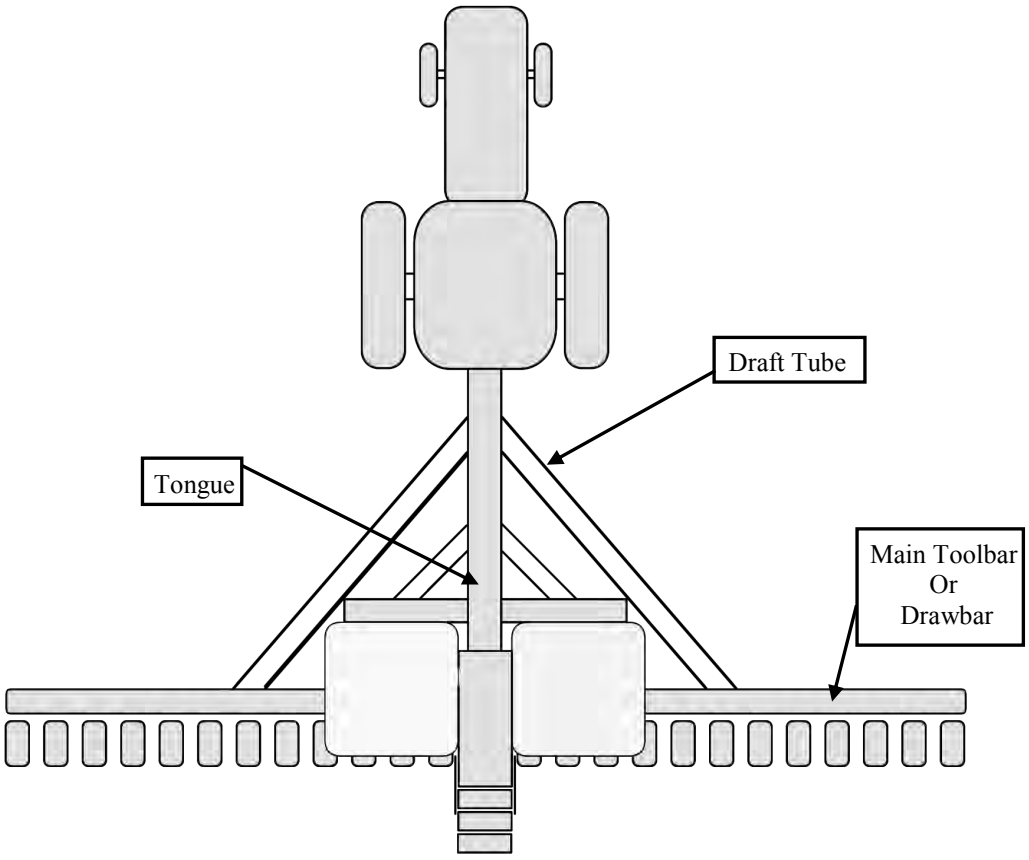
This will complete connecting to the Air Supply Source for systems with an installed AirForce system.
To continue the installation process, turn to page 21.

Connecting to CleanSweep Compressor:

Begin by mounting the CleanSweep Compressor:

- Every planter/tractor combination will contain it's own unique situations in regard to mounting the Compressor Module for clearance and accessibility.
  YOU SHOULD EXERCISE YOUR OWN BEST JUDGMENT TO FIT YOUR SITUATION.
- CleanSweep Compressors require mounting with access to 12V power from the tractor. 26' of the combined cabling is included in the base kit. See the following page for details on the harnesses and the use of extensions.

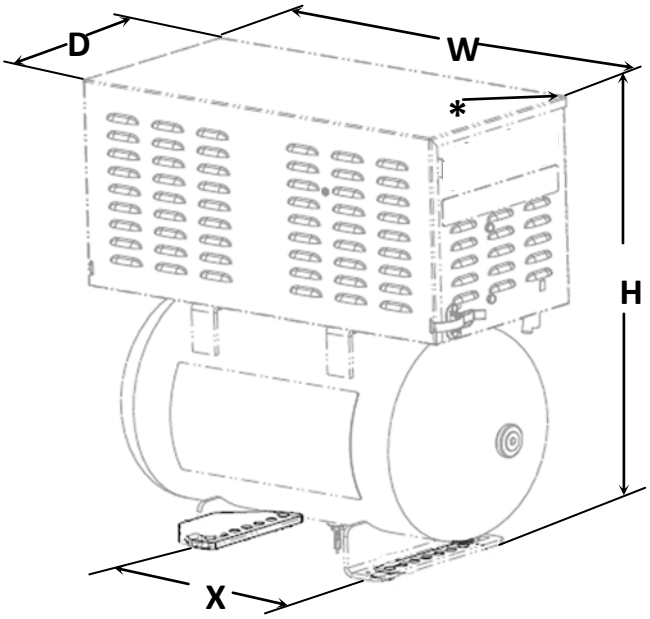
- First, locate a possible mounting location. The image below shows the three most common mounting locations and the terms by which we refer to them. Use the diagram on the following page for dimensions and clearance requirements.
- Second, visually inspect the proposed mounting location for structural stability and to find signs of wear in that location. Possible obstructions to be aware of include marker arms, liquid fertilizer tanks, rear tires (duals especially) during tight turns, etc...
- Mark out the position of the Compressor then complete a thorough cycle of folding/unfolding to transport mode and raising/lowering of the planter; as well as, driving in a tight circle in one or both directions, in planting position, to verify or identify obstructions.
- Once the CM is mounted, repeat the previous process very cautiously to once again verify that the CM is clear of obstructions.



Connecting to CleanSweep Compressor (Continued):

Use the diagram to the right to identify possible mounting locations on your specific planter. *Remember to allow room for the lid to open properly. Measure 10” vertically and 8” to the rear of this point. *

The ‘X’ dimension is the spacing between the tank rail bolt holes, on center. The bolt holes are spaced 1” on center, with 1” slots at each end.



Dimensions (inches)

H	W	D	X
16	19	10.5	12.0

For more information and images of available mounting brackets, refer to the Compressor Mounting Bracket pages in the Reference Section.

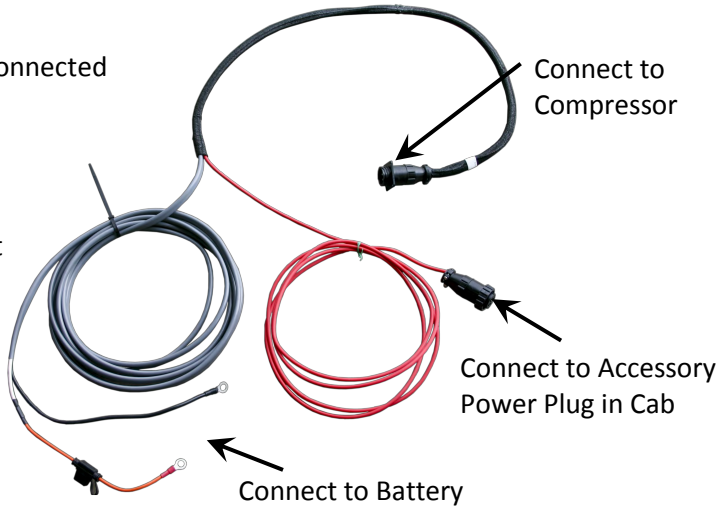
Connecting the CleanSweep Compressor to Power

A stable supply of 12V DC power is required for the operation of the CleanSweep Compressor. This system should be installed only on tractors capable of supplying the 18 Amps required to operate the Compressor.

755015 Tractor Power Harness

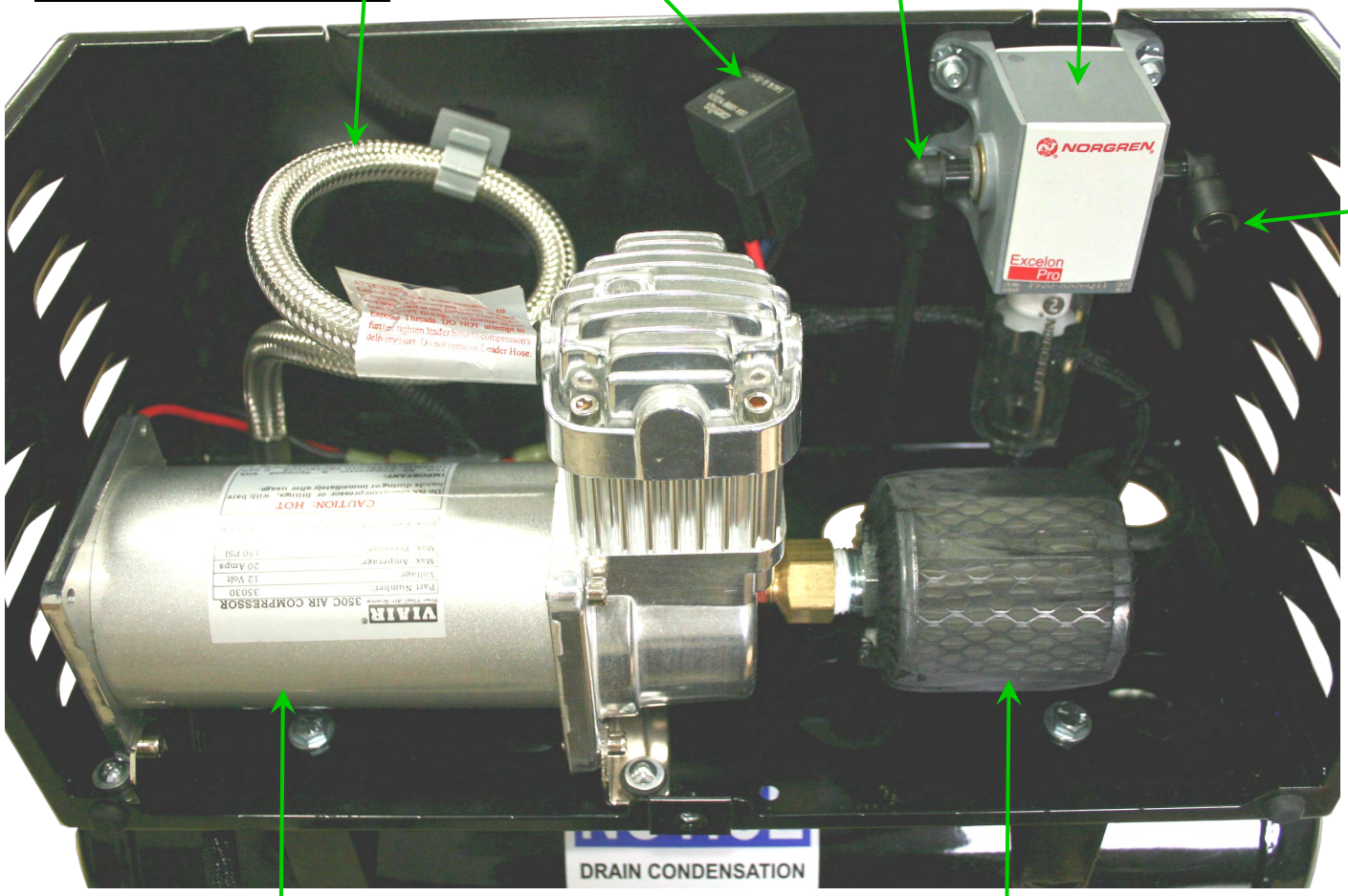
The 755015 Tractor Power Harness will need to be connected to both:
Constant power and ground
- Sourced from the battery or starter post

Switched power within the cab
- Commonly connected at the convenience outlet



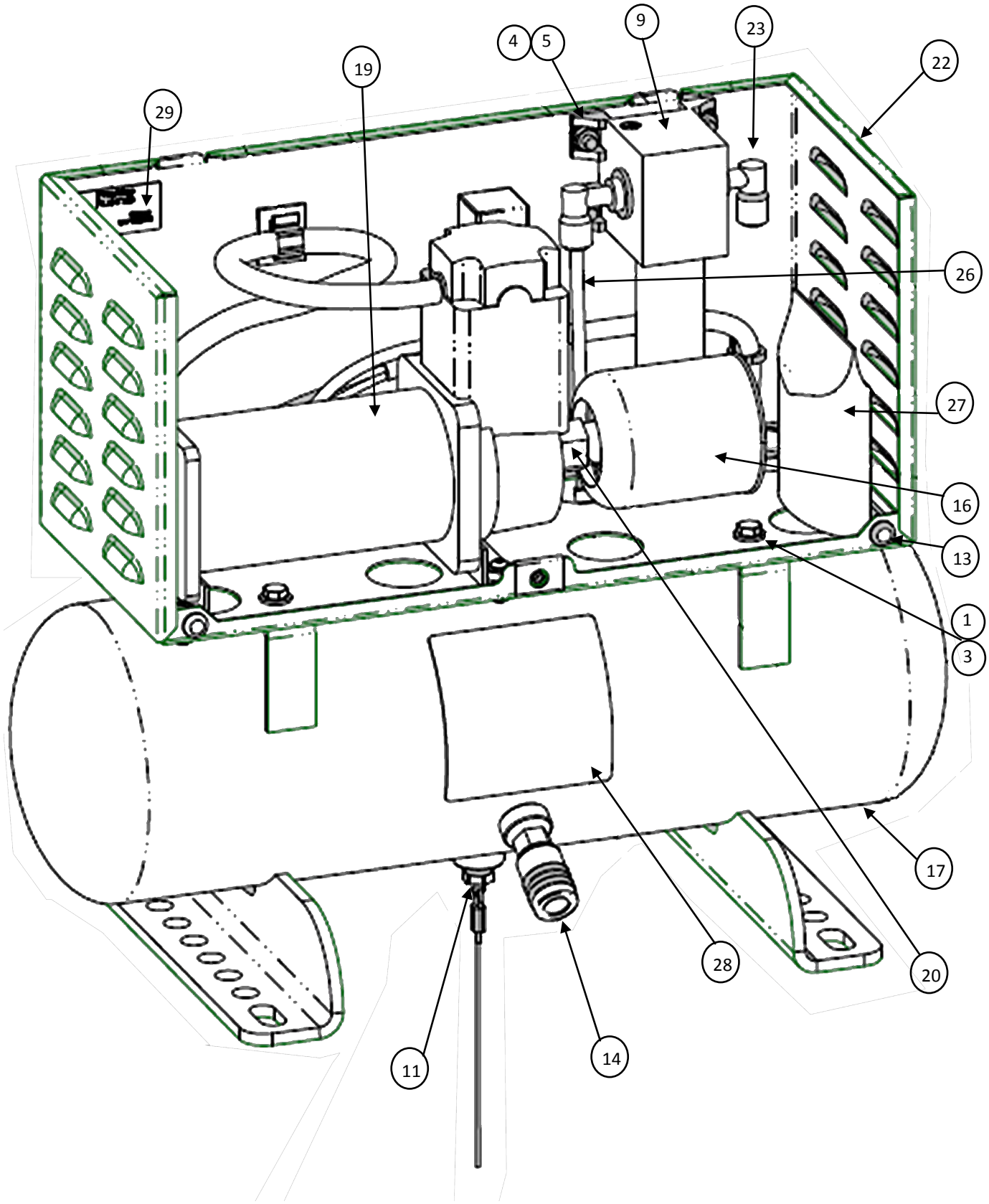
If all convenience ports are currently used, the necessary adapters are available through Precision Planting:
725270 JD power strip adapter or
725254 Power Splitter
The cigarette outlet is NOT a switched port on all models of tractors and therefore should not be used.

CleanSweep Compressor Overview



The table below corresponds with the images on the following pages to provide a detailed component list and diagram of the CleanSweep Compressor.

CleanSweep Compressor Components				
ITEM	QTY	PART NUMBER	PART NAME	DESCRPTION
1	4	13001	Bolt	1/4" X 1/2" GRD 5 Hex Bolt ZN
2	8	33074	Washer	#10 SAE Flat ZN
3	4	33078	Washer	1/4" SAE Flat ZN
4	4	33737	Lock Washer	1/4" External Tooth Lock
5	4	36302	Hex Nut	1/4" Hex Nut ZN
6	4	37407	Lock Nut	10-24 K-Lock
7	3	63124	Cable Tie	6" X 1-3/8" DIA UV Black
8	4	94032	Screw	#10 X 3/4" Button Head ZN
9	1	726084	Filter	Tank Filter
10	1	726095	Relief Valve	175 psi Relief Valve
11	1	726096	Drain	Condensate Drain
12	1	726107	Fitting	1/4" NPT X 1/4" PTC
13	2	726196	Bumper	Rubber Enclosure Lid Bumper
14	1	726301	Disconnect	1/4" NPT Coupler
15	1	726308	Grommet	Wire Harness Grommet
16	1	726546	Air Filter ASM	Filter and Pre-Filter
17	1	755011	Air Tank ASM	2 Gal.
18	1	755029	Lid	Enclosure
19	1	755047	Compressor ASM	VIAIR 350C - Production
20	1	755049	Adapter	1/2" NPT Female X 1/4" NPT Male
21	1	755054	Switch	Pressure
22	1	755071	Enclosure Base	
23	2	755082	PTC Elbow	1/4" Tube X 3/8" Stem
24	1	755091	Wiring Harness	Compressor
25	1	755095	Relay	12V SPST 50A
26	1	755109	Hose	1/4" Tank to Filter
27	1	755143	Service Kit	CleanSweep
28	1	956047	Decal	Drain Condensation
29	3	956067	Decal	Serial Number
30	2	956068	Decal	CleanSweep (Lid & Enclosure)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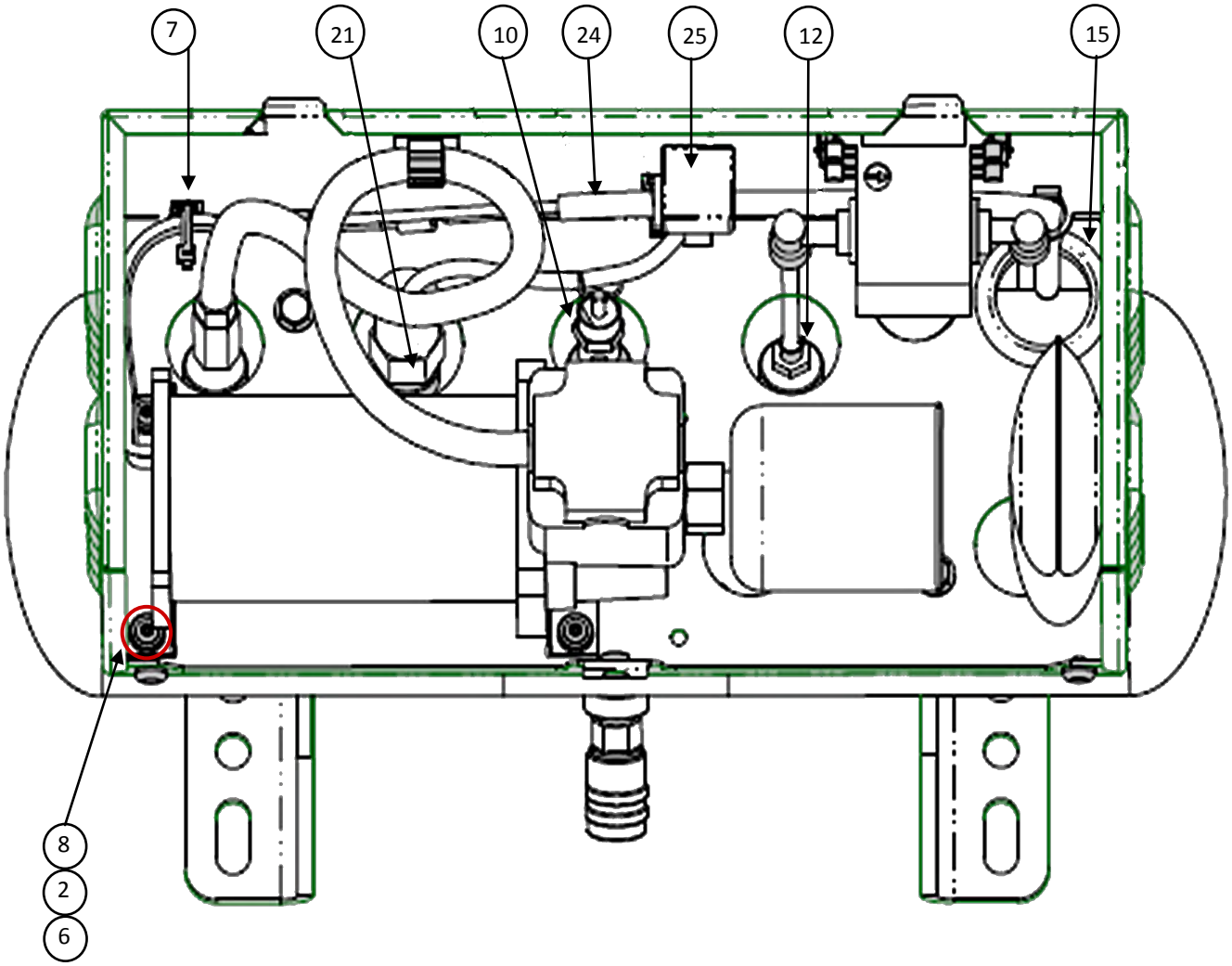


Compressor Mounting components

18 30 Not Shown: Enclosure Lid and Decal

A copy of the compressor manufacturer's owners manual is included in the reference section.

CleanSweep Compressor System Testing

Leak Testing

This leak testing procedure is for the CleanSweep compressor system consisting of a VIAIR 350C electric compressor with 2-gal. tank, regulator control interface, tubing, and cylinders. This procedure shall be performed at the beginning of each season of CleanSweep system use and every 100 hours of in-season use. In addition, it should be performed if the user notices a lack of air pressure availability or if the compressor is running an abnormally high duty cycle. This test will take approximately 10 min. to complete. It will help keep the duty cycle in check, thus extending the life of the compressor.

CleanSweep System Leak Testing Procedure

1. Ensure the Tank pressure is above 130 psi and at least 100 psi is in the Lift circuit. If necessary, lower the tank pressure until the compressor turns on and fills the system. This can be done by moving the regulator control lever between Down and Lift. Remember to end with at least 100 psi in the Lift circuit.
2. When Tank pressure drops to a tick mark on the gauge (on the 5's, 130 psi or above), start a stopwatch.
3. Note the pressure drop on the tank gauge in 2 minutes.
4. If the pressure drop is greater than 5 psi, check the Lift and Tank circuits for leaks. Then repair, and test again.
5. Run the above test with at least 100 psi in the Down circuit and repair leaks and retest if necessary.
6. To troubleshoot leak locations, this test may be run with the regulator control lever in the neutral position, thus isolating the test to the Tank circuit.

Compressor Health Testing

This health testing procedure is for the CleanSweep compressor system consisting of a VIAIR 350C electric compressor with 2-gal. tank. This procedure shall be performed at the beginning of each season of CleanSweep system use. In addition, it should be performed if the user notices a lack of air pressure availability or if the compressor is running an abnormally high duty cycle. This test will take just a few minutes to complete. It will let the user know if the compressor is in good condition, thus providing adequate pressure supply for the CleanSweep system.

Compressor Health Testing Procedure:

1. Before beginning this test, run the compressor system leak test and ensure it passes. There should be virtually no leaks in the tank circuit before performing this test.
2. Pick a 10-psi range to work in within the range of 125-145 psi (like 130 to 140 psi, for example). This range must be such that the compressor will run throughout.
3. Start tractor if not already running. Test results will be skewed if compressor supply voltage is inadequate (13.8 VDC no-load recommended).
4. Ensure Tank pressure is below 100 psi. To lower the Tank pressure, move the regulator control lever between Down and Lift to use enough air to drop tank pressure below 100 psi. This step will ensure the compressor turns on and pressure begins building. Stop the regulator control lever in the neutral position (no pressure in Down or Lift).
5. Start a stopwatch when the Tank pressure reaches the lower pressure value in your chosen range.
6. Note the time to build 10 psi in the Tank.
7. If the time recorded is greater than 30 seconds, the compressor is either leaking or is considerably worn. Consider servicing or replacing the compressor before using. If no action is taken and the compressor continues to be used, closely monitor the CleanSweep system pressure availability.

Replacement part numbers for VIAIR 350C air compressors

Part Number	Description
755118	Compressor O-Ring Kit
755119	1/4” NPT Leader Hose w/Check Valve
755121	Head Rebuild Kit
755126	Vibration Isolators
726573	Push Mount Clamp (for braided hose)
755103	1/4” Female Disconnect, 10AWG
755047	Complete Compressor Replacement

Installing Row Cleaner Bracket Kits and Cylinders:

READ BEFORE BEGINNING INSTALLATION!

Installation Overview:

- Prior to installing any new brackets, check the freedom of motion of the row cleaner. It is common for old (and some new) row cleaners to be deformed enough to cause the row cleaner not to pivot freely. Verify that the row cleaner frame is not bound or rubbing against the mounting bracket. It may be beneficial to insert a shim washer on the pivot bolt, between the frame and mounting bracket.
- The installation process should be done with the planter raised, half folded for transport, and the row units and row cleaners fully extended down.
- Install the Cylinder Base Mounting Bracket
  - This bracket can be secured in place.
- Install the Cylinder Rod Mounting Bracket
  - DO NOT tighten this bracket in place at this time. Keep this bracket loose to allow proper component alignment.
- Install and secure the base of the Cylinder into the Cylinder Base Mounting Bracket
  - Refer to the model specific instructions on the following pages for information on which mounting location to utilize.
  - Be sure to use the supplied spacer bushings.
- Connect the Cylinder Rod Mounting Bracket to the clevis at the tip of the Cylinder Rod
  - This connection can be secured at this time.
- Securing the Cylinder Rod Mounting Bracket:
  - Adjust the Rod Mount Bracket to be centered, or as close to centered as possible, within the clevis yoke. This should align or 'square' the cylinder with both mounting brackets and the row cleaner frame.
  - There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is intended to ease basic installation, especially on mildly deformed row cleaners.
  - Refer to the model specific instructions on the following pages for more information and model specific precautions.
- Adjusting the row cleaner settings:
  - The row cleaner SHOULD NOT be allowed to 'hang' on the cylinder.
    First, verify the correct mounting holes were used in mounting the cylinder.
    Next, adjust the depth stop to ensure that the row cleaner will rest on the depth stop, not on the cylinder.
  - In general, the bottom stop on the row cleaner should not be set lower than what would allow the row cleaner spikes deeper than 1" below seeding depth. This may be confirmed with a tape measure and level or using a 1"X4" board under the opener disc and allowing the spikes to touch the ground.
- **Verify that no specific considerations need to be met for your installation (see the following pages for greater detail)**

Cylinder Pivot Hole Selection:

The following guidelines are intended to help you select which holes to use to mount the cylinder. Be sure to check the configuration specific instructions (refer to the instructions included with your brackets for details) before assuming you can use the default hole positions (listed below). Some planter/ row cleaner combinations require only certain holes to be used. **Failure to follow these instructions may result in damage to the cylinders, fittings, brackets, or planter components**.

The default hole positions listed in the table below are recommended assuming that your planter/row cleaner configuration does not have other Kit Specific Considerations (refer to the instructions included with your brackets for details). **Regardless, it is always important to raise and lower both the row unit and the row cleaner to their extreme positions to check for pinch points around the tubing and clearance for the cylinder and fittings.** Kits 755180, 755195, 755205, 755225, and 755230 have an array of holes from which to choose. For these kits or to simply understand the advantages of using alternative pivot holes, see the **Cylinder Pivot Hole Detailed Guide** on page 26. As a simple rule of thumb, positioning the cylinder farther away from the row cleaner pivot point will result in more applied force on the row cleaner. However, be careful not to confuse more "applied force" with more "down force." Since the cylinder can apply either lift force or down force, more "applied force" may actually result in less "down force". It all depends on which direction you intend to apply the force.

Default Pivot Hole Positions

Default Pivot Hole Positions[1]		Base Default	Rod Default
755190	Martin C125 MTS, MTS-XP, MTS-81	top	top
755195[2]	Martin C125 MTR, MTR-XP, MTR-81	top	top
755200	Martin BD, BK, BW 1360	top	top
755205	Martin BDC 1360	top	top
755175	Yetter 2967-035 (short bracket)	top	top
755180[2]	Yetter 2967-035 (standard bracket)	top	top
755185	Yetter 2967-007	top	top
755160	Yetter 2967-042, 2967-043	top	top
755170	Yetter 2967-115	top	n/a
755210	Yetter 2967-029	bottom	top
755225[2]	Martin C125 MTR, MTR-XP, MTR-81 (Low)	bottom	bottom
755230[2]	Yetter 2967-035 (Low)	bottom	bottom

[1] Be sure to check configuration specific considerations (refer to the instructions included with your brackets for details) before assuming the "default" holes are right for your configuration. Failure to do so may result in damage to the air cylinder, fittings, or other components.

[2] See following pages for more details about pivot hole selection

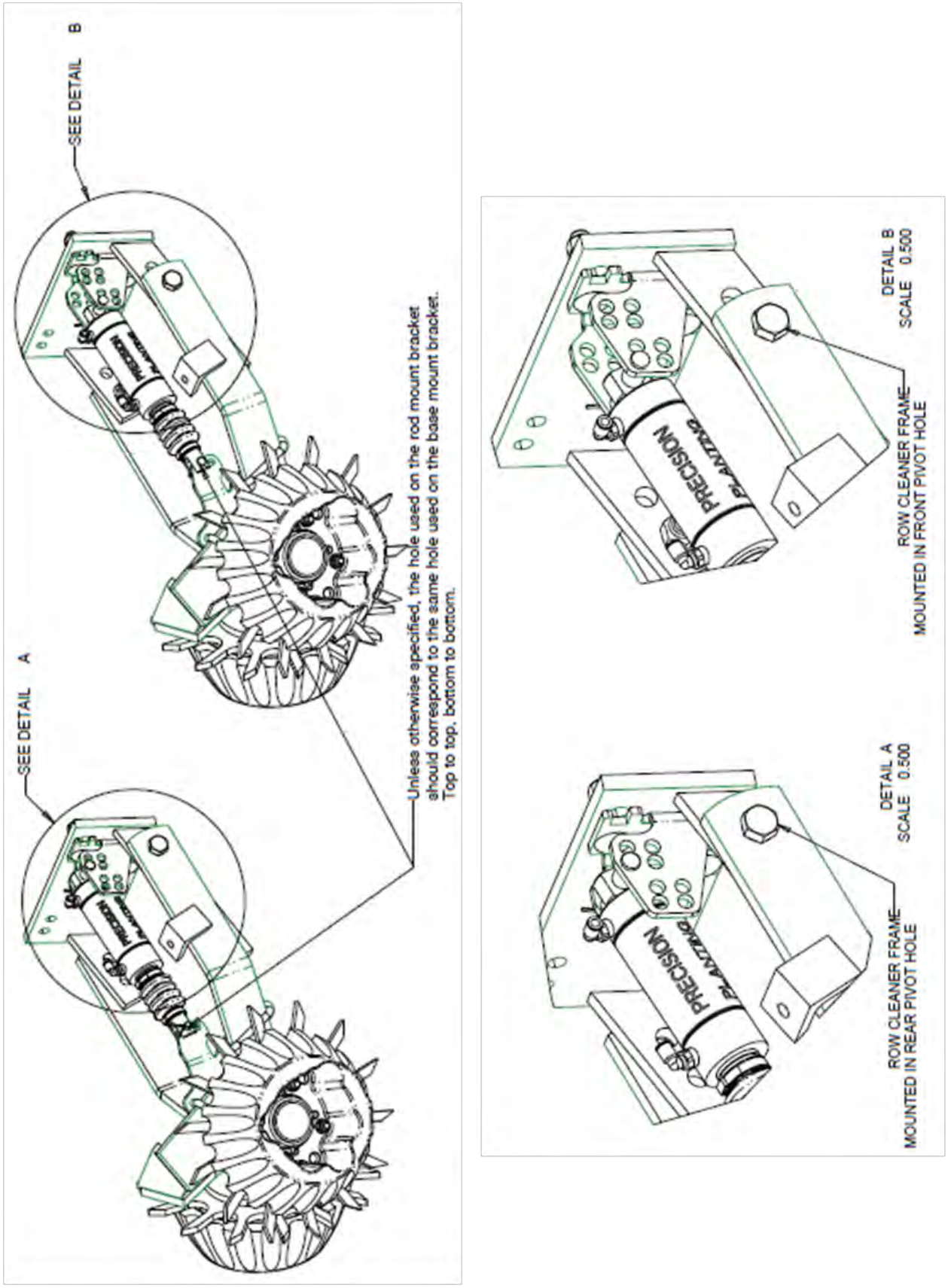


Image 1
C125 MTR Row Cleaner

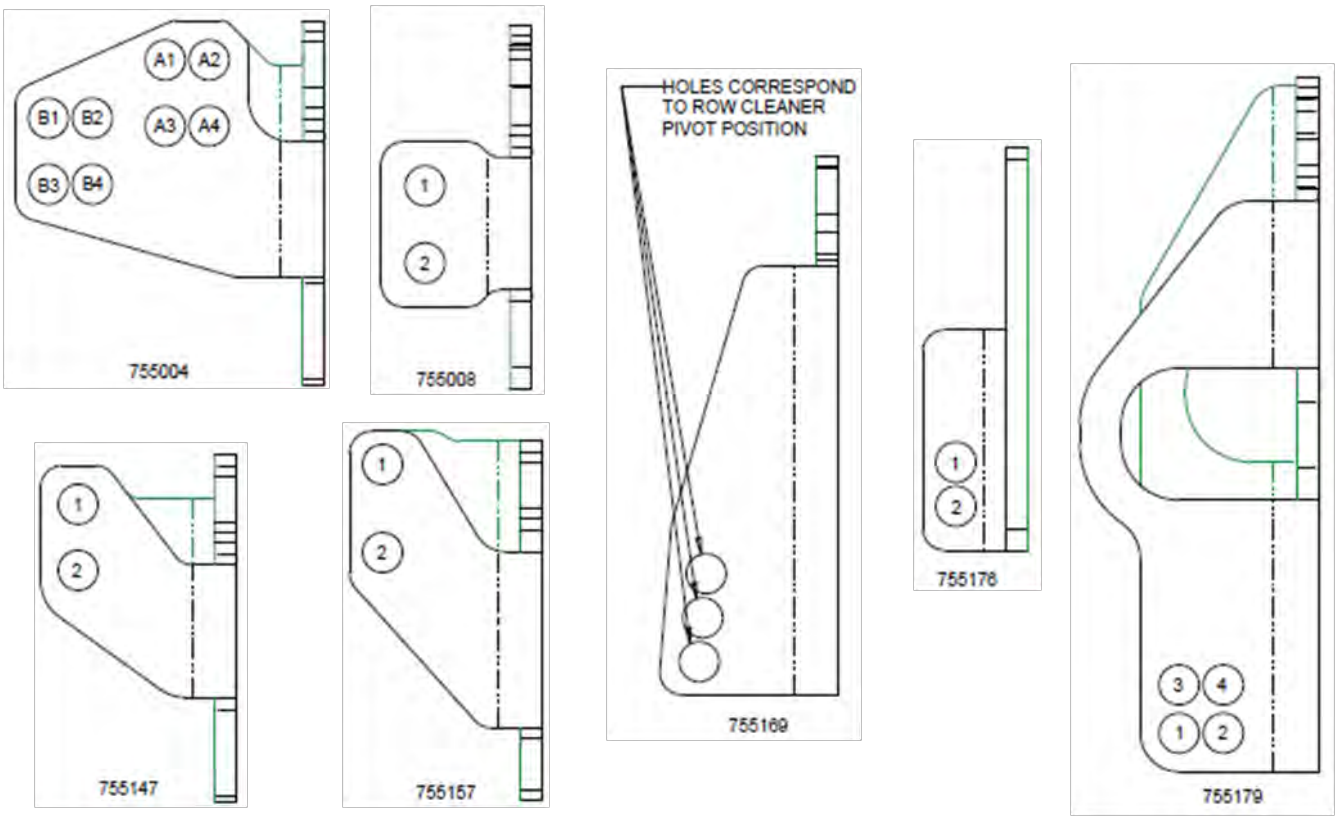


Image 2
Cylinder Base Brackets

Cylinder Pivot Hole Detailed Guide (see Images 1 & 2)

A/B Range Holes

A Range Holes: To be used with Martin MTR when the row cleaner frame is mounted in the rear pivot hole and with Yetter 2967-035 (see Image 1, Detail A)

B Range Holes: To be used with Martin MTR when the row cleaner frame is mounted in the front pivot holes (see Image 1, Detail B)

Top/Bottom Holes

Rule of thumb: The farther away the cylinder is from the row cleaner pivot point, the greater the magnitude of the force applied by the cylinder (either up or down)

Holes 1 and 2:

To be used on rows where more down force is desired when force will generally be applied in the down direction.

To be used on rows where less down force is desired when force will generally be applied in the up direction.

See Row Cleaner Compatibility Guide for compatibility restrictions on particular models.

Holes 3 and 4:

To be used on rows where less down force is desired when force will generally be applied in the down direction

To be used on rows where more down force is desired when force will generally be applied in the up direction

Front/Back Holes

Holes 1 and 3 (Front Holes): To be used if the cylinder base bracket is mounted directly to the row cleaner face plate bracket

Holes 2 and 4 (Back Holes): To be used if bracket is mounted on top of another attachment (e.g. row unit mounted coulter, UMO 100, etc.)

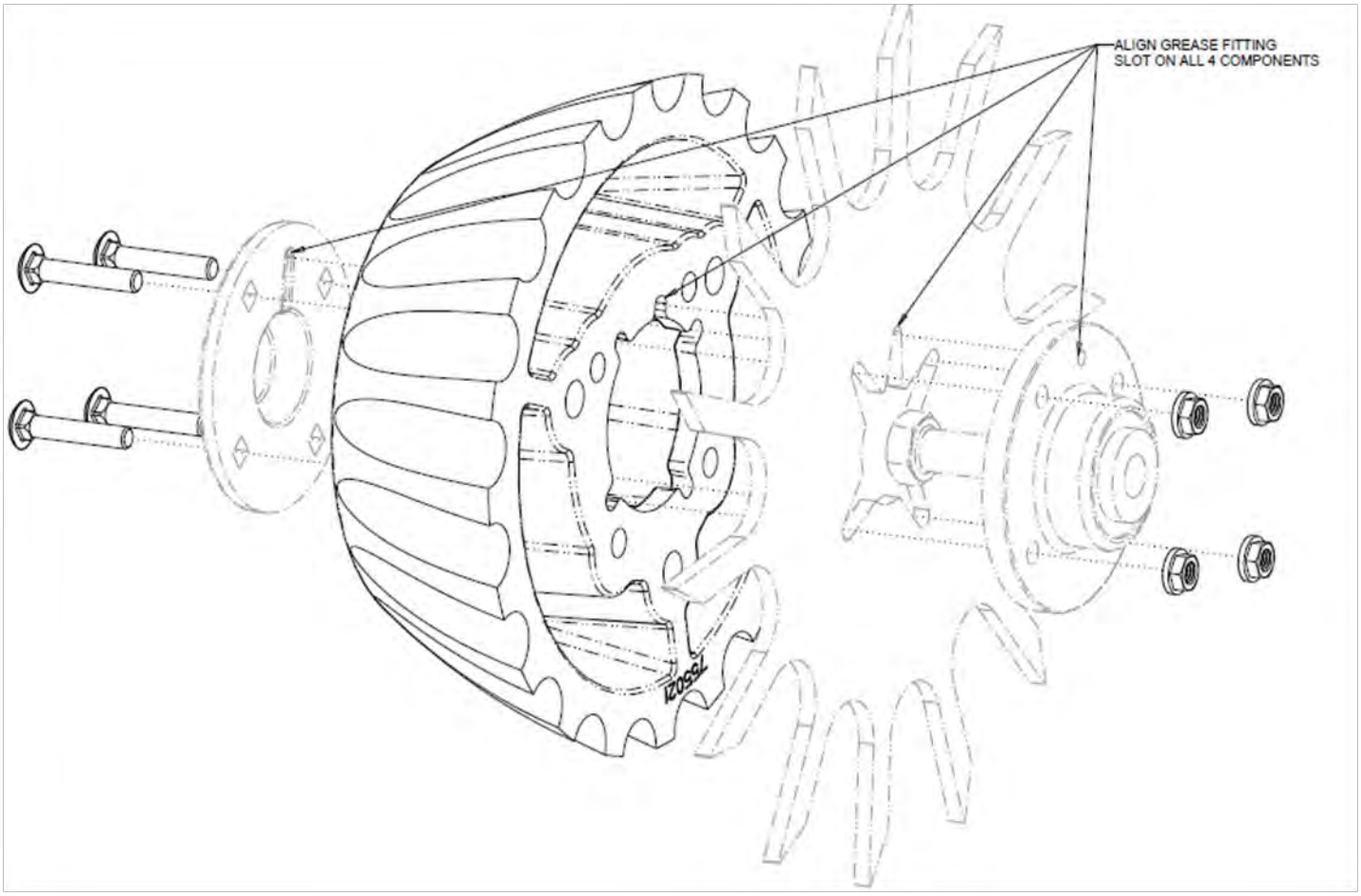
Treader Wheel Compatibility

Not compatible with most NT planters. There is not sufficient clearance in between the transport wheel frames.

Make sure you have enough clearance between transport frames. With the 3.5" wheels installed, the row cleaner is between 15.5" and 16.5" at its widest point, depending on the specific row cleaner.

We recommend using treader wheels with clean sweep. **However, we do not recommend mixing and matching different wheel sizes, so if the 3.5" wheels don't fit your planter, use 1.75" wheels on all rows instead.**

For Yetter wheels, be sure to align grease slot on all components (see image below)



Yetter Treader Wheel

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Connecting/Routing the Air Lines

This process should be done with the planter raised, half folded for transport, and the row units and row cleaners fully extended down.

The lines and fittings kit supplied is designed to enable the connection from the air supply-source to the controller and both circuits (Down and Lift) from the controller to the cylinders.

Due to the wide variety of planter/row unit configurations, you should adapt the installation as necessary for your planter. Every planter will contain it's own unique situations in regard to routing the lines.

YOU SHOULD EXERCISE YOUR OWN BEST JUDGMENT TO FIT YOUR SITUATION.

The primary concern is the security of the lines themselves. The lines should be fastened to the planter in a manner that allows full range of motion/clearance of the row unit. Special caution should be taken around rows at break or fold points of the planter as it folds to and unfolds from transport mode. Extra lengths of slack or alternative routing may be necessary.

- ALL lines will be 1/4"tubing
- Black tubing - used for routing to DOWN pressure
- Silver tubing - used for routing to LIFT pressure
- Temperature and pressure specifications are the same for both colors of tubing.
- Flow is of little importance - lines should be placed as efficiently and conveniently as possible.
- Secure the Air Lines using the supplied zip tie-straps - do not pinch the line closed when cinching tight
- The 1/4" lines should be secured and routed back to the main bar to be Tee'd into the circuit. This will effectively create a 'Main' or a 'Trunk' line that can be safely secured on the planter frame. (see overview image on following pages)
- DO NOT pre-cut the line, measure and lay-out each length individually.

After completion of the **FIRST** row and **PRIOR** to continuing to other rows, check for clearance of, and lack of pinch points on all lines and fittings. This should be done by completely raising and lowering both the row unit and row cleaner to their extremes, making sure the tubes are not pinched or exposed to wear points throughout the movement of the row unit. (see row unit line routing image on following pages.

Note: all AirForce and CleanSweep compressors include a tubing cutter within the service kit. This cutter should be used for every cut, to ensure a clean, square cut.

Air Lines Routing - Overview

For Conversion Kits: 755160,755175, 755180, 755180, 755190, 755195, 755200, 755205

Below is an overview of the lines and circuits:

Direction of flow is: from **Supply Tank** to **Controller** to **Lift and Down lines** out to **Cylinders**

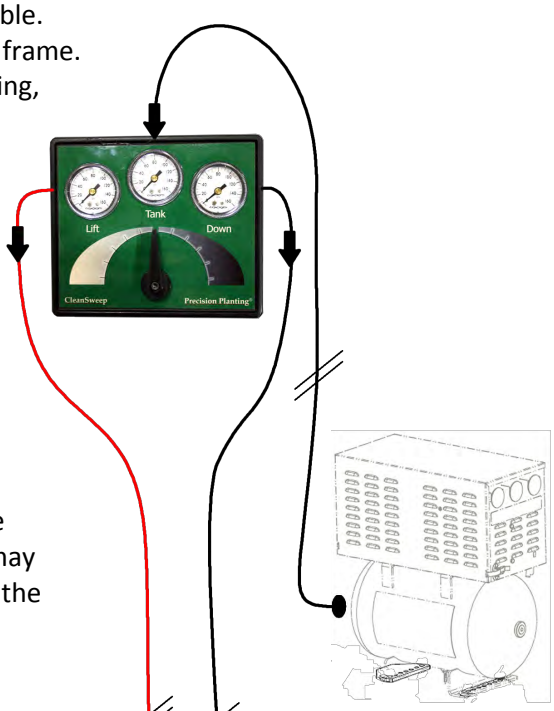
All lines will be 1/4"

Flow is of little importance.

Increasing the lines size to 3/8" will not increase reactivity or increase performance. The flow restriction of the 1/4" tubing is negligible compared to the restriction at the regulator.

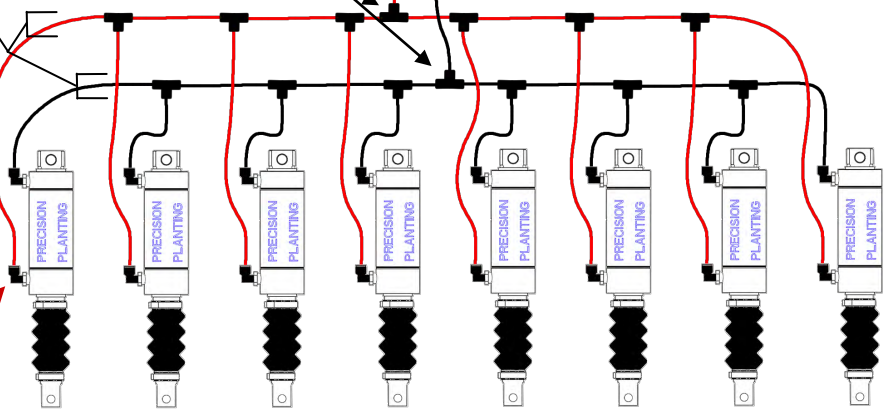
Route the lines as efficiently and conveniently as possible.

Use the colors to differentiate the lines on the planter frame.
This will facilitate maintenance, trouble-shooting, and leak detection.



Location of this point within the circuit **IS NOT** important. Tee may be placed between any rows in the circuit, to one end or the other.

'Main' or "Trunk' Lines



Note: the Lift Circuit line must be connected to the port towards the row cleaners (or rod portion of the cylinder assembly)

Air Lines Routing - Overview

For Conversion Kits: 755170,755225, 755230

Below is an overview of the lines and circuits:

Direction of flow is: from **Supply Tank** to **Controller** to **Lift and Down lines** out to **Cylinders**

All lines will be 1/4”

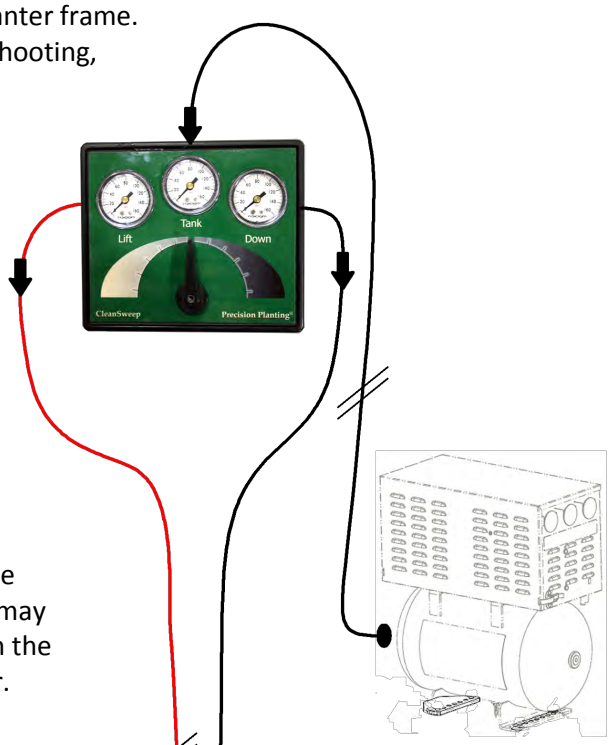
Flow is of little importance.

Increasing the lines size to 3/8” will not increase reactivity or increase performance. The flow restriction of the 1/4” tubing is negligible compared to the restriction at the regulator.

Route the lines as efficiently and conveniently as possible.

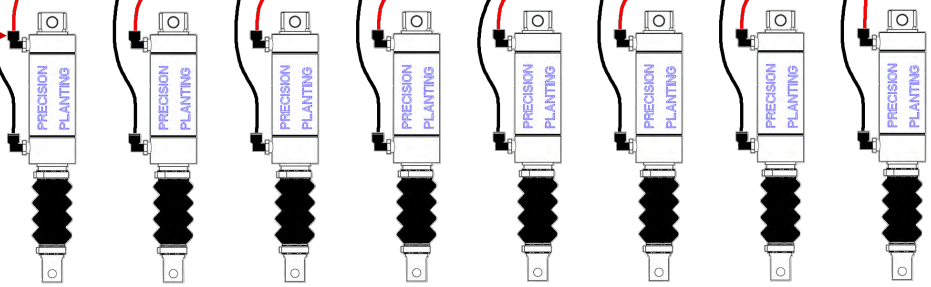
Use the colors to differentiate the lines on the planter frame.

This will facilitate maintenance, trouble-shooting, and leak detection.



Location of this point within the circuit **IS NOT** important. Tee may be placed between any rows in the circuit, to one end or the other.

‘Main’ or “Trunk’ Lines

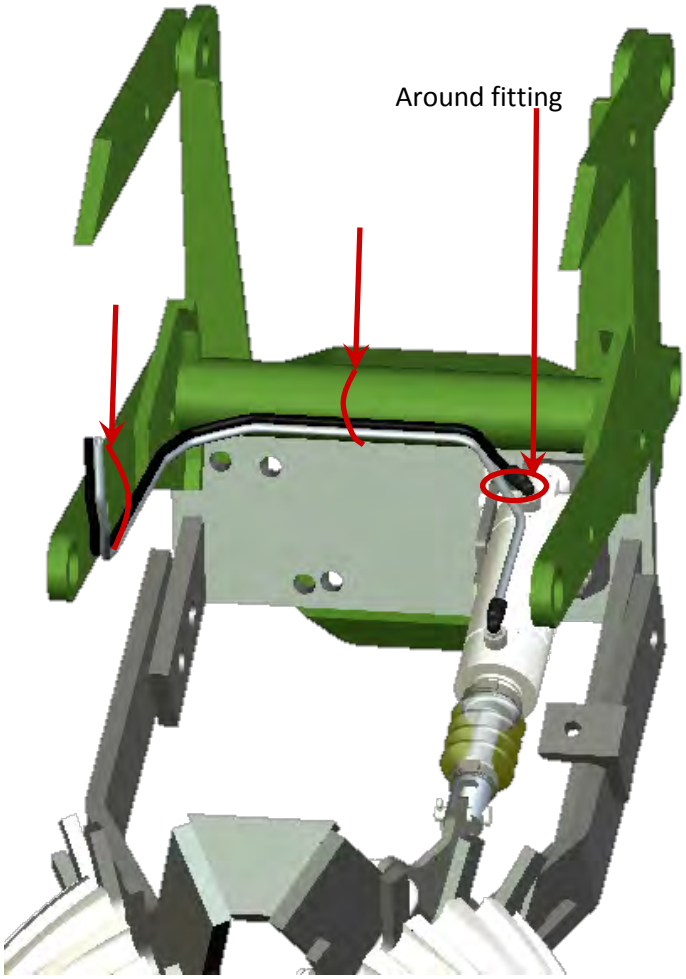


Note:
The Lift Circuit line must be connected to the port towards the row unit (or base portion of the cylinder assembly)

Air Lines Routing - Row Unit

Below is a suggested method for safely and securely routing the air lines from the cylinder to planter frame. These are generalizations, and YOU SHOULD USE YOUR OWN BEST JUDGEMENT in routing air lines.

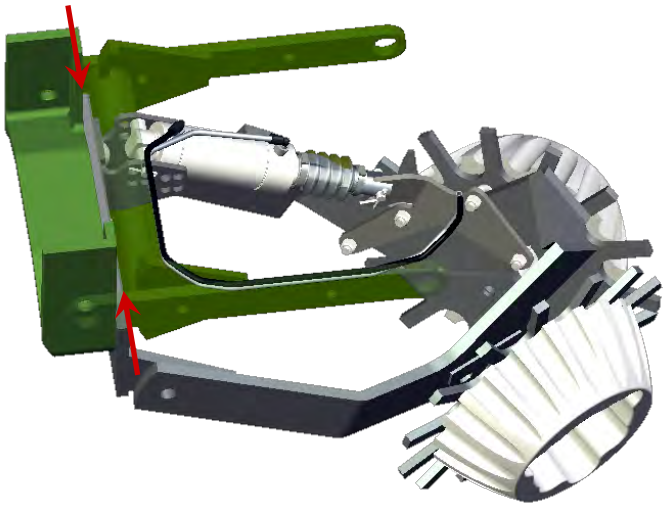
Arrows designate suggested zip-tie locations.



Specific air line routing will be dependent upon:

Row unit make (JD, Kinze, etc…)
Parallel arm length
Cylinder fittings orientation
Coulter installed
Row cleaner make
Row cleaner model
Planter specific instances

DO NOT pass the lines between the rear cylinder of the parallel arms and the row unit. This can act as both a pinch point and wear point.



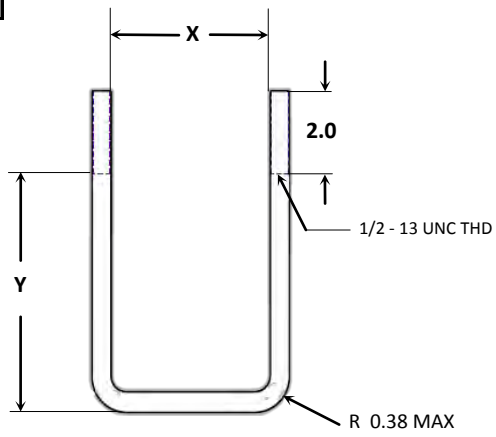
References

Compressor Mounting Brackets

Compressor Mounting Bracket Guide

Part Number	Image	Description	Dimensions (inches) Width (X)	Height (Y)
726050	A	U-Bolt	3	5
726051			3	6
726052			3	8
726053			4	6
726054			4	7
726055			5	7
726057			8	10
726397			4	4
726490			8	12
726059	N/A	Bolts Only	3/8 X 1-1/8	
726450	B	Universal (up to 9X10 Bars): Threaded Stud with Brackets		
726056	C	U-Bolt w/ Spacer Bracket	7	7
726058			8	8
726455			10	10
726500			7	4
726435	D	Angle Bracket	Kinze 3700	
726060	E		Kinze 3800	
726470	F	High Above Tube	N/A	
726515	G	Stand - Above Crossbar	N/A	
726612	H	Low, Side Mount	7	7
726613			8	8
726614			10	10
726398	I	J - Bolt	See Image	

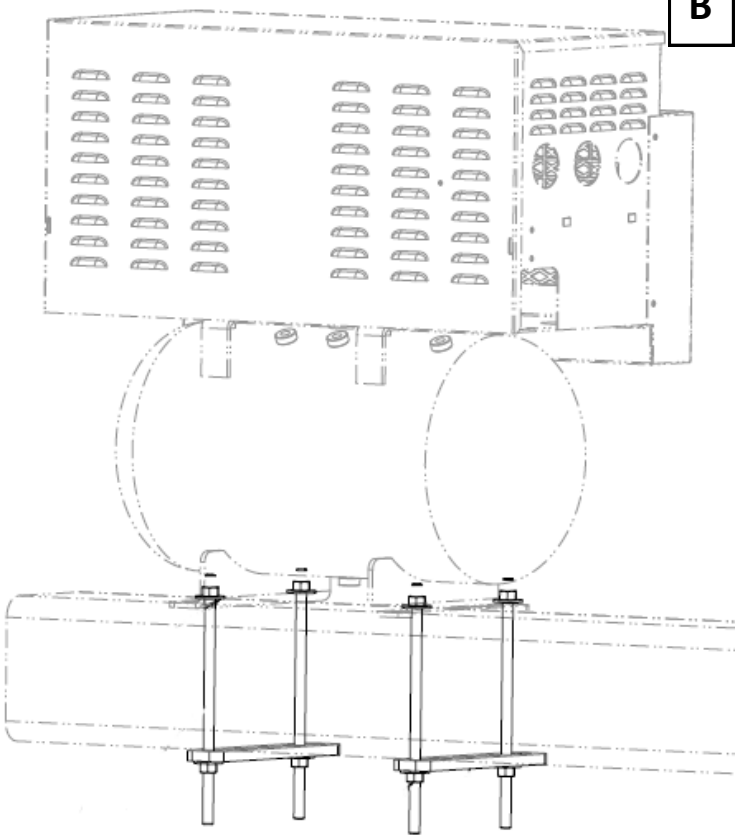
A



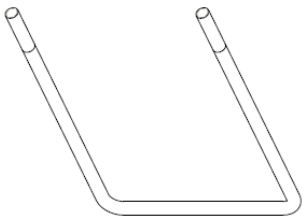
This will be the most common and simple means of mounting the compressor to your planter. Two U-bolts and hardware will be supplied. These will be wrapped around the chosen draft bar, toolbar or tongue location and fix the compressor in place through the base feet on the tank.

Compressor Mounting Brackets

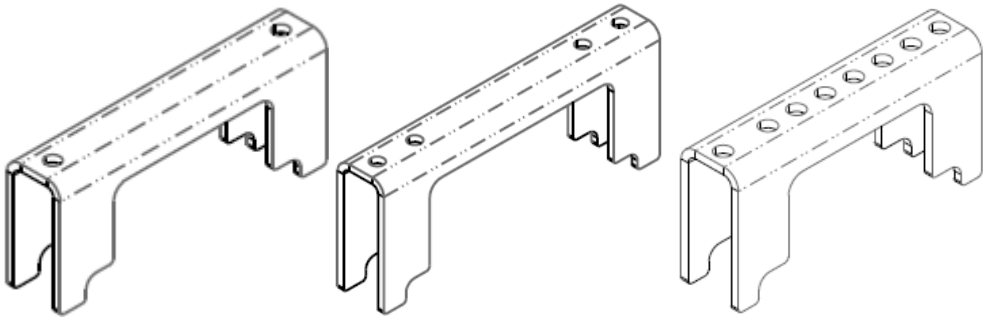
B

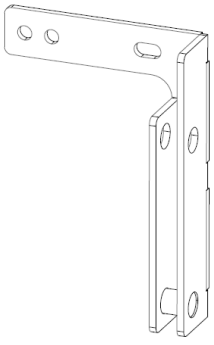


C

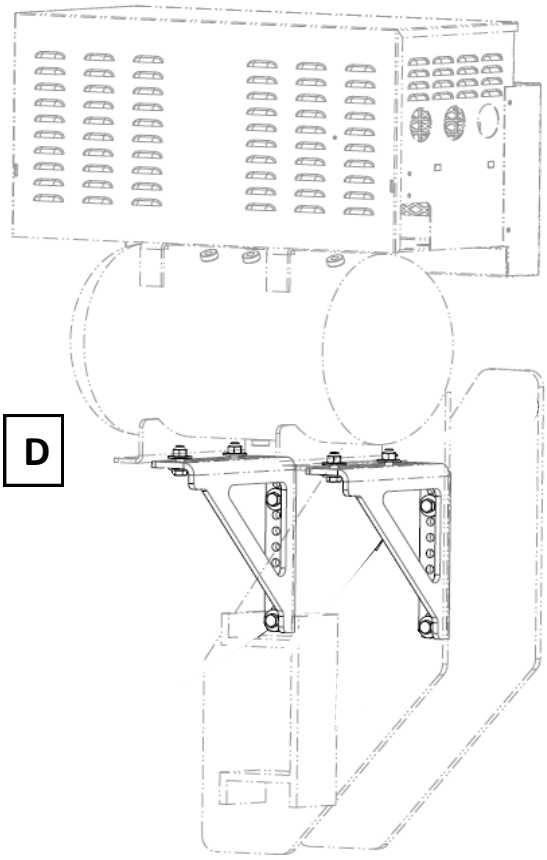


This group of mounting brackets will be most common on Kinze and stack-fold planters and may require the removal of the jack stand mounting bracket. Three U-bolts, three brackets, and the necessary hardware will be provided. Two of the brackets, similar to those shown below, will be used to space the tank above hoses and communication lines on the tongue or toolbar. The remaining U-bolt and bracket will be used to relocate the jack stand on Kinze planters to the vertical riser.



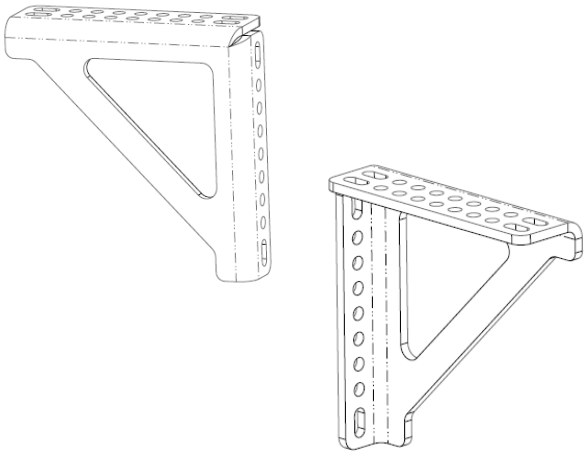


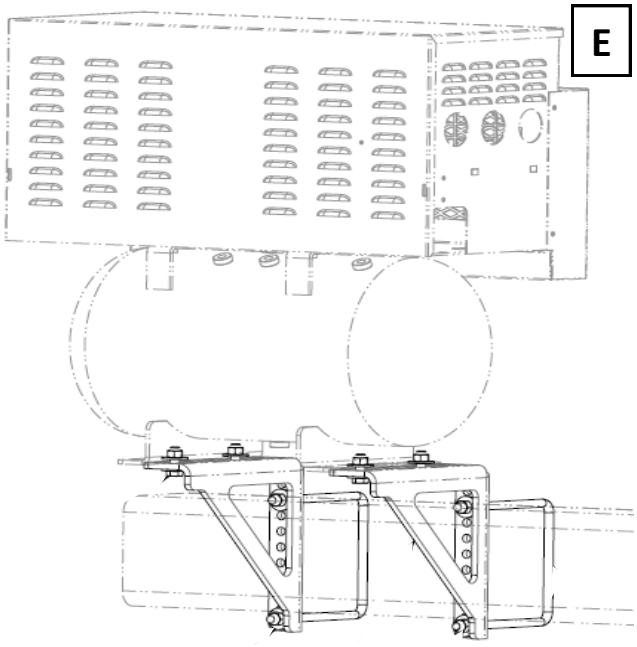
Compressor Mounting Brackets



D

This mounting kit will offer a side mounted position for the Compressor Module. Shown at left mounted on the forward portion of the tongue on a Kinze 3700. Two brackets and hardware will be supplied and some drilling may be necessary.
The brackets are shown in greater detail below.

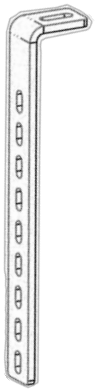




E

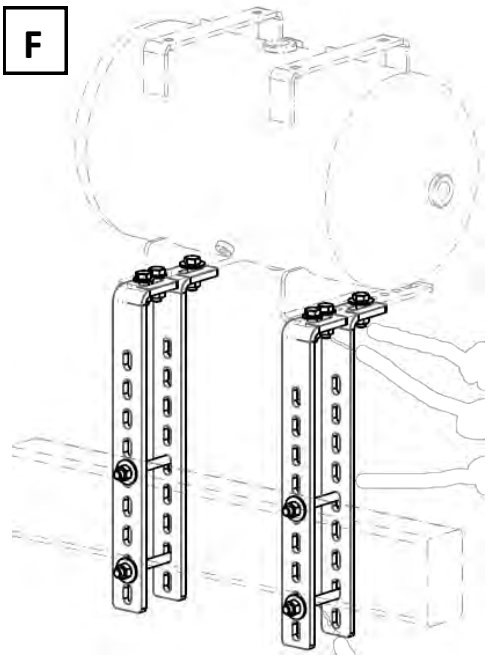
This mounting kit will be very similar to the previous mounting kit. The same brackets will be provided, however there will also be two U-bolts, removing the need for a drilling operation.

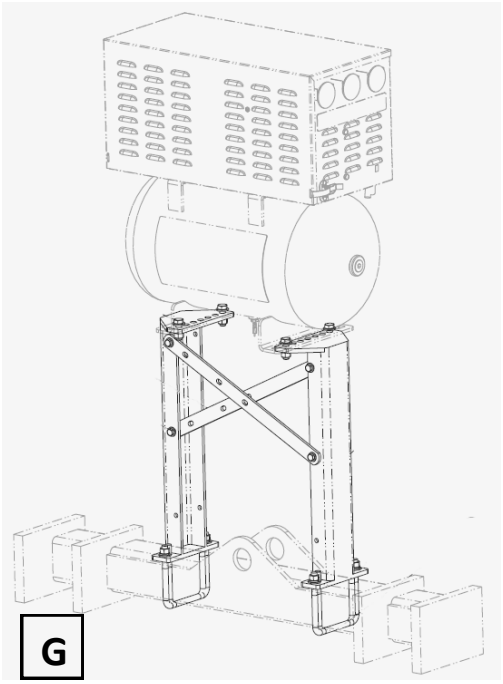
Compressor Mounting Brackets



The most common mounting location for larger planters will be on the draft bar. Use this mounting kit for situations that do not provide enough clearance for the compressor to rest directly on the draft bar. Four of the straps shown at left as well as hardware will be provided. This will allow the compressor to be elevated and set back (or forward) to avoid clearance issue.

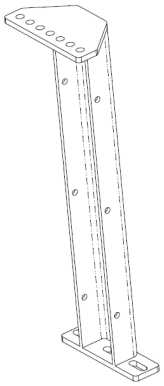
F





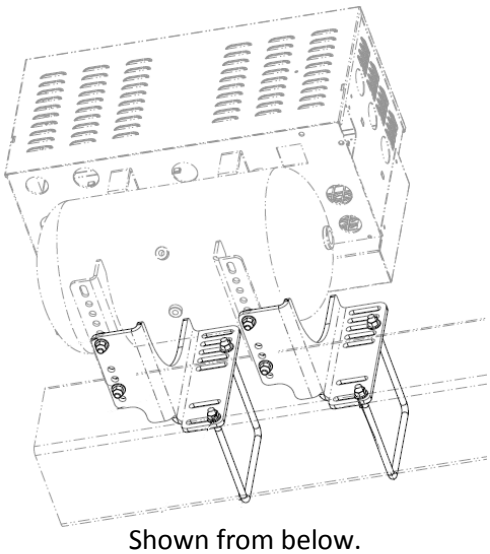
G

This mounting kit is designed for situations that do not allow mounting on the planter, or require greater elevation of the compressor for clearance reasons. Two of the brackets (shown below right), two straps, two U-Bolts, and hardware will be supplied. The image at left shows the compressor mounted above the 2 point cross-hitch.



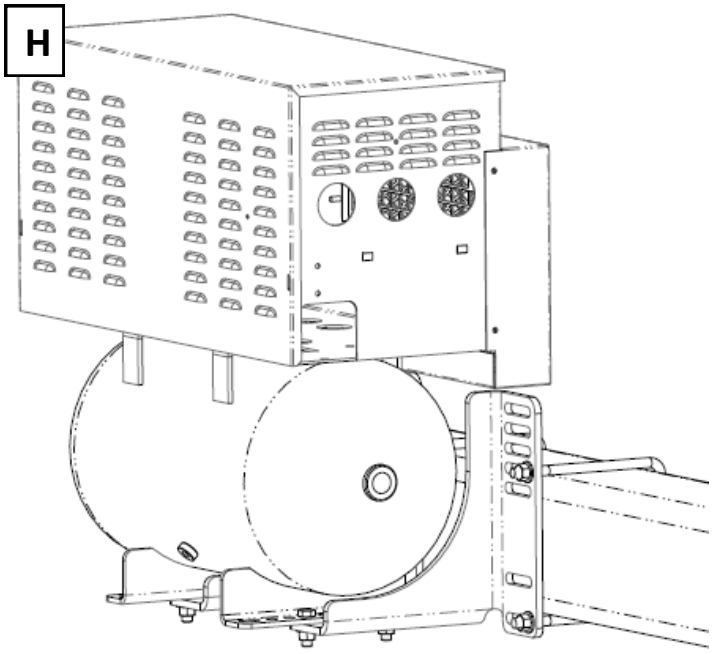
Compressor Mounting Brackets

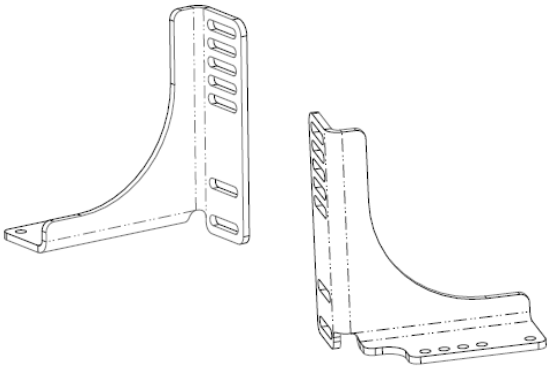
This mounting kit will locate the Compressor low and to the side of the main tongue. Used primarily for Kinze planters to provide clearance under the Lift and Twist transport. Two brackets, two U-bolts, and hardware will be supplied with this kit.



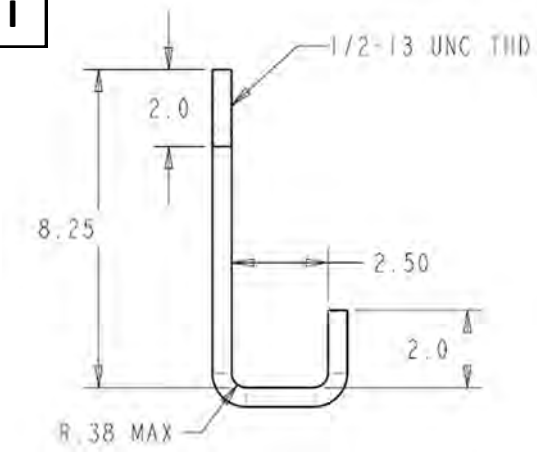
Shown from below.

H





I



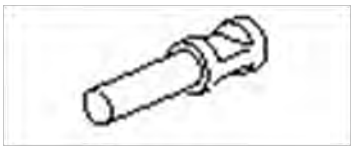
This mounting kit has the same concept as the basic U-bolt, that is adapted for non-standard tubes or channels that comprise the tongue of some planters.

Torque Recommendations

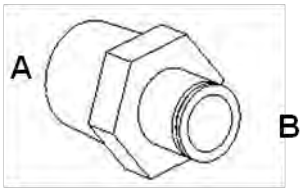
U.S.		Grade 5				Grade 8			
		Dry		Lubricated		Dry		Lubricated	
Bolt Size	Threads Per Inch	Torque (lb-ft)	Torque (N-m)	Torque (lb-ft)	Torque (N-m)	Torque (lb-ft)	Torque (N-m)	Torque (lb-ft)	Torque (N-m)
1/4	20	8	11	6	8	12	16	9	12
5/16	18	17	23	13	18	25	34	18	24
3/8	16	30	41	23	31	45	61	35	47
1/2	13	75	102	55	75	110	149	80	108
5/8	18	180	244	130	176	220	298	170	230

Pneumatic Fittings

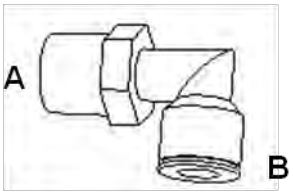
PART NUMBER	A	B	C	DESCRIPTION
726102	1/8			PTC PLUG
726103	1/4			PTC PLUG
726104	3/8			PTC PLUG



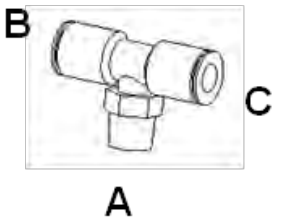
PART NUMBER	A	B	C	DESCRIPTION
726105	1/8 NPT	1/8 PTC		MALE NPT X PTC STRAIGHT
726106	1/8 NPT	1/4 PTC		MALE NPT X PTC STRAIGHT-BRASS
726107	1/4 NPT	1/4 PTC		MALE NPT X PTC STRAIGHT
726108	1/4 NPT	3/8 PTC		MALE NPT X PTC STRAIGHT



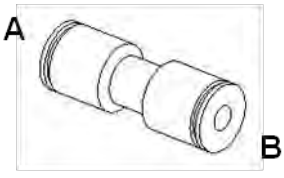
PART NUMBER	A	B	C	DESCRIPTION
726109	1/8 NPT	1/8 PTC		MALE NPT X PTC SWIVEL 90 ELBOW
726110	1/4 NPT	3/8 PTC		MALE NPT X PTC SWIVEL 90 ELBOW
726111	1/4 NPT	1/4 PTC		MALE NPT X PTC SWIVEL 90 ELBOW
726112	1/8 NPT	1/4 PTC		MALE NPT X PTC SWIVEL 90 ELBOW



PART NUMBER	A	B	C	DESCRIPTION
726113	1/8 NPT	1/4 PTC	1/4 PTC	MALE NPT X PTC SWIVEL TEE



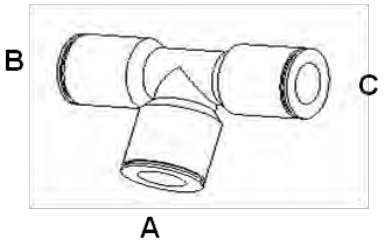
PART NUMBER	A	B	C	DESCRIPTION
726189	1/8 PTC	1/8 PTC		PTC UNION
726171	1/4 PTC	1/4 PTC		PTC UNION
726173	1/4 PTC	3/8 PTC		PTC UNION
726172	3/8 PTC	3/8 PTC		PTC UNION



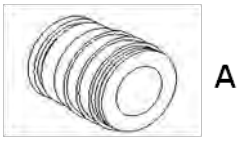
PART NUMBER	A	B	C	DESCRIPTION
726506	1/4 PTC	1/4 PTC		PTC 1/4 TURN VALVE (VENTED)
726507	3/8 PTC	3/8 PTC		PTC 3/8 TURN VALVE (VENTED)

Pneumatic Fittings

PART NUMBER	A	B	C	DESCRIPTION
726114	3/8 PTC	1/4 PTC	1/4 PTC	PTC TEE
726115	1/4 PTC	1/4 PTC	1/4 PTC	PTC TEE
726116	3/8 PTC	3/8 PTC	3/8 PTC	PTC TEE
726296	1/4 PTC	3/8 PTC	3/8 PTC	PTC TEE

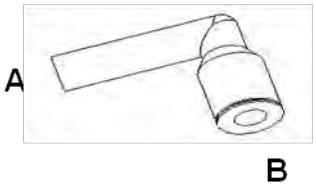


PART NUMBER	A	B	C	DESCRIPTION
726268	1/8 PTC			PTC CARTRIDGE FITTING
726269	1/4 PTC			PTC CARTRIDGE FITTING
726270	3/8 PTC			PTC CARTRIDGE FITTING

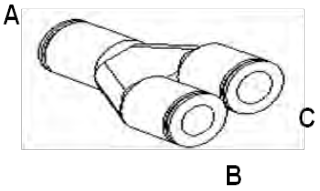


NOTE: THESE CARTRIDGE FITTINGS ARE NOT SERVICEABLE ITEMS, USED IN PP PRODUCTION ONLY

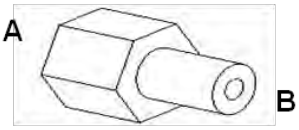
PART NUMBER	A	B	C	DESCRIPTION
726271	1/8	1/8 PTC		PLUG-IN ELBOW 90 DEGREE
726272	1/4	1/4 PTC		PLUG-IN ELBOW 90 DEGREE
726273	3/8	3/8 PTC		PLUG-IN ELBOW 90 DEGREE
755082	3/8	1/4 PTC		PLUG-IN ELBOW 90 DEGREE



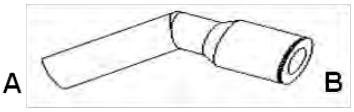
PART NUMBER	A	B	C	DESCRIPTION
726297	1/4 PTC	1/4 PTC	1/4 PTC	TUBE TO TUBE "Y"
726298	3/8 PTC	1/4 PTC	1/4 PTC	REDUCING "Y"
726299	3/8 PTC	3/8 PTC	3/8 PTC	TUBE TO TUBE "Y"



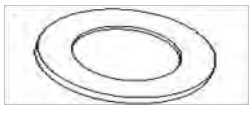
PART NUMBER	A	B	C	DESCRIPTION
726304	1/8 NPT	1/8 PTC		FEMALE CONNECTOR
726168	1/4 NPT	1/4 PTC		FEMALE CONNECTOR



PART NUMBER	A	B	C	DESCRIPTION
726303	3/8	3/8 PTC		PLUG-IN ELBOW 45 DEGREE



PART NUMBER	A	B	C	DESCRIPTION
726274				CAP - RED (LEGRIS)



Compressor Manufacturer's Owners Manual

LIMITED WARRANTY

VIAIR Corporation warrants this product, when properly installed and under normal conditions of use, to be free from defects in workmanship and materials for a period of one year from its original date of purchase. To receive warranty service or repair, please contact VIAIR Corporation.
Returns should be made within one year of the date of purchase, after a Return Goods Authorization (RGA) number has been assigned by VIAIR Corporation. To obtain RGA, fax a copy of your receipt to (949) 585-0188. For complete warranty details, please visit: www.viaircorp.com/warranty

PLEASE NOTE:
THIS WARRANTY COVERS PRODUCT DEFECTS ONLY; IT DOES NOT COVER INCIDENTAL OR CONSEQUENTIAL DAMAGES AS RESULT OF MISUSE OR ABUSE.

VIAIR®
Your Vital Air Source

VIAIR CORPORATION
15 EDELMAN
IRVINE, CA 92618
TEL: (949) 585-0011 FAX: (949) 585-0188
www.viaircorp.com

IMPORTANT SAFETY INSTRUCTIONS

CAUTION - To reduce risk of electrical shock or electrocution:

- Do not disassemble. Do not attempt repairs or modifications. Refer to qualified service agencies for all service and repairs.
- Do not use this product in or area where it can fall or be pulled into water or other liquids.
- Do not reach for this product if it has fallen into liquid.
- Use this compressor with 12-volt DC systems only.
- This product should never be left unattended during use.

WARNING - To prevent injury:

- Never allow children to operate this compressor. Close supervision is necessary when this compressor is being used near children.
- This compressor will become very HOT during and immediately after use. Do not touch any part of this compressor with bare hands other than the ON/OFF switch, during and immediately after use.
- Do not use this product near flames or explosive materials or where aerosol products are being used.
- Do not operate this product where oxygen is being administered.
- Do not pump anything other than atmospheric air.
- Never use this product while sleepy or drowsy.
- Do not use any tools or attachments without first determining maximum air pressure for that tool or attachment.
- Never point any air nozzle or air sprayer toward another person or any part of the body.
- This air compressor is equipped with an Automatic Reset Thermal Protector, and can automatically restart after the thermal protector resets. Always cut off power source when thermal protector becomes activated.
- Wear safety glasses or goggles when operating this product.
- Use only in well ventilated areas.

INSTALLATION

Please read and follow the installation instructions carefully to avoid injury or damage to the compressor or your vehicle.

Each of our air compressors and parts have been carefully produced and packaged. Before you begin installation, please familiarize yourself with Installation Parts List (Fig. 1) of this manual.

Guidelines for Selecting Mounting Location:
The selection of proper mounting location for your air compressor will help ensure a long and trouble free compressor service life. Please pay close attention to the following guidelines:

1. Select a FLAT AND SECURE location where the compressor can be mounted.
2. To maximize air compressor performance, locate compressor as CLOSE TO THE BATTERY as possible so that length of positive lead wire required is at a minimum.
3. Choose mounting location that is as cool as possible and AWAY FROM HEAT SOURCES. The cooler the ambient temperature, the less chance the compressor will overheat.
4. This compressor is moisture & dust resistant, but NOT DIRT OR WATERPROOF. Do not mount compressor in locations where the unit is likely to come in contact with the elements.
5. For compressor with remote filter mounting, select compressor's mounting location where air line can be routed from compressor air inlet to remote inlet air filter. Make sure that the remote inlet air filter is located in a dry location, away from the elements.
6. You will also want to select a compressor mounting location where the leader hose bracket can be mounted to secure the 1.5 ft. leader hose.
7. If it is necessary to mount the air compressor further away from the battery, such as inside your vehicle or in the bed of your pickup, use a minimum 10 AWG positive lead wire for remote installation.
8. Do not mount compressor near areas where flammable liquids are stored.

Compressor Manufacturer's Owners Manual

MOUNTING AND WIRING

1. Disconnect ground cable from vehicle's battery.
2. Temporarily position the air compressor in the location where it will be mounted.
3. Route ground wire to the negative post of the battery or to an appropriate grounding point and cut ground wire to length as needed.
4. Mount air compressor with the four sets of 13/64" (5 mm) bolts, nuts, washers, and locking washers provided. (See Fig. 2 for Mounting Instructions) Use of thread sealant recommended.
5. NOTE: For remote inlet air filter installation, refer to instructions included in the Remote Inlet Air Filter Pack.
6. This air compressor comes with a 1.5 ft. heavy duty heat resistant leader hose with ¼" fittings. This leader hose is designed to prolong the life of your air line. Do not remove this leader hose from air compressor.
7. IMPORTANT: Please note, the leader hose that comes with your compressor may have a built-in inline check valve. Do not remove inline check valve from leader hose.
8. Select a proper location to mount leader hose with hose bracket provided. Avoid locations where leader hose may become tangled with wires and other hoses.
9. To mount hose bracket, drill hole with 3/16" drill bit and push self–anchoring hose bracket pin into hole. Route leader hose through hose bracket and secure hose by pressing bracket clamp into locked position.
10. To remove hose from the hose bracket, simply press down on the hose clamp release tab to release bracket clamp. (Fig. 3)
11. Connect compressor's positive lead wire to one of the leads of your pressure switch.
12. Make sure that your compressor setup is properly fused. For appropriate fuse size, refer to amp draw of compressor in the specifications section of this manual.
13. Always locate fuse as close as possible to power source.
14. Before connecting to power source, re-check to make sure that all connections are made properly.
15. Connect and test compressor system by running the compressor for a short time to build up pressure in your air tank.
16. Once air pressure reaches preset cut out pressure of your pressure switch, the compressor will shut off. Inspect all air line connections for leaks with soap and water solution. If a leak is detected, the air line may not be cut squarely or pushed all the way in.

COMPRESSOR APPLICATION GUIDE

To ensure that you get the highest level of satisfaction from your compressor's performance, refer to information below:

VIAIR COMPRESSOR REFERENCE CHART

COMPRESSOR SERIES	DUTY CYCLE	WORKING PRESSURE
100 SERIES	15%	130 PSI
200 SERIES	20%	150 PSI
215 SERIES	17%	150 PSI
225 SERIES	20%	150 PSI
265 SERIES	22%	150 PSI
275 SERIES	25%	150 PSI
280 SERIES	30%	150 PSI
325 SERIES	33%	150 PSI
350 SERIES	100%	150 PSI
380 SERIES	100%	200 PSI
400 SERIES	33%	150 PSI
450 SERIES	100%	150 PSI
490 SERIES	40%	150 PSI
490 SERIES	100%	150 PSI

About Compressor Duty Cycle:

Compressor Duty Cycle refers to amount of time a compressor can be operated in a given time period, at 100 PSI and at a standard ambient temperature of 72°F. Duty Cycle is commonly expressed in percentile as:
Compressor On Time/ (Compressor On Time + Off Time)%
As an example, a compressor that is rated for 25% duty cycle means that compressor can be operated at:
100 PSI @ 72°F for 10 Minutes ON and 30 Minutes OFF

⇩

10 Min. On / (10 Min. On + 30 Min. Off) = 10 Min. / 40 Min. =25% Duty Cycle

DUTY CYCLE REFERENCE CHART

DUTY CYCLE @100PSI / 72°F	MINUTES ON / OFF
15%	6 Min. On / 34 Min. Off
20%	8 Min. On / 32 Min. Off
25%	10 Min. On / 30 Min. Off
30%	13 Min. On / 30 Min. Off
33%	15 Min. On / 30 Min. Off
100%	Continuous Duty

About Rated Working Pressure:

To ensure trouble free service life of your compressor, always operate compressor within rated working pressure of the compressor. Never use a pressure switch with a higher cut-off pressure than compressor's rated working pressure.

SPECIFICATIONS

Part No. 35030 / 35033 - 350C Air Compressor	
Motor Voltage:	12 volts
Max. Current Consumption:	17 amps
Motor Type:	Permanent Magnetic
Horsepower:	1/4
Max. Working Pressure:	150 PSI
Max. Duty Cycle (@72°F & 100 PSI):	100%
Minutes On/Off (@72°F & 100 PSI):	Continuous
Max. Restart Pressure:	200 PSI
Max. Ambient Temperature:	158°F
Min. Ambient Temperature:	-40°F
Auto. Reset Thermal Protection:	Yes

MAINTENANCE & REPAIRS

1. Periodically check all electrical and fittings connections. Clean and tighten as needed.
2. Periodically check all mounting screws. Tighten as needed.
3. Replace Air Filter Element periodically. Replacement frequency depends on operating frequency and operating environment. For frequent use in dusty environment, we recommend that you replace air filter element at least once a month.
4. Regularly clean dust and dirt from compressor cooling fins and motor housing.
5. Your air compressor is equipped with a permanently lubricated, maintenance-free motor. Never try to lubricate the compressor.
6. All repairs should be performed by Manufacturer or Manufacturer's Authorized Service Agencies only.

CAUTION: Never touch the air compressor or fittings connected to the air compressor, with bare hands during or immediately after use. The leader hose and fittings connected to leader hose will become very HOT during and after use. If necessary, wear heat resistant gloves to handle fittings, air line, and leader hose.

Compressor Manufacturer's Owners Manual

TROUBLESHOOTING CHART

PROBLEM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Tank pressure drops when compressor shuts off	1. Loose drain cock 2. Check valve leaking 3. Loose connections	1. Tighten drain cock 2. Replace check valve or compressor 3. Check all connections with soap and water solution and tighten
Compressor runs continuously and air flow lower than normal	1. Excessive air usage 2. Loose connections 3. Worn piston ring or inlet valve 4. Clogged air filter element	1. Decrease air usage 2. Check all connections with soap and water solution and tighten 3. Replace compressor 4. Replace air filter element
Compressor runs continuously causing safety valve (if equipped) to open.	1. Bad pressure switch 2. Defective safety valve	1. Replace pressure switch 2. Replace safety valve
Excessive moisture in discharge	1. Excessive water in air tank 2. High humidity	1. Drain tank, tilt tank to drain. Drain tank more frequently 2. Move compressor to area with less humidity, or use air line filter

CAUTION: NEVER DISASSEMBLE COMPRESSOR WHILE COMPRESSOR IS PRESSURIZED.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Compressor will not run	1. No power, or power switch in OFF position. 2. Blown fuse 3. Motor overheats 4. Pressure switch bad. (if hooked up to a pressure switch).	1. Make sure compressor switch is ON 2. Disconnect compressor from power source, replace fuse (Refer to Specifications section for correct fuse amperage) 3. Let compressor cool off for about 30 minutes to allow thermal overload switch reset 4. Replace pressure switch
Thermal Overload Protector cuts out repeatedly	1. Lack of proper ventilation or ambient temperature is too high 2. Compressor valves failed	1. Move compressor to well ventilated area, or area with lower ambient temperature 2. Repair or replace compressor
Excessive knocking or rattling	1. Loose mounting bolts 2. Worn bearing on eccentric or motor shaft 3. Cylinder or piston ring is worn	1. Tighten bolts 2. Replace compressor 3. Replace compressor

Air Cylinder Assembly Maintenance

If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

Lubrication:

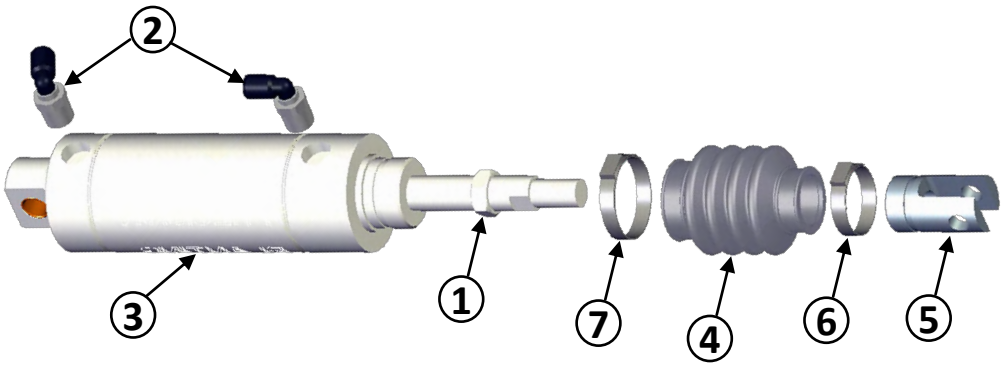
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. However, these cylinders are susceptible to dust if it is allowed into the air pressure system. Therefore, it is important to guard against dust penetration. In particular, watch for:

1. Defective air compressor filters
2. Broken air fittings on the cylinders or tubing network
3. Dust introduced in the tubes during installation (when fishing tubes through a frame member for example)

If a leaky cylinder is detected (especially across the piston seals), you may be able to mitigate the leak or fix it all together by adding air power tool oil. In this case, oil should be added as necessary to maintain proper sealing. Lubrication frequency will vary depending on the nature of the leak, but in any case it should be done at least annually.

Note:

Oil should not be used unless a leak is already detected in the cylinder. Doing so will wash away the grease and ultimately hinder the lubrication of the cylinder.



Item	Quantity	Part Number	Part Name	Description
1	1	37309	Hex Jam Nut	1/2” Hex Nut ZN
2	2	726111	Elbow	1/4”NPT X 1/4”PTC
3	1	755001	Air Cylinder	2” Bore, 2” Stroke
4	1	755002	Bellow	Air Cylinder Rod Boot
5	1	755003	Clevis	Air Cylinder Rod Clevis
6	1	755026	Pinch Clamp	1.125”ID Gap Free W/T & G
7	1	755027	Pinch Clamp	1.375” ID Gap W/T & G

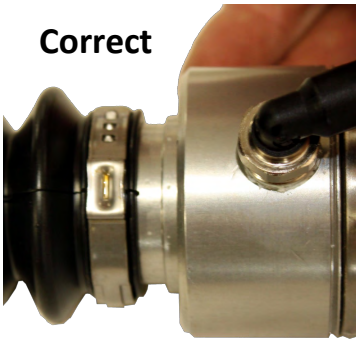
Air Cylinder Boot Replacement

Begin the boot replacement process by removing the original. Using a flat bladed screwdriver, pry loose the retention rings. This is easiest done by slipping the edge of the blade under the flap of the retention ring, then twisting the screwdriver to create a gap. Advance the screwdriver and repeat if necessary.
Repeat the process for the second retention ring. Once both retention rings have been removed, slide the damaged boot and both retention rings off of the cylinder rod.

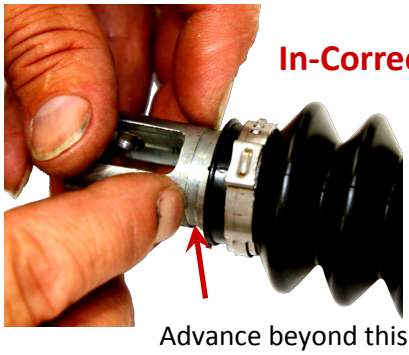
Place the new retention rings on the replacement boot and slide them onto the cylinder rod. For consistency, orient the boot so that the dimple is towards the cylinder.

Advance the boot beyond the recessed ring on the cylinder collar; towards the cylinder. Correct placement is shown in the right hand image below.

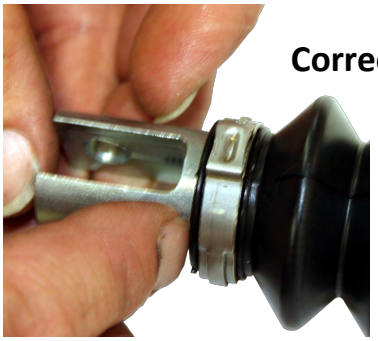
Advance beyond this point.



Repeat the process with the rod end of the boot. Position the boot onto the clevis beyond the recessed ring on the clevis. Correct placement is shown in the right hand image below.



Advance beyond this point.



Crimp tight the retaining rings to secure the replacement boot in place. This will require a CRIMPING TOOL. This SHOULD NOT be done with standard pliers.

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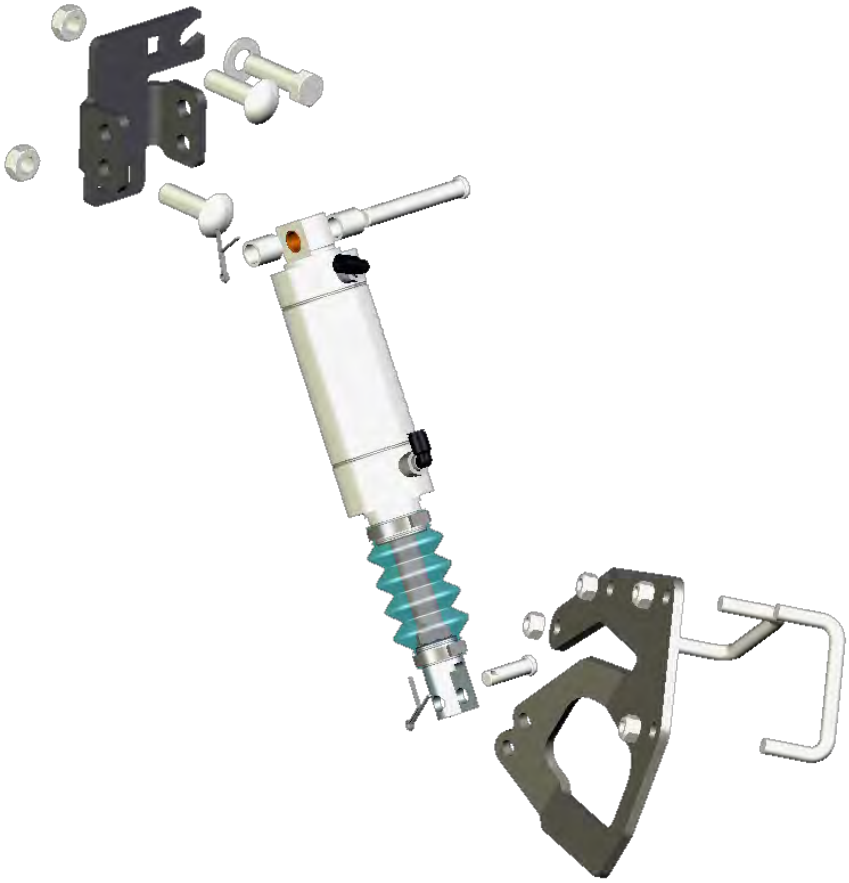
755190 Installation Instructions
Row Unit Conversion Kit for Martin C-125: MTS, MTS-XP, or MTS-IH



Before beginning installation, read and review pages 22 & 23 of your Owner's Manual

Notes & Compatibility Items

Case IH

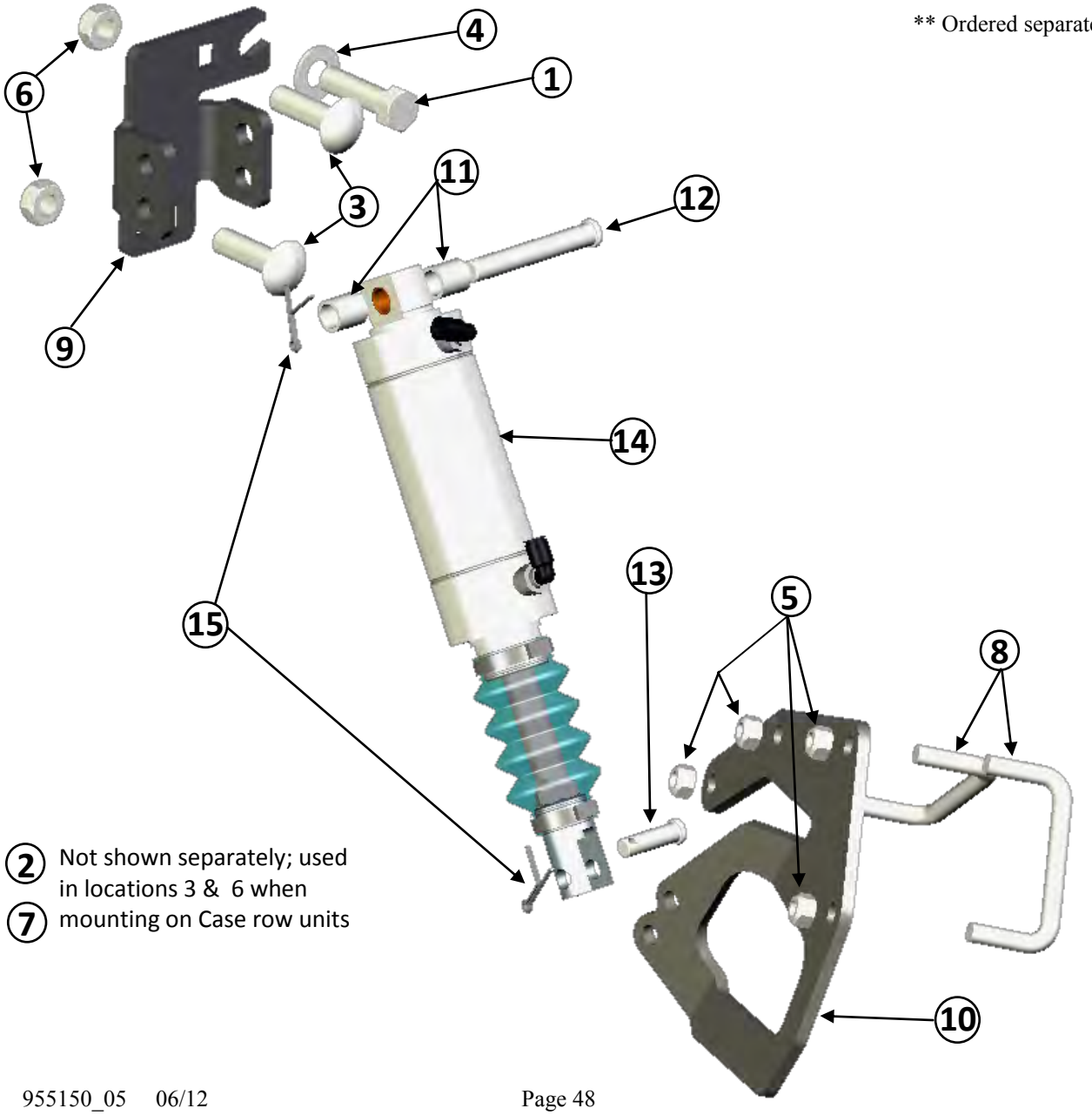
- Mount using bottom hole on the base bracket, top hole on the rod bracket, flip cylinder upside down, and set row cleaner stop bolt high enough so that fittings aren't crushed.

755190 Installation Instructions
Row Unit Conversion Kit for Martin C-125: MTS, MTS-XP, or MTS-IH

Kit Components

ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	1	13210	Bolt	1/2” X 1.75” GRD5 Bolt ZN
2	2	21823	Carriage Bolt	1/2” X 1.25” Round Head Bolt GRD5
3	2	21825	Carriage Bolt	1/2" X 1.75" Round Head Bolt GRD5
4	1	33086	Washer	1/2” SAE Flat ZN
5	4	37264	Hex Nut	3/8" Top Lock Hex Nut ZN
6	2	37268	Hex Nut	1/2" Top Lock Hex Nut ZN
7	2	37269	Top Lock Jam Nut	1/2” GRD A ZN
8	2	755007	U-Bolt	2.75" X 1/2" Plate
9	1	755008	Bracket	MTS Cylinder Base Mount
10	1	755009	Bracket	MTS Cylinder Rod Mount
11	2	755017	Spacer	5/8" OD X 7/16 ID X 0.688"L
12	1	755018	Pin	Cylinder Base Pivot
13	1	755019	Pin	Cylinder Rod Pivot
14	1	755023	Air Cylinder	Complete Air Cylinder Assembly **
15	2	755028	Cotter Pin	1/8" X 1"

** Ordered separately



(2) (7) Not shown separately; used in locations 3 & 6 when mounting on Case row units

Step 1. Secure the Cylinder Base Mounting Bracket to the face plate bracket.

JD 7200/7300/17XX Row Units:

Mount using two - 1/2" X 1.75" carriage bolts and two - 1/2" top lock hex nuts.

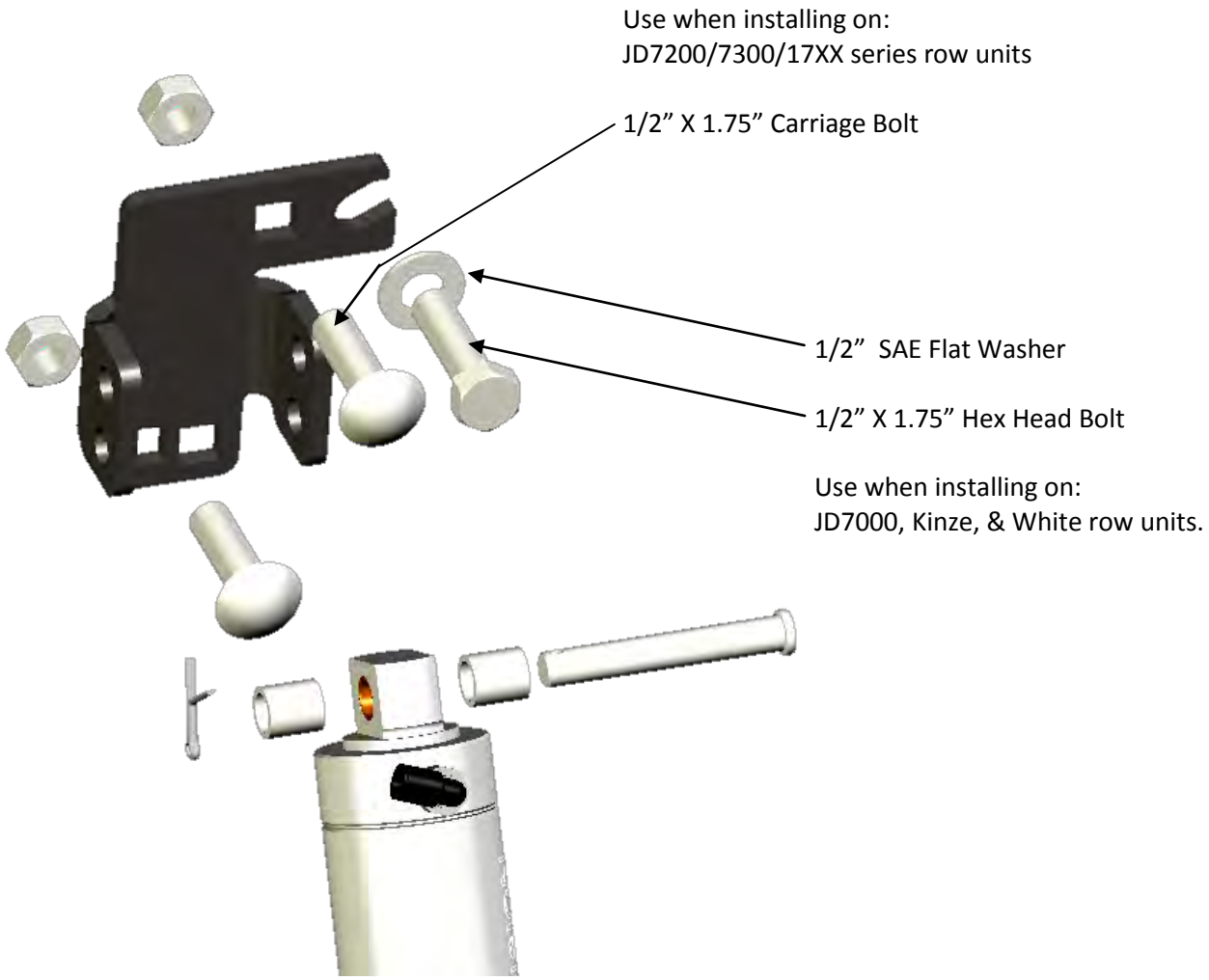
JD 7000, Kinze, & White Row Units:

Mount using one 1/2" X 1.75" carriage bolt, one 1/2" X 1.75" hex head bolt, one 1/2" SAE Flat Washer, and two 1/2" top lock hex nuts

Case Row Units:

Mount using two - 1/2" X 1.25" carriage bolts and two - 1/2" top lock jam nuts

Tighten to 75 lb-ft of torque.

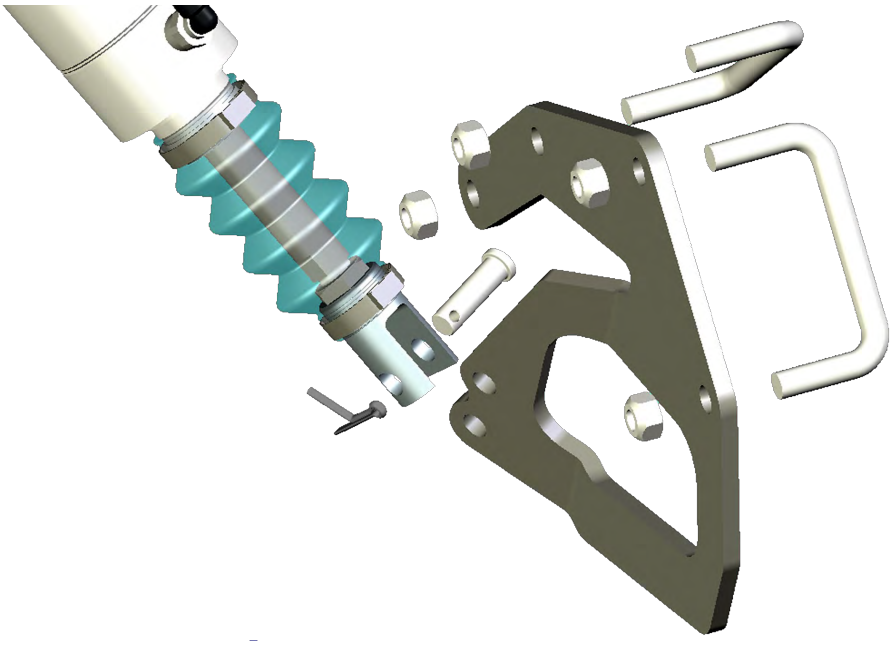


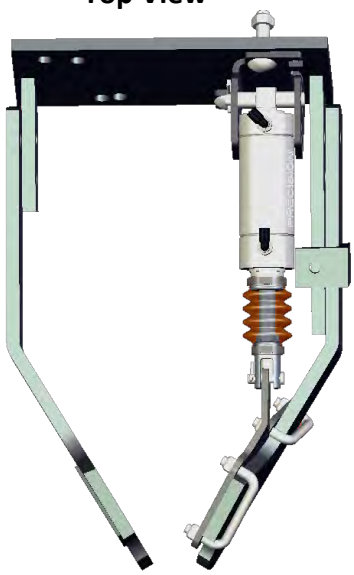
Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket.

Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket. **Note: When mounting this bracket on Case IH row unit, mount using bottom hole on base bracket, top hole on rod bracket, flip cylinder upside down, and set row cleaner stop bolt high enough so that fittings aren't crushed.**

When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is inherent in the U-Bolt fastener design and is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

Step 2.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied 2.75" X 1/2" U-bolts (755007) and four - 3/8" Top Lock Hex Nuts (37264). Do not tighten until the cylinder has been properly aligned.





Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin. Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket. **Note: When mounting this bracket on Case IH row unit, mount using bottom hole on base bracket, top hole on rod bracket, flip cylinder upside down, and set row cleaner stop bolt high enough so that fittings aren't crushed.**

Once the Rod Mounting Bracket has been properly aligned, secure the bracket by tightening the U-bolts to 30 lb-ft of torque.

Verify the freedom of motion and clearance of components.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Completed Cylinder Kit Installation

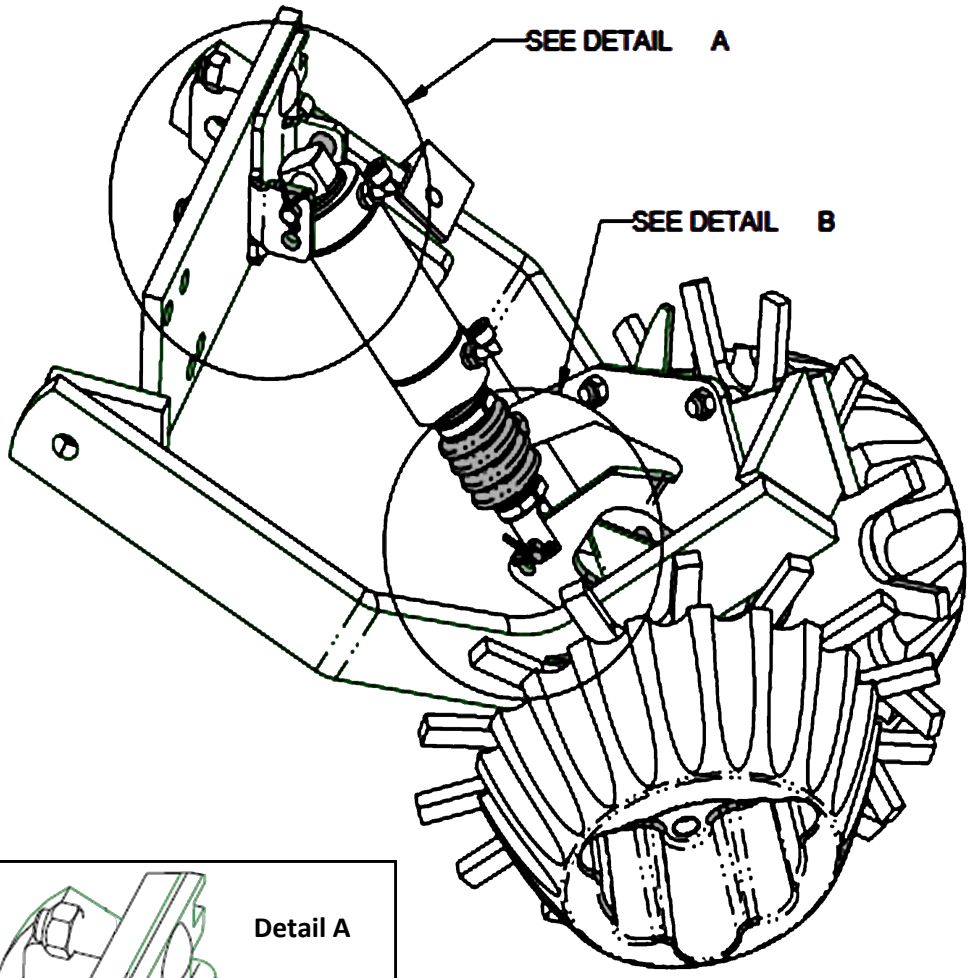
Maintenance Recommendations

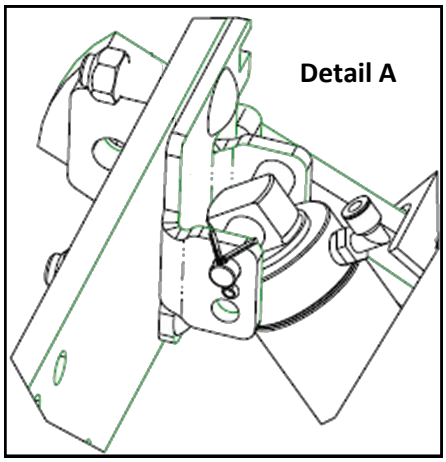
If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

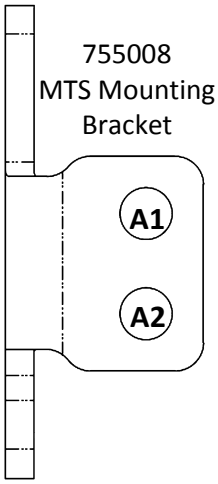
Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

Mounting Hole Selection: Martin C-125: MTS, MTS-XP, or MTS-IH

Use this page to select the mounting location when using the MTS Mounting Bracket - 755008



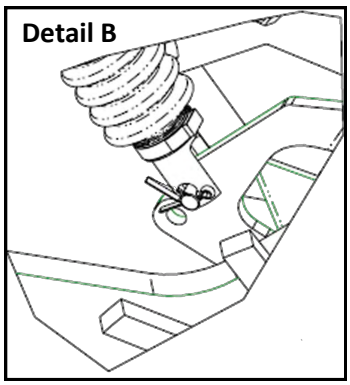




Hole A1 (Top Hole):
Installing the cylinder in the top holes will INCREASE the magnitude of the force applied to the row cleaner.
Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used if LESS down force is desired when the system will generally be used in the lift direction.

Hole A2 (Bottom Hole):
Installing the cylinder in the bottom holes will DECREASE the magnitude of the force applied to the row cleaner.
Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used in MORE down force is desired when the system will generally be used in the Lift direction.

Mounting Hole Selection: MTS Mounting Bracket (cont)



The hole used on the Rod Mount Bracket should correspond to the same hole used on the Base Mount Bracket. e.g. Top to Top
Bottom to Bottom

Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Caution: Risk of hyper-extending the row cleaner/cylinder kit beneath the row unit.
DO NOT run the stop bolt too deep. The row cleaner should not be allowed to fall below 38 degrees below horizontal; this usually equates to NO LESS than 3/4" of thread showing on the stop bolt below the stop bolt bracket.

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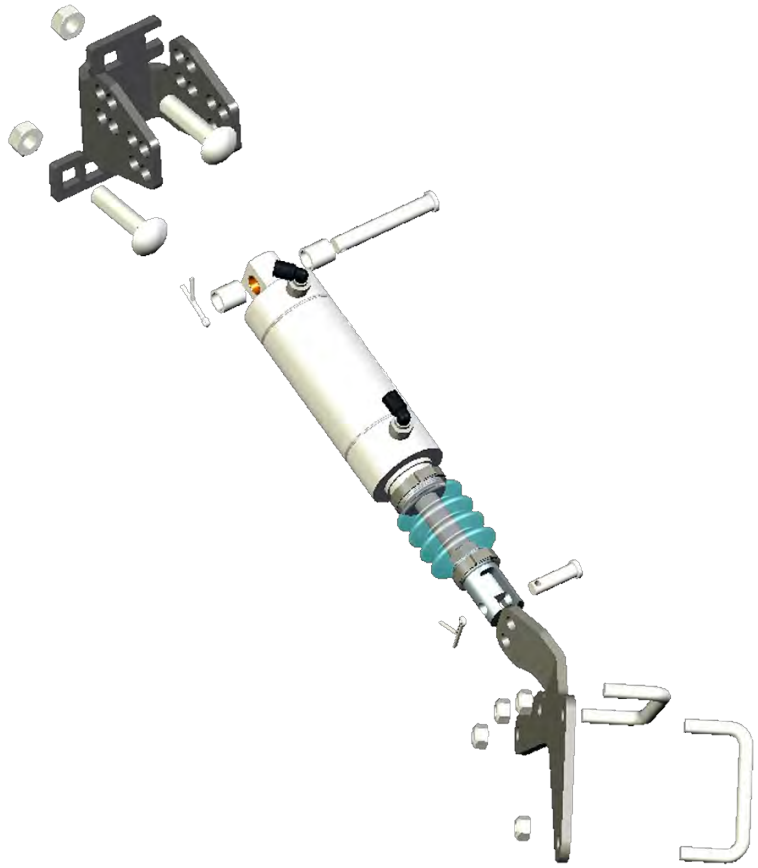
Installation Instructions
755195
Row Unit Conversion Kit for Martin C-125: MTR, MTR-XP, or MTR-IH



Before beginning installation, read and review pages 22 & 23 of your Owner's Manual

Notes & Compatibility Items

JD 7200/7300/17xx

- With regular parallel arms (14") and chain drive: If JD cast coulter is installed, optional shim (755159) may be necessary to help align the cylinder brackets. For UMO compatibility, see Table 2 in Appendix A.
- With regular parallel arms (14") and pro drive: JD Mount using bottom holes the rode and base brackets, flip cylinder upside down. If JD cast coulter is installed, optional shim (755159) may be necessary to help align the cylinder brackets. For UMO compatibility, see Table 2 in Appendix A.
- With long parallel arms (21") and row cleaner only, Yetter Single Arm or Dawn Coulter, or UMO 100: Moung bottom holes on both rod and base brackets, flip cylinder upside down, and install 1/8" stop blocks (755202). For UMO compatibility, see Table 2 in Appendix A.
- With long parallel arms (21") and JD Cast Coulter: Mount using bottom holes on both rod and base brackets, flip cylinder upside down, and install 1/8" stop blocks (755202). Optional shim (755159) may be necessary to help align the cylinder brackets. For UMO compatibility, see Table 2 in Appendix A.

Kinze

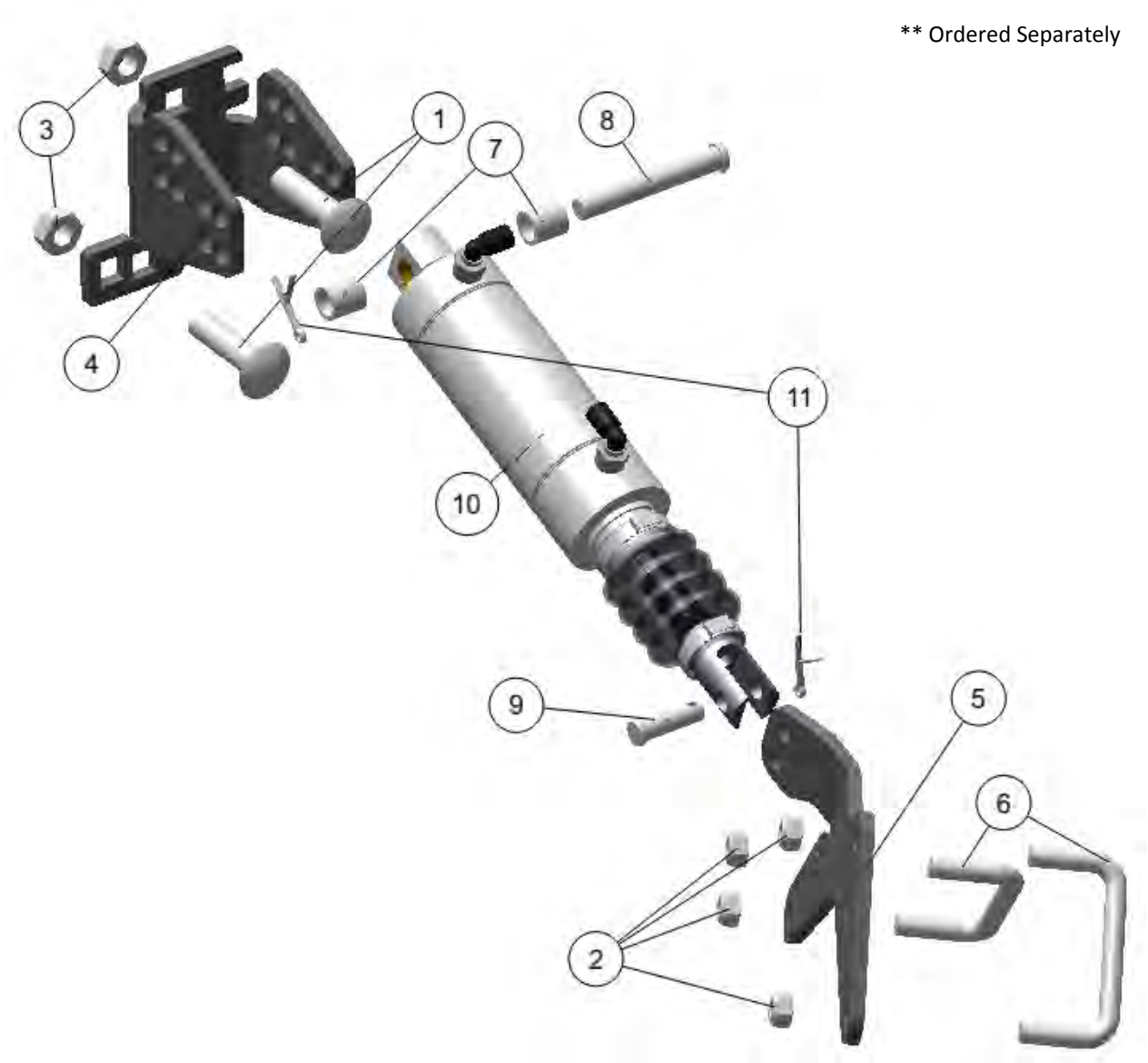
- With Kinze Double Arm Coulter: Kinze coulter bracket must be significantly modified in order to make the base bracket fit. (See Knowledge Base article #49 for details)

Installation Instructions
755195
Row Unit Conversion Kit for Martin C-125: MTR, MTR-XP, or MTR-IH

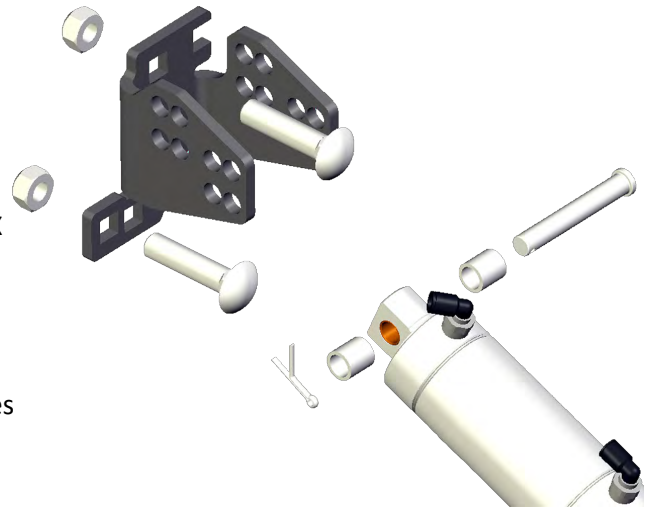
Kit Components

ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	2	21826	Carriage Bolt	1/2" X 2" GRD5 ZN Round Head Bolt
2	4	37264	Hex Nut	3/8" Top Lock Hex Nut ZN
3	2	37268	Hex Nut	1/2" Top Lock Hex Nut ZN
4	1	755004	Bracket	MTR Cylinder Base Mount
5	1	755006	Bracket	MTR Cylinder Rod Mount
6	2	755007	U-Bolt	2.75” X 1/2” Plate
7	2	755017	Spacer	5/8" OD X 7/16 ID X 0.688"L
8	1	755018	Pin	Cylinder Base Pivot
9	1	755019	Pin	Cylinder Rod Pivot
10	1	755023	Air Cylinder	Complete Air Cylinder Assembly**
11	2	755028	Cotter Pin	1/8" X 1"

** Ordered Separately



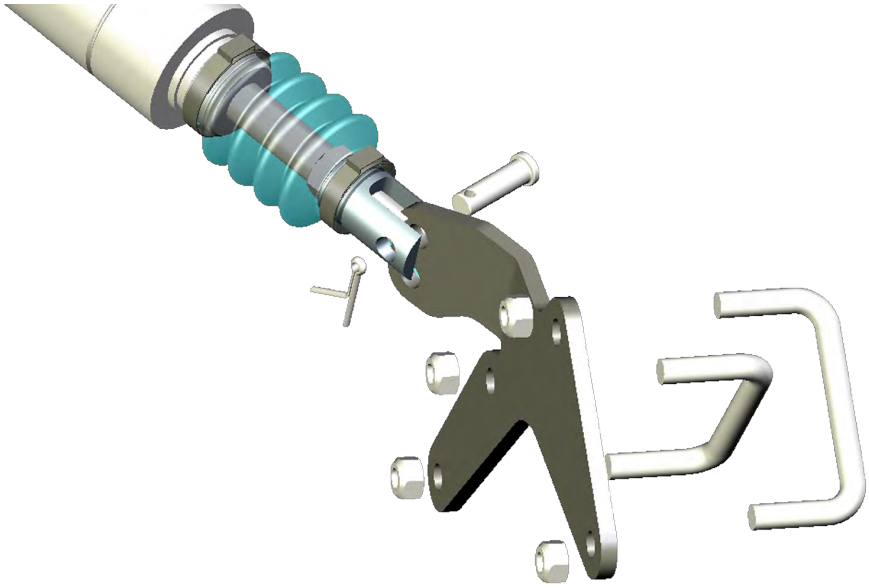
Step 1.
Secure the Cylinder Base Mounting Bracket to the face plate bracket using two - 1/2" X 1.75" carriage bolts and two - 1/2" Top Lock Hex Nuts.
Tighten to 75 lb-ft of torque.



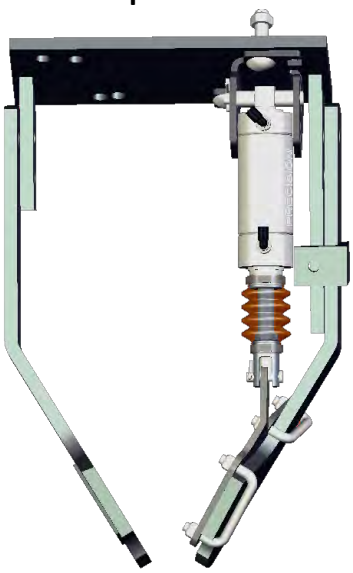
Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket.

Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

Step 2.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied 2.75" X 1/2" U-bolts (755007) and four - 3/8" Top Lock Hex Nuts (37264). Do not tighten until the cylinder has been properly aligned.



Top View

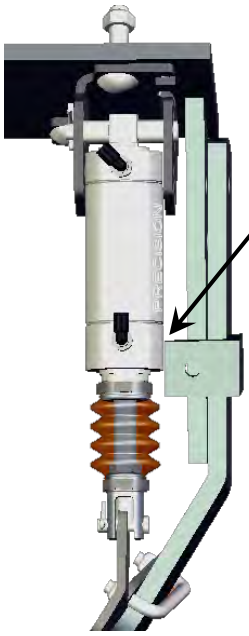


When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is inherent in the U-Bolt fastener design and is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin. Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

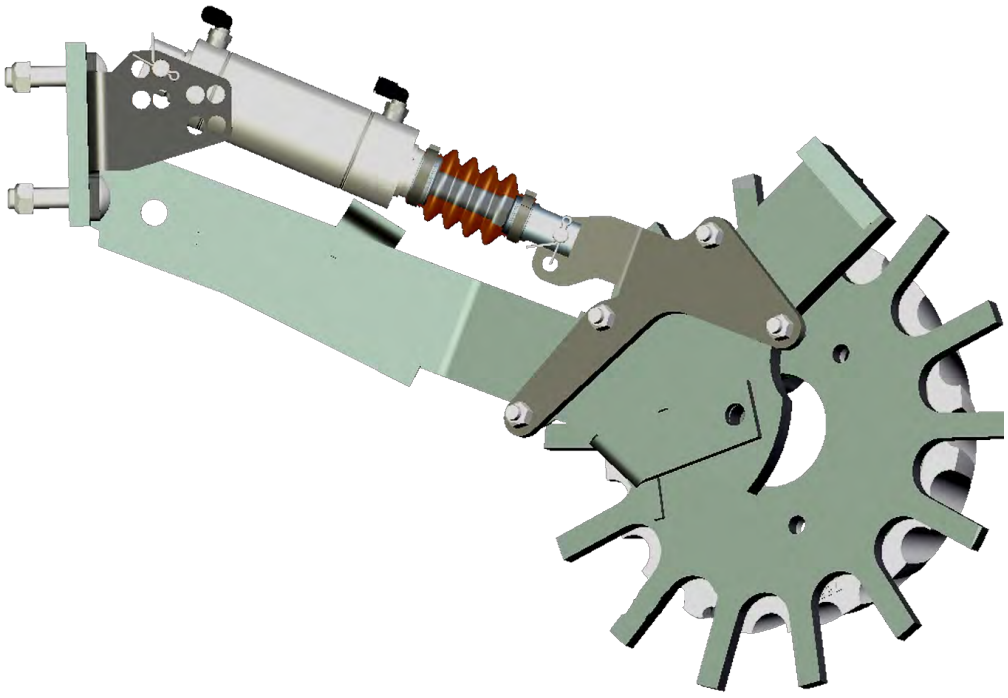
Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Once the Rod Mounting Bracket has been properly aligned, secure the bracket by tightening the U-bolts to 30 lb-ft of torque.



Verify the freedom of motion and clearance of components.

If a sharp point of the stop bolt bracket interferes with or scrapes the cylinder during row cleaner travel, round the corner off to remove just enough material to allow clearance.



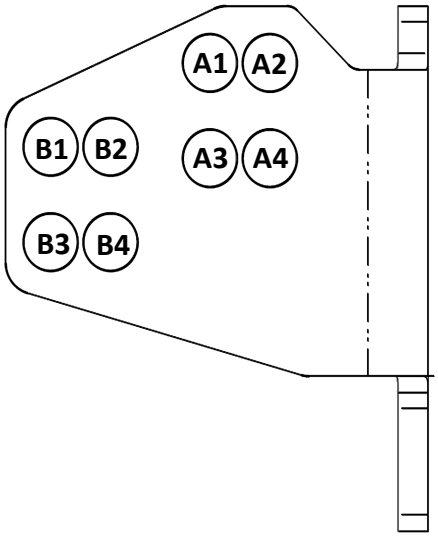
Maintenance Recommendations

If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

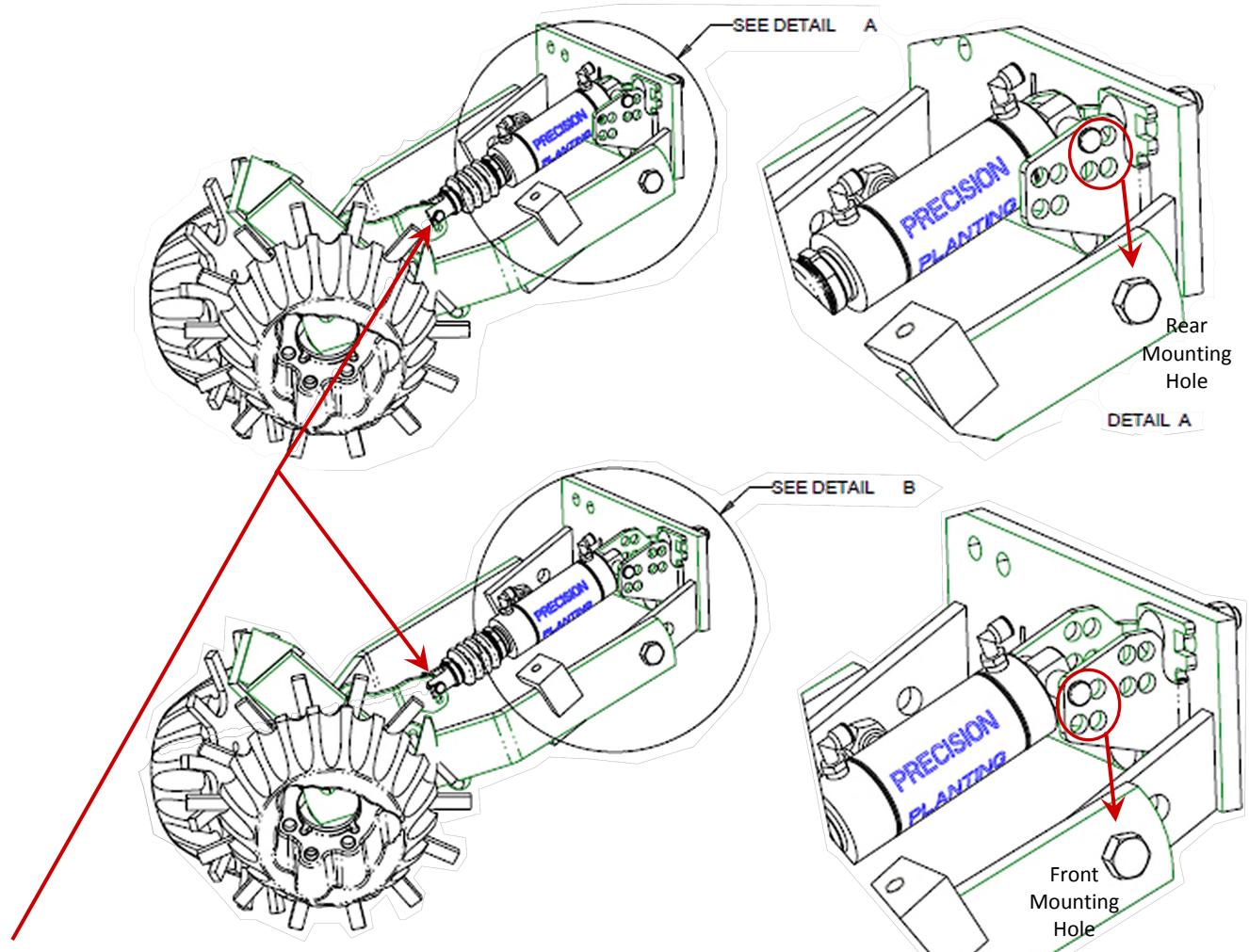
Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

Mounting Hole Selection: MTR Mounting Bracket

Use this section to select the mounting location when using the MTR mounting Bracket - 755004



755004
Cylinder Base
Mounting Bracket



The hole used on the Rod Mount Bracket should correspond to the same hole used on the Base Mount Bracket. e.g. Top to Top
Bottom to Bottom

Mounting Hole Selection: MTR Mounting Bracket Cont.

A Range Holes:
To be used with Yetter Titan 2967-035 and Martin MTR when the row cleaner frame pivots in the rear holes (Detail A)
B Range Holes:
To be used with Martin MTR when the row cleaner frame pivots in the front holes (Detail B)

Holes 1 and 2, (Top Holes, both Ranges):
Installing the cylinder in the top holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used if LESS down force is desired when the system will generally be used in the lift direction.
Not to be used with Long Parallel Arms or JD 7000 row units

Holes 3 and 4 (Bottom Holes, both Ranges):
Installing the cylinder in the bottom holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used in MORE down force is desired when the system will generally be used in the Lift direction.

Holes 1 and 3 (Front Holes, both Ranges):
To be used if bracket is mounted directly to the row cleaner face plate bracket.

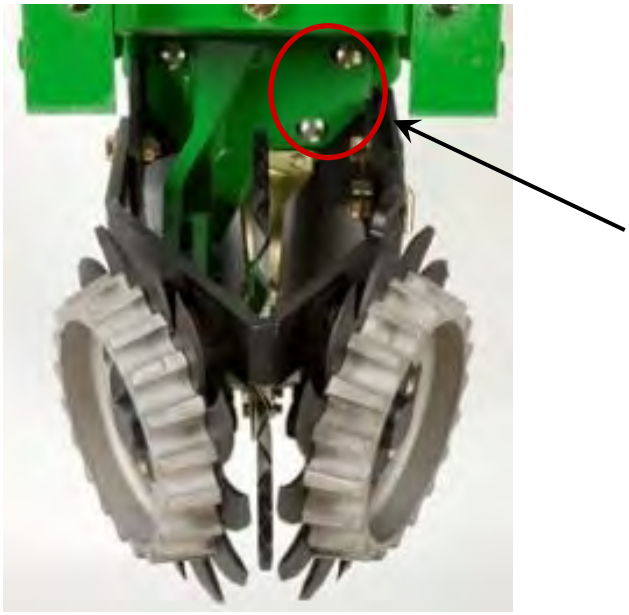
Holes 2 and 4 (Rear Holes, both Ranges):
To be used if bracket is mounted on top of another attachment.
(e.g. Row unit mounted coulter, UMO 100 etc…)

Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Installation Note:

Row Unit: **JD 7200 with Reg. or Long Parallel Arms w/ JD Coulter**

If a JD Cast Iron Coulter frame is installed, the draft angle of the cast iron bracket may lead to the misalignment of the two cylinder mounting brackets. If the misalignment is so severe that the cylinder cannot be installed freely, install the 755159 shim directly behind the cylinder base mounting bracket.



755159 Shim

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Installation Instructions
755180
Row Unit Conversion Kit for Yetter Titan 2967-035

Before beginning installation, read and review pages 22 & 23 of your Owner's Manual

Notes & Compatibility Items

JD 7200/7300/17xx

- With regular parallel arms (14") and chain drive: If JD cast coulter is installed, optional shim (755159) may be necessary to help align the cylinder brackets. For UMO compatibility, see Table 2 in Appendix A.
- With regular parallel arms (14") and pro drive: JD Mount using bottom holes the rode and base brackets, flip cylinder upside down. If JD cast coulter is installed, optional shim (755159) may be necessary to help align the cylinder brackets. For UMO compatibility, see Table 2 in Appendix A.
- With long parallel arms (21") and row cleaner only, Yetter Single Arm or Dawn Coulter, or UMO 100: Moung bottom holes on both rod and base brackets, flip cylinder upside down, and install 1/8" stop blocks (755202). For UMO compatibility, see Table 2 in Appendix A.
- With long parallel arms (21") and JD Cast Coulter: Mount using bottom holes on both rod and base brackets, flip cylinder upside down, and install 1/8" stop blocks (755202). Optional shim (755159) may be necessary to help align the cylinder brackets. For UMO compatibility, see Table 2 in Appendix A.

Kinze

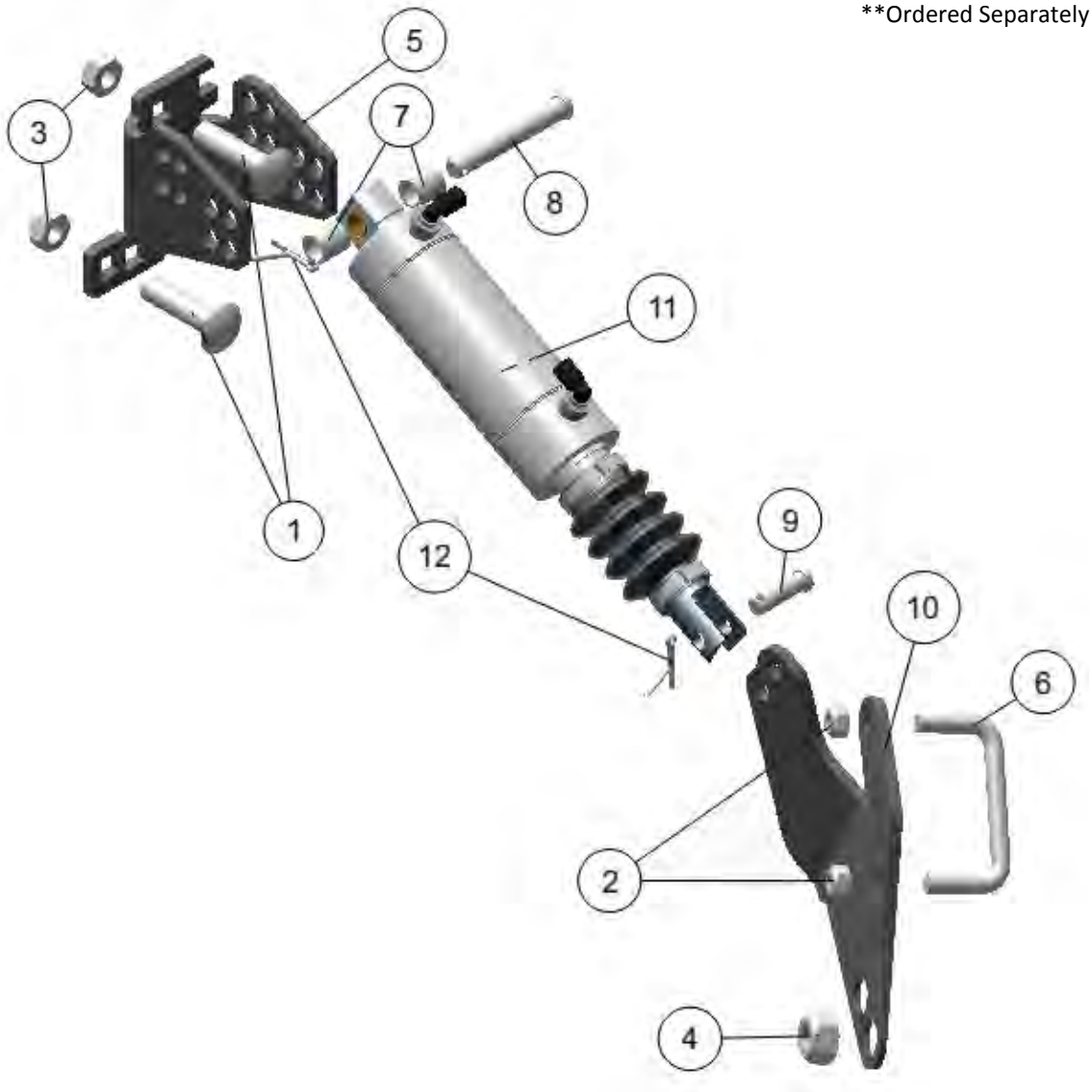
- With Kinze Double Arm Coulter: Kinze coulter bracket must be significantly modified in order to make the base bracket fit. (See Knowledge Base article #49 for details)

Installation Instructions
755180
Row Unit Conversion Kit for Yetter Titan 2967-

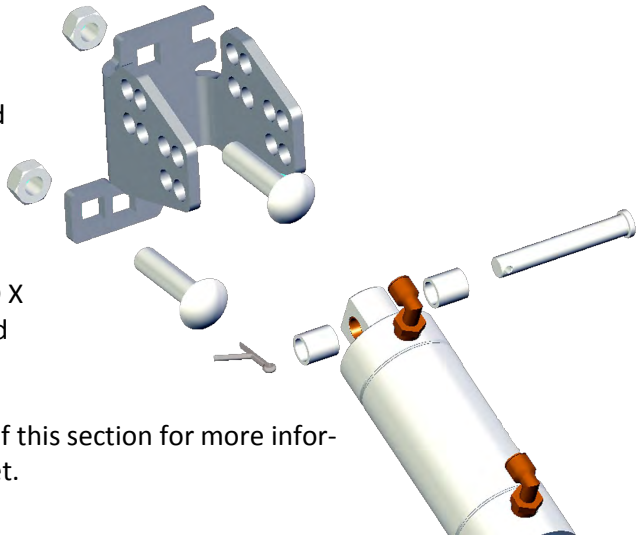
Kit Components

ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	2	21826	Carriage Bolt	1/2" X 2" Round Head Bolt
2	2	37264	Hex Nut	3/8" Top Lock Hex Nut ZN
3	2	37268	Hex Nut	1/2" Top Lock Hex Nut ZN
4	1	37272	Hex Nut	5/8” Top Lock Hex Nut ZN
5	1	755004	Bracket	MTR Cylinder Base Mount
6	1	755007	U-Bolt	2.75” X 1/2” Plate
7	2	755017	Spacer	5/8" OD X 7/16 ID X 0.688"L
8	1	755018	Pin	Cylinder Base Pivot
9	1	755019	Pin	Cylinder Rod Pivot
10	1	755022	Rod Mount	Titan Rod Mount
11	1	755023	Air Cylinder	Complete Air Cylinder Assembly **
12	2	755028	Cotter Pin	1/8" X 1"

**Ordered Separately



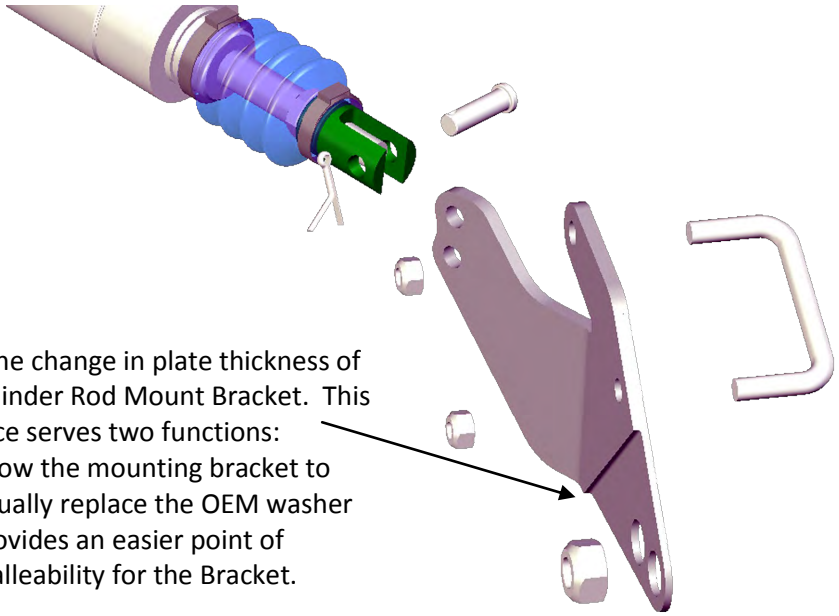
Step 1.
Secure the Cylinder Base Mounting Bracket to the face plate bracket using two - 1/2" X 1.75" carriage bolts and two - 1/2" Top Lock Hex Nuts.
Tighten to 75 lb-ft of torque.



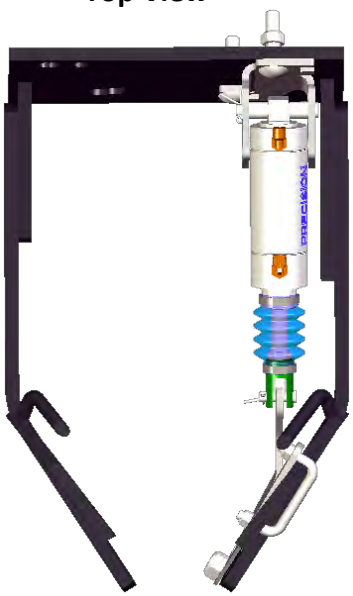
Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket.

Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

Step 2.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied 2.75" X 1/2" U-bolts (755007), two - 3/8" Top Lock Hex Nuts (37264) and one - 5/8" Top Lock Hex Nut. This install will require the removal of the nut and washer present on the D-Bolt (serving as the axle) of the row cleaner. Re-install using the supplied 5/8" Nut and using the Mounting Bracket in place of the washer.
Do not tighten until the cylinder has been properly aligned.
When installing the Cylinder Rod Mount Bracket, be sure it is properly aligned in the clevis yoke of the Rod. *This may require the exact angle of the bracket to be tweaked or modified* in order to more perfectly match the individual row unit.



Top View



Note the change in plate thickness of the Cylinder Rod Mount Bracket. This variance serves two functions:

1. Allow the mounting bracket to equally replace the OEM washer
2. Provides an easier point of malleability for the Bracket.

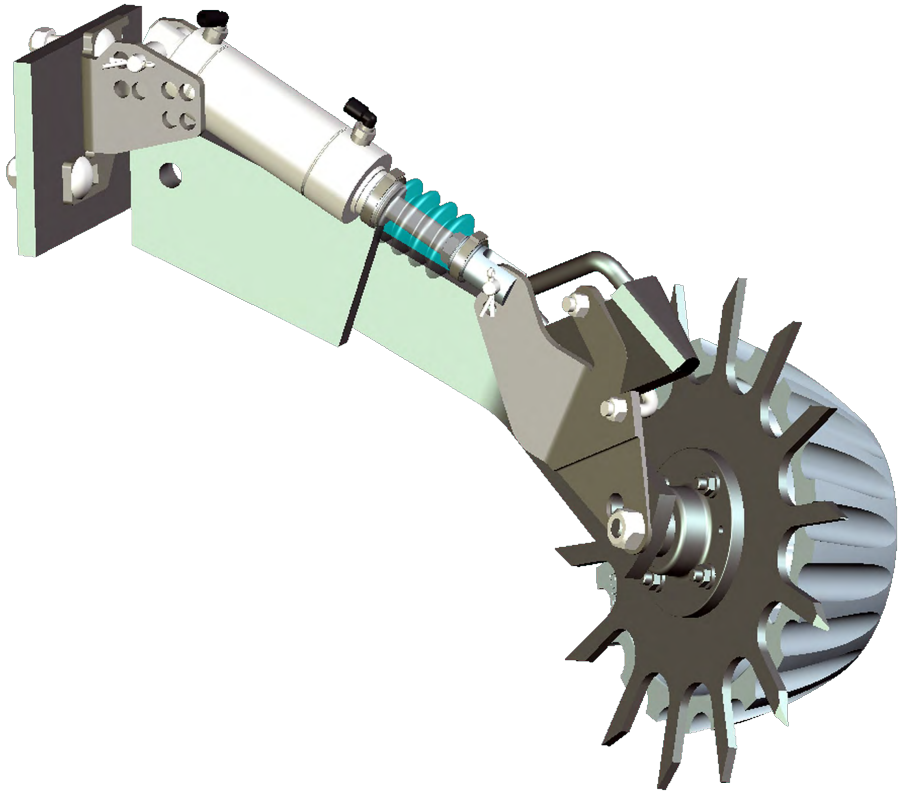
Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin. Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is inherent in the U-Bolt fastener design and is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

Verify the freedom of motion and clearance of components.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Completed Cylinder Kit Installation



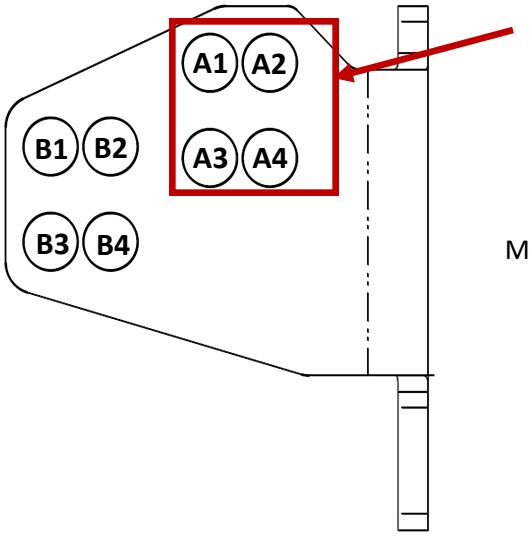
Maintenance Recommendations

If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

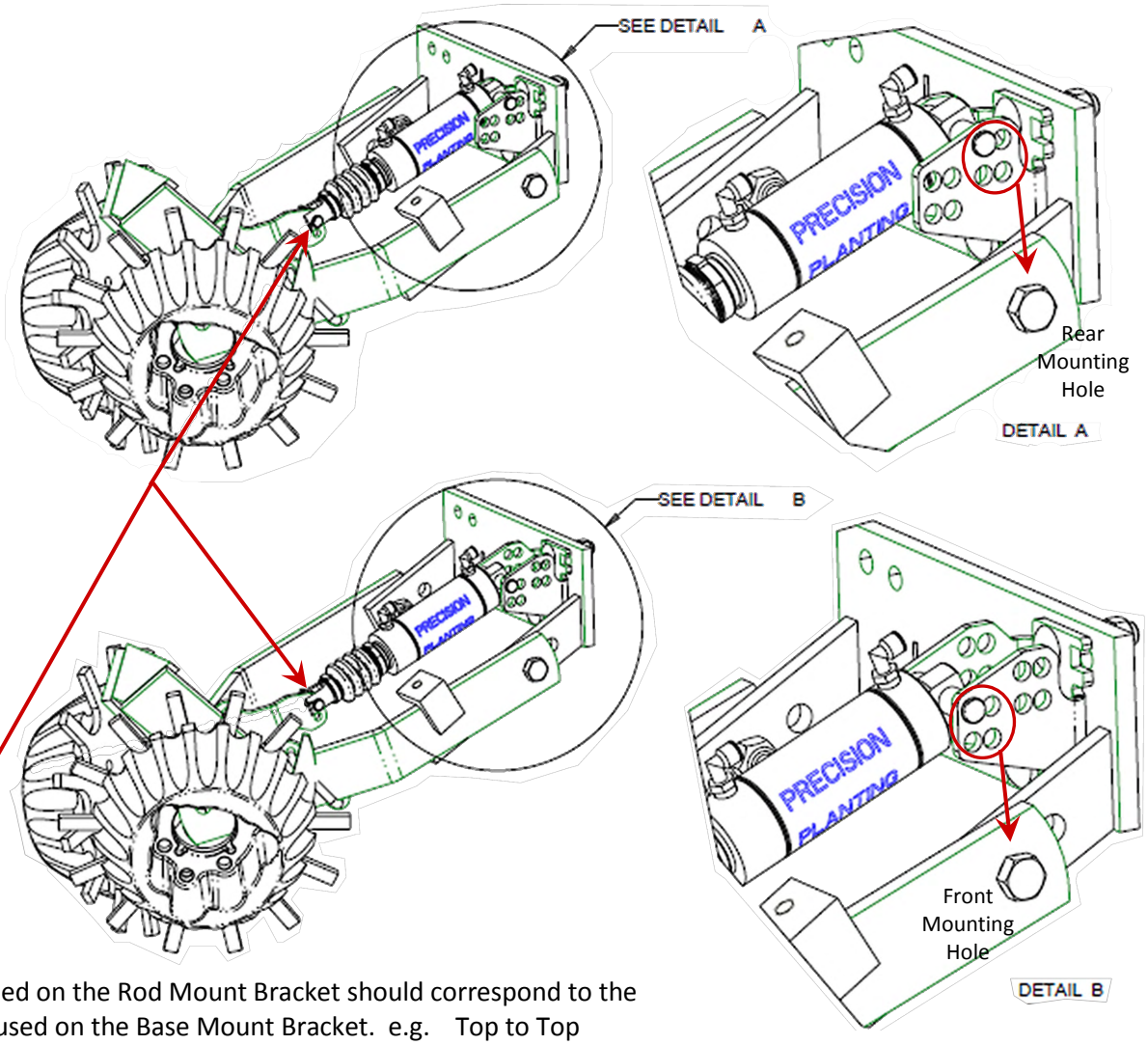
Mounting Hole Selection: Yetter Titan 2967-035

Use this section to select the mounting location when using the MTR mounting Bracket - 755004



Used on 2967-035

755004
Cylinder Base
Mounting Bracket



The hole used on the Rod Mount Bracket should correspond to the same hole used on the Base Mount Bracket. e.g. Top to Top
Bottom to Bottom

Mounting Hole Selection: Yetter 2967-035 Cont.

A Range Holes:
To be used with Yetter Titan 2967-035 and Martin MTR when the row cleaner frame pivots in the rear holes (Detail A)
B Range Holes:
To be used with Martin MTR when the row cleaner frame pivots in the front holes (Detail B)

Holes 1 and 2, (Top Holes, both Ranges):
Installing the cylinder in the top holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used if LESS down force is desired when the system will generally be used in the lift direction.
Not to be used with Long Parallel Arms or JD 7000 row units

Holes 3 and 4 (Bottom Holes, both Ranges):
Installing the cylinder in the bottom holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used in MORE down force is desired when the system will generally be used in the Lift direction.

Holes 1 and 3 (Front Holes, both Ranges):
To be used if bracket is mounted directly to the row cleaner face plate bracket.

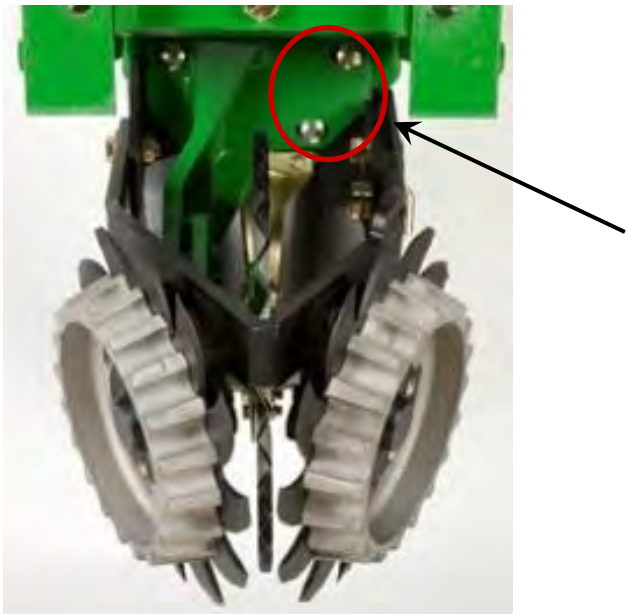
Holes 2 and 4 (Rear Holes, both Ranges):
To be used if bracket is mounted on top of another attachment.
(e.g. Row unit mounted coulter, UMO 100 etc…)

Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Installation Notes:

Row Unit: **JD 7200 with Reg. or Long Parallel Arms w/ JD Coulter**

If a JD Cast Iron Coulter frame is installed, the draft angle of the cast iron bracket may lead to the misalignment of the two cylinder mounting brackets. If the misalignment is so severe that the cylinder cannot be installed freely, install the 755159 shim directly behind the cylinder base mounting bracket.



755159 Shim

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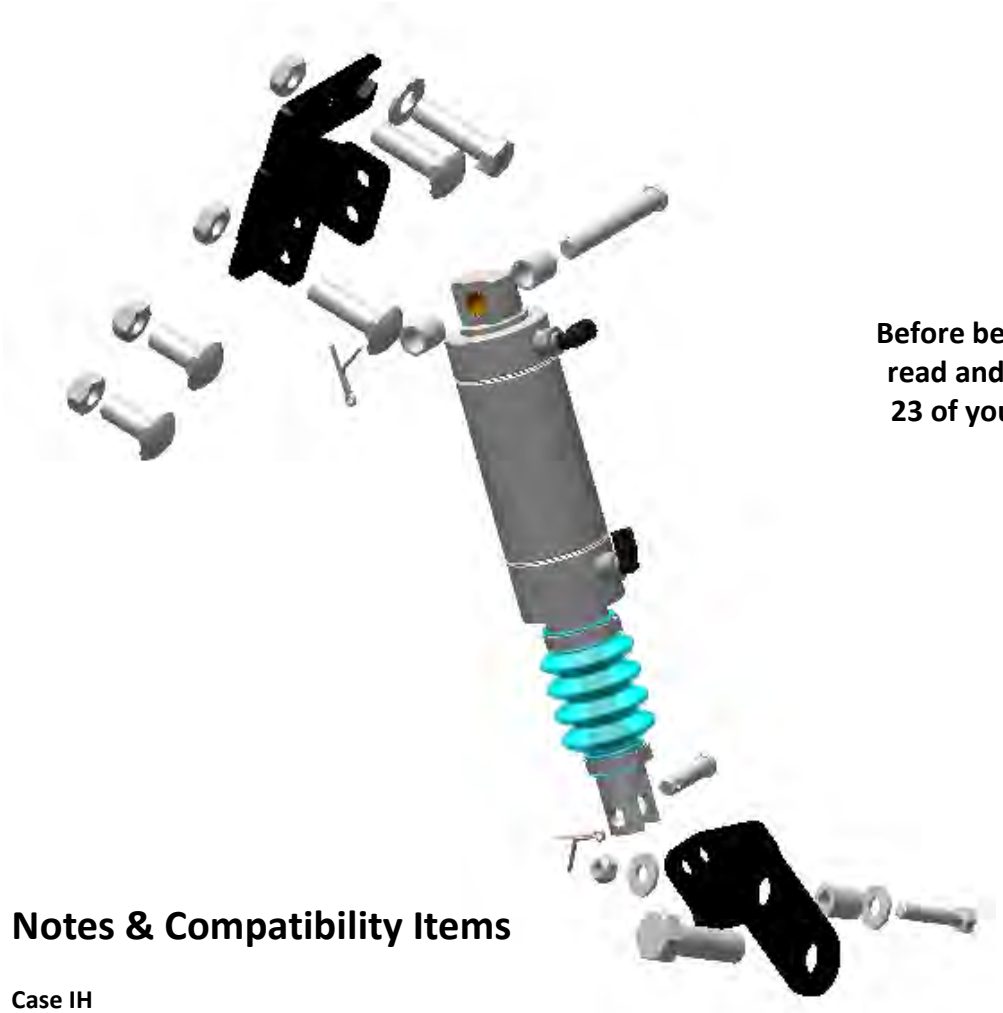
Installation Instructions 755200
Row Unit Conversion Kit for Martin BD 1360



Before beginning installation, read and review pages 22 & 23 of your Owner's Manual

Notes & Compatibility Items

Case IH

- Mount using bottom hole on the base bracket, top hole on the rod bracket, flip cylinder upside down, and set row cleaner stop bolt high enough so that fittings aren't crushed.

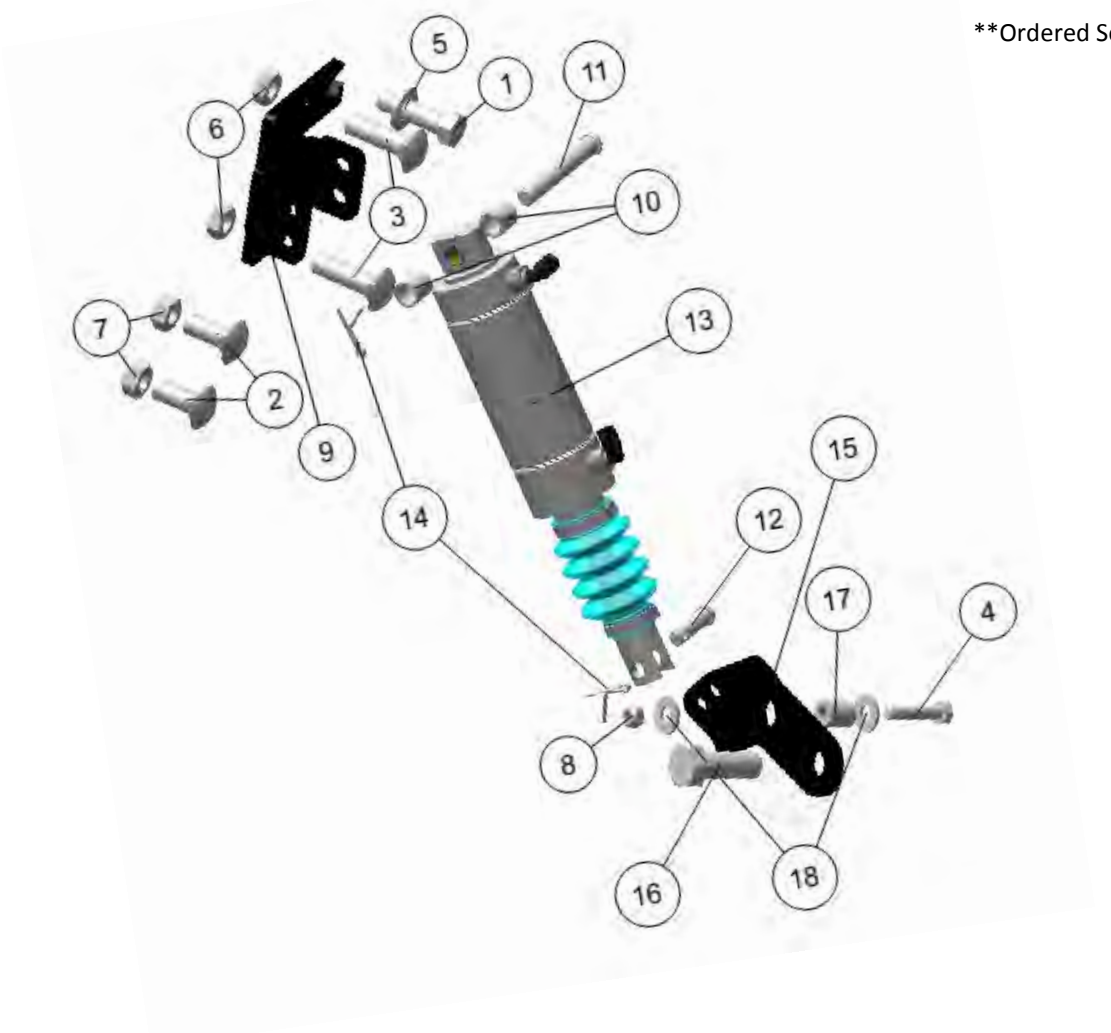
JD 7200/7300/17xx

- With Long Parallel Arms: If AirForce bracket 726551 is installed, use bottom holes on both rod and base brackets.

Installation Instructions 755200
Row Unit Conversion Kit for Martin BD 1360

ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	1	13210	Bolt	1/2” X 1.75” GRD5 Bolt ZN
2	2	21823	Bolt, Round Head	1/2" X 1-1/4" GRD5 ZN Carriage Bolt
3	2	21825	Bolt, Round Head	1/2" X 1-3/4" GRD5 ZN Carriage Bolt
4	1	24117	Bolt	5/16”-18 x 1.5” GRD 5 BOLT ZN
5	1	33086	Washer	1/2” SAE Flat Washer ZN
6	2	37268	Hex Nut	1/2" Top Lock Nut ZN
7	2	37269	Top Lock Jam Nut	1/2” GRD A ZN
8	1	37262	Hex Nut	5/16-18 Top Lock Nut ZN
9	1	755008	Bracket	MTS Cylinder Base Mount
10	2	755017	Spacer	5/8" OD X 7/16" ID X 0.688L
11	1	755018	Pin	Cylinder Base Pivot
12	1	755019	Pin	Cylinder Rod Pivot
13	1	755023	Air Cylinder	Complete Assembly**
14	2	755028	Cotter Pin	1/8" x 1"
15	1	755158	Bracket	BD 1360 Rod Mount
16	1	13310G	Bolt	5/8" X 1-3/4" GRD5 Bolt ZN w/Nylon
17	1	755194	Bushing	5/16” ID X 5/8” OD X .750”
18	1	33006	Washer	5/16 USS FLAT ZN

**Ordered Separately



Note: This Kit fits Martin row cleaner model WA1360, which mounts directly to the row unit face plate (NO COULTER).

Step 1. Secure the Cylinder Base Mounting Bracket to the face plate bracket.

JD 7200/7300/17XX Row Units:

Mount using two - 1/2" X 1.75" carriage bolts and two - 1/2" top lock hex nuts.

JD 7000, Kinze, & White Row Units:

Mount using one 1/2" X 1.75" carriage bolt, one 1/2" X 1.75" hex head bolt, one 1/2" SAE Flat Washer, and two 1/2" top lock hex nuts

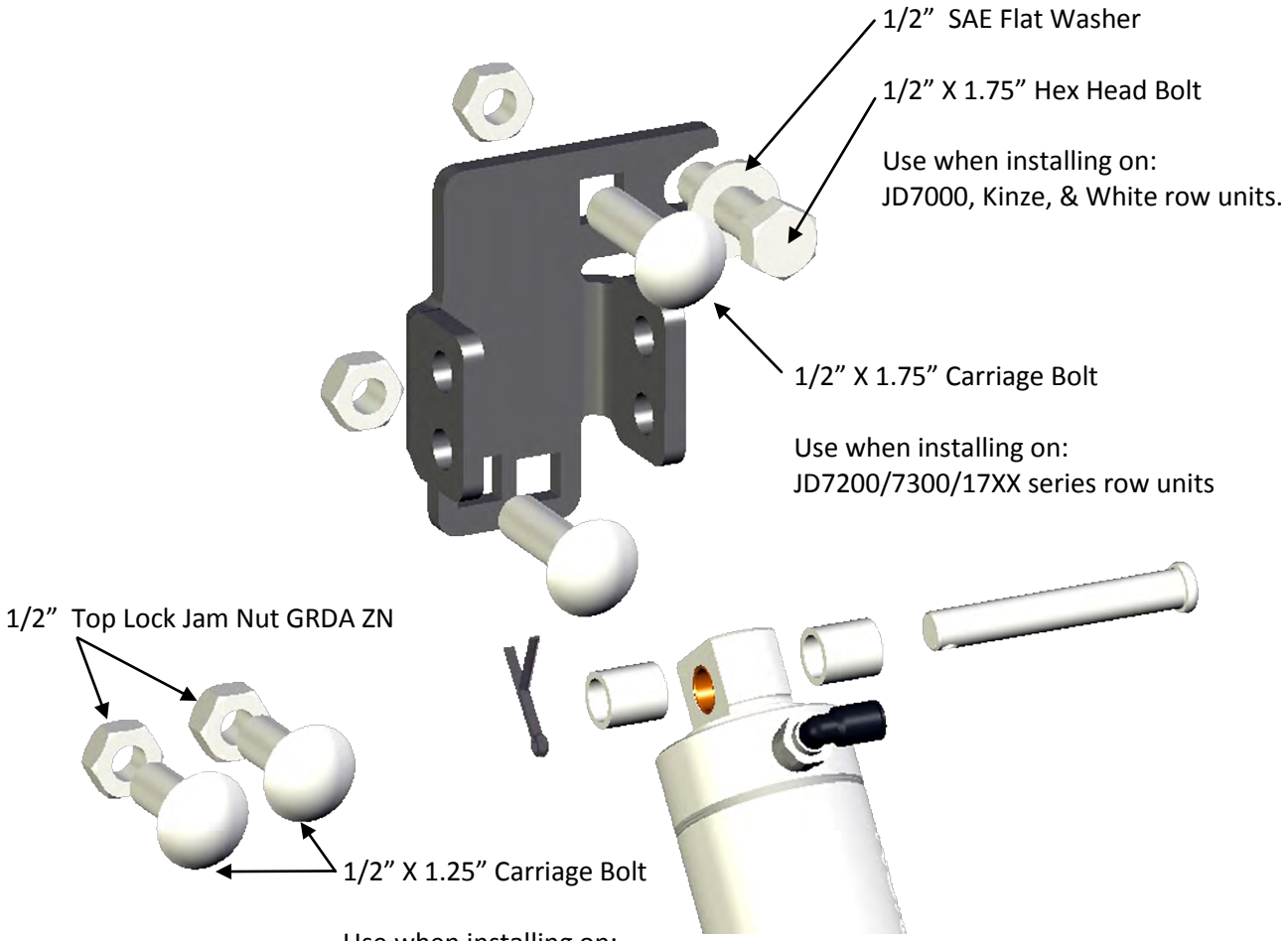
Case Row Units:

Mount using two - 1/2" X 1.25" carriage bolts and two - 1/2" Top Lock Jam Nuts GRD A ZN

This will allow clearance for gauge wheel rocker arms.

This installation requires: the use of the bottom hole on the base bracket, the top hole on the rod bracket, rotating the cylinder upside down (fittings facing ground), and setting the row cleaner stop bolt high enough to prevent crushing the fittings.

Tighten to 75 lb-ft of torque.



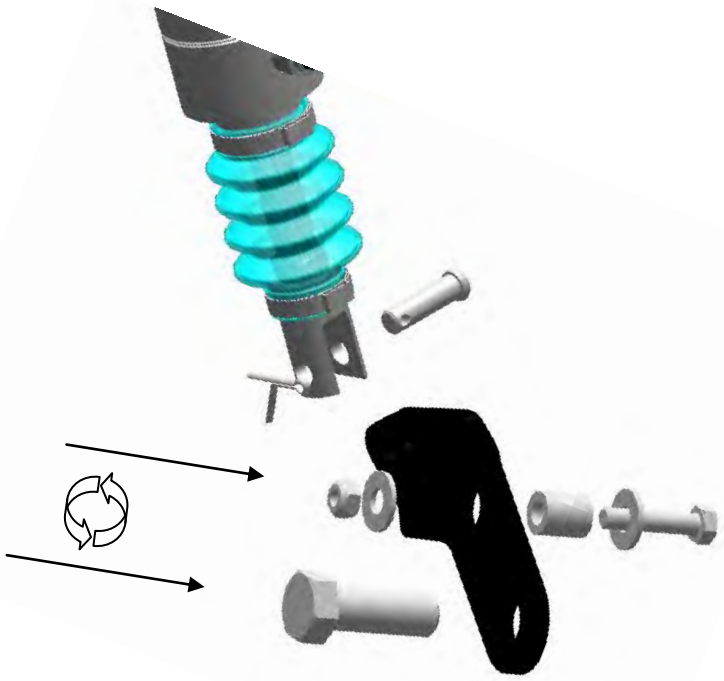
Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket.

Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

Step 2.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied 5/8” X 1-3/4” GRD5 Bolt ZN w/Nylon (13310G), 5/16-18 x 1.5 GRD 5 BOLT, two 5/16” washers, 5/16” ID x 5/8” OD bushing, and 5/16-18 TOP LOCK NUT.

This will require removal of the existing 5/8” Bolt installed through the hub. When re-installing, re-use the existing 5/8” washer, ensure proper alignment of all components, and that the hub is firmly secured.

When installing the Cylinder Rod Mount Bracket, be sure it is properly aligned in the clevis yoke of the Rod. This may require the exact angle of the bracket to be tweaked or modified in order to more perfectly match the individual row unit.



Top View

NOTE: Reverse the positioning of these bolts if the wheel is mounted in the rear hole

Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin. Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

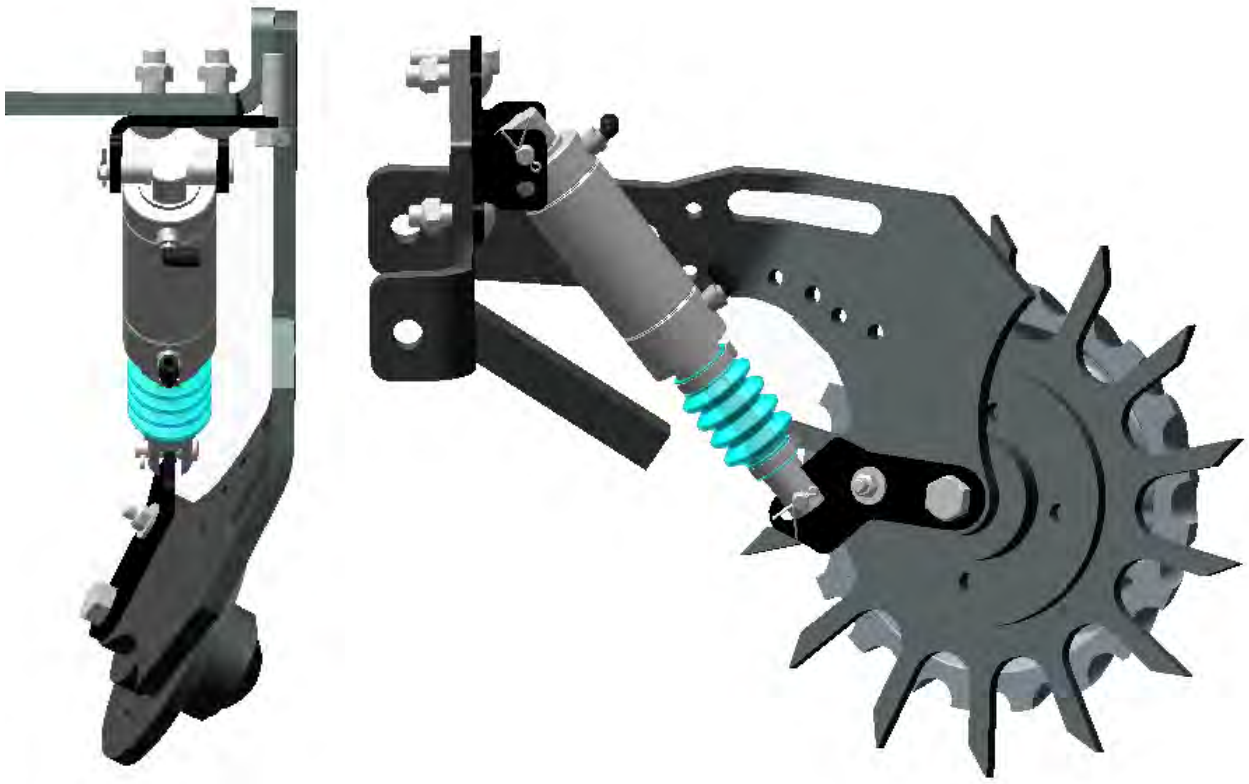
When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

Once the Rod Mounting Bracket has been properly aligned, secure the bracket by tightening the U-bolts to 30 lb-ft of torque.

Verify the freedom of motion and clearance of components.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Completed Cylinder Kit Installation



Maintenance Recommendations

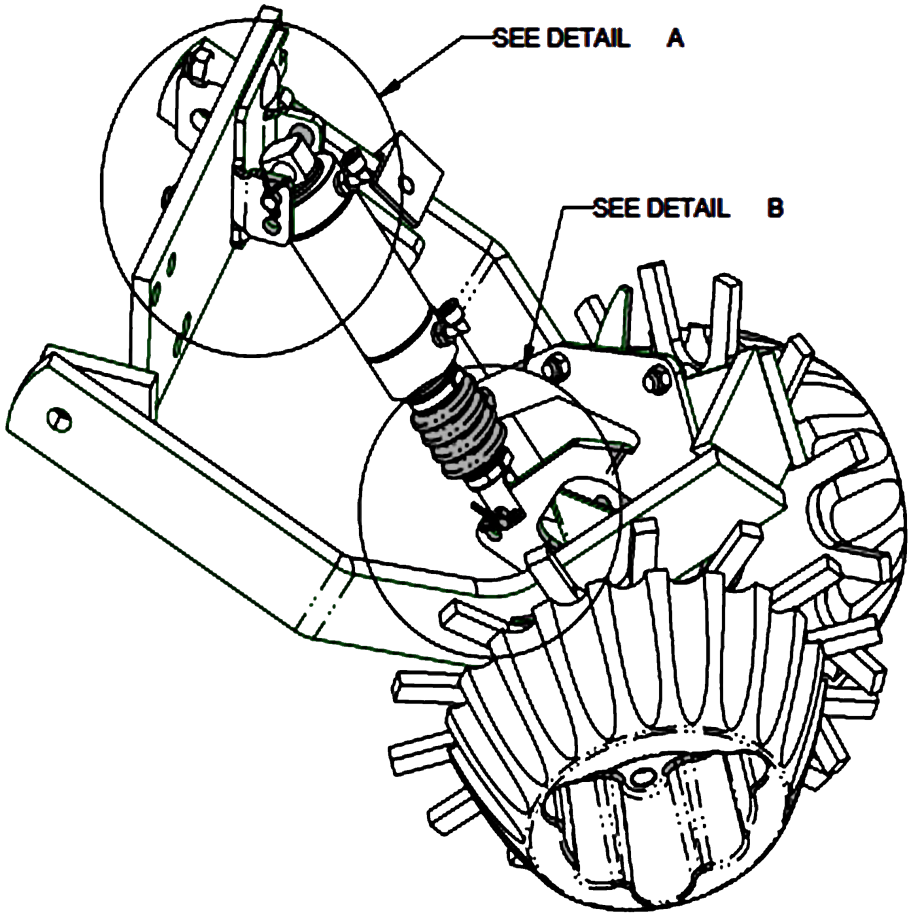
If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

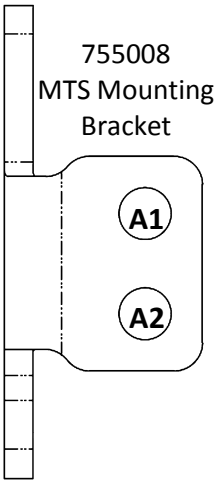
Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

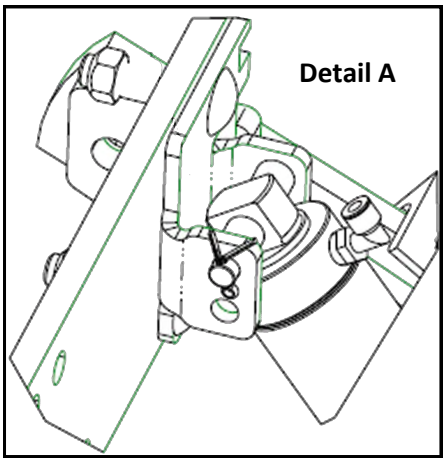
Mounting Hole Selection: Martin BD 1360

Use this page to select the mounting location when using the Mounting Bracket - 755008

If AirForce bracket 726551 is installed,
use the bottom holes on both rod and base brackets



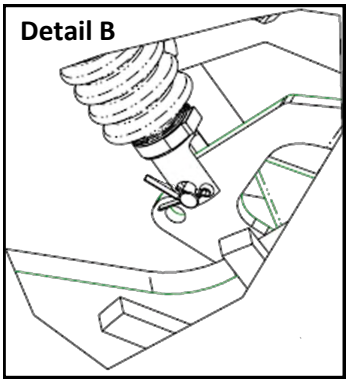




Hole A1 (Top Hole):
Installing the cylinder in the top holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used if LESS down force is desired when the system will generally be used in the lift direction.

Hole A2 (Bottom Hole):
Installing the cylinder in the bottom holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used in MORE down force is desired when the system will generally be used in the Lift direction.

Mounting Hole Selection: MTS Mounting Bracket (cont)



The hole used on the Rod Mount Bracket should correspond to the same hole used on the Base Mount Bracket. e.g. Top to Top
Bottom to Bottom

Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Caution: Risk of hyper-extending the row cleaner/cylinder kit beneath the row unit. DO NOT run the stop bolt too deep. The row cleaner should not be allowed to fall below 38 degrees below horizontal; this usually equates to NO LESS than 3/4" of thread showing on the stop bolt below the stop bolt bracket.

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Installation Instructions 755205
Row Unit Conversion Kit for Martin BDC 1360

Before beginning installation, read and review pages 22 & 23 of your Owner's Manual

Notes & Compatibility Items

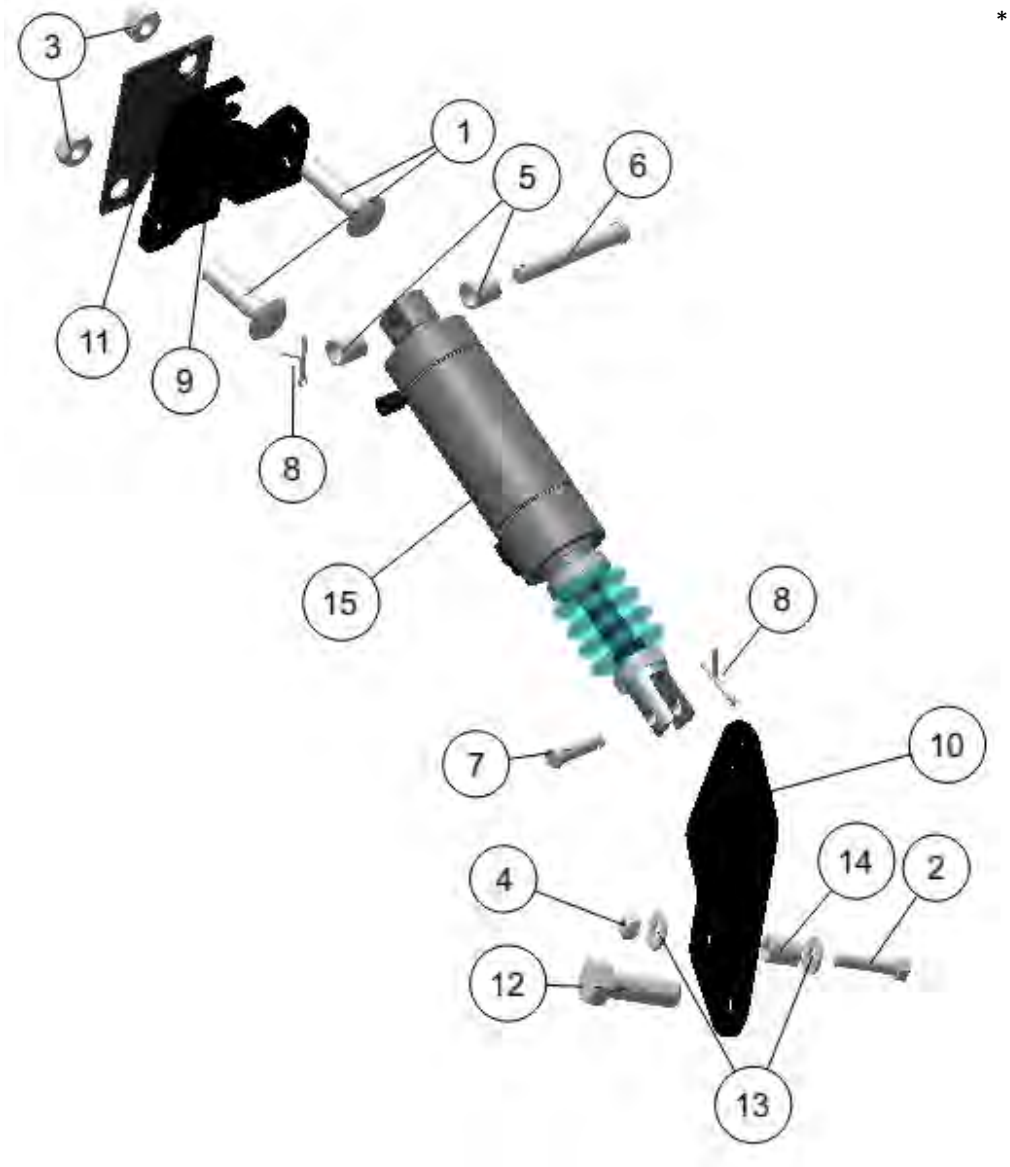
JD 7200/7300/17xx

- With long parallel arms (21") and JD Cast Coulter: Mount using bottom holes on both rod and base brackets, flip cylinder upside down, and install 1/8" stop blocks. For UMO compatibility, see Table 2 in Appendix A.

Installation Instructions 755205
Row Unit Conversion Kit for Martin BDC 1360

ITEM	QTY	PART NUMBER	PART NAME	DESCRPTION
1	2	21826	Bolt, Round Head	1/2" x 2" GRD5 ZN Carriage
2	1	13059	Bolt	5/16-18 x 1.5 GRD5 BOLT ZN
3	2	37268	Hex Nut	1/2" Top Lock Nut ZN
4	1	37262	Hex Nut	5/16-18 Top Lock Nut ZN
5	2	755017	Spacer	5/8"OD X 7/16"ID X .688"L
6	1	755018	Pin	Cylinder Base Pivot
7	1	755019	Pin	Cylinder Rod Pivot
8	2	755028	Cotter Pin	1/8”X 1”
9	1	755157	Bracket	BDC 1360 Base Mount
10	1	755167	Bracket	BDC 1360 Rod Mount
11	1	755174	Shim	Cylinder Base Mount on 755205
12	1	13310G	Bolt	5/8” X 1.75” GRD5 BLT ZN w/ Thread Lock
13	2	33006	Washer	5/16 USS FLAT ZN
14	1	755194	Bushing	5/16” ID x 5/8” OD x .750”
15	1	755023	Cylinder	Complete Assembly **

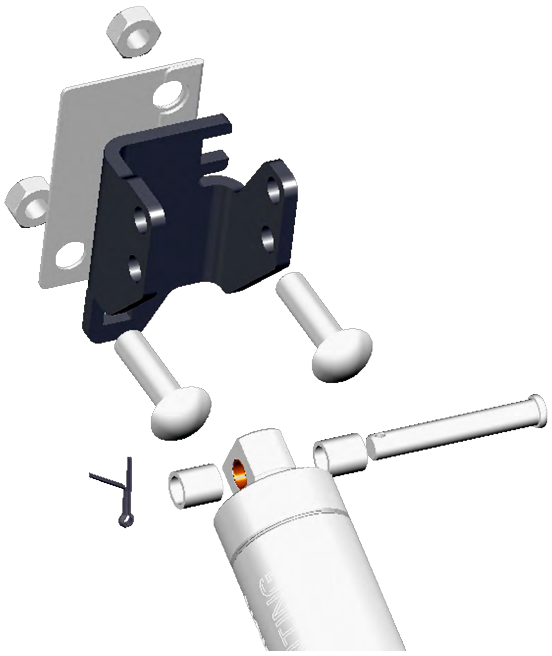
**Ordered Separately

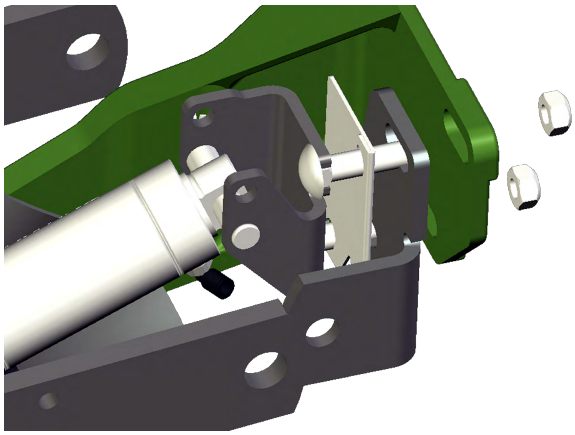


Images in these instructions depict installation on a JD row unit with LONG parallel arms with a JD Cast Coulter.
For installation on JD row units with REGUAR parallel arms:
the cylinder can be installed right side up (with the fittings facing up)

Step 1.
Secure the Cylinder Base Mounting Bracket to the face plate bracket using two - 1/2" X 1.75" carriage bolts and two - 1/2" Top Lock Hex Nuts.
Install the Shim - 755174, as shown.

Tighten to 75 lb-ft of torque.





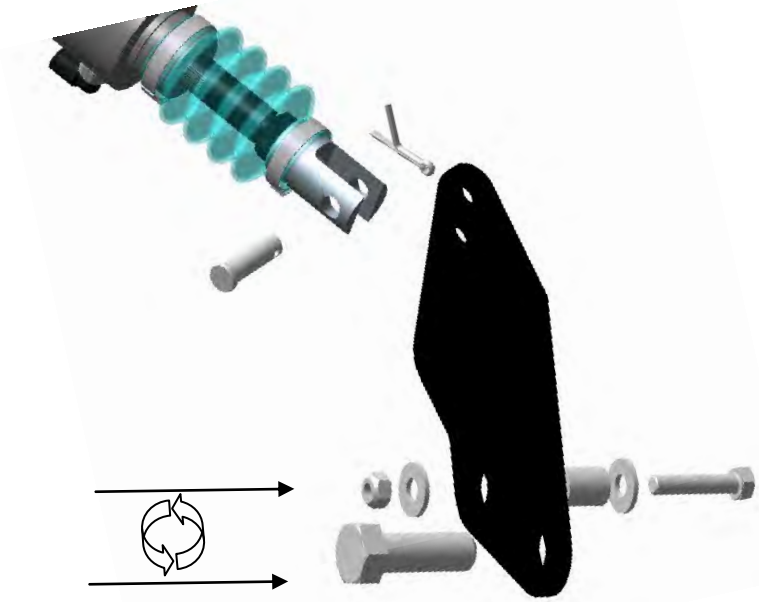
Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket.

Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

Step 2.
Install the Cylinder Rod Mount Bracket to the row cleaner frame using the supplied 5/8” X 1.75” GRD5 bolt ZN w/Thread Lock (13310G), 5/16-18 x 1.5 GRD 5 BOLT, two 5/16” washers, 5/16” ID x 5/8” OD bushing, and 5/16-18 TOP LOCK NUT.

This will require removal of the existing 5/8” Bolt installed through the hub. When re-installing, re-use the existing 5/8” washer, ensure proper alignment of all components, and that the hub is secured and re-turned to manufacturer’s recommendations.

When installing the Cylinder Rod Mount Bracket, be sure it is properly aligned in the clevis yoke of the Rod. This may require the exact angle of the bracket to be tweaked or modified in order to more perfectly match the individual row unit.



NOTE:
Reverse the positioning of these bolts if the wheel is mounted in the rear hole

Top View

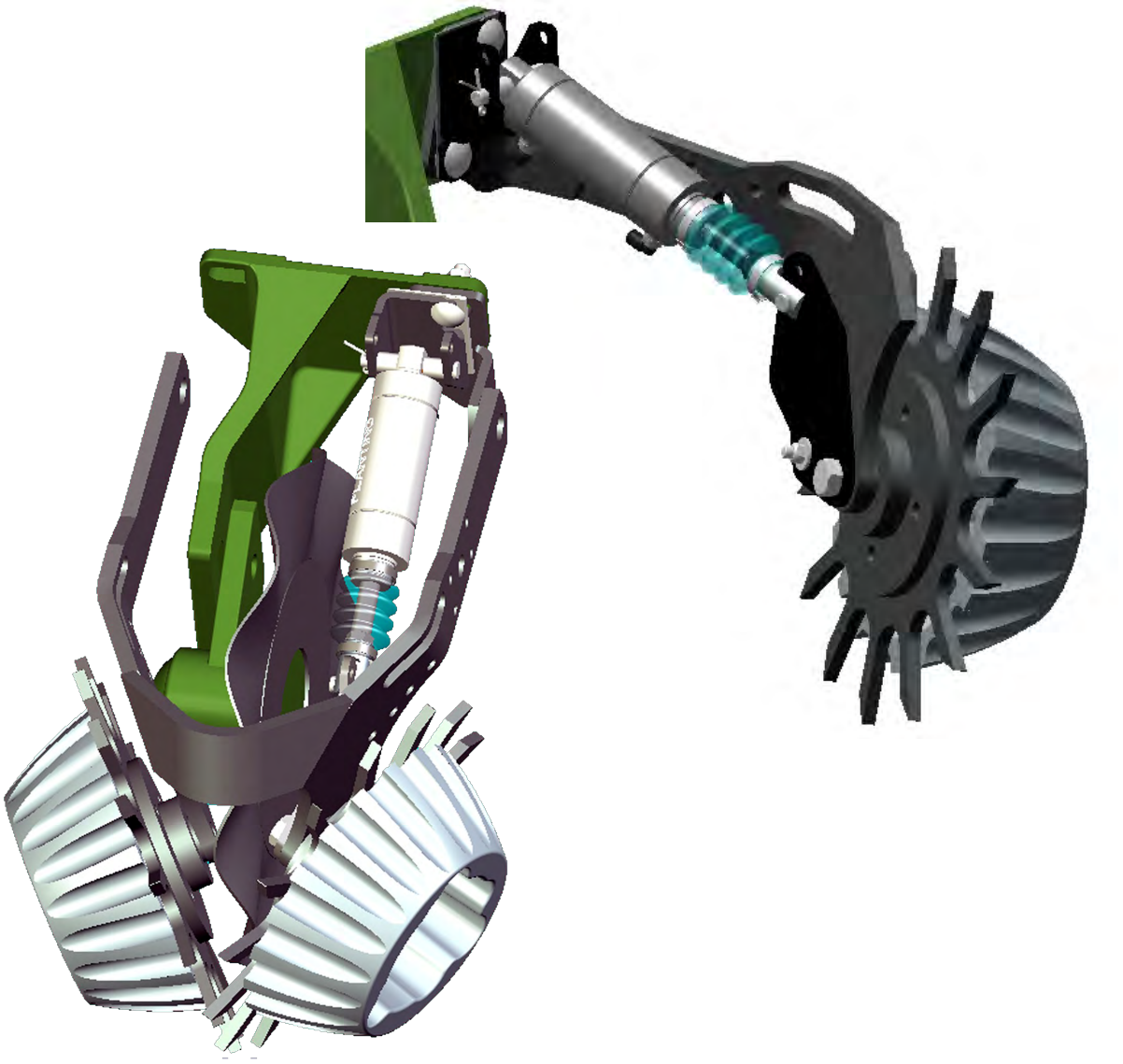
Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin. Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

Verify the freedom of motion and clearance of components.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Completed Cylinder Kit Installation



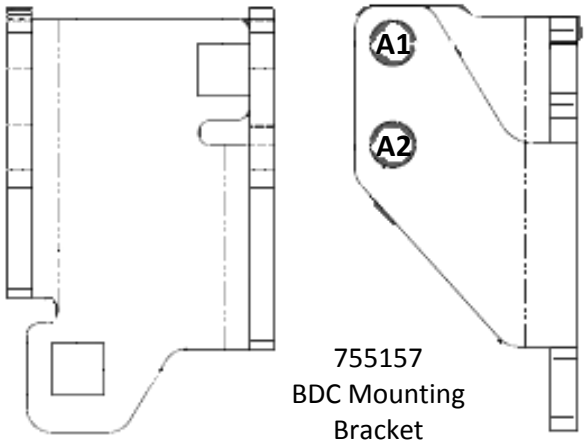
Maintenance Recommendations

If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

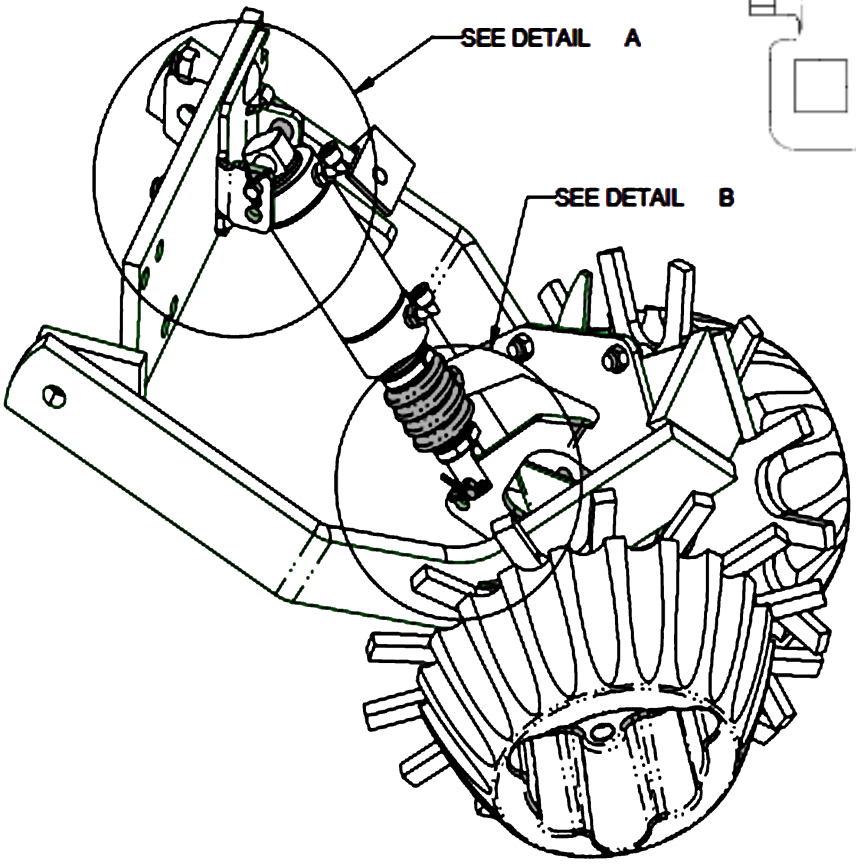
Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

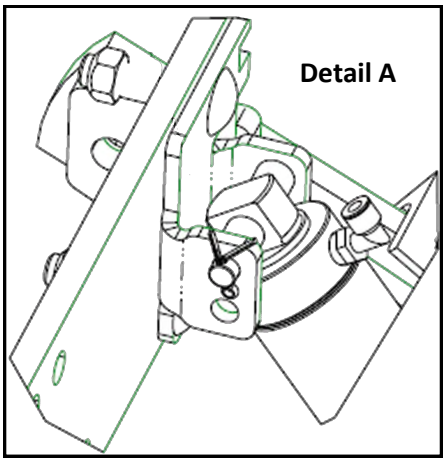
Mounting Hole Selection: Martin BDC 1360

Use this page to select the mounting location when using the BDC 1360 Mounting Bracket - 755157



755157
BDC Mounting
Bracket

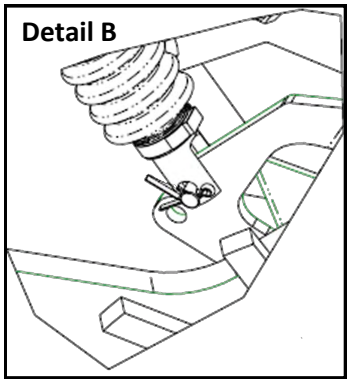




Hole A1 (Top Hole):
Installing the cylinder in the top holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used if LESS down force is desired when the system will generally be used in the lift direction.

Hole A2 (Bottom Hole):
Installing the cylinder in the bottom holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used in MORE down force is desired when the system will generally be used in the Lift direction.

Mounting Hole Selection: MTS Mounting Bracket (cont)



The hole used on the Rod Mount Bracket should correspond to the same hole used on the Base Mount Bracket. e.g. Top to Top
Bottom to Bottom

Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Caution: Risk of hyper-extending the row cleaner/cylinder kit beneath the row unit. DO NOT run the stop bolt too deep. The row cleaner should not be allowed to fall below 38 degrees below horizontal; this usually equates to NO LESS than 3/4" of thread showing on the stop bolt below the stop bolt bracket.

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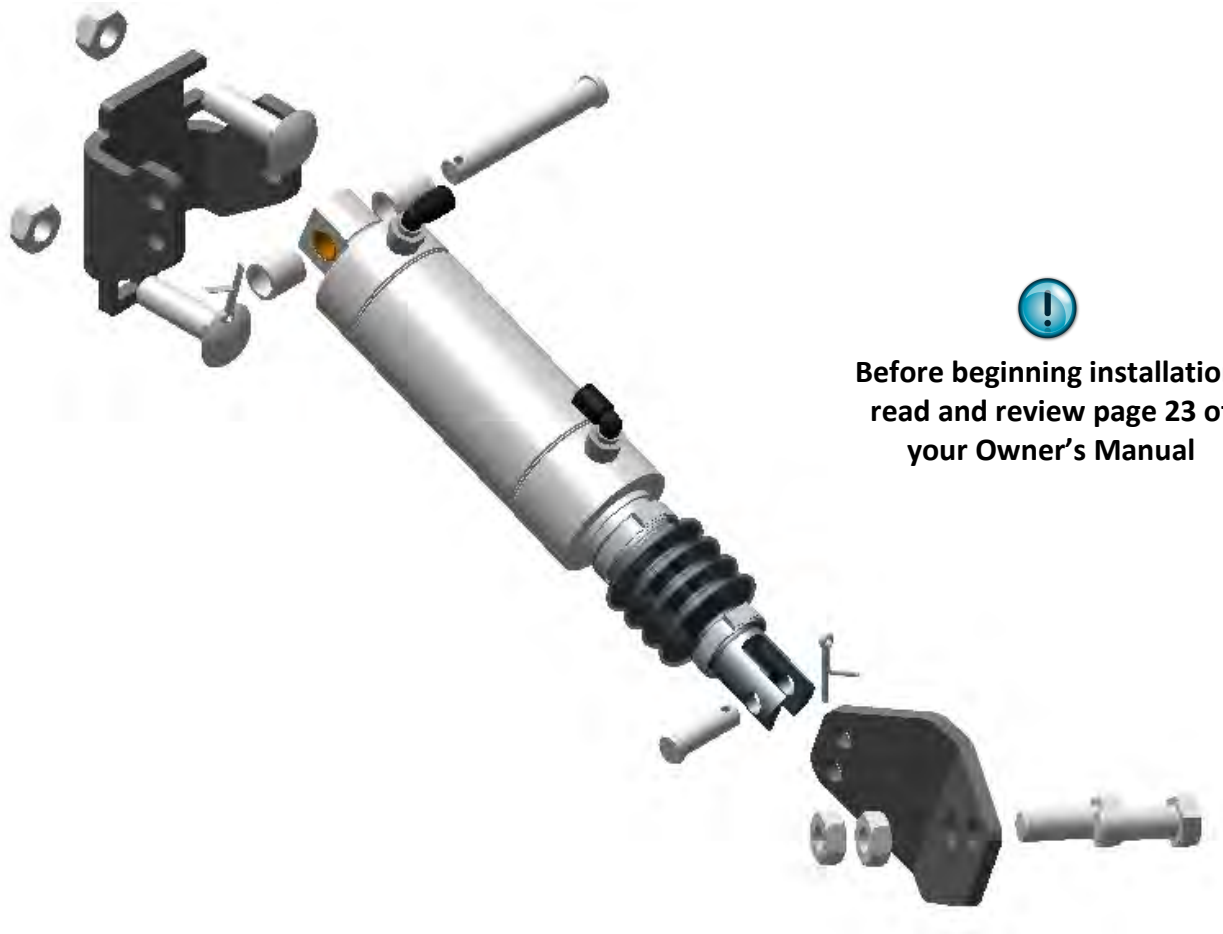
Installation Instructions 755185
Row Unit Conversion Kit for Yetter 2967-007



Before beginning installation, read and review page 23 of your Owner's Manual

Notes & Compatibility Items

JD 7200/7300/17xx

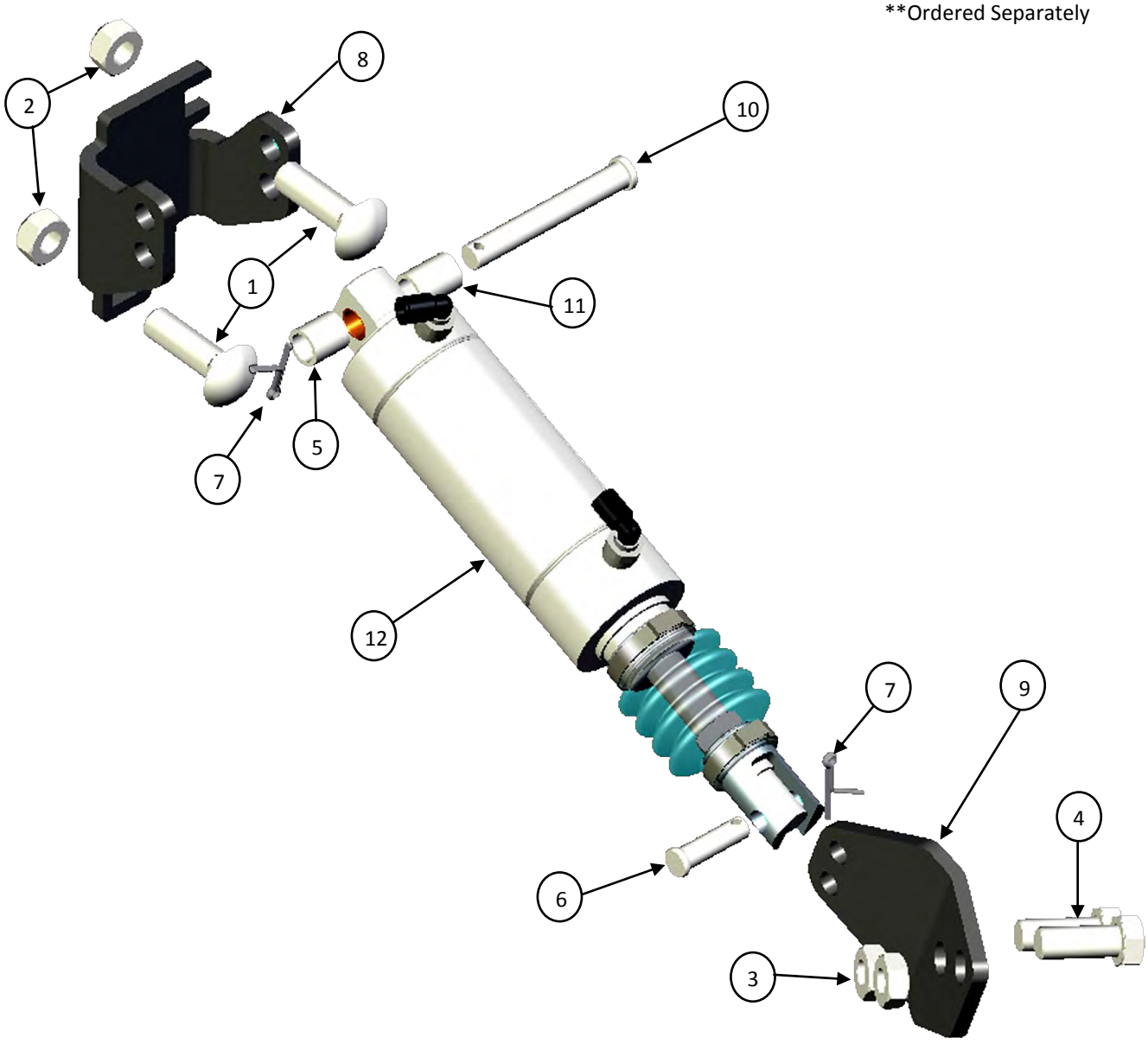
- With Long Parallel Arms: Mount using bottom holes on both rod and base brackets, flip cylinder upside down, and install 1/8" stop blocks (755202). For UMO compatibility, see Table 2 in Appendix A.

Installation Instructions 755185
Row Unit Conversion Kit for Yetter 2967-007

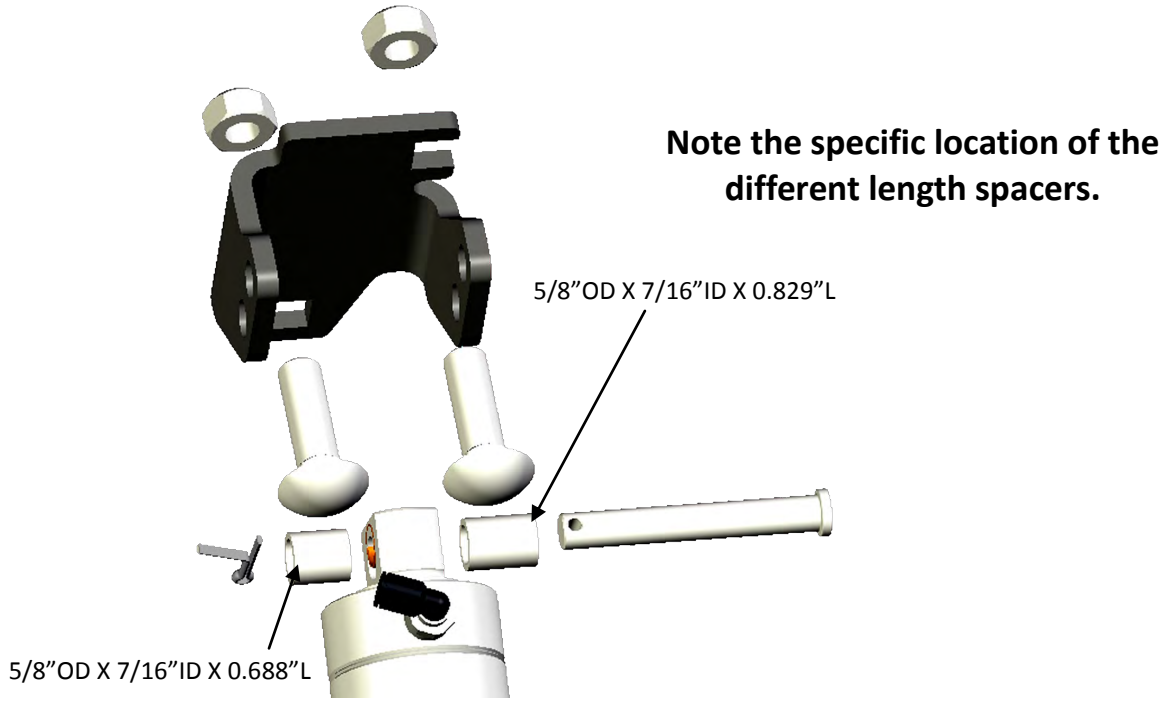
Kit Components

ITEM	QTY	PART NUMBER	PART NAME	DESCRPTION
1	2	21825	Bolt, Round Head	1/2" X 1.75" GRD5 ZN Carriage Bolt
2	2	37268	Hex Nut	1/2” Top Lock Nut ZN
3	2	37269	Jam Top Lock Nut	1/2” GRD A ZN
4	2	95207	Bolt	1/2” X 1.25” GRD5 Bolt ZNY
5	1	755017	Spacer	5/8"OD X 7/16"ID X .688"L
6	1	755019	Pin	Cylinder Rod Pivot
7	2	755028	Cotter Pin	1/8” X 1”
8	1	755147	Bracket	2967-007 Base Mount
9	1	755148	Bracket	2967-007 Rod Mount
10	1	755149	Pin	Cylinder Base Pivot
11	1	755151	Spacer	5/8”OD X 7/16”ID X 0.829”L
12	1	755023	Air Cylinder	Complete Assembly **

**Ordered Separately



Step 1.
Secure the Cylinder Base Mounting Bracket to the face plate bracket using two - 1/2" X 1.75" carriage bolts and two - 1/2" Top Lock Hex Nuts.
Tighten to 75 lb-ft of torque.
The Base Mounting Bracket **CAN** be installed without disassembling the row cleaner frame and support plate. This is done by first inserting the upper carriage bolt into the row cleaner face plate bracket and then slipping the cylinder base bracket in behind the carriage bolt. Simultaneously, you will need to rotate the cylinder bracket so that it can slide in behind and wrap around the row cleaner support plate.



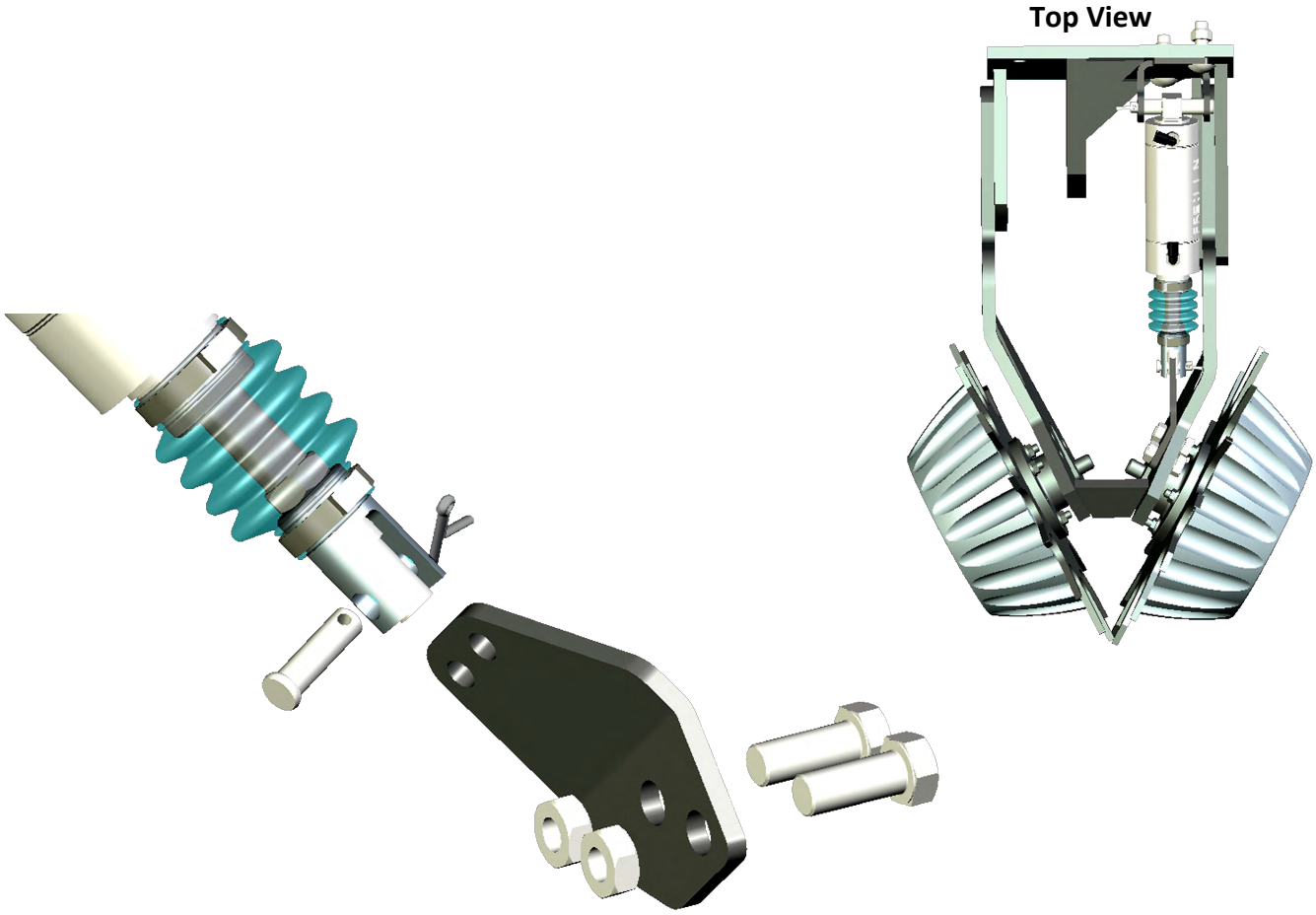
Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the 5/8" OD X 7/16ID X 0.688"L Spacer Bushing (towards the interior of the row) and the 5/8" OD X 7/16ID X 0.829"L Spacer Bushing (towards the exterior of the row) to properly secure and align the cylinder in the Base Mount Bracket.

Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

Note: When mounting on JD 7200/7300/17XX row units with <u>LONG</u> parallel arms (21 inches) the Air Cylinder must be:
Installed using the bottom holes on *BOTH* Rod and Base Brackets
Installed upside down (with fittings facing the ground)

Step 2.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied two - 1/2" X 1.25" GRD5 Bolts ZNY, and two - 1/2" GRD A ZN Top Lock Jam Nuts.

When installing the Cylinder Rod Mount Bracket, be sure it is properly aligned in the clevis yoke of the Rod. This may require the exact angle of the bracket to be tweaked or modified in order to more perfectly match the individual row unit.



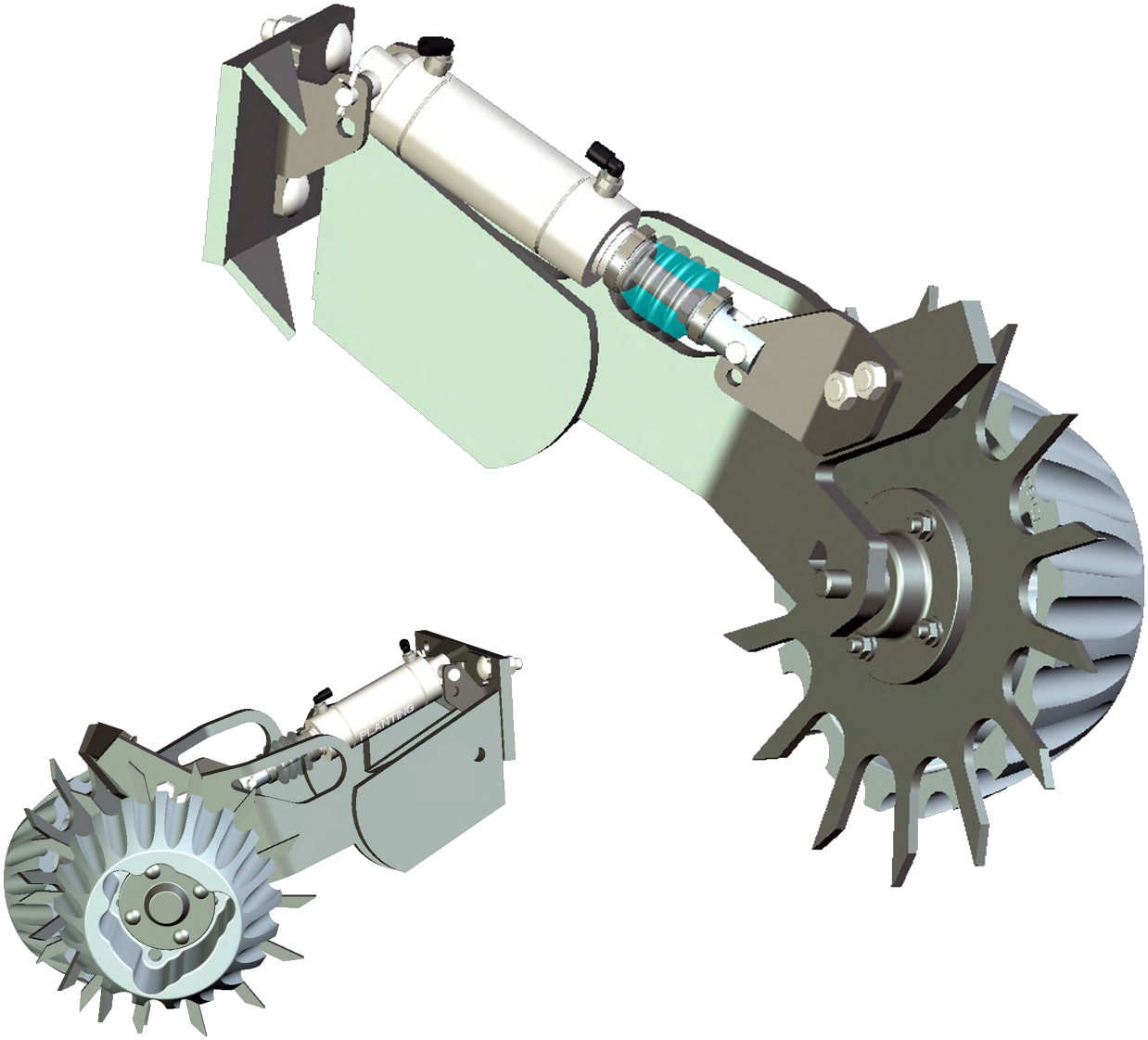
Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin. Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

Verify the freedom of motion and clearance of components.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Completed Cylinder Kit Installation



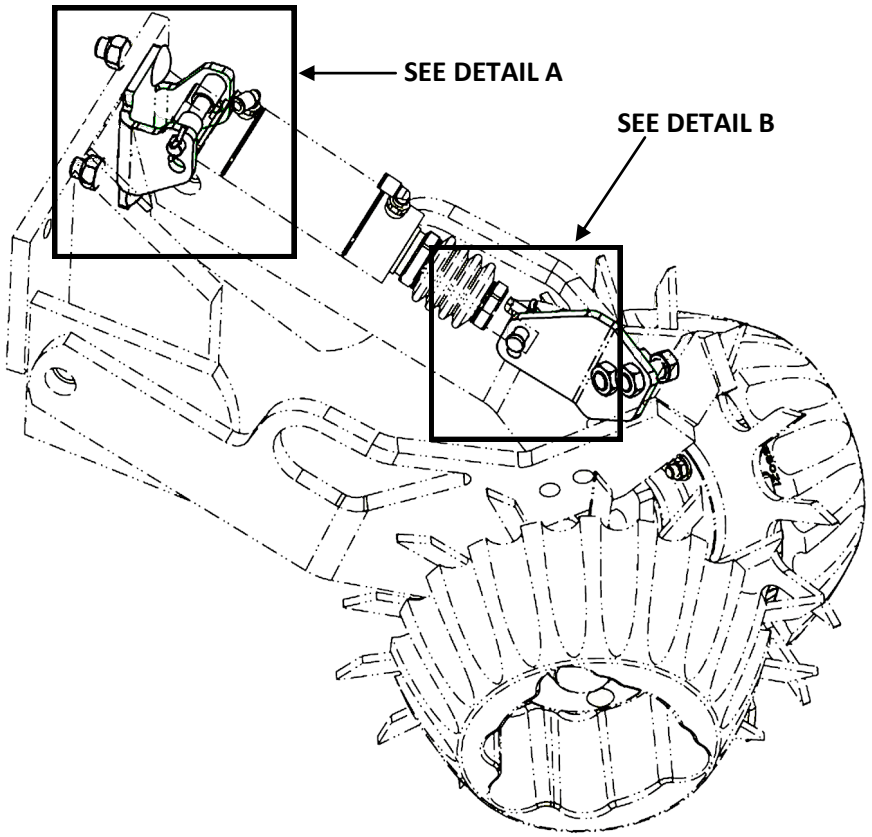
Maintenance Recommendations

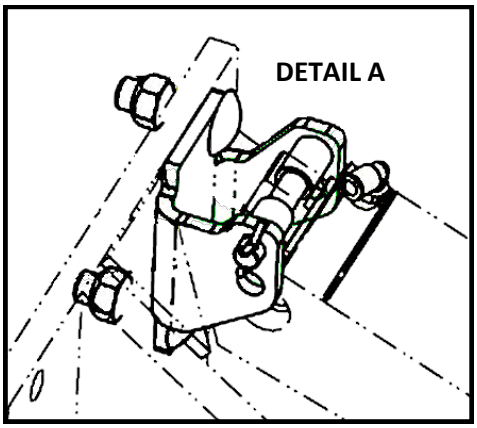
If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

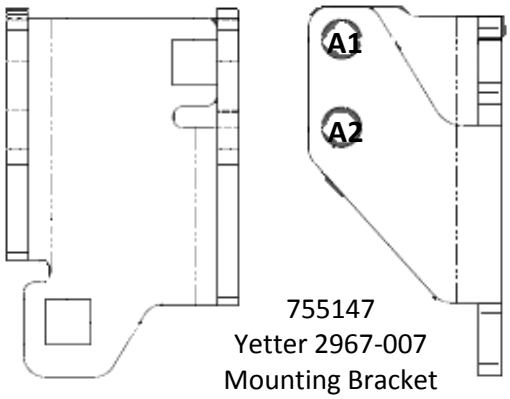
Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

Mounting Hole Selection: Yetter 2967-007

Use this page to select the mounting location when using the Yetter 2967-007 Mounting Bracket - 755147







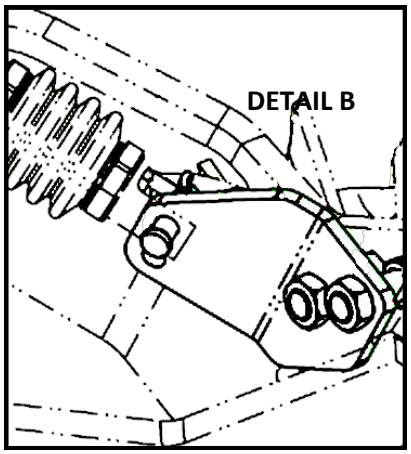
755147
Yetter 2967-007
Mounting Bracket

Hole A1 (Top Hole):
Installing the cylinder in the top holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used if LESS down force is desired when the system will generally be used in the lift direction.

Hole A2 (Bottom Hole):
Installing the cylinder in the bottom holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used in MORE down force is desired when the system will generally be used in the Lift direction.

Mounting Hole Selection: Yetter 2967-007 (cont.)

The hole used on the Rod Mount Bracket should correspond to the same hole used on the Base Mount Bracket. e.g. Top to Top
Bottom to Bottom



Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Caution: Risk of hyper-extending the row cleaner/cylinder kit beneath the row unit.
DO NOT run the stop bolt too deep. The row cleaner should not be allowed to fall below 38 degrees below horizontal; this usually equates to NO LESS than 3/4" of thread showing on the stop bolt below the stop bolt bracket.

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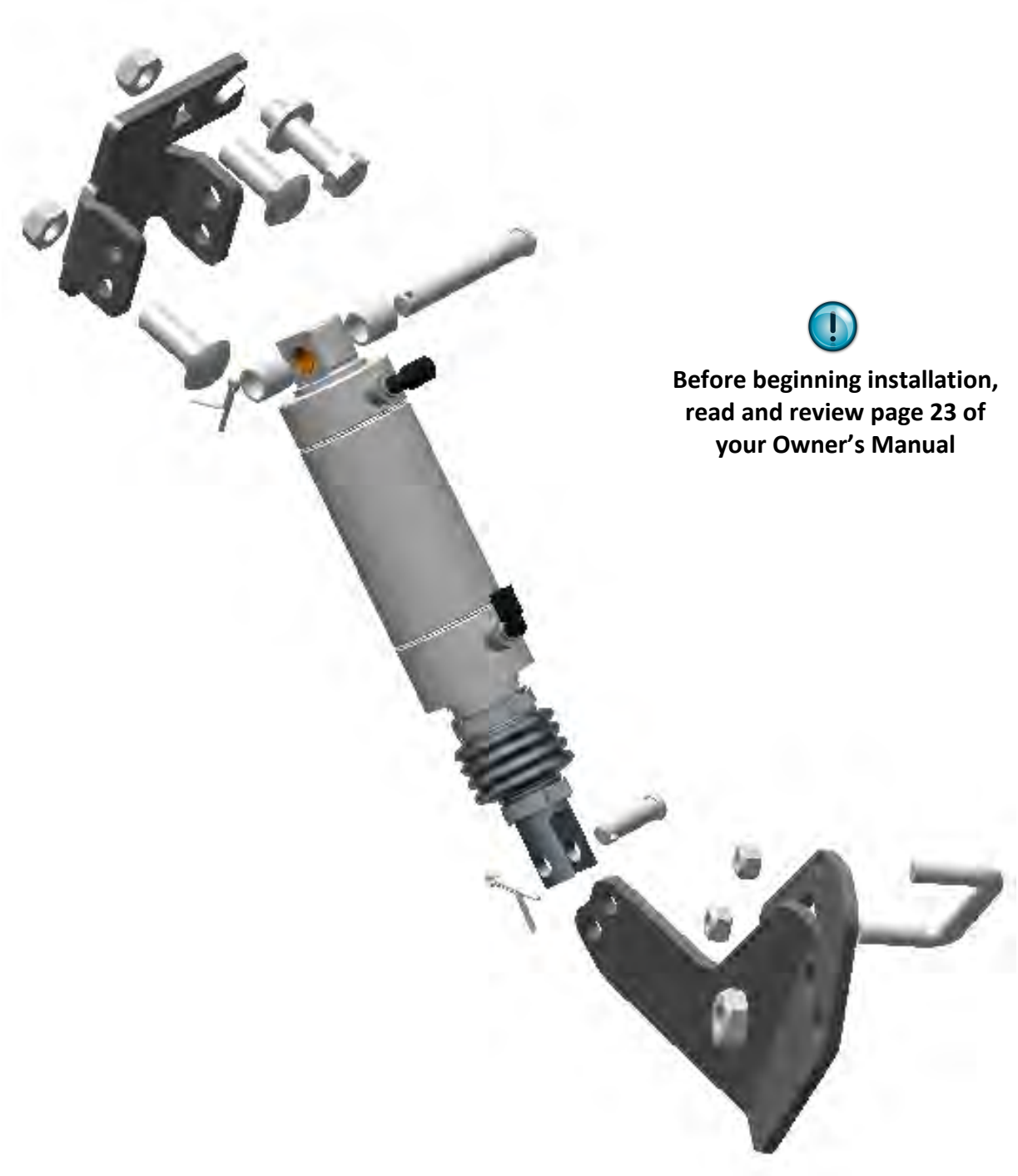
Installation Instructions 755175
Row Unit Conversion Kit for Yetter Titan 2967-035 (Short Bracket)



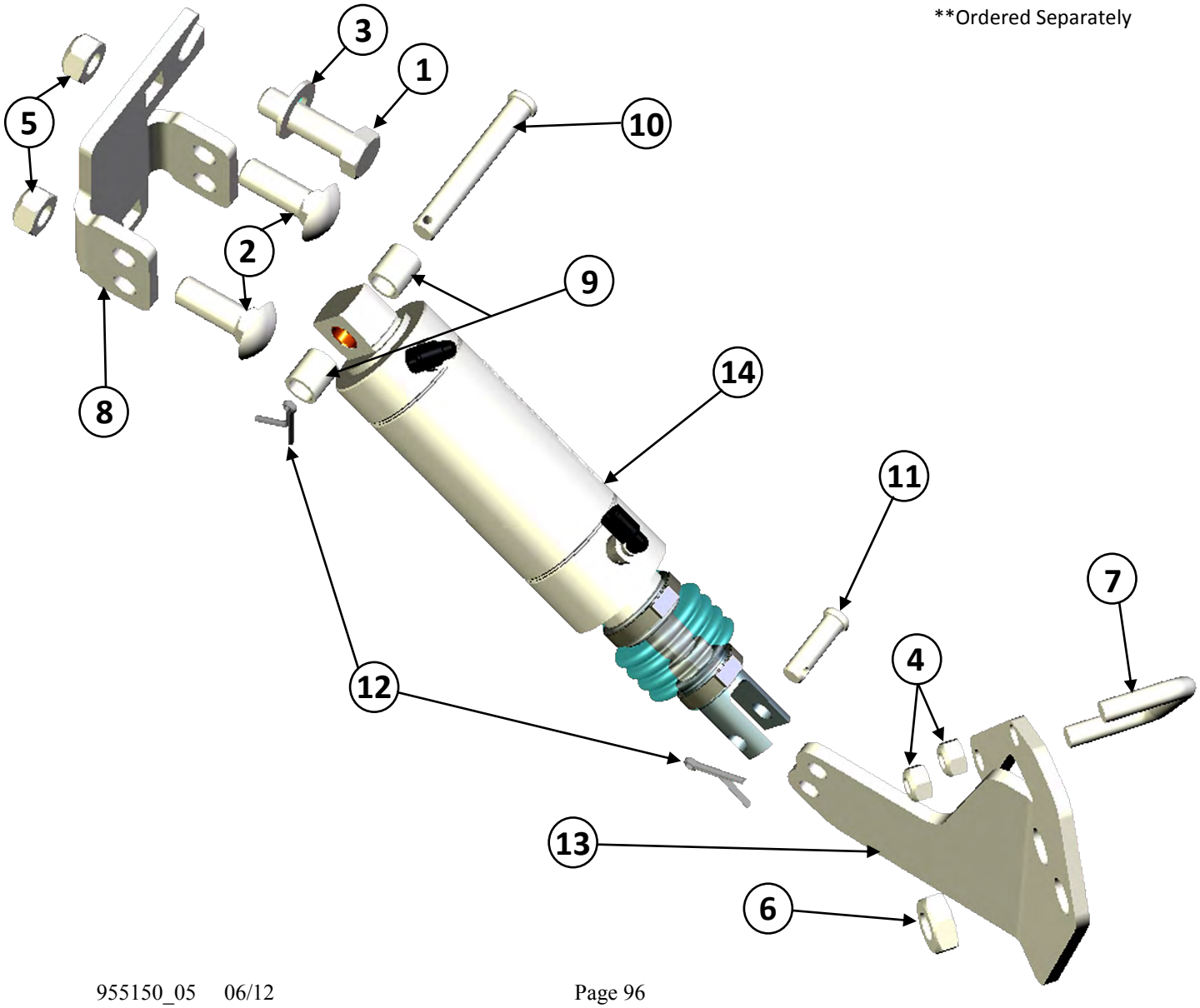
Before beginning installation, read and review page 23 of your Owner's Manual

Installation Instructions 755175
Row Unit Conversion Kit for Yetter Titan 2967-035 (Short Bracket)

Kit Components

ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	1	13210	Bolt	1/2” X 1.75” GRD5 Bolt ZN
2	2	21825	Bolt, Round Head	1/2” X 1.75” GRD5 ZN Carriage
3	1	33086	Washer	1/2” SAE Flat Washer ZN
4	2	37264	Hex Nut	3/8" Top Lock Hex Nut ZN
5	2	37268	Hex Nut	1/2" Top Lock Hex Nut ZN
6	1	37273	Top Lock Jam Nut	5/8” GRD A ZN
7	1	755007	U-Bolt	2.75” X 1/2” Plate
8	1	755008	Bracket	MTS Cylinder Base Mount
9	2	755017	Spacer	5/8" OD X 7/16 ID X 0.688"L
10	1	755018	Pin	Cylinder Base Pivot
11	1	755019	Pin	Cylinder Rod Pivot
12	2	755028	Cotter Pin	1/8" X 1"
13	1	755173	Bracket	2967-035 Short Rod Mount
14	1	755023	Air Cylinder	Complete Air Cylinder Assembly **

**Ordered Separately



Step 1. Secure the Cylinder Base Mounting Bracket to the face plate bracket.

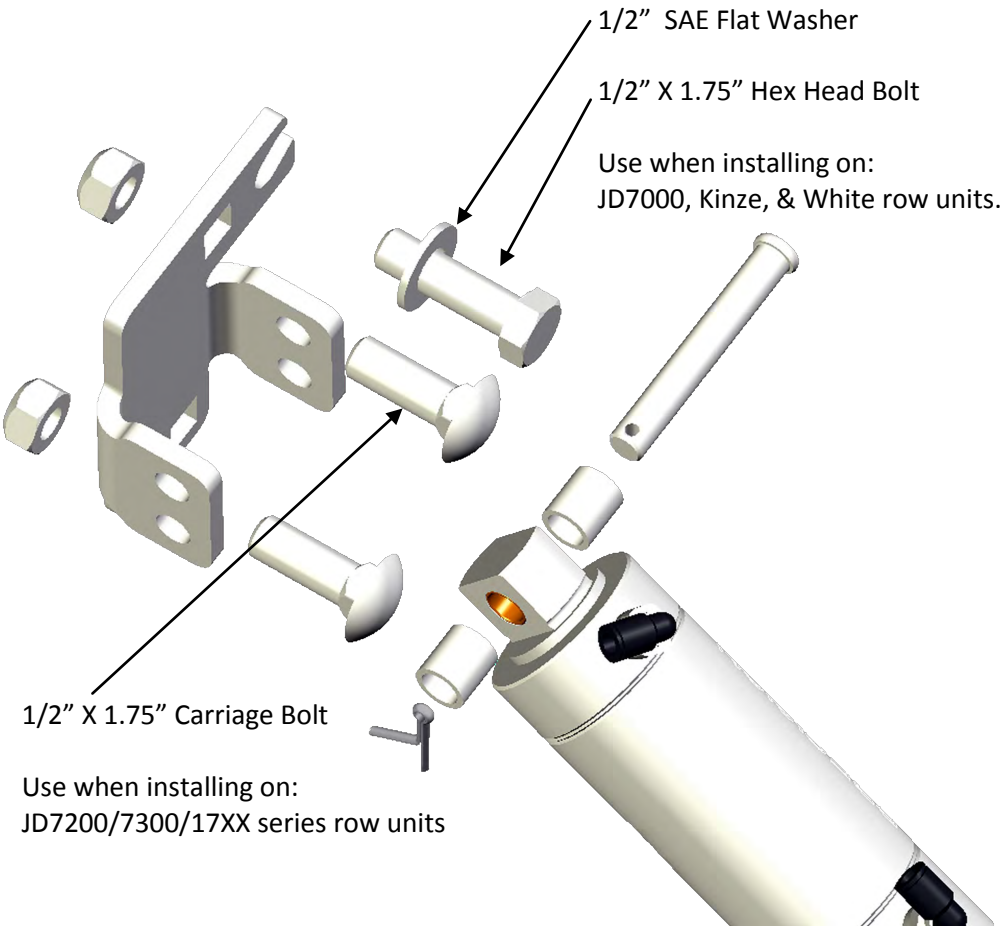
JD 7200/7300/17XX Row Units:

Mount using two - 1/2" X 1.75" carriage bolts and two - 1/2" top lock hex nuts.

JD 7000, Kinze, & White Row Units:

Mount using one 1/2" X 1.75" carriage bolt, one 1/2" X 1.75" hex head bolt, one 1/2" SAE Flat Washer, and two 1/2" top lock hex nuts

Tighten to 75 lb-ft of torque.



Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket.

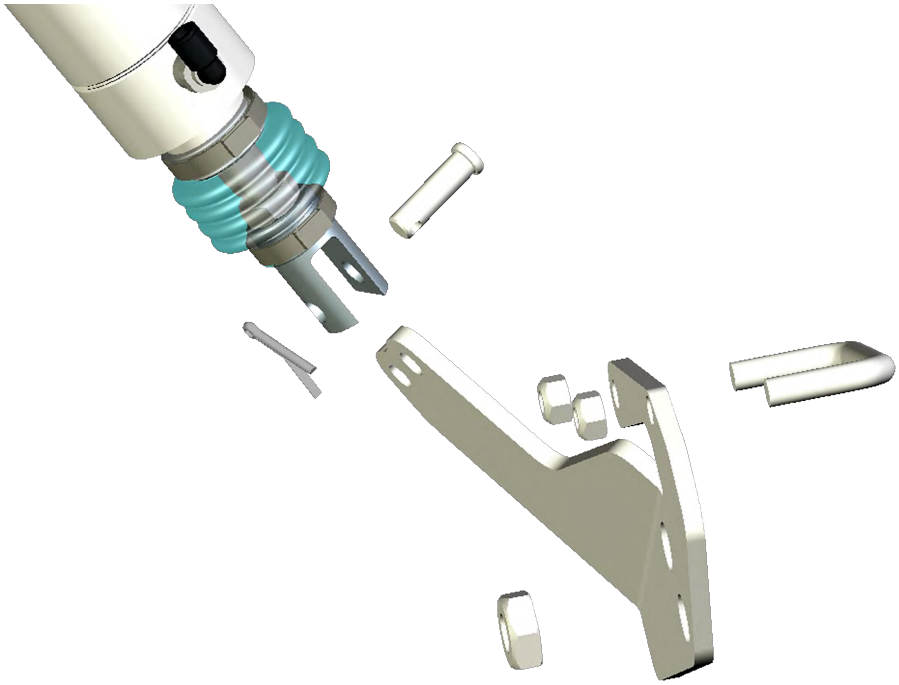
Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

Step 2.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied 2.75" X 1/2" U-bolt (755007), two - 3/8" Top Lock Hex Nuts (37264) and one - 5/8" Top Lock Hex Nut. This install will require the removal of the nut and washer present on the D-Bolt (serving as the axle) of the row cleaner. Re-install using the supplied 5/8" Nut and using the Mounting Bracket in place of the washer. Ensure proper alignment of all components, and that the hub is secured and returned to manufacturer's recommendations.

Do not tighten until the cylinder has been properly aligned.

When installing the Cylinder Rod Mount Bracket, be sure it is properly aligned in the clevis yoke of the Rod. *This may require the exact angle of the bracket to be tweaked or modified* in order to more perfectly match the individual row unit.

Top View



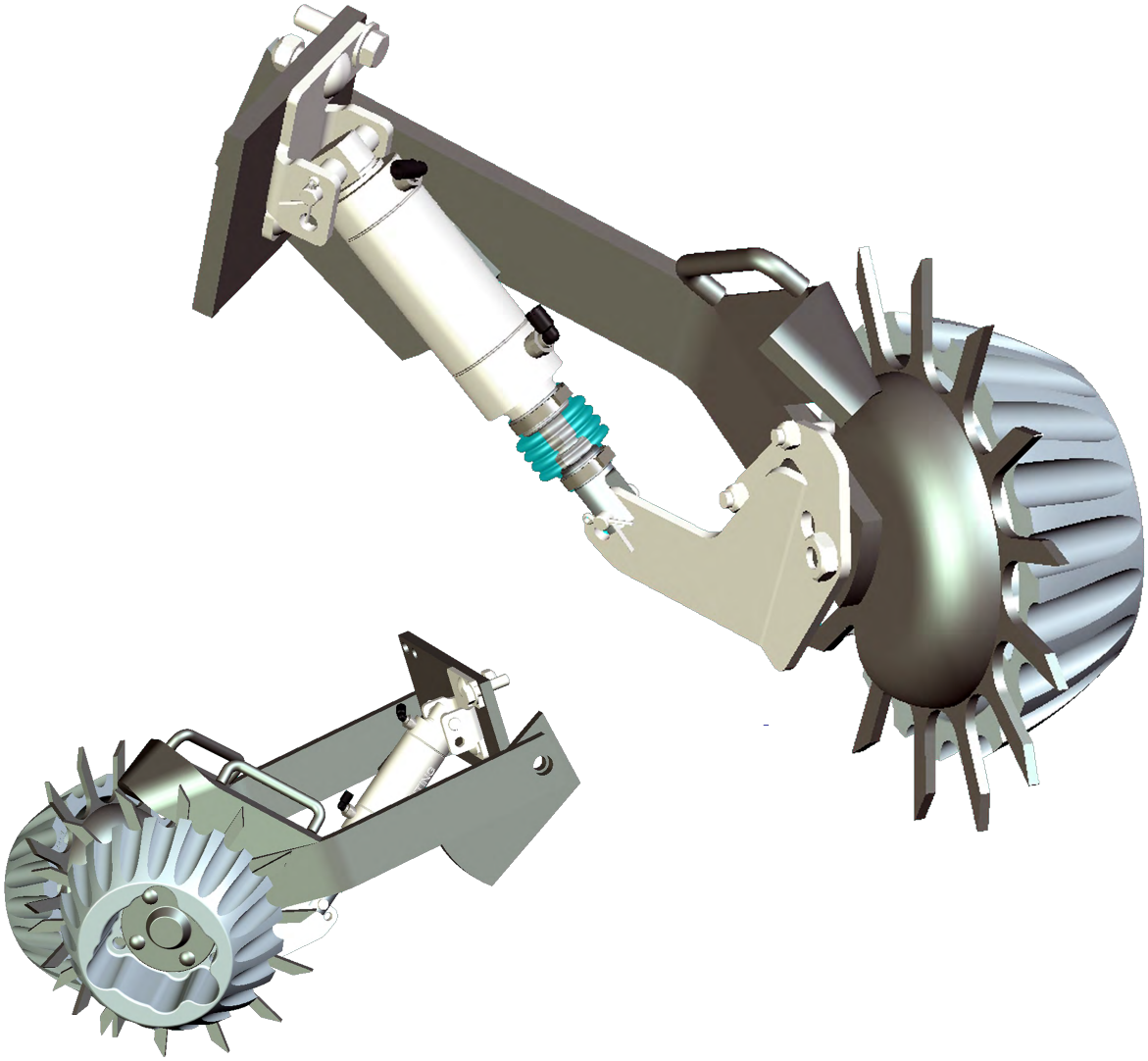
Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin. Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

Verify the freedom of motion and clearance of components.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Completed Cylinder Kit Installation



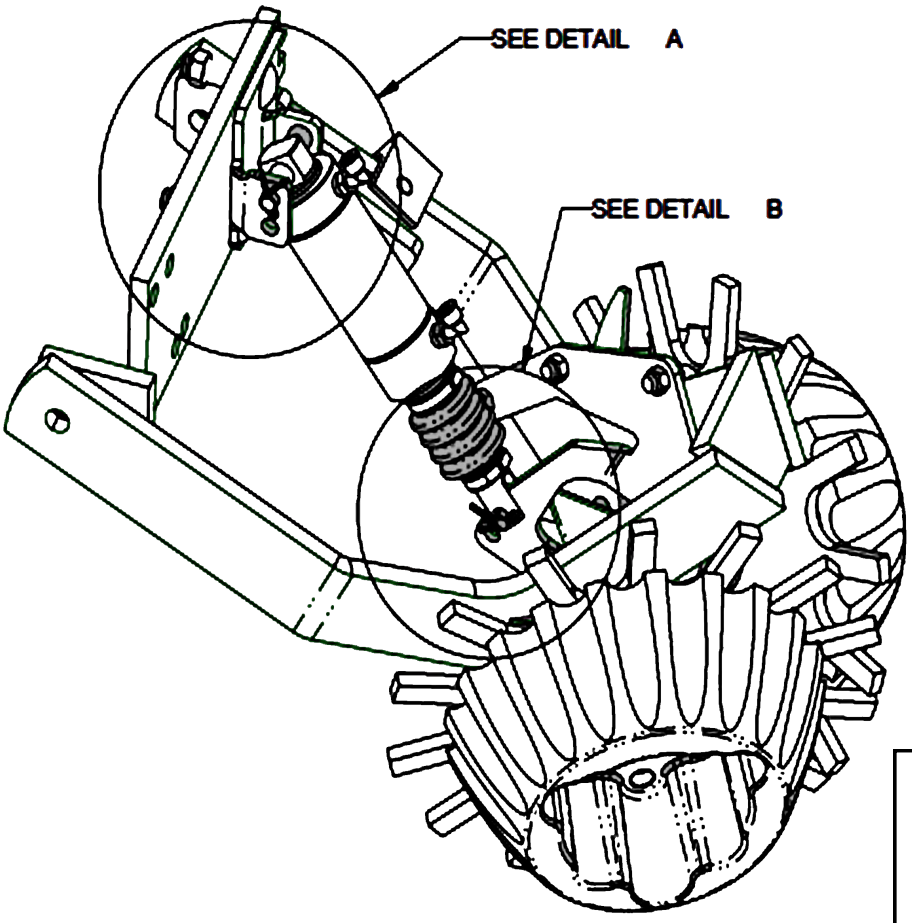
Maintenance Recommendations

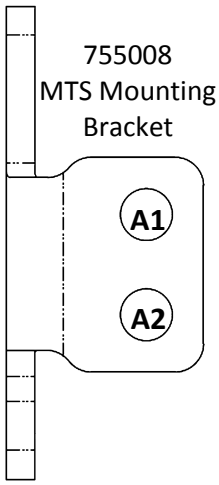
If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

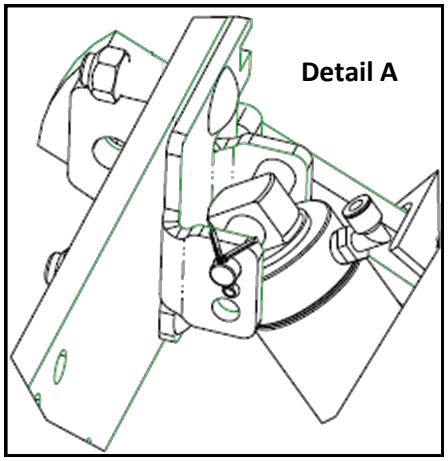
Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

Mounting Hole Selection: 2967-035 (Short Frame)

Use this page to select the mounting location when using the Mounting Bracket - 755008



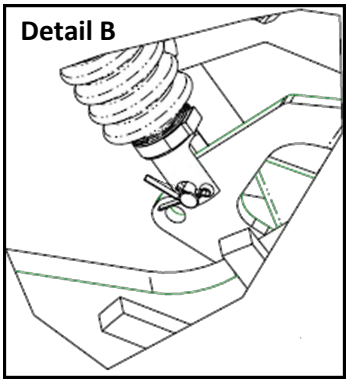




Hole A1 (Top Hole):
Installing the cylinder in the top holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used if LESS down force is desired when the system will generally be used in the lift direction.

Hole A2 (Bottom Hole):
Installing the cylinder in the bottom holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used in MORE down force is desired when the system will generally be used in the Lift direction.

Mounting Hole Selection: 2967-035 (Short Frame)



The hole used on the Rod Mount Bracket should correspond to the same hole used on the Base Mount Bracket. e.g. Top to Top
Bottom to Bottom

Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Caution: Risk of hyper-extending the row cleaner/cylinder kit beneath the row unit. DO NOT run the stop bolt too deep. The row cleaner should not be allowed to fall below 38 degrees below horizontal; this usually equates to NO LESS than 3/4" of thread showing on the stop bolt below the stop bolt bracket.

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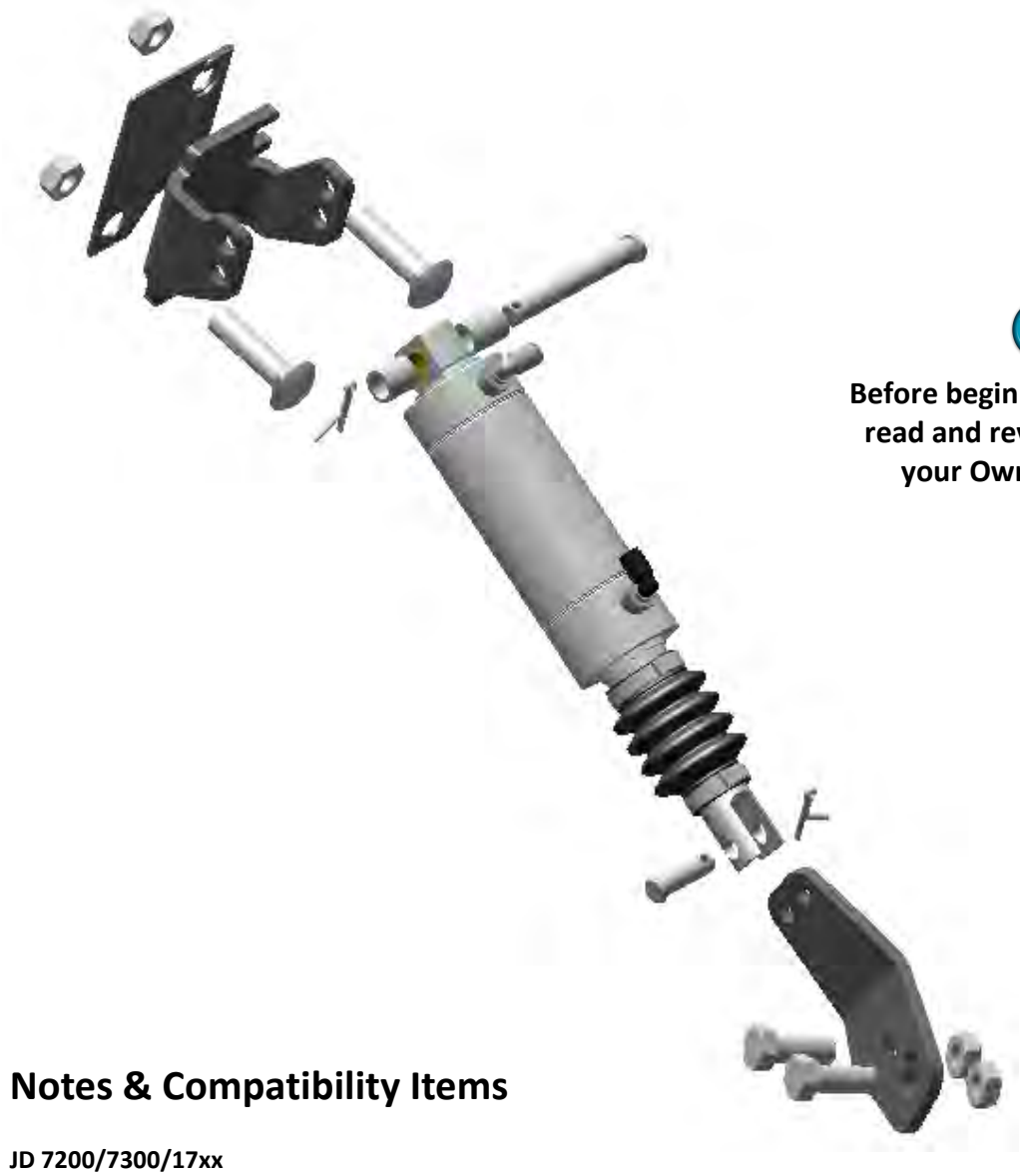
Installation Instructions 755160
Row Unit Conversion Kit for Yetter Titan 2967-042 and 2967-043



Before beginning installation, read and review page 23 of your Owner's Manual

Notes & Compatibility Items

JD 7200/7300/17xx

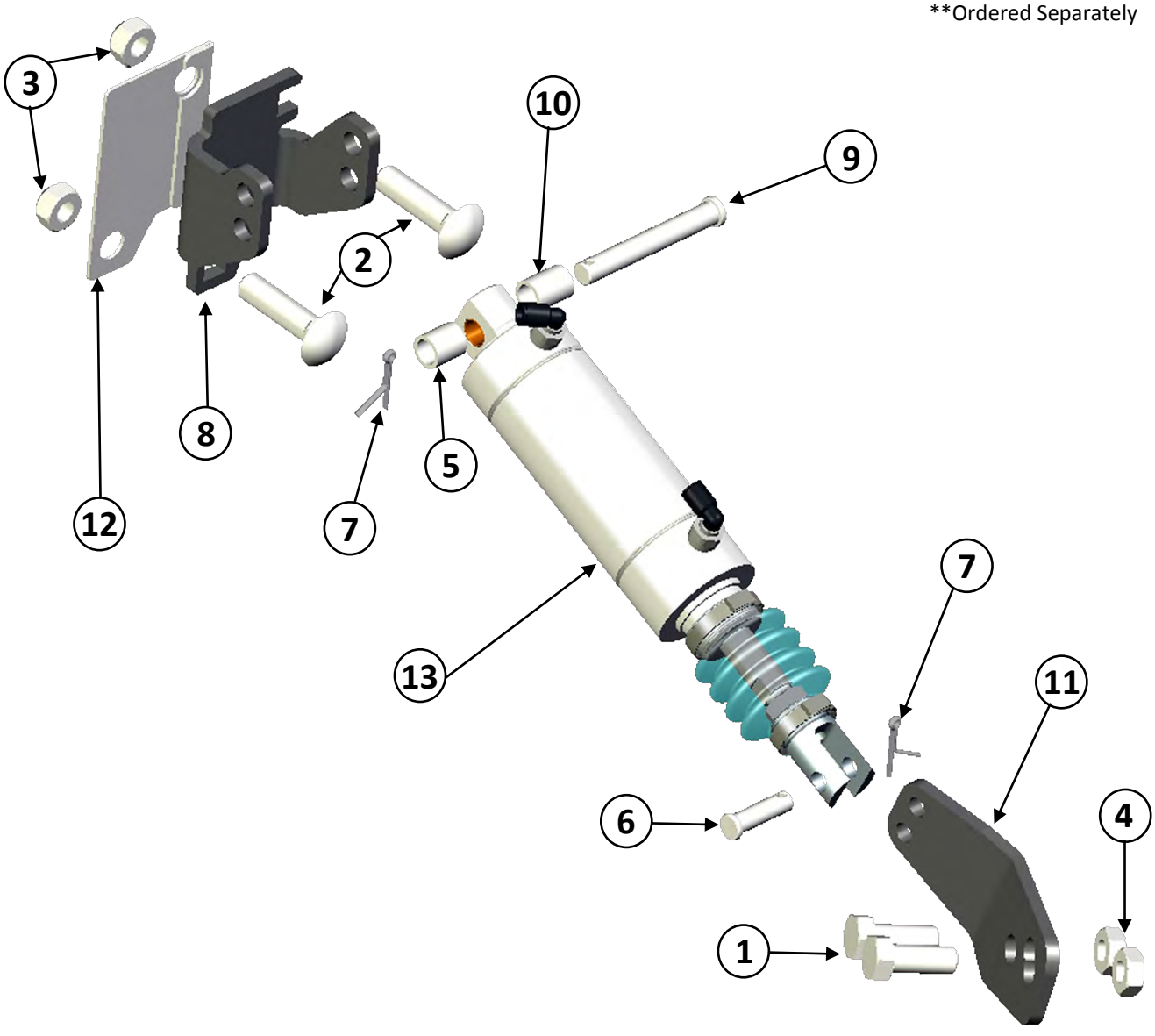
- With Long Parallel Arms: Mount using bottom holes on both rod and base brackets, flip cylinder upside down, and install 1/8" stop blocks (755202). For UMO compatibility, see Table 2 in Appendix A.

Installation Instructions 755160
Row Unit Conversion Kit for Yetter Titan 2967-042 and 2967-043

Kit Components

ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	2	13207	Bolt	1/2” X 1.25” GRD5 Bolt ZN
2	2	21826	Bolt, Round Head	1/2” X 2” GRD5 ZN Carriage
3	2	37268	Hex Nut	1/2” Top Lock Hex Nut ZN
4	2	37269	Top Lock Jam Nut	1/2” GRD A ZN
5	1	755017	Spacer	5/8”OD X 7/16”ID X 0.688”L
6	1	755019	Pin	Cylinder Rod Pivot
7	2	755028	Cotter Pin	1/8” X 1”
8	1	755147	Bracket	2967-007 Base Mount
9	1	755149	Pin	Cylinder Base Pivot
10	1	755151	Spacer	5/8”OD X 7/16”ID X 0.829”L
11	1	755168	Bracket	2967-042/-043 Rod Mount
12	1	755174	Shim	Cylinder Base Mount on 755205
13	1	755023	Air Cylinder	Complete Air Cylinder Assembly **

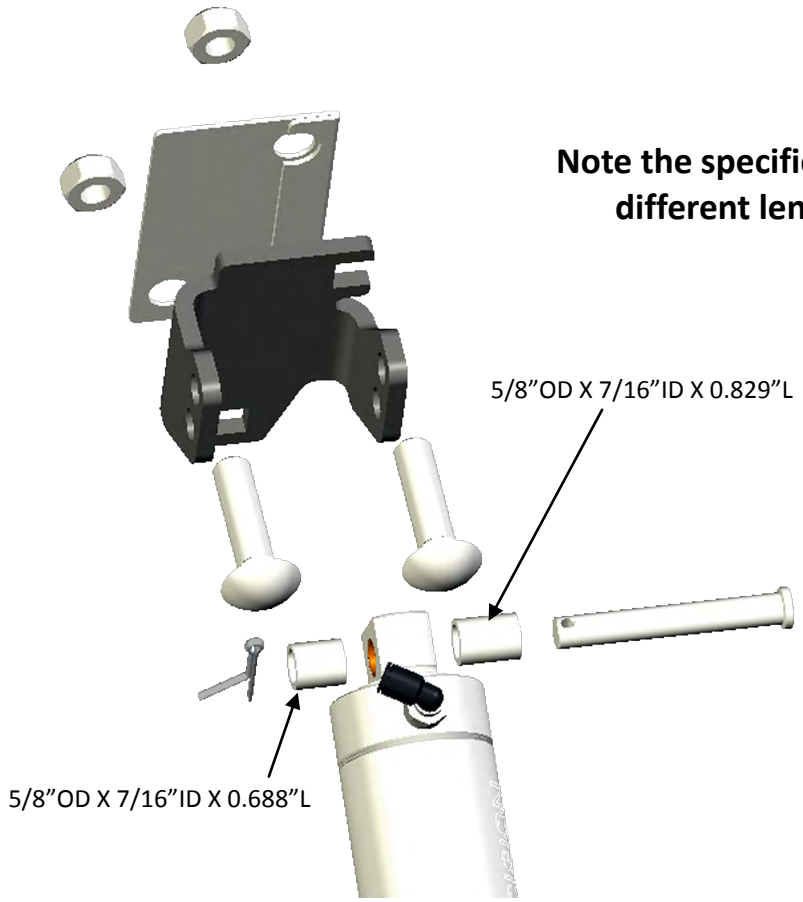
**Ordered Separately



Step 1.
Secure the Cylinder Base Mounting Bracket to the face plate bracket using two - 1/2" X 1.75" carriage bolts and two - 1/2" Top Lock Hex Nuts.

Tighten to 75 lb-ft of torque.

Install Shim - 755174 as shown, when JD Cast Coulter is present.



Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the 5/8" OD X 7/16ID X 0.688"L Spacer Bushing (towards the interior of the row) and the 5/8" OD X 7/16ID X 0.829"L Spacer Bushing (towards the exterior of the row) to properly secure and align the cylinder in the Base Mount Bracket.

Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

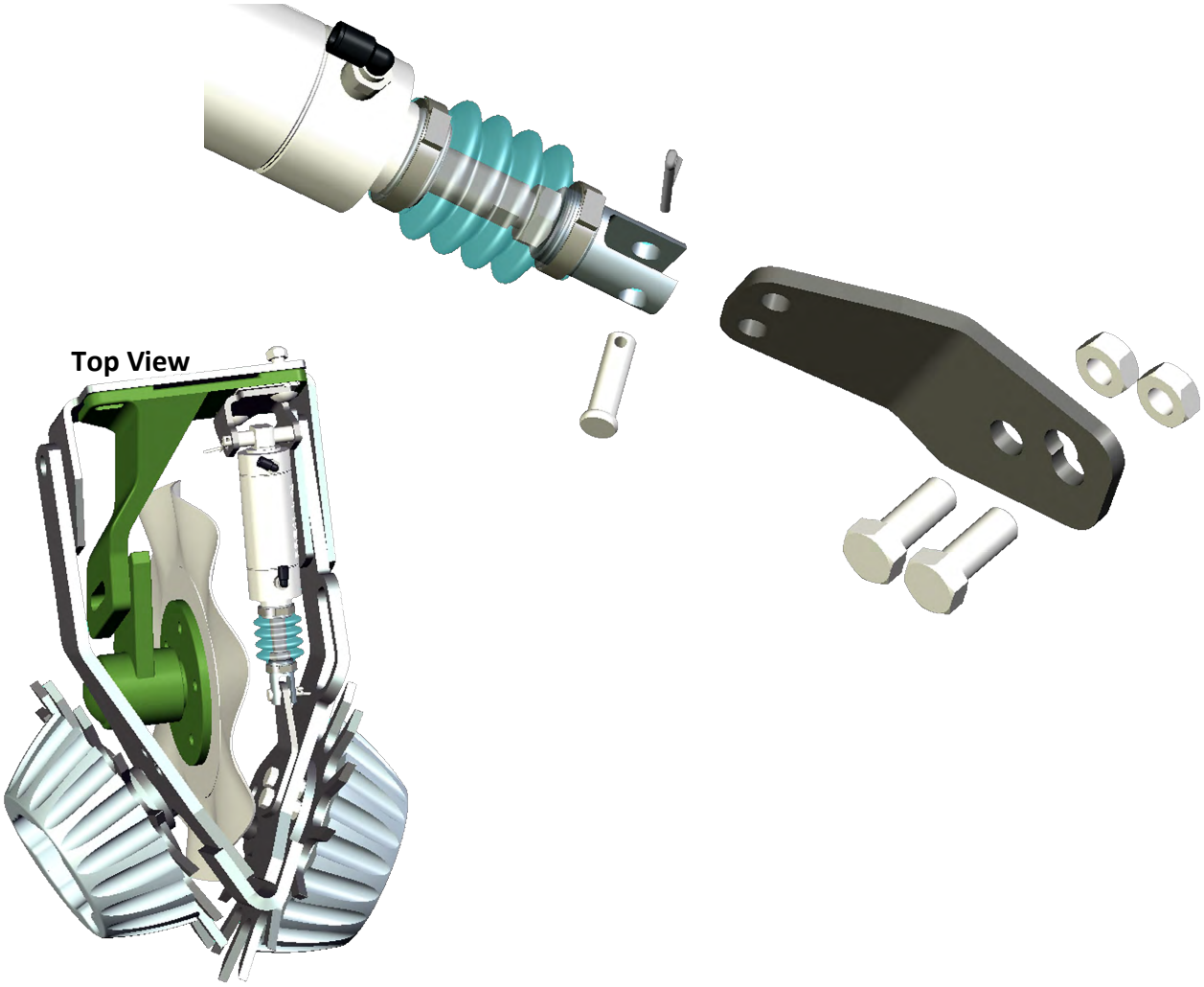
Note: When mounting on JD 7200/7300/17XX row units with <u>LONG</u> parallel arms (21 inches) the Air Cylinder must be:

Installed using the bottom holes on *BOTH* Rod and Base Brackets

Installed upside down (with fittings facing the ground)

Step 2.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied two - 1/2” X 1.25” GRD5 Bolts ZNY, and two - 1/2” GRD A ZN Top Lock Jam Nuts.

When installing the Cylinder Rod Mount Bracket, be sure it is properly aligned in the clevis yoke of the Rod. This may require the exact angle of the bracket to be tweaked or modified in order to more perfectly match the individual row unit.



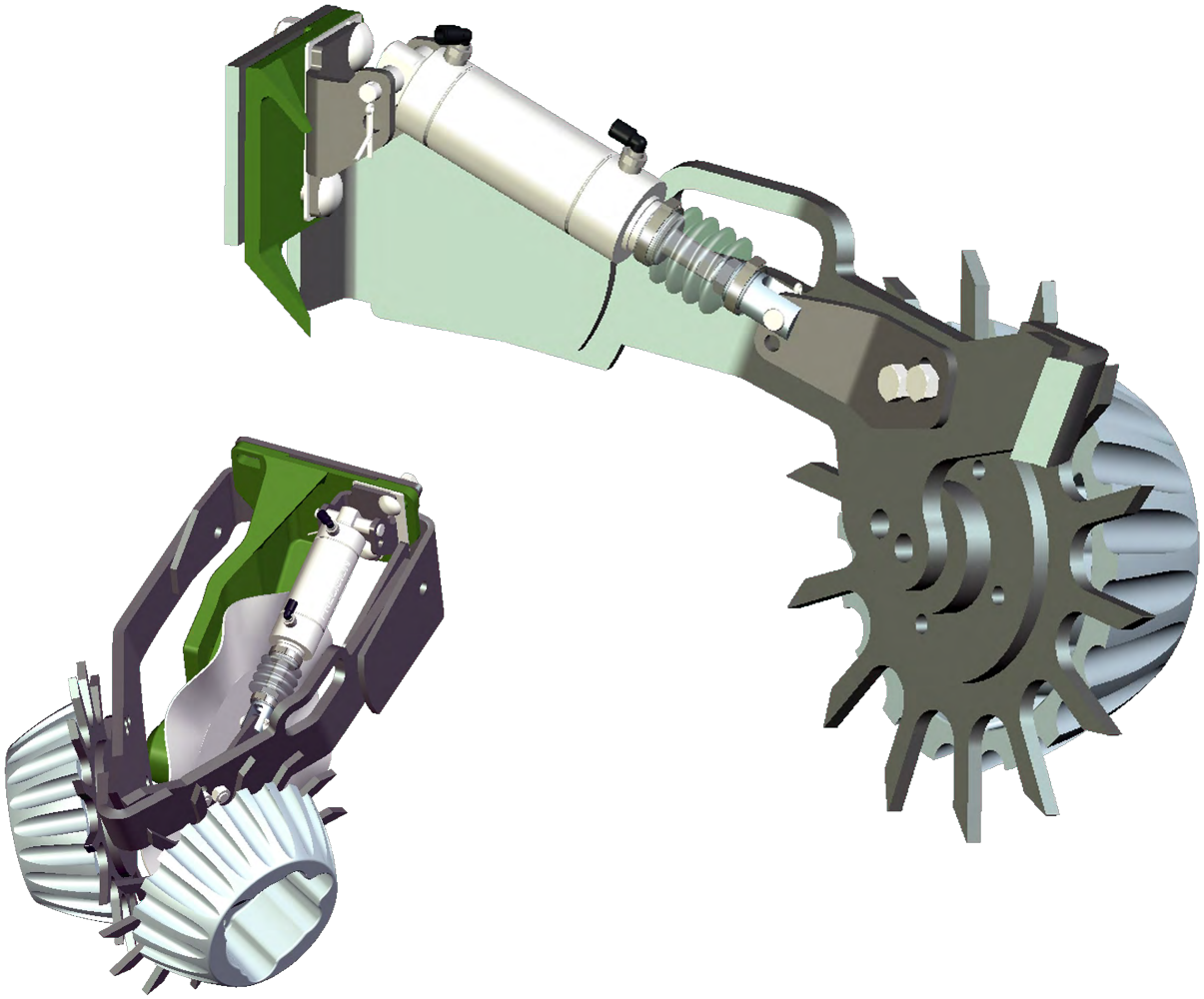
Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin. Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

Verify the freedom of motion and clearance of components.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Completed Cylinder Kit Installation



Maintenance Recommendations

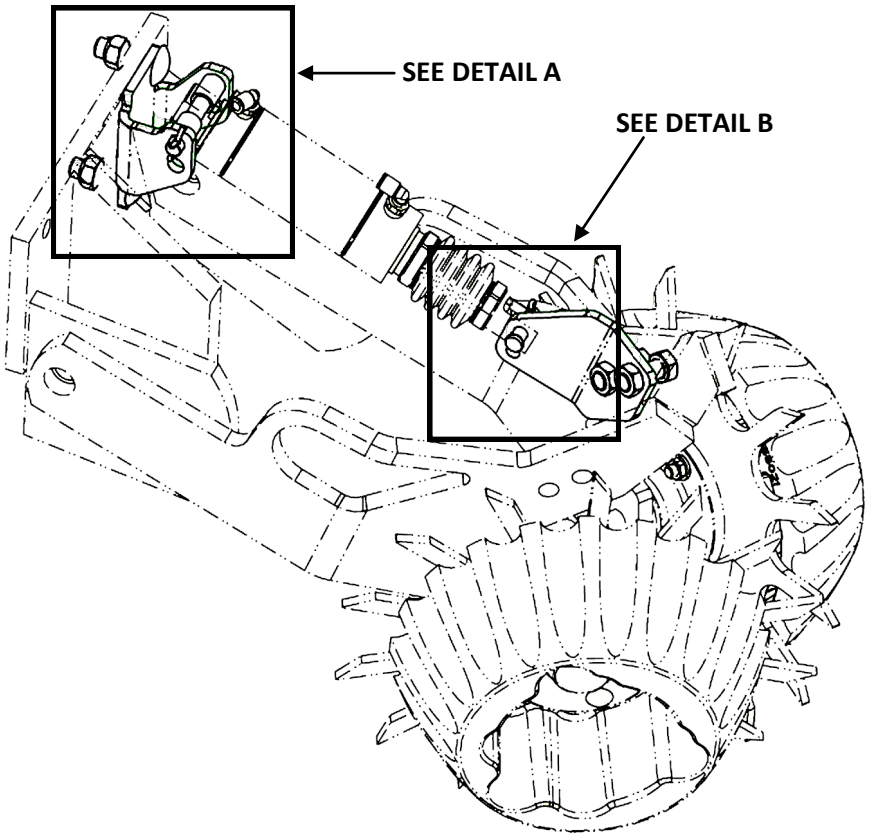
If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

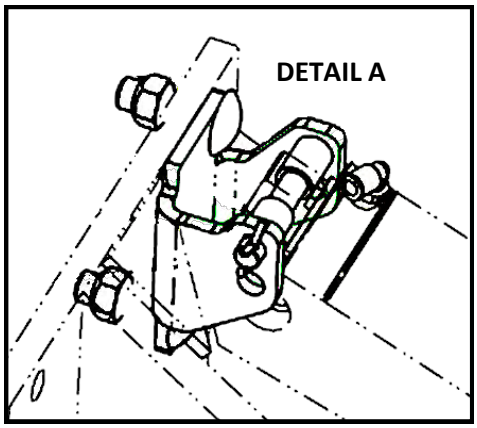
Lubrication:

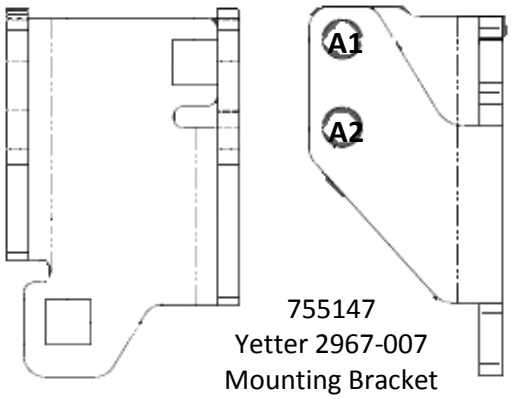
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

Mounting Hole Selection: Yetter 2967-042/-043

Use this page to select the mounting location when using the Yetter 2967-007 Mounting Bracket - 755147







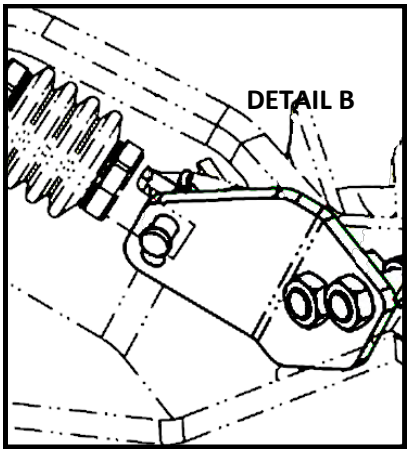
755147
Yetter 2967-007
Mounting Bracket

Hole A1 (Top Hole):
Installing the cylinder in the top holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used if LESS down force is desired when the system will generally be used in the lift direction.

Hole A2 (Bottom Hole):
Installing the cylinder in the bottom holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used in MORE down force is desired when the system will generally be used in the Lift direction.

Mounting Hole Selection: Yetter 2967-042/-043 (cont.)

The hole used on the Rod Mount Bracket should correspond to the same hole used on the Base Mount Bracket. e.g. Top to Top
Bottom to Bottom



Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Caution: Risk of hyper-extending the row cleaner/cylinder kit beneath the row unit.
DO NOT run the stop bolt too deep. The row cleaner should not be allowed to fall below 38 degrees below horizontal; this usually equates to NO LESS than 3/4" of thread showing on the stop bolt below the stop bolt bracket.

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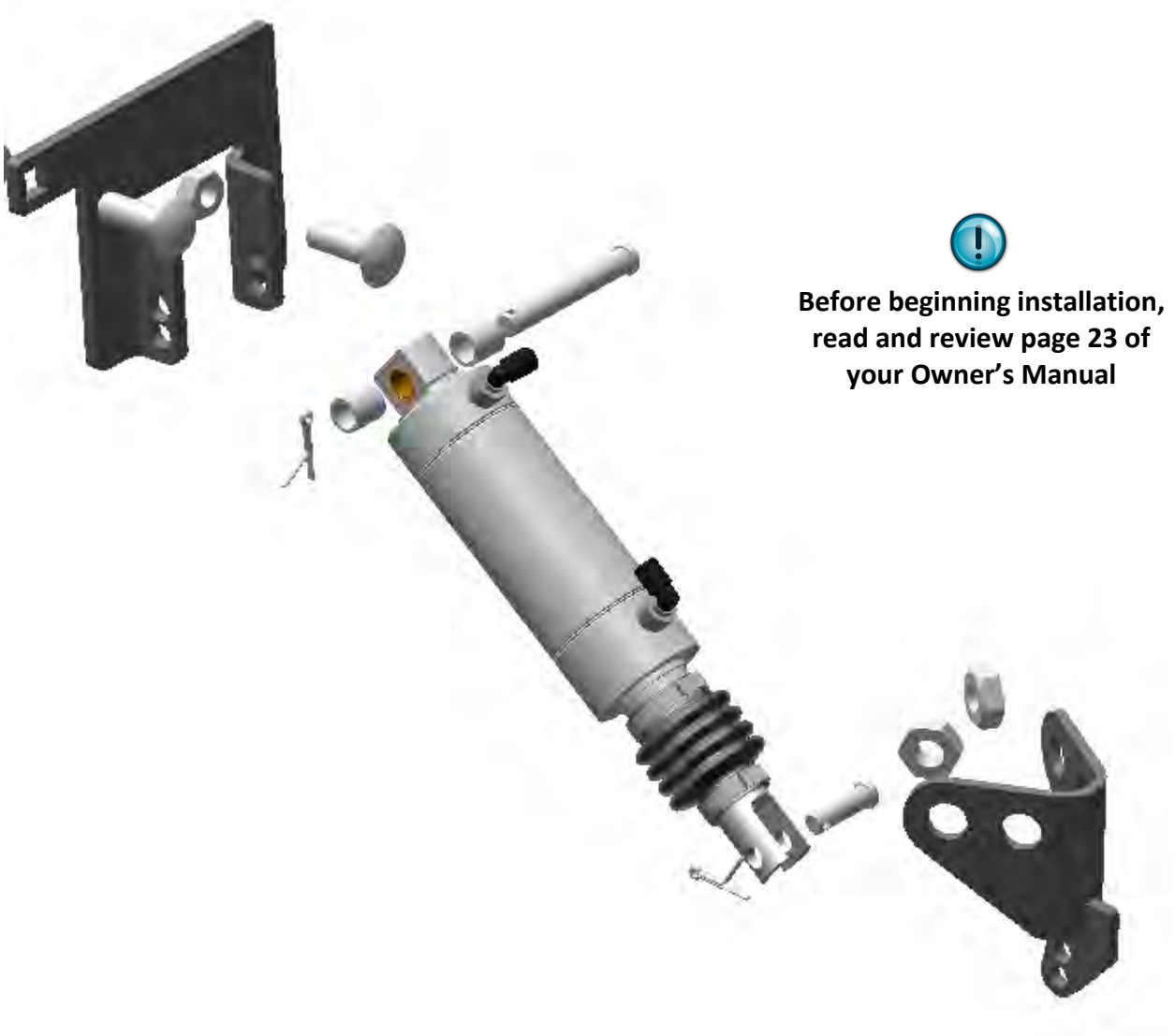
Installation Instructions 755210
Row Unit Conversion Kit for Yetter Titan 2967-029



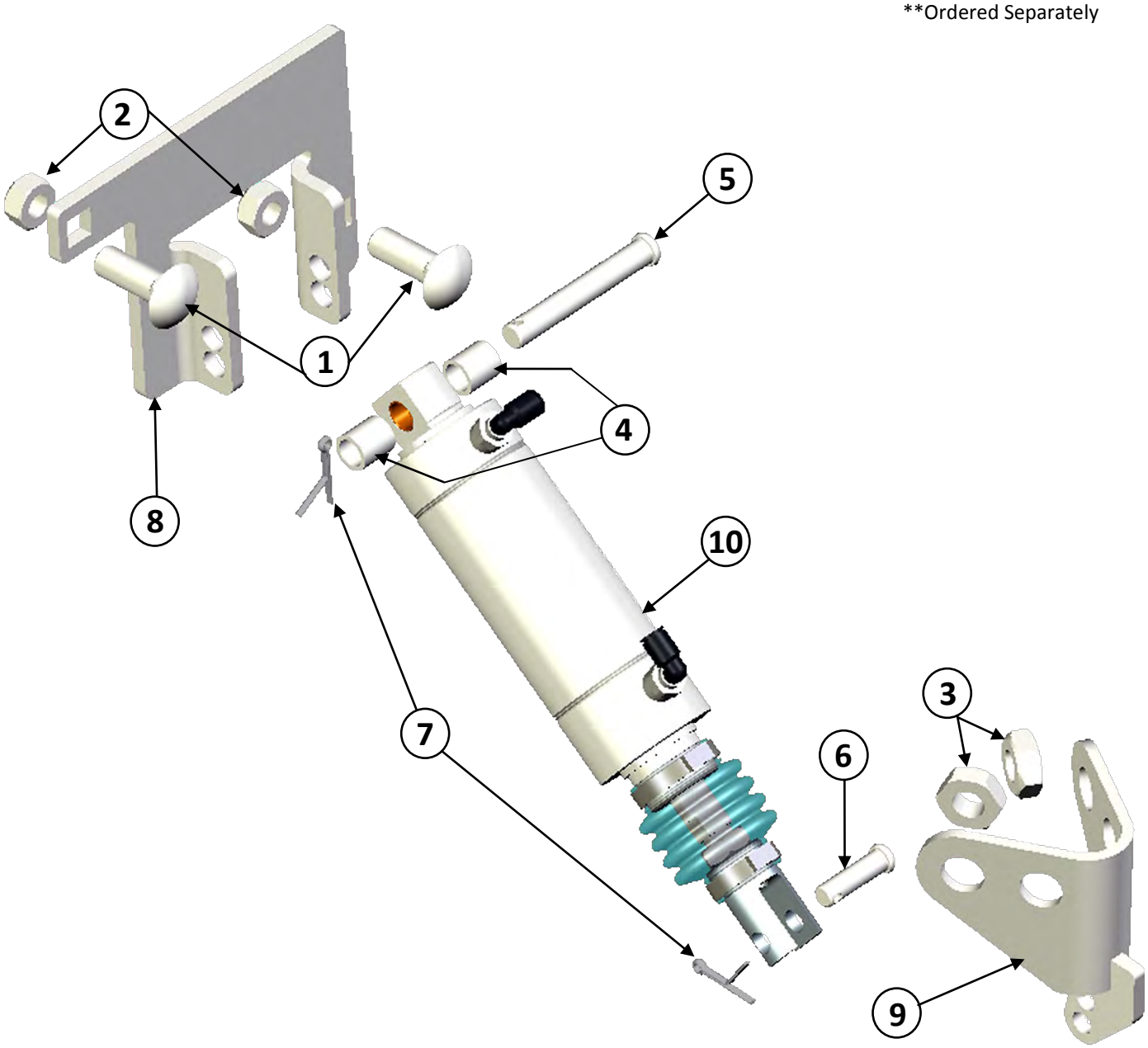
Before beginning installation, read and review page 23 of your Owner's Manual

Installation Instructions 755210
Row Unit Conversion Kit for Yetter Titan 2967-029

Kit Components

ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	2	21824	Bolt, Round Head	1/2” X 1.5” GRD5 ZN Carriage
2	2	37268	Hex Nut	1/2” Top Lock Hex Nut ZN
3	2	37273	Top Lock Jam Nut	5/8” GRD A ZN
4	2	755017	Spacer	5/8”OD X 7/16”ID X 0.688”L
5	1	755018	Pin	Cylinder Base Pivot
6	1	755019	Pin	Cylinder Rod Pivot
7	2	755028	Cotter Pin	1/8” X 1”
8	1	755176	Bracket	Cylinder Base Mount, 2967-029
9	1	755177	Bracket	Cylinder Rod Mount, 2967-029
10	1	755023	Air Cylinder	Complete Air Cylinder Assembly **

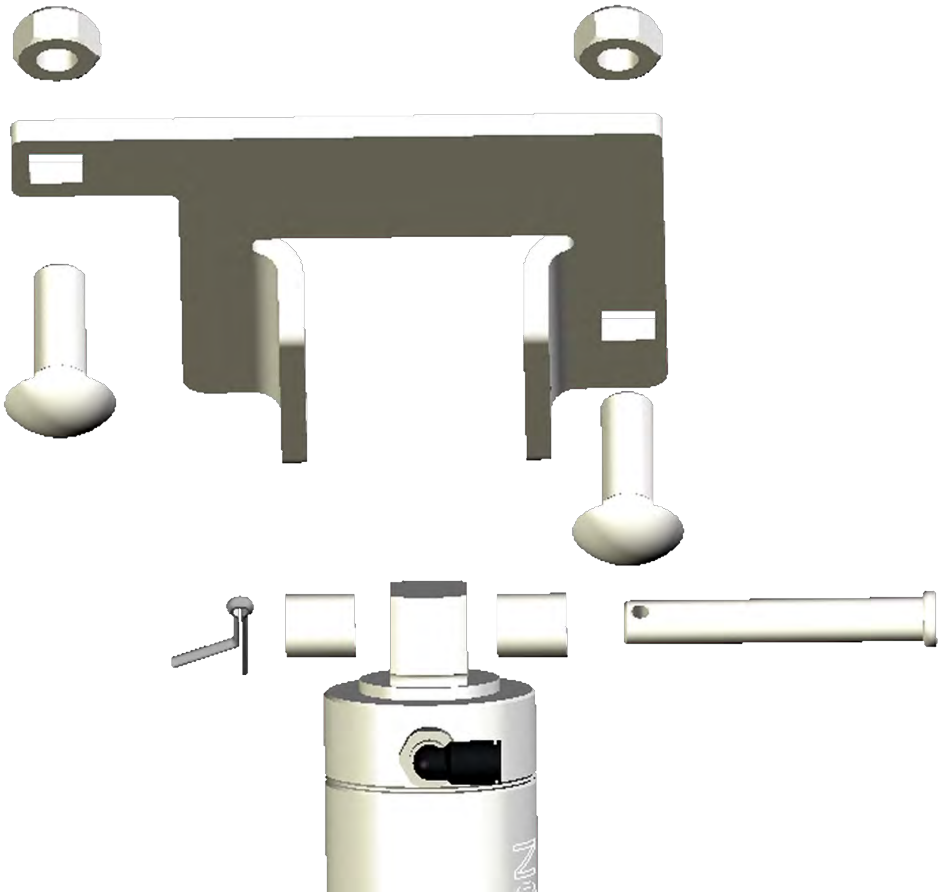
**Ordered Separately



This kit is for converting JD 7200/7300/17XX row units with Regular parallel arms (14”) and/or Long parallel arms (21”) with no coulter.

Step 1.
Secure the Cylinder Base Mounting Bracket to the face plate bracket using two - 1/2” X 1.5” Carriage Bolts and two - 1/2” Top Lock Hex Nuts.

Tighten to 75 lb-ft of torque.



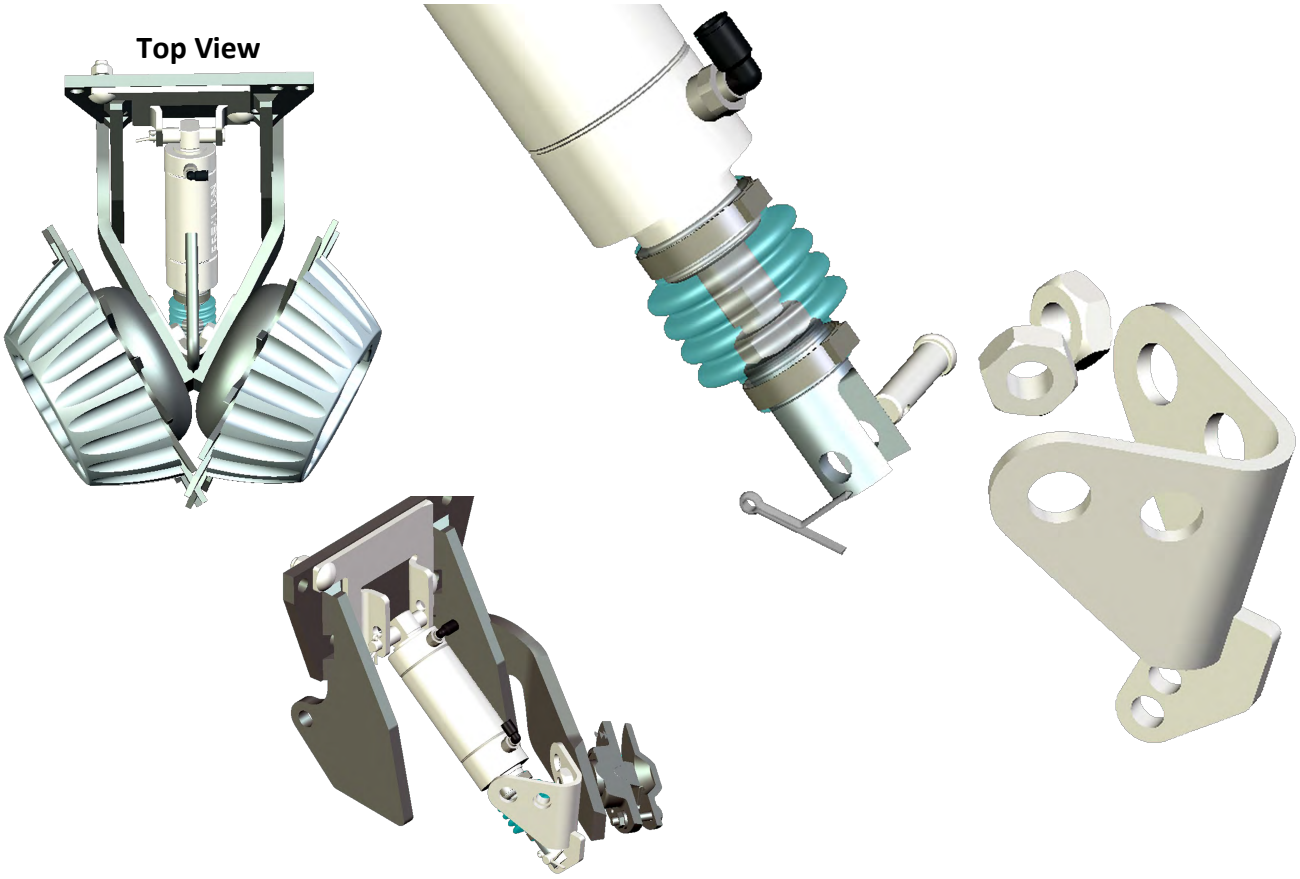
Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8” OD X 7/16ID X 0.688”L Spacer Bushings to secure and align the cylinder in the Base Mount Bracket.

The Default Pivot Hole for the Cylinder base in this conversion kit is the **BOTTOM HOLE**.

Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

Step 2.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the two - 5/8” GRD A ZN Top Lock Jam Nuts.
This install will require the removal of the nut and washer present on the D-Bolt (serving as the axle) of the row cleaner. Re-install using the supplied 5/8” Nut and using the Mounting Bracket in place of the washer. Ensure proper alignment of all components, and that the hub is secured and returned to manufacturer’s recommendations.

When installing the Cylinder Rod Mount Bracket, be sure it is properly aligned in the clevis yoke of the Rod and firmly seated in the curve of the row cleaner. This may require the exact angle of the bracket to be tweaked or modified in order to more perfectly match the individual row unit.



Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin.

The default Pivot Hole for the Cylinder Rod in this conversion kit is the **TOP** HOLE.

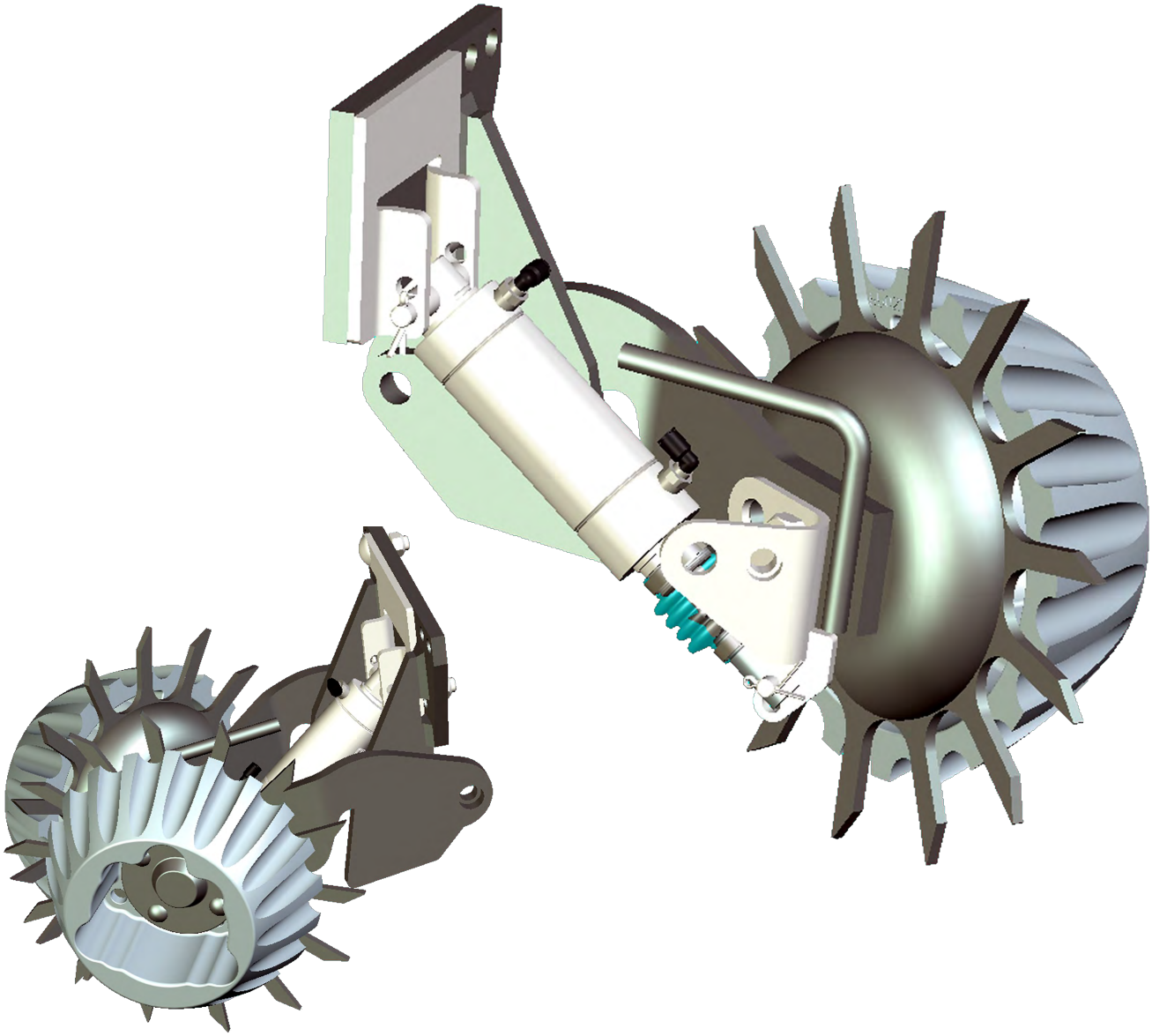
Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

Verify the freedom of motion and clearance of components.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Completed Cylinder Kit Installation



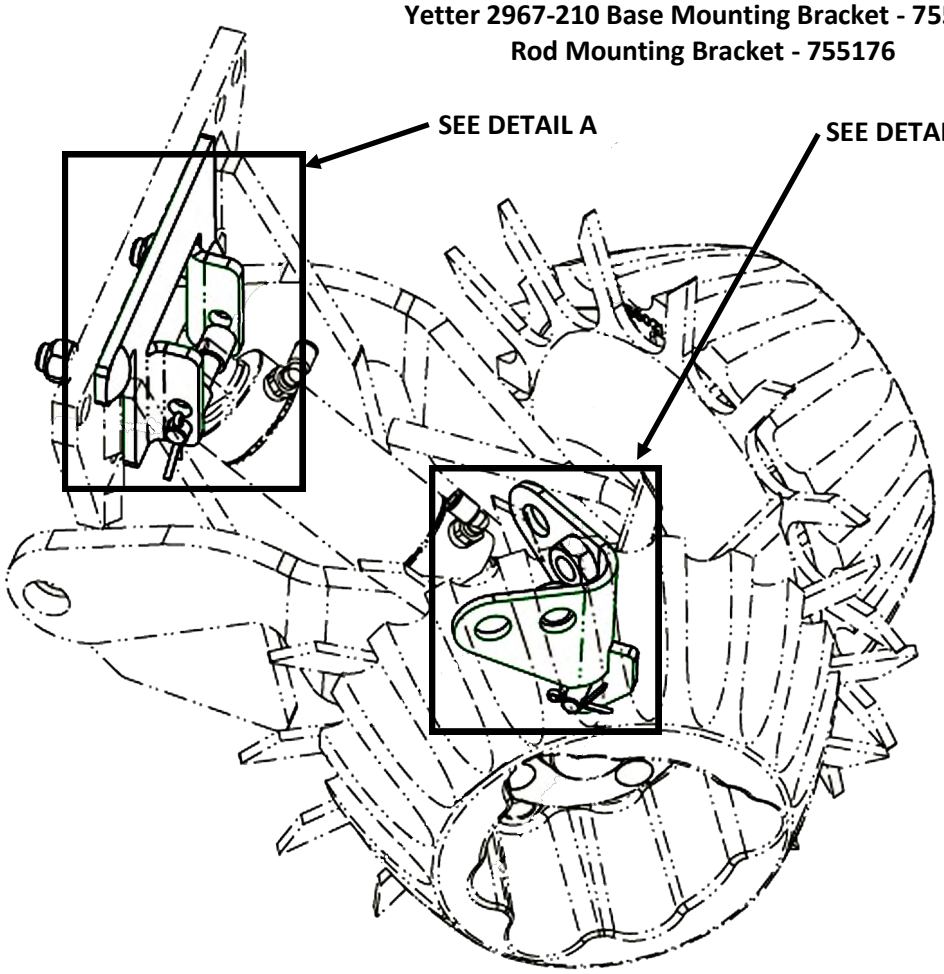
Maintenance Recommendations

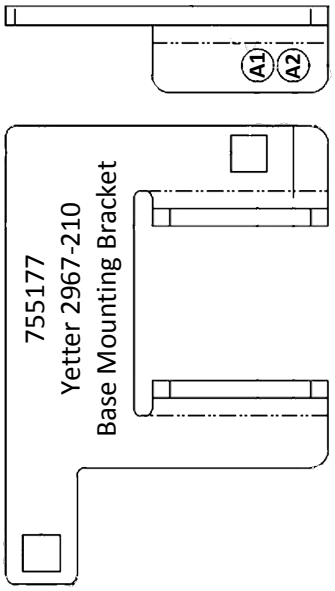
If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

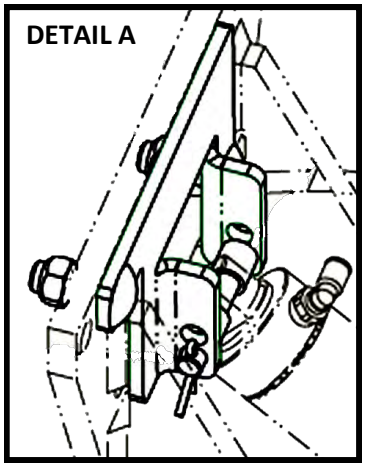
Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

Mounting Hole Selection: Yetter 2967-029

Use this page to select the mounting location when using the
Yetter 2967-210 Base Mounting Bracket - 755177
Rod Mounting Bracket - 755176







For this conversion kit, the default Base Mounting location is the BOTTOM HOLE.

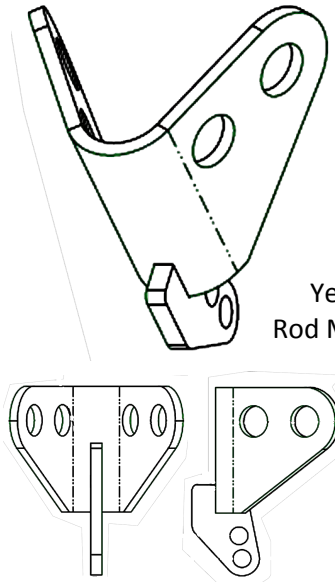
Hole A1 (Top Hole):
Installing the cylinder in the top holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used if LESS down force is desired when the system will generally be used in the lift direction.

Hole A2 (Bottom Hole):
Installing the cylinder in the bottom holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used in MORE down force is desired when the system will generally be used in the Lift direction.

Mounting Hole Selection: Yetter 2967-029

For this conversion kit, the default Rod Mounting location is the TOP HOLE.

DETAIL B



755177
Yetter 2967-210
Rod Mounting Bracket

Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Caution: Risk of hyper-extending the row cleaner/cylinder kit beneath the row unit. DO NOT run the stop bolt too deep. The row cleaner should not be allowed to fall below 38 degrees below horizontal; this usually equates to NO LESS than 3/4" of thread showing on the stop bolt below the stop bolt bracket.

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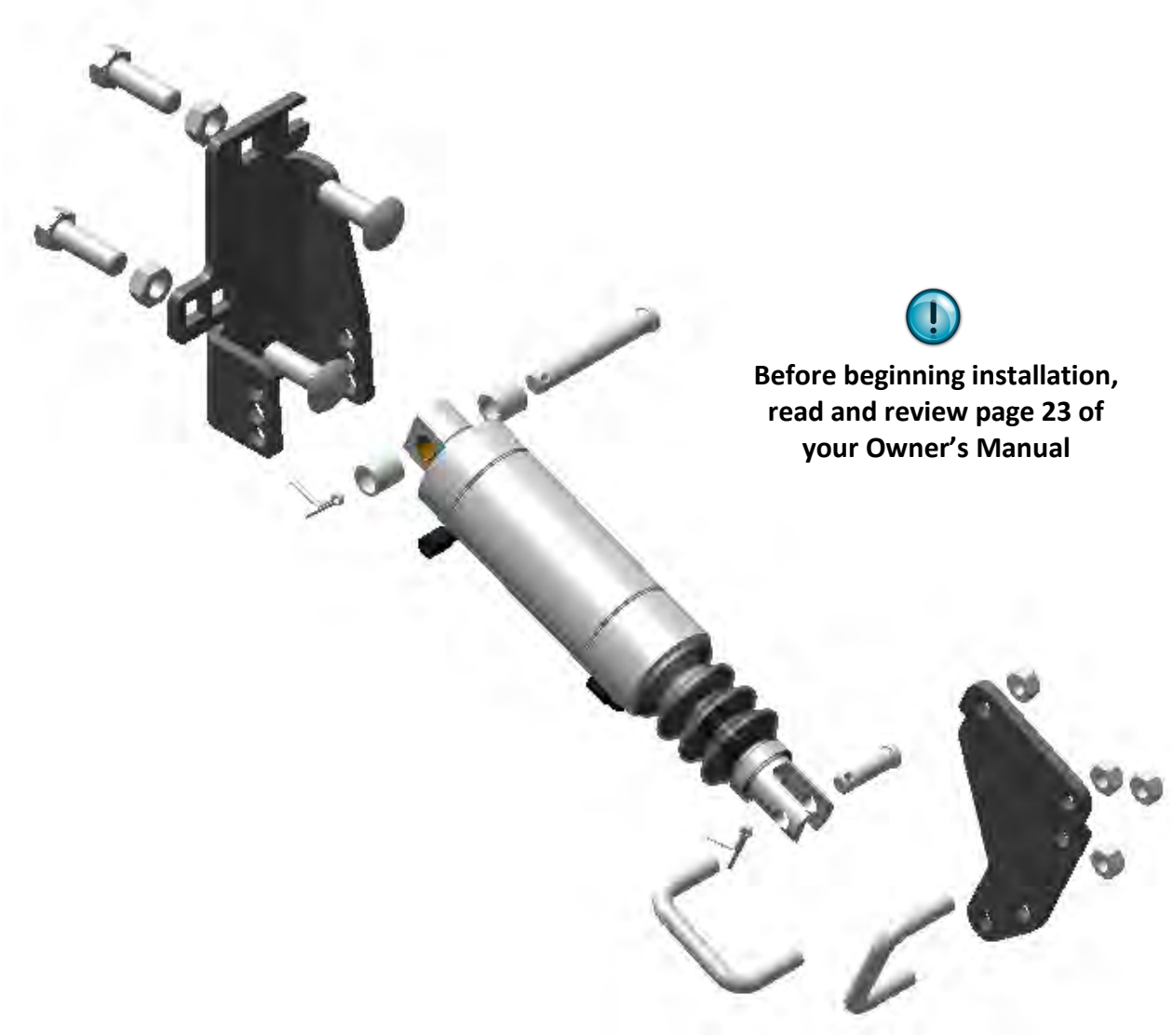
Installation Instructions 755170
Row Unit Conversion Kit for Yetter Titan 2967-115



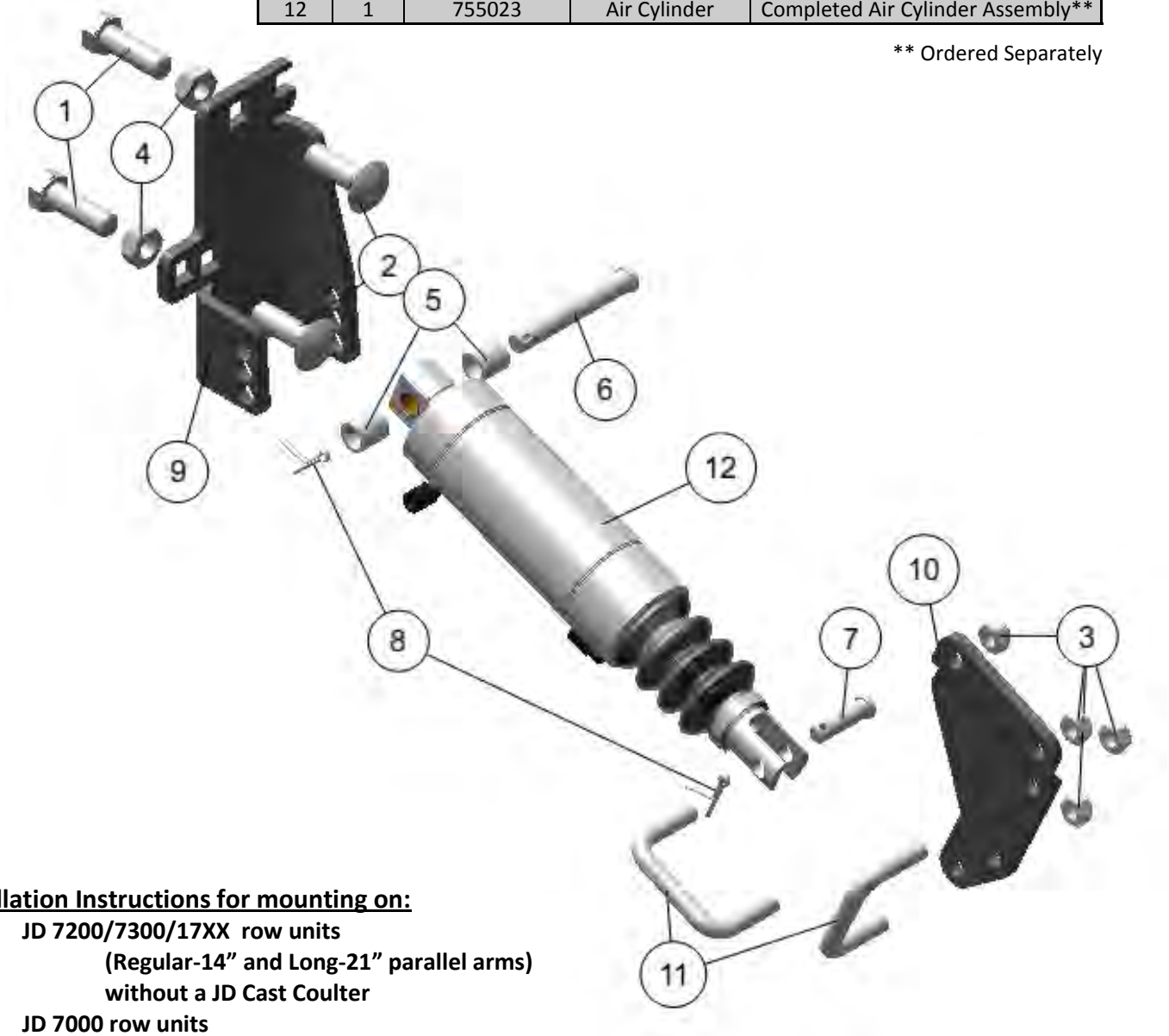
Before beginning installation, read and review page 23 of your Owner's Manual

Installation Instructions 755170
Row Unit Conversion Kit for Yetter Titan 2967-115

Kit Components

ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	2	13209	Bolt	1/2" X 1.5" GRD5 ZN Hex Head
2	2	21824	Bolt, Round Head	1/2” X 1.5” GRD5 ZN Carriage Bolt
3	4	37264	Hex Nut	3/8” Top Lock Nut ZN
4	2	37268	Hex Nut	1/2” Top Lock Nut ZN
5	2	755017	Spacer	5/8”OD X 7/16”ID X 0.688”L
6	1	755018	Pin	Cylinder Base Pivot
7	1	755019	Pin	Cylinder Rod Pivot
8	2	755028	Cotter Pin	1/8” X 1”
9	1	755169	Bracket	2967-115 Base Mount
10	1	755171	Bracket	2967-115 Rod Mount
11	2	755172	U-Bolt	2” X 0.5” Plate
12	1	755023	Air Cylinder	Completed Air Cylinder Assembly**

** Ordered Separately



<u>Installation Instructions for mounting on:</u>

JD 7200/7300/17XX row units
(Regular-14” and Long-21” parallel arms)
without a JD Cast Coulter

JD 7000 row units

Kinze row units without Kinze Double Arm Coulters

Step 1.
Secure the Cylinder Base Mounting Bracket to the face plate bracket using:

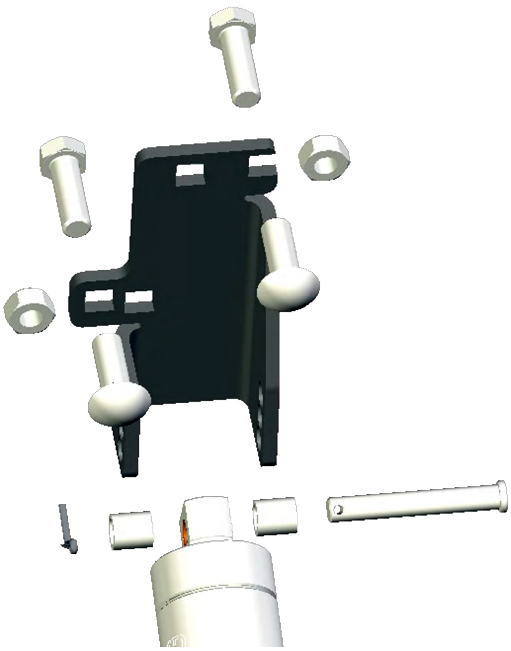
two - 1/2" X 1.5" GRD5 Carriage Bolts and,
two - 1/2" Top Lock Hex Nuts.

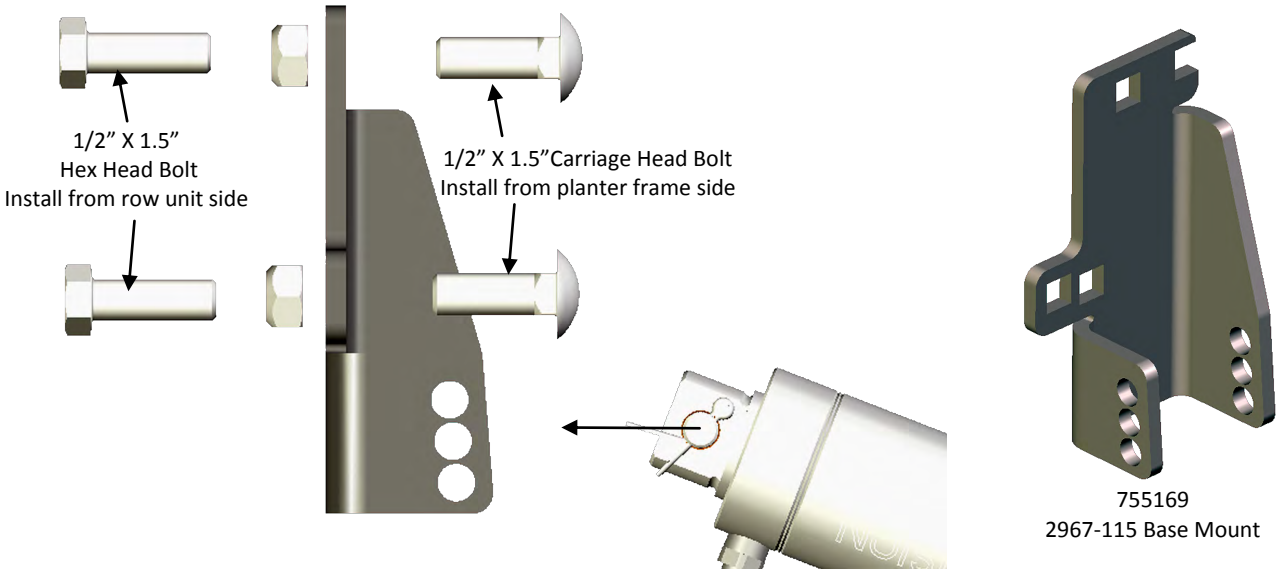
OR

two - 1/2" X 1.5" GRD5 Hex Head Bolt
two - 1/2" Top Lock Hex Nuts.

Both hex head and carriage bolts are included in the hardware pack. Use either style (installed in the direction shown) depending on row cleaner setup to ease installation.

Tighten to 75 lb-ft of torque.





Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket.
Mount the cylinder base into the 755169 2967-115 Base Mount in the hole that corresponds to the row cleaner pivot. See table below.
The default mounting position for the Cylinder base will be the top hole.

Position of Row Cleaner Pivot Point	Cylinder Base Mounting Hole
Top Most Position	Top Hole
1/2" Below Top Position	Middle Hole
1" Below Top Position	Bottom Hole

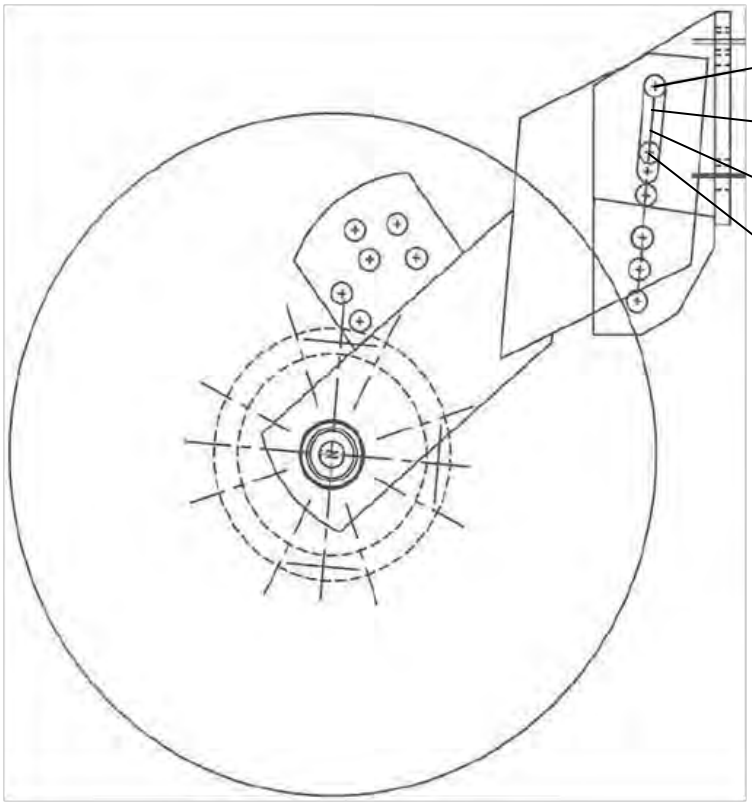
Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

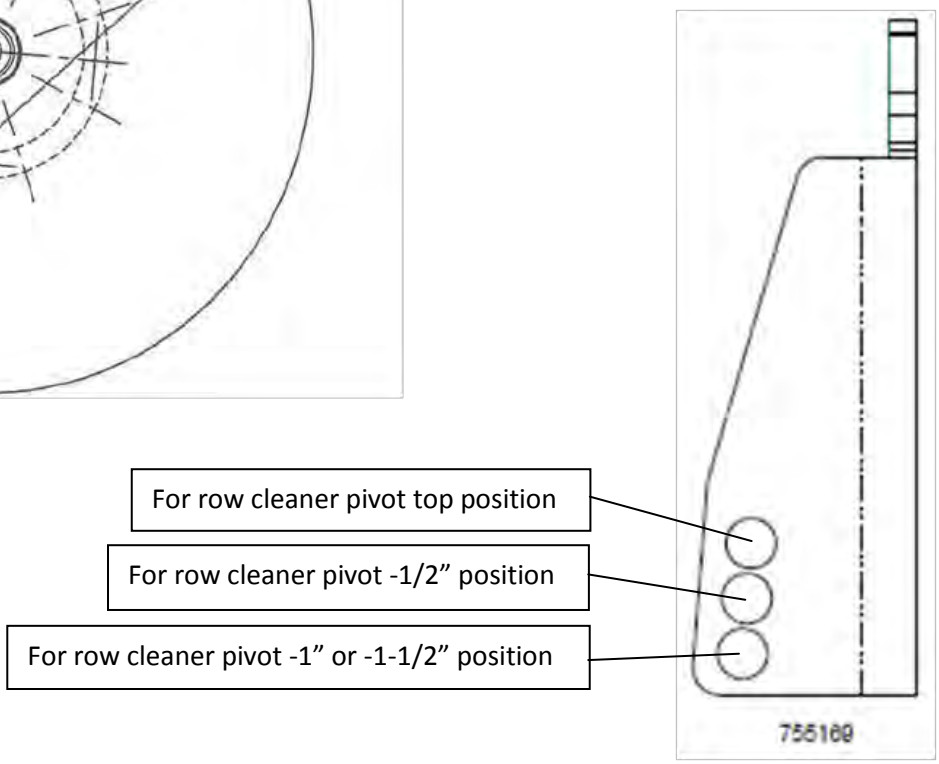
Lift force and down force are reversed on this design. That is, the extend side of the cylinder provides the lift force and the retract side provides the down force. Hence, connect the gray tubes to the extend side of the cylinder (base side) and the black tubes to the retract side (rod side).

Extra hardware is included to ease installation. Choose between using carriage bolts or hex bolts depending on which installs more easily.

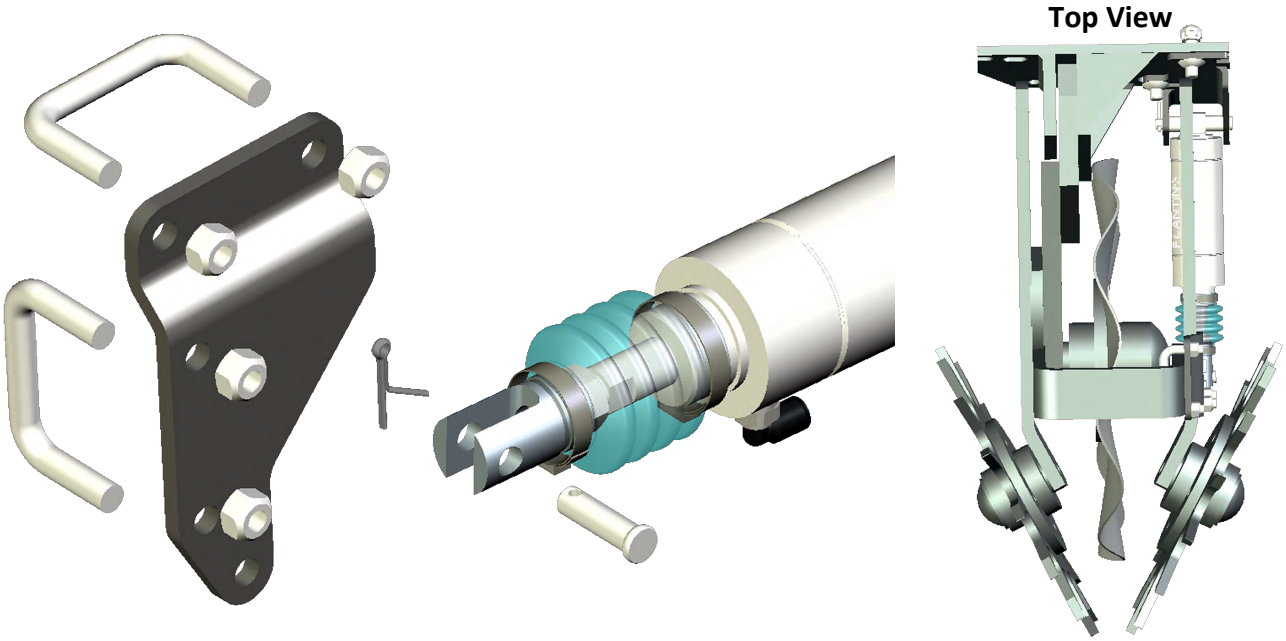
Mount cylinder in the hole that corresponds to the position of the row cleaner pivot. E.G: If the row cleaner pivot is in the top most position, use the top hole to mount the cylinder to the base bracket. If the row cleaner is 1/2" below the top position, use the middle hole. If it's 1" below the highest position, use the bottom hole. If it's lower than that use the bottom hole and check to make sure there's clearance around the cylinder (in all functional positions) before using CleanSweep. CleanSweep cannot be used if the row cleaner pivot is lower than 1.5” below the highest position.

Flip cylinder upside down.





Step 2.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied 2” X 1/2” U-bolts (755172) and four - 3/8” Top Lock Hex Nuts (37264). Finger tighten only at this time; DO NOT tighten until the cylinder has been properly aligned.



When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is inherent in the U-Bolt fastener design and is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

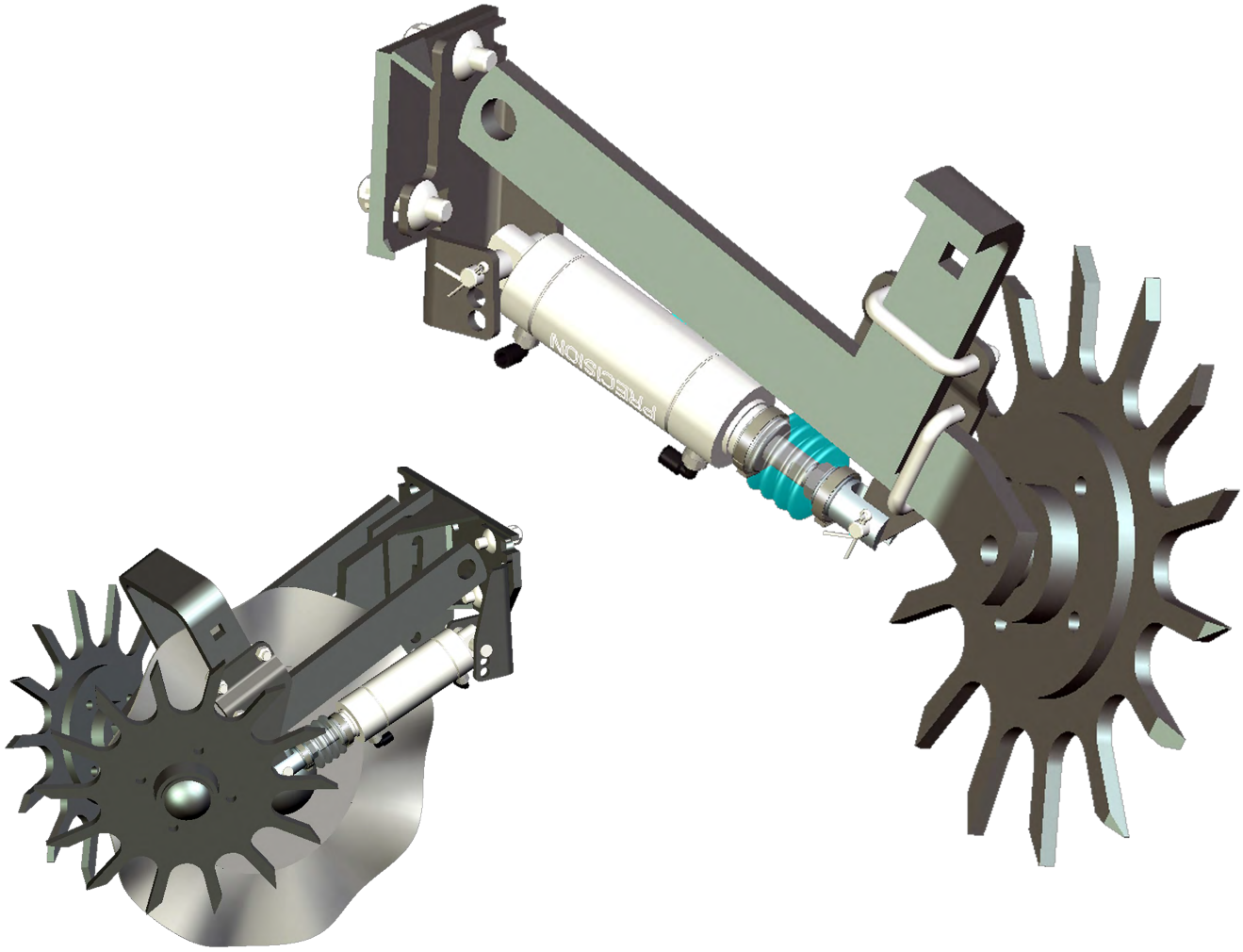
Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin.

Once the Rod Mounting Bracket has been properly aligned, secure the bracket by tightening the U-bolts to 30 lb-ft of torque.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Verify the freedom of motion and clearance of components.

Completed Cylinder Kit Installation



Maintenance Recommendations

If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

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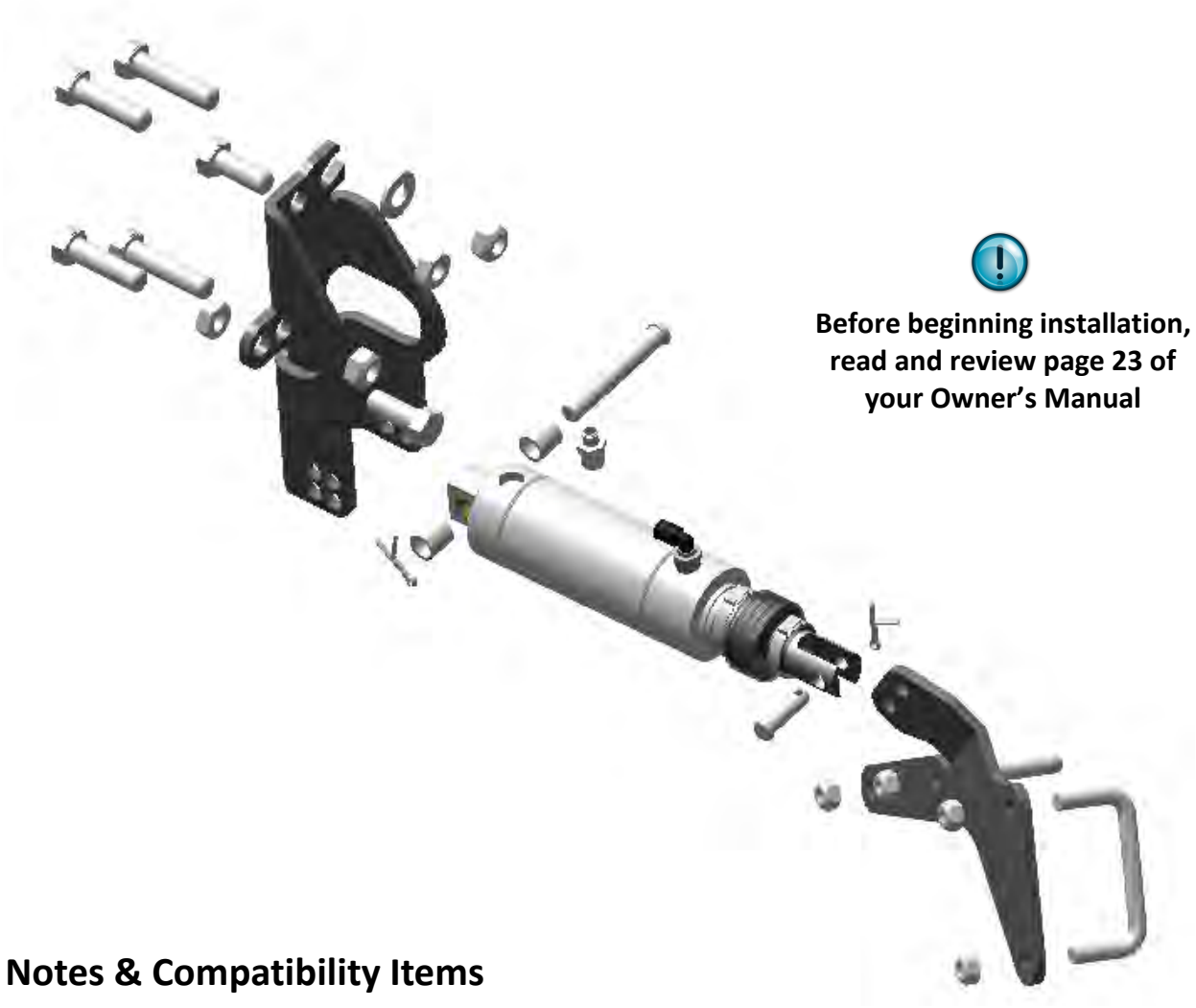
755225 Installation Instructions
Row Unit Conversion Kit for Martin C125 MTR; MTR-XP, MTR-81, MTR-IH -Low Mount Option-



Before beginning installation, read and review page 23 of your Owner's Manual

Notes & Compatibility Items

JD 7000, White, Case IH

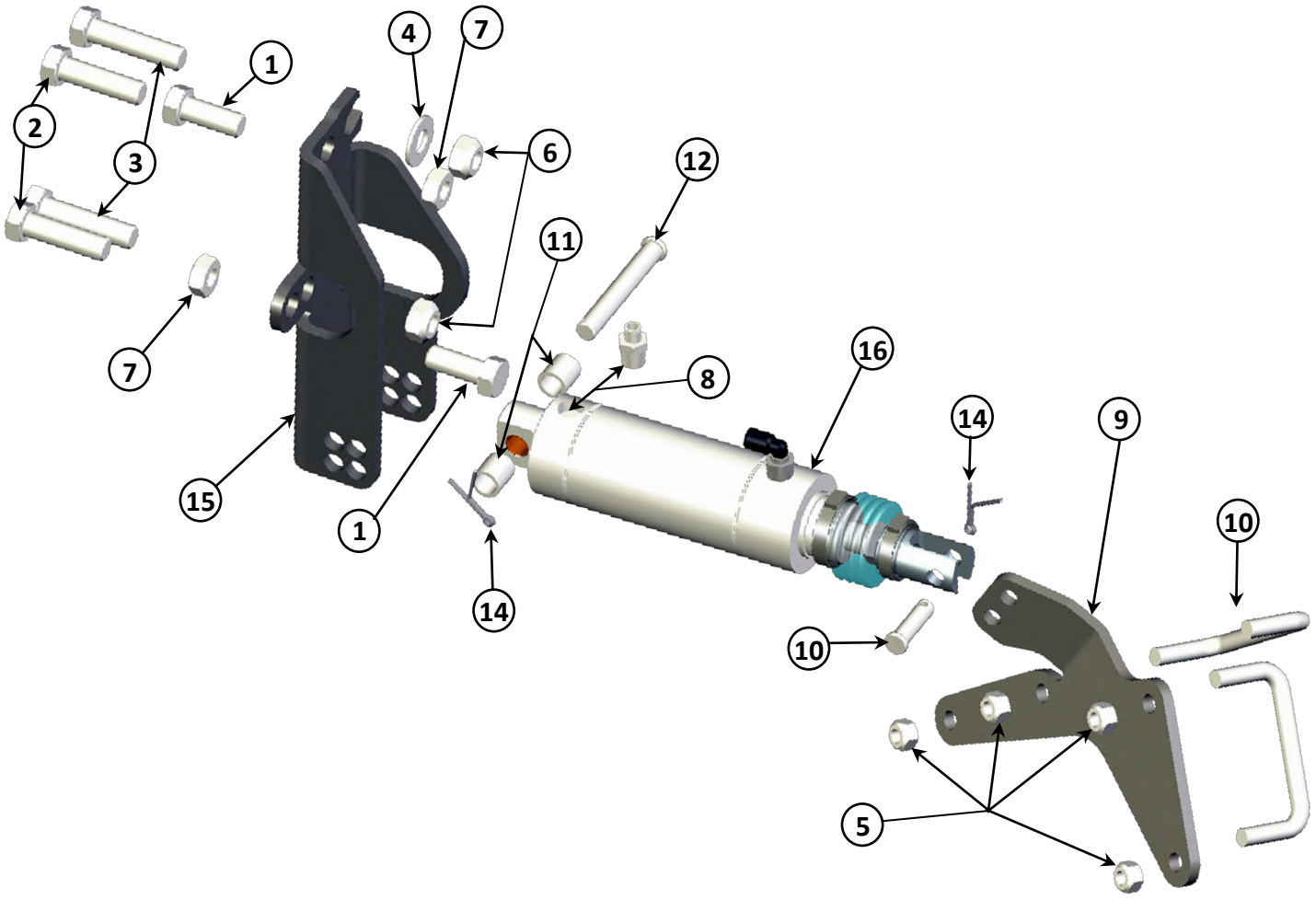
- Only compatible if the row cleaner is mounted in rear pivot holes on the row cleaner base (See diagram on pg. 129).

755225 Installation Instructions
Row Unit Conversion Kit for Martin C125 MTR;
MTR-XP, MTR-81, MTR-IH -Low Mount Option-

Kit Components

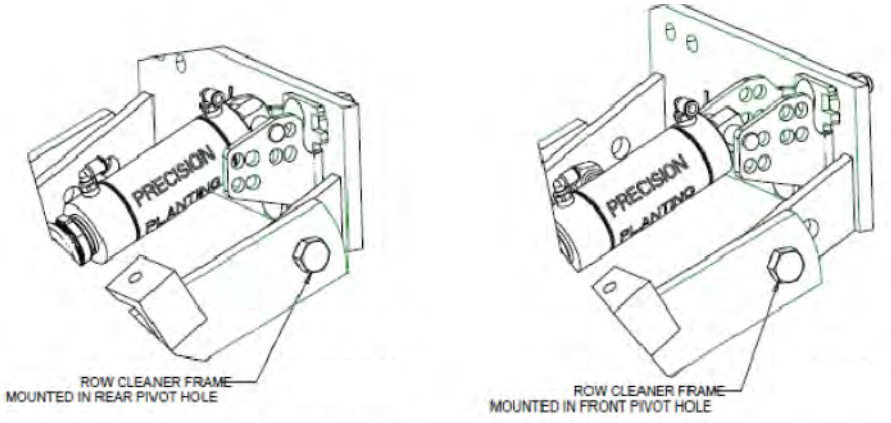
ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	2	13207	Bolt	1/2" X 1.25" GRD5 ZN Hex Head
2	2	13210	Bolt	1/2" X 1.75" GRD5 ZN Hex Head
3	2	13211	Bolt	1/2" X 2" GRD5 ZN Hex Head
4	1	33086	Washer	1/2" SAE Flat ZN
5	4	37264	Hex Nut	3/8" Top Lock Nut ZN
6	2	37268	Hex Nut	1/2" Top Lock Nut ZN
7	2	37269	Top Lock Jam Nut	1/2" GRD A ZN
8	1	726107	Fitting	1/4"NPT X 1/4" PTC
9	1	755006	Bracket	MTR Cylinder Rod Mount
10	2	755007	U-Bolt	2.75" X 0.5" Plate
11	2	755017	Spacer	5/8"OD X 7/16"ID X 0.688" L
12	1	755018	Pin	Cylinder Base Pivot
13	1	755019	Pin	Cylinder Rod Pivot
14	2	755028	Cotter Pin	1/8" X 1"
15	1	755179	Bracket	MTR Cylinder Base Mount (Low)
16	1	755023	Air Cylinder	Completed Air Cylinder Assembly**

** Ordered Separately



Note: This conversion kit is intended primarily for JD 7000, White, and Case row units with Martin C125 MTR; MTR-XP, MTR-81, & MTR-IH, and **IS** compatible with an installed coulter. This kit is also compatible with JD7200/7300/17XX and Kinze row units, however it is recommended that the 755195 brackets & hardware be used on those row units.

This conversion kit is compatible only if the row cleaner frame is mounted in the REAR pivot holes of the row cleaner base. See the image below.



Step 1. Secure the Cylinder Base Mounting Bracket to the face plate bracket.

JD 7000 & White Row Units:

Coulter installed: Mount using two - 1/2" X 2" GRD5 Hex Head Bolts and two - 1/2" Top Lock Hex Nuts.

No Coulter installed: Mount using two - 1/2" X 1.75" GRD5 Hex Head Bolts and two - 1/2" Top Lock Hex Nuts.

Case Row Units:

Mount using two - 1/2" X 1.25" carriage bolts and two - 1/2" Top Lock Jam Nuts GRD A ZN
This will allow clearance for gauge wheel rocker arms.

Tighten to 75 lb-ft of torque.

Refer to the images at the top of the next page for further details.

Bolt Selection

Coulter Installed

Mount using: two - 1/2" X 2" Hex Head Bolts
two - 1/2" Top Lock Hex Head Nuts

No Coulter Installed

Mount using: two - 1/2" X 1.75" Hex Head Bolts
two - 1/2" Top Lock Hex Head Nuts

One - 1/2" SAE Flat Washer

When using the top right mounting location (slot), **ALWAYS** use the supplied 1/2" SAE Flat Washer
-top right bolt in far image-

Example Mounting Images

Hole Selection

JD7000, Kinze, and White row units

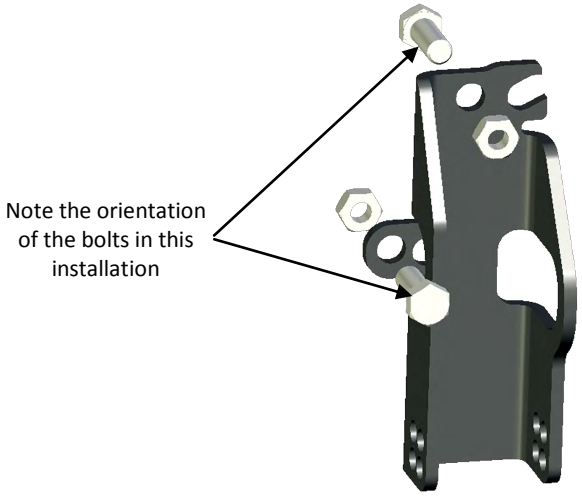
Normal installation will use the left most holes, top and bottom, of the bracket (towards the interior of the row unit)

JD7200/7300/17XX row units

Normal installation will use the right most holes, top and bottom, of the bracket (towards the exterior of the row unit)

Case Row Units

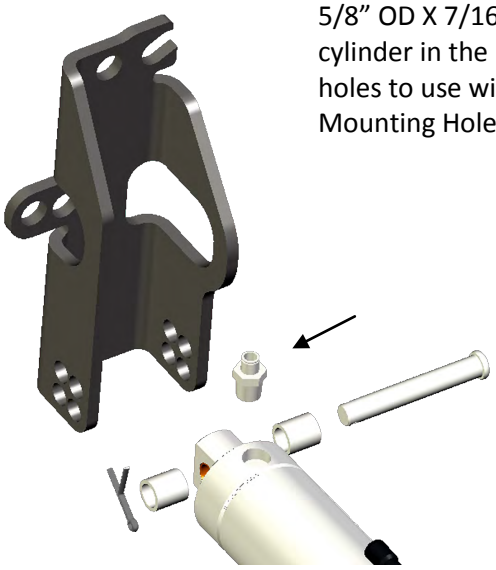
Mount using:
two - 1/2" X 1.25" carriage bolts
two - 1/2" Top Lock Jam Nuts
This will allow clearance for gauge wheel rocker arms.

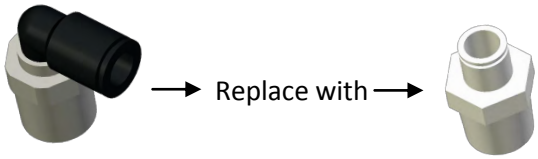


Tighten to 75 lb-ft of torque.

Step 2.

Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket. More information on which mounting holes to use with this bracket is covered on the next page as well as the Mounting Hole Selection guide, pages 24-27 of your Owner's Manual.

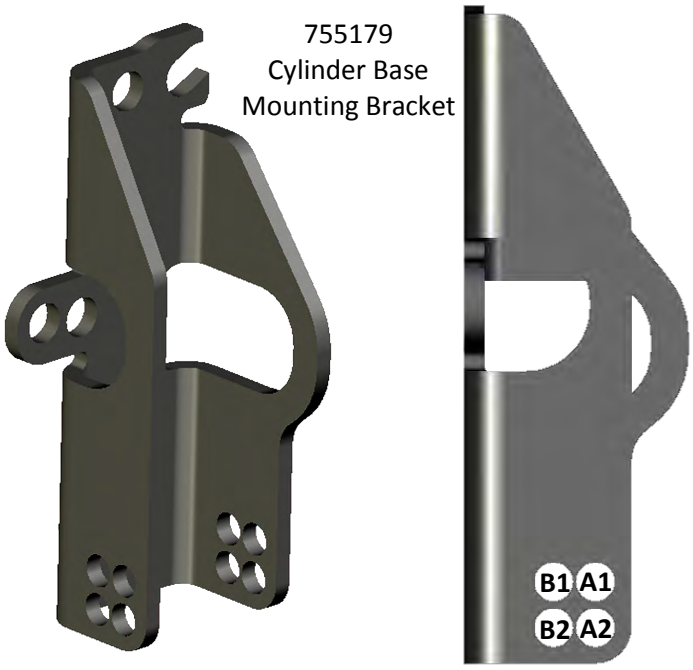




This installation will require the removal of the 1/4"NPT X 1/4" PTC 90° Elbow from the Air Cylinder. Replace this fitting with the supplied 1/4"NPT X 1/4" PTC Straight Fitting. This will route the air lines in the safest method possible.

Mounting Hole Selection: MTR Mounting Bracket

Use this section to select the mounting location when using the MTR mounting Bracket - 755179



The default mounting position for the Cylinder base will be the bottom hole.

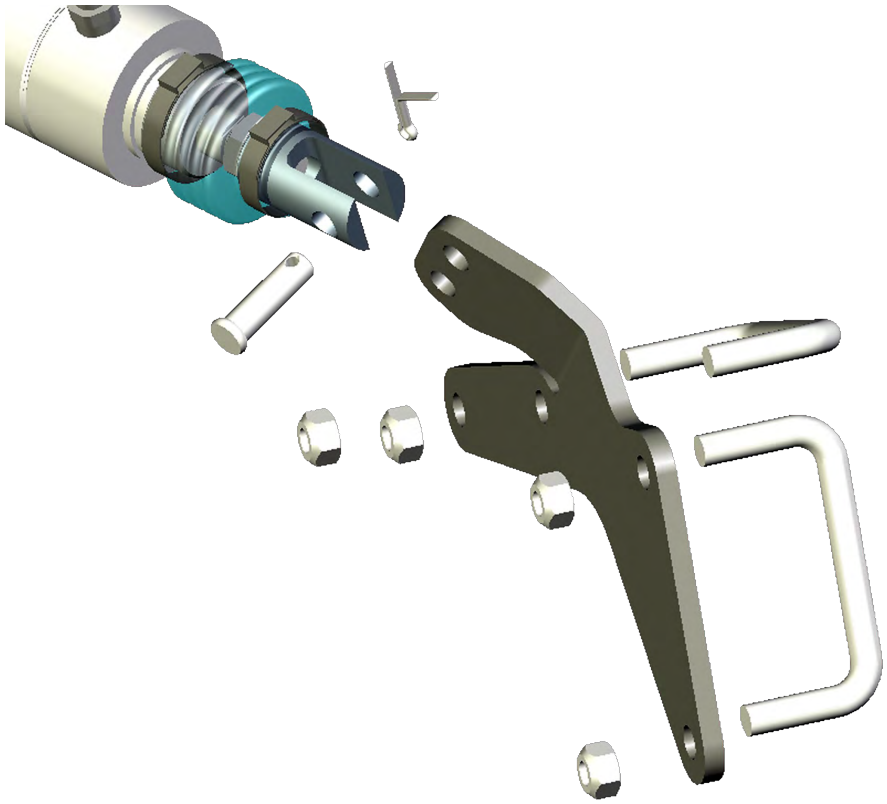
A Range Holes:
Use on JD7000 and White row units with **NO COULTER** installed and **ALL** Case row units. This range should be used when the 755179 bracket is mounted directly to the row cleaner face plate bracket.
B Range Holes:
Use on JD7000 and White row units when a unit mounted coulter **IS** installed. This range should be used when the 755179 bracket is mounted on top of another attachment.

Holes A1 & B1, (Top Holes, both Ranges):
Installing the cylinder in the top holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used if MORE down force is desired when the system will generally be used in the lift direction.

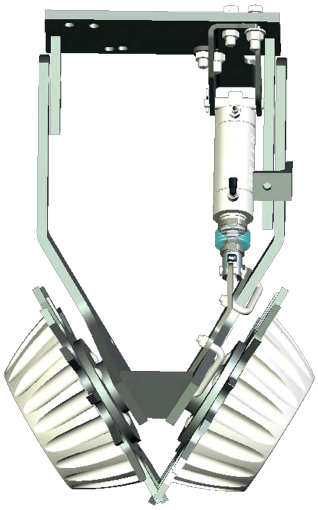
Holes A2 & B2 (Bottom Holes, both Ranges):
Installing the cylinder in the bottom holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used in LESS down force is desired when the system will generally be used in the Lift direction.

Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
—If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
—If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Step 3.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied 2.75” X 1/2” U-bolts (755007) and four - 3/8” Top Lock Hex Nuts (37264). Finger tighten only at this time; DO NOT tighten until the cylinder has been properly aligned.



Top View



When installing the Cylinder Rod Mount Bracket, the first priority is to ensure proper alignment in the clevis yoke of the Rod. There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is inherent in the U-Bolt fastener design and is intended to ease basic installation, especially on mildly deformed row cleaners. Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.

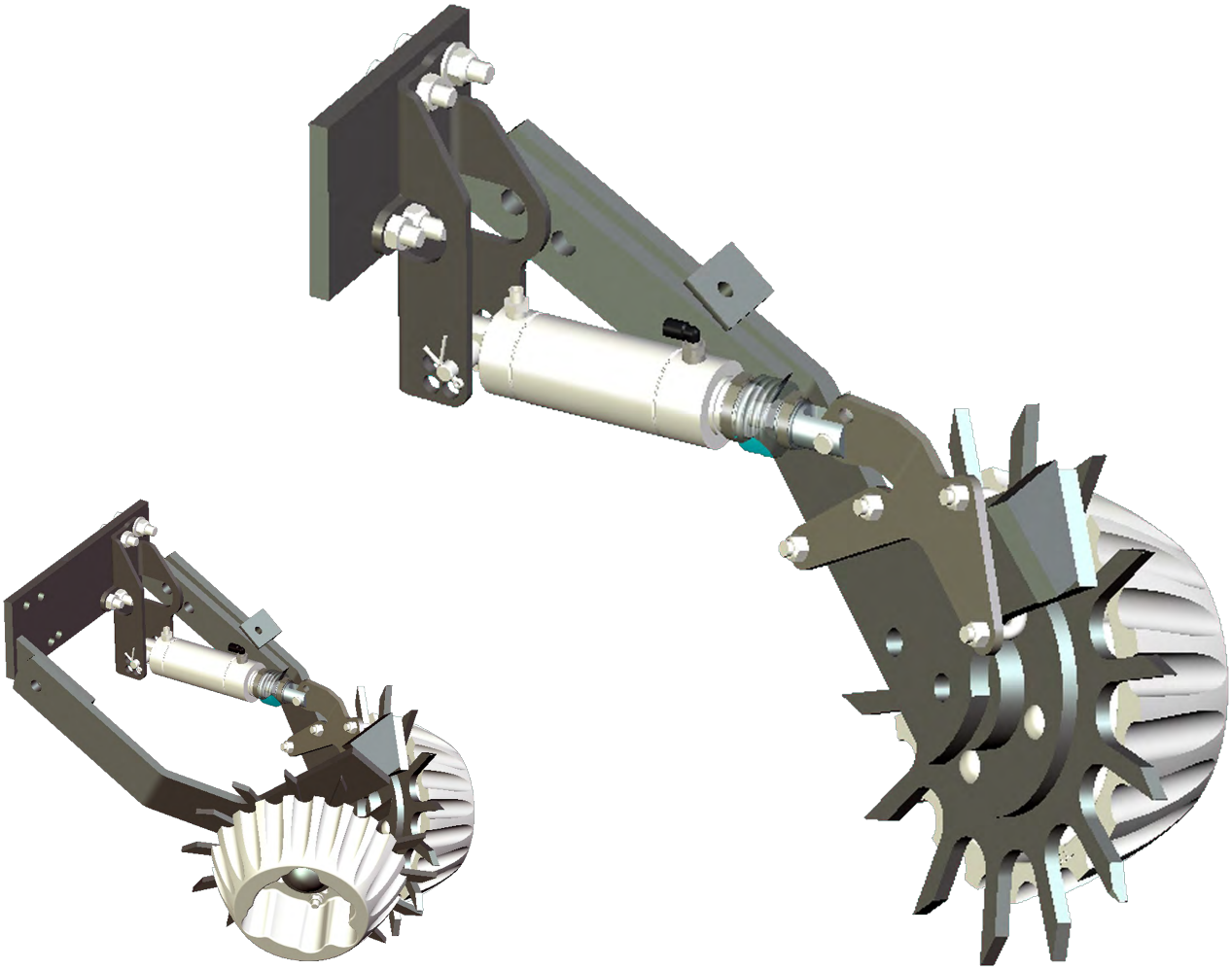
Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin.

Once the Rod Mounting Bracket has been properly aligned, secure the bracket by tightening the U-bolts to 30 lb-ft of torque.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Verify the freedom of motion and clearance of components.

Completed Cylinder Kit Installation



Maintenance Recommendations

If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

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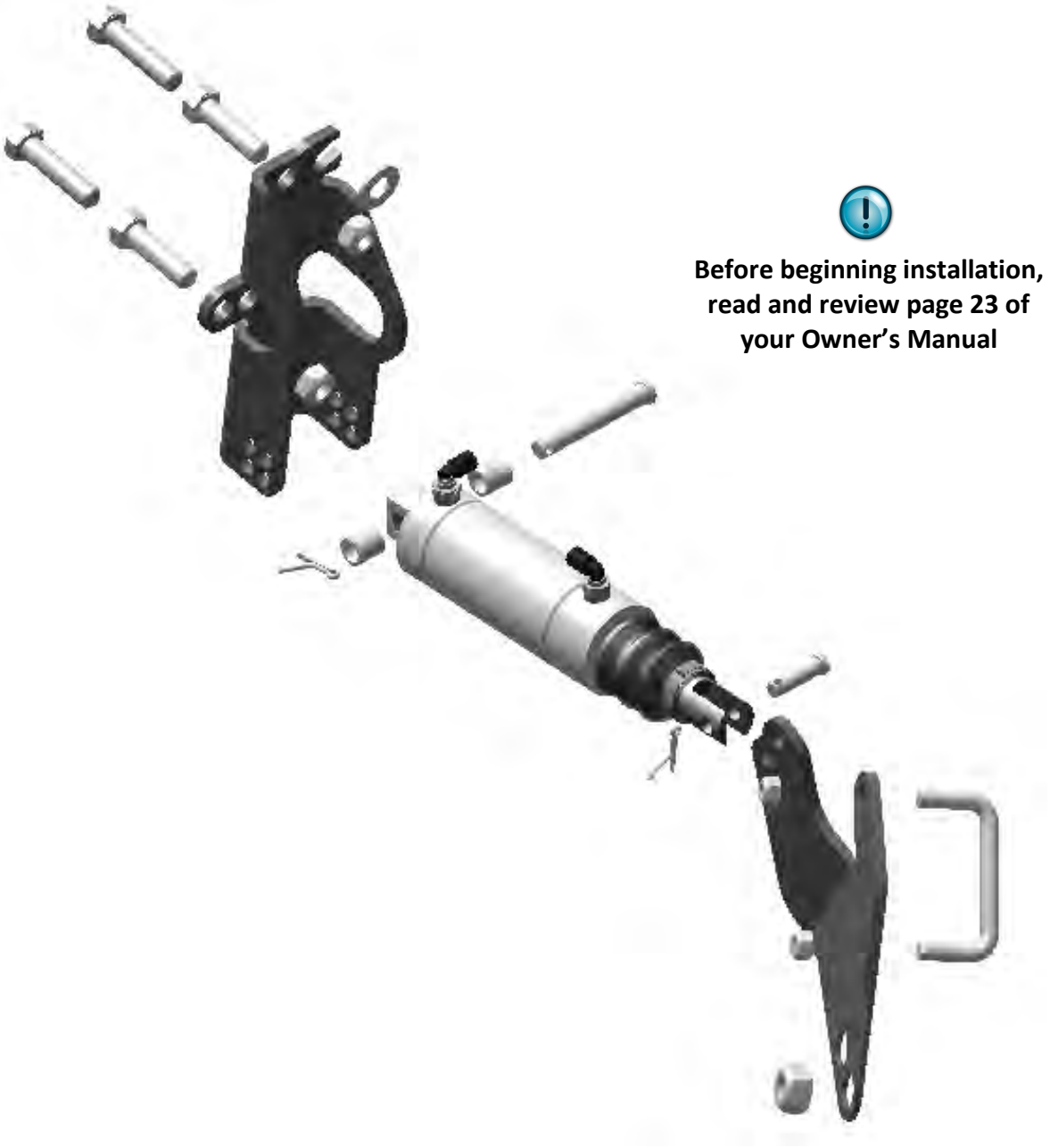
755230 Installation Instructions
Row Unit Conversion Kit for Yetter Titan 2967-035



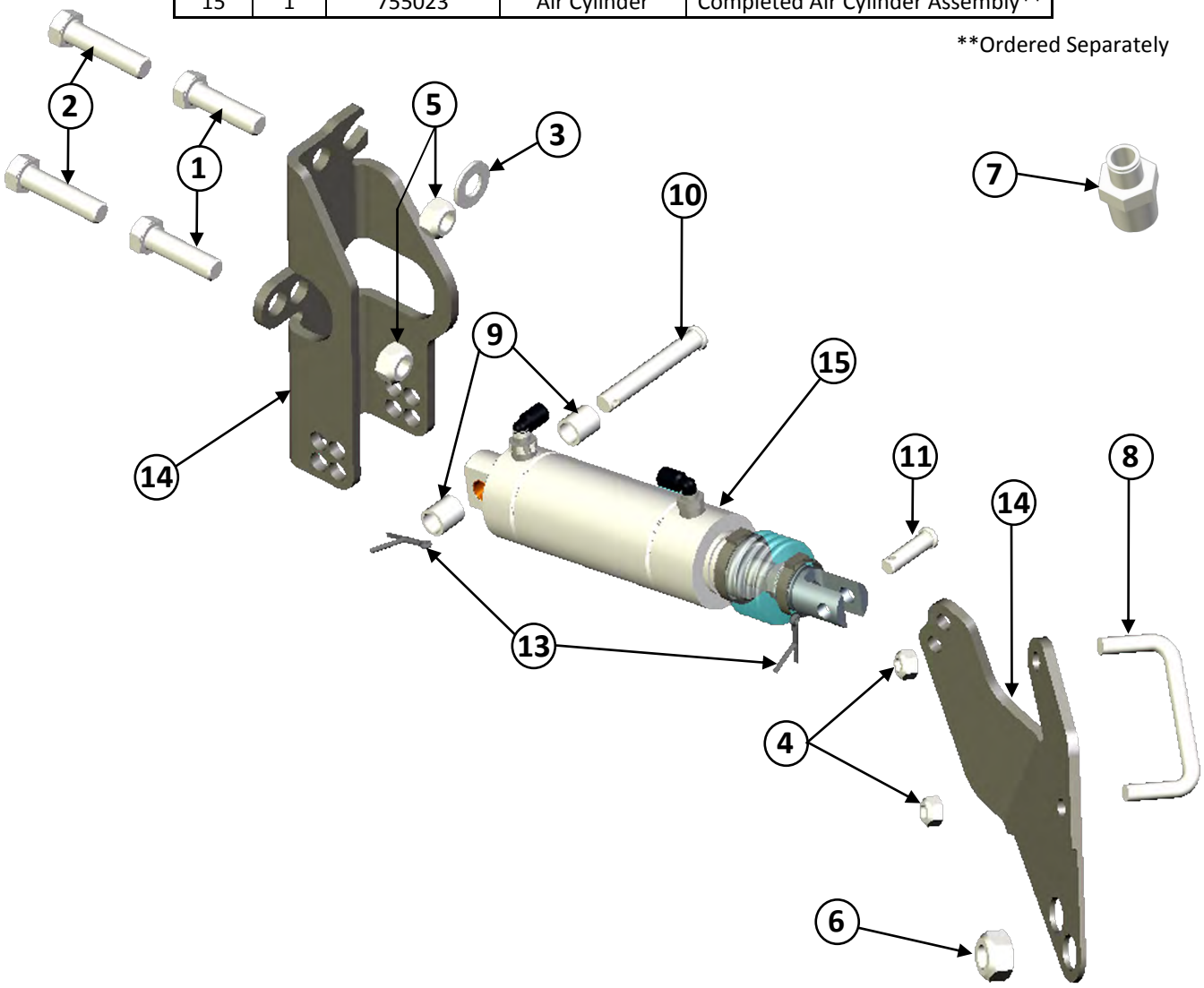
Before beginning installation, read and review page 23 of your Owner's Manual

755230 Installation Instructions
Row Unit Conversion Kit for Yetter Titan 2967-035

Kit Components

ITEM	QTY	PART NUMBER	PART NAME	DESCRIPTION
1	2	13210	Bolt	1/2” X 1.75 GRD5 Hex Head ZN
2	2	13211	Bolt	1/2” X 2” GRD5 Hex Head ZN
3	1	3386	Washer	1/2” SAE Flat Washer ZN
4	2	37264	Nut	3/8” Top Lock Nut ZN
5	2	37268	Nut	1/2” Top Lock Nut ZN
6	1	37272	Nut	5/8” Top Lock Nut ZN
7	1	726107	Fitting	1/4”NPT X 1/4”PTC Straight
8	1	755007	U-Bolt	2.75” X 0.5” Plate
9	2	755017	Spacer	5/8”OD X 7/16”ID X 0.688”L
10	1	755018	Pin	Cylinder Base Pivot
11	1	755019	Pin	Cylinder Rod Pivot
12	1	755022	Bracket	Cylinder Rod Mount 2967-035
13	2	755028	Cotter Pin	1/8” X 1”
14	1	755179	Bracket	MTR Cylinder Base Mount (Low)
15	1	755023	Air Cylinder	Completed Air Cylinder Assembly**

**Ordered Separately



Note: This conversion kit is intended primarily for JD 7000 and White row units with Yetter Titan 2967-035, with standard brackets, and **IS** compatible with an installed coulter. This kit is also compatible with JD7200/7300/17XX and Kinze row units, however it is recommended that the 755180 brackets & hardware be used on those row units.

Bolt Selection

Coulter Installed

Mount using: two - 1/2" X 2" Hex Head Bolts
two - 1/2" Top Lock Hex Head Nuts

No Coulter Installed

Mount using: two - 1/2" X 1.75" Hex Head Bolts
two - 1/2" Top Lock Hex Head Nuts

One - 1/2" SAE Flat Washer

When using the top right mounting location (slot), **ALWAYS** use the supplied 1/2" SAE Flat Washer
-top right bolt in far image-

Example Mounting Images

Hole Selection

JD7000, Kinze, and White row units

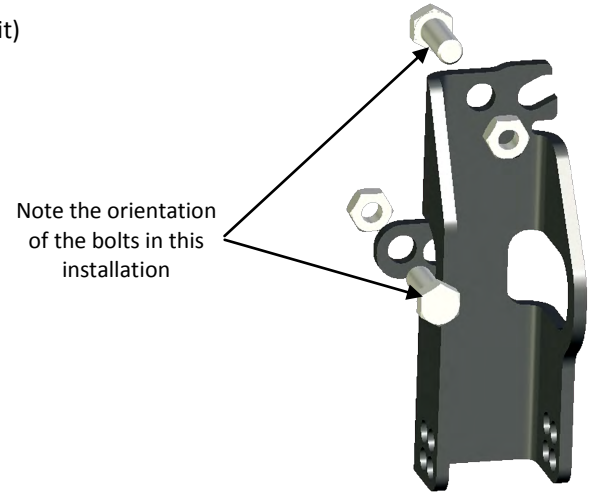
Normal installation will use the left most holes, top and bottom, of the bracket (towards the interior of the row unit)

JD7200/7300/17XX row units

Normal installation will use the right most holes, top and bottom, of the bracket (towards the exterior of the row unit)

Case Row Units

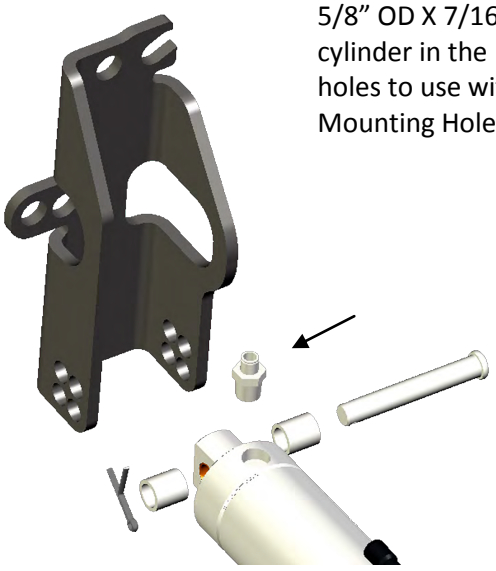
Mount using:
two - 1/2" X 1.25" carriage bolts
two - 1/2" Top Lock Jam Nuts
This will allow clearance for gauge wheel rocker arms.



Tighten to 75 lb-ft of torque.

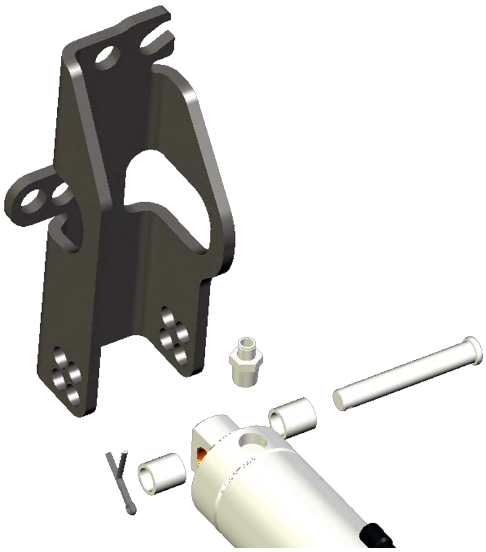
Step 2.

Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket. More information on which mounting holes to use with this bracket is covered on the next page as well as the Mounting Hole Selection guide, pages 24-27 of your Owner's Manual.



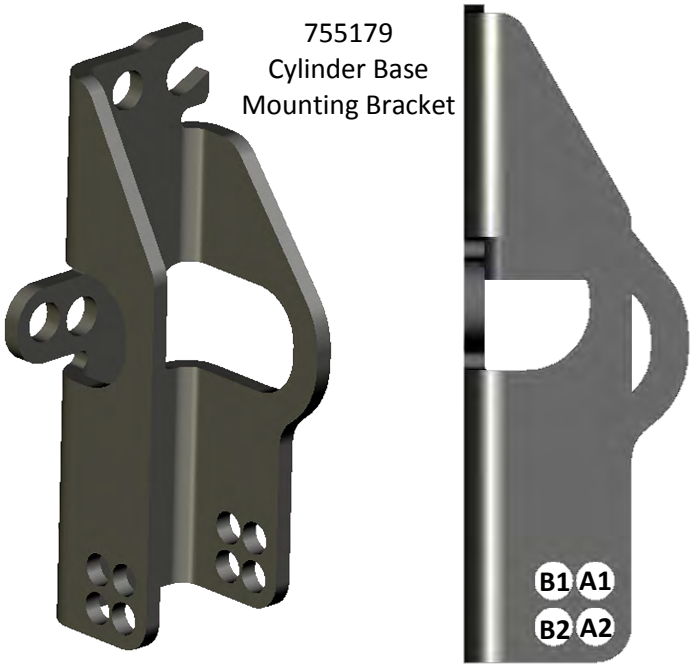
This installation will require the removal of the 1/4"NPT X 1/4" PTC 90° Elbow from the Air Cylinder. Replace this fitting with the supplied 1/4"NPT X 1/4" PTC Straight Fitting. This will route the air lines in the safest method possible.

Step 2.
Install the base of the Cylinder to this bracket using the Cylinder Base Pivot Pin (755018). Use the two - 5/8" OD X 7/16ID X 0.688"L Spacer Bushings to properly secure and align the cylinder in the Base Mount Bracket.
More information on which mounting holes to use with this bracket is covered below, as well as the Mounting Hole Selection guide, pages 24-27 of your Owner's Manual.



Mounting Hole Selection: Yetter 2967-035 (Low) Mounting Bracket

Use this section to select the mounting location when using the Yetter mounting Bracket - 755179



The default mounting position for the Cylinder base will be the bottom hole.

A Range Holes:
Use on JD7000 and White row units with **NO COULTER** installed. This range should be used when the 755179 bracket is mounted directly to the row cleaner face plate bracket.
B Range Holes:
Use on JD7000 and White row units when a unit mounted coulter **IS** installed. This range should be used when the 755179 bracket is mounted on top of another attachment.

Continued on following page

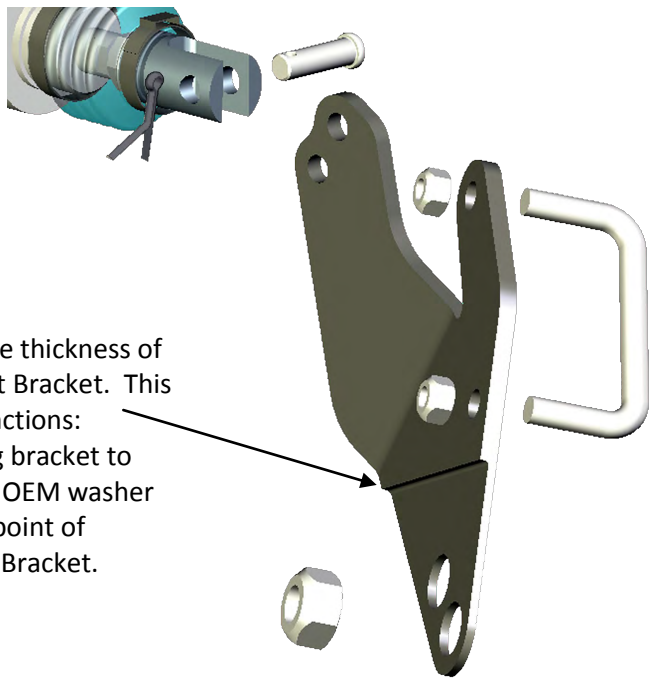
Holes A1 & B1, (Top Holes, both Ranges):
Installing the cylinder in the top holes will DECREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if LESS down force is desired when the system will generally be used in the down direction.
To be used if MORE down force is desired when the system will generally be used in the lift direction.

Holes A2 & B2 (Bottom Holes, both Ranges):
Installing the cylinder in the bottom holes will INCREASE the magnitude of the force applied to the row cleaner. Therefore;
To be used if MORE down force is desired when the system will generally be used in the down direction.
To be used in LESS down force is desired when the system will generally be used in the Lift direction.

Note: In general, all rows will be set to the same hole. However, some rows may require unique settings. A typical example would be a row unit directly behind a tractor tire. In this example, this row unit should be set to exert more force on the row cleaner than the surrounding rows.
—If the system is normally operated in LIFT mode, install this row unit in the bottom hole.
—If the system is normally operated in the DOWN mode, install this row unit in the top hole.

Step 3.
Install the Cylinder Rod Mounting Bracket to the row cleaner frame using the supplied 2.75" X 1/2"U-bolts (755007), two - 3/8" Top Lock Hex Nuts (37264) and one - 5/8" Top Lock Hex Nut. This install will require the removal of the nut and washer present on the D-Bolt (serving as the axle) of the row cleaner. Re-install using the supplied 5/8" Nut and using the Mounting Bracket in place of the washer. Ensure proper alignment of all components, and that the hub is secured and returned to manufacturer's recommendations.

Finger Tighten only at this time; DO NOT tighten until the cylinder has been properly aligned.

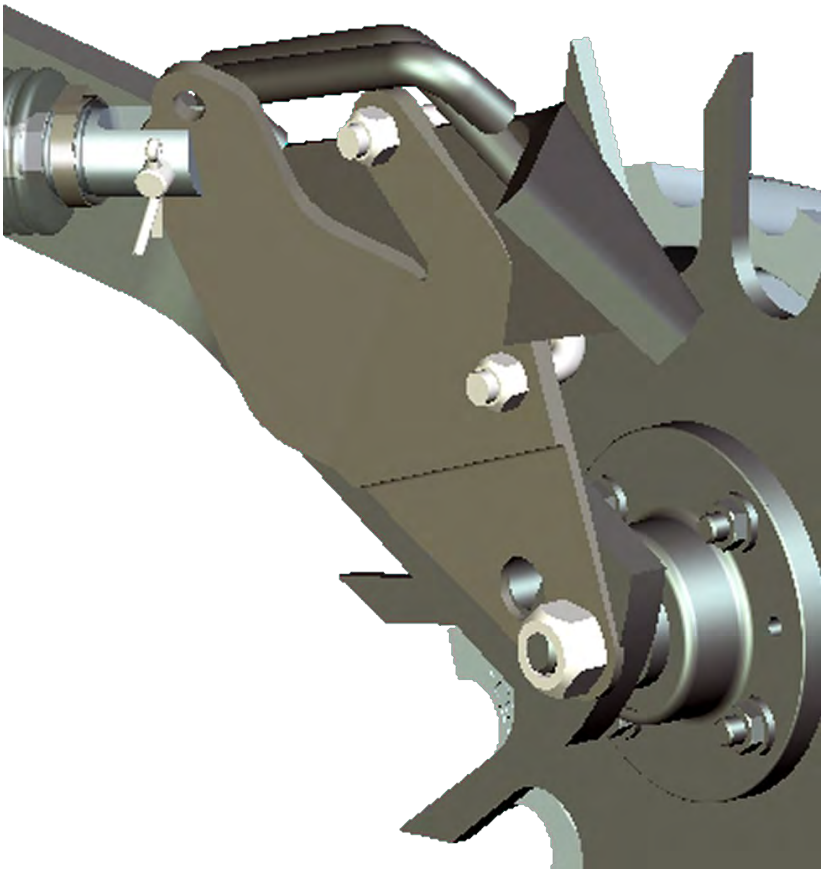


Note the change in plate thickness of the Cylinder Rod Mount Bracket. This variance serves two functions:
1. Allow the mounting bracket to equally replace the OEM washer
2. Provides an easier point of malleability for the Bracket.

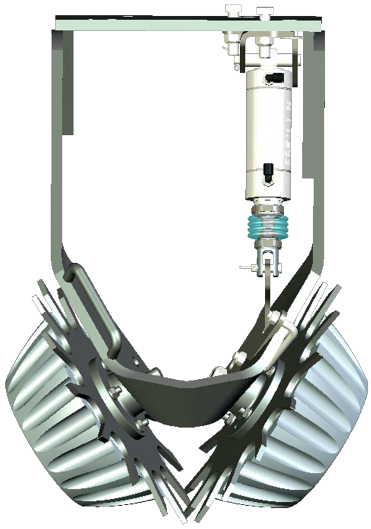
When installing the Cylinder Rod Mount Bracket, be sure it is properly aligned in the clevis yoke of the Rod. *This may require the exact angle of the bracket to be tweaked or modified* in order to more perfectly match the individual row unit.

There may be considerable slop or play between the clevis yoke and the rod mounting bracket. This is OK and will not negatively affect the performance of the system. This is inherent in the U-Bolt fastener design and is intended to ease basic installation, especially on mildly deformed row cleaners.

Pay close attention to the mounting location of this bracket. Consistent placement from row to row will provide consistent force from row to row and will prevent premature wear on the cylinder.



Top View



Secure the Rod Mounting Bracket to the clevis yoke on the cylinder using the supplied cylinder rod pivot pin (755019) and cotter pin.

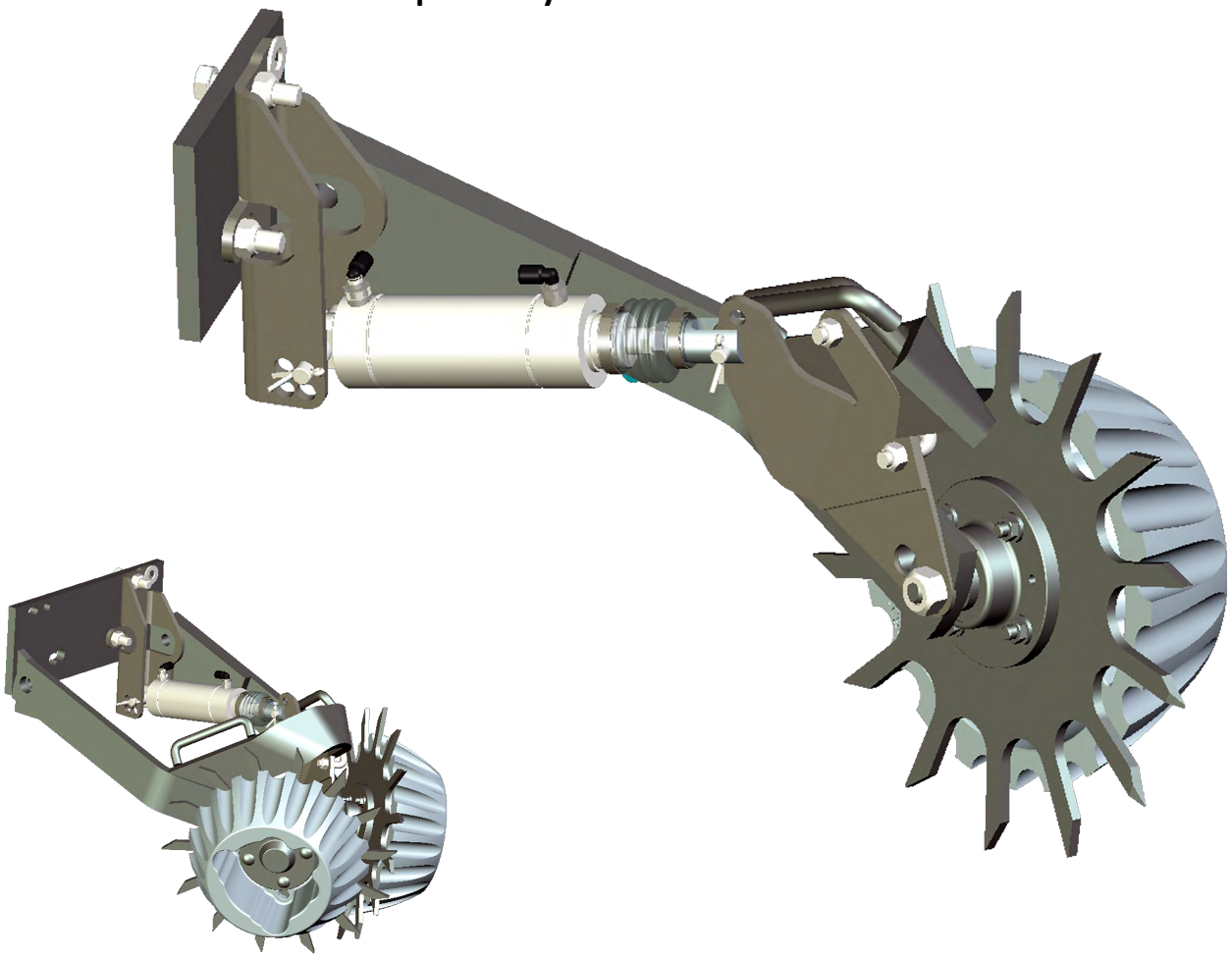
Refer to the Mounting Hole Selection guide at the end of this section for more information on which mounting holes to use with this bracket.

Once the Rod Mounting Bracket has been properly aligned, secure the bracket by tightening the U-bolts to 30 lb-ft of torque.

Ensure that the Row Cleaner does not 'hang' on the cylinder when extended. This may require extending the row cleaner until this situation is achieved, then selecting the pin location or stop bolt depth just above this depth.

Verify the freedom of motion and clearance of components.

Completed Cylinder Kit Installation



Maintenance Recommendations

If the bellows on the rubber boot become inverted or collapsed, locate the dimple on the rubber boot (near the Cylinder). Pinch the dimple open while articulating the Rod into and out of the Cylinder. This should allow the boot to re-seat properly.

Lubrication:
Cylinders are manufactured with a non-migratory grease and should not require additional lubrication under normal operating conditions. Refer to page 45 of your owners manual for further information.

755035
8 Row Air Lines & Fittings Kit

Kit Components

QTY	PART NUMBER	NOTE	PART NAME	DESCRIPTION
36	63128	C	Tie Strap	12" UV Black
4	726103	B	PTC Plug	1/4" Plug
16	726115	D	Tee	1/4" X 1/4" X 1/4" PTC Tee
2	726171	B	PTC Union	1/4" X 1/4" PTC
1	755052	A	Tubing	1/4" OD 100' Black
1	755053	A	Tubing	1/4" OD 100' Silver

Notes	
A	Use for plumbing between controller, main trunk line, and rows. Cut to length as required.
B	Use for repairs as necessary
C	Use as required to secure tubing
D	Use to connect row unit tubing to main trunk line

Refer to your Owner's Manual for more information on installation.

955140 ver.1 03/10

755040
12 Row Air Lines & Fittings Kit

Kit Components

QTY	PART NUMBER	NOTE	PART NAME	DESCRIPTION
48	63128	C	Tie Strap	12" UV Black
4	726103	B	PTC Plug	1/4" Plug
24	726115	D	Tee	1/4" X 1/4" X 1/4" PTC Tee
2	726171	B	PTC Union	1/4" X 1/4" PTC
1	755056	A	Tubing	1/4" OD 150' Black
1	755057	A	Tubing	1/4" OD 150' Silver

Notes	
A	Use for plumbing between controller, main trunk line, and rows. Cut to length as required.
B	Use for repairs as necessary
C	Use as required to secure tubing
D	Use to connect row unit tubing to main trunk line

Refer to your Owner's Manual for more information on installation.

955141 ver.1 03/10

755085
16 Row Air Lines & Fittings Kit

Kit Components

QTY	PART NUMBER	NOTE	PART NAME	DESCRIPTION
72	63128	C	Tie Strap	12" UV Black
4	726103	B	PTC Plug	1/4" Plug
32	726115	D	Tee	1/4" X 1/4" X 1/4" PTC Tee
2	726171	B	PTC Union	1/4" X 1/4" PTC
1	755058	A	Tubing	1/4" OD 200' Black
1	755059	A	Tubing	1/4" OD 200' Silver

Notes	
A	Use for plumbing between controller, main trunk line, and rows. Cut to length as required.
B	Use for repairs as necessary
C	Use as required to secure tubing
D	Use to connect row unit tubing to main trunk line

Refer to your Owner's Manual for more information on installation.

955142 ver.1 03/10

755045
24 Row Air Lines & Fittings Kit

Kit Components

QTY	PART NUMBER	NOTE	PART NAME	DESCRIPTION
96	63128	C	Tie Strap	12" UV Black
4	726103	B	PTC Plug	1/4" Plug
48	726115	D	Tee	1/4" X 1/4" X 1/4" PTC Tee
2	726171	B	PTC Union	1/4" X 1/4" PTC
1	755052	A	Tubing	1/4" OD 100' Black
1	755053	A	Tubing	1/4" OD 100' Silver
1	755056	A	Tubing	1/4" OD 150' Black
1	755057	A	Tubing	1/4" OD 150' Silver

Notes	
A	Use for plumbing between controller, main trunk line, and rows. Cut to length as required.
B	Use for repairs as necessary
C	Use as required to secure tubing
D	Use to connect row unit tubing to main trunk line

Refer to your Owner's Manual for more information on installation.

955143 ver.1 03/10

755050
36 Row Air Lines & Fittings Kit

Kit Components

QTY	PART NUMBER	NOTE	PART NAME	DESCRIPTION
144	63128	C	Tie Strap	12" UV Black
4	726103	B	PTC Plug	1/4" Plug
72	726115	D	Tee	1/4" X 1/4" X 1/4" PTC Tee
2	726171	B	PTC Union	1/4" X 1/4" PTC
1	755056	A	Tubing	1/4" OD 150' Black
1	755057	A	Tubing	1/4" OD 150' Silver
1	755058	A	Tubing	1/4" OD 200' Black
1	755059	A	Tubing	1/4" OD 200' Silver

Notes	
A	Use for plumbing between controller, main trunk line, and rows. Cut to length as required.
B	Use for repairs as necessary
C	Use as required to secure tubing
D	Use to connect row unit tubing to main trunk line

Refer to your Owner's Manual for more information on installation.

955144 ver.1 03/10

755065
48 Row Air Lines & Fittings Kit

Kit Components

QTY	PART NUMBER	NOTE	PART NAME	DESCRIPTION
192	63128	C	Tie Strap	12" UV Black
4	726103	B	PTC Plug	1/4" Plug
96	726115	D	Tee	1/4" X 1/4" X 1/4" PTC Tee
2	726171	B	PTC Union	1/4" X 1/4" PTC
2	755058	A	Tubing	1/4" OD 200' Black
2	755059	A	Tubing	1/4" OD 200' Silver

Notes	
A	Use for plumbing between controller, main trunk line, and rows. Cut to length as required.
B	Use for repairs as necessary
C	Use as required to secure tubing
D	Use to connect row unit tubing to main trunk line

Refer to your Owner's Manual for more information on installation.

955145 ver.1 03/10

755070
54 Row Air Lines & Fittings Kit

Kit Components

QTY	PART NUMBER	NOTE	PART NAME	DESCRIPTION
204	63128	C	Tie Strap	12" UV Black
4	726103	B	PTC Plug	1/4" Plug
104	726115	D	Tee	1/4" X 1/4" X 1/4" PTC Tee
2	726171	B	PTC Union	1/4" X 1/4" PTC
3	755056	A	Tubing	1/4" OD 150' Black
3	755057	A	Tubing	1/4" OD 150' Silver

Notes	
A	Use for plumbing between controller, main trunk line, and rows. Cut to length as required.
B	Use for repairs as necessary
C	Use as required to secure tubing
D	Use to connect row unit tubing to main trunk line

Refer to your Owner's Manual for more information on installation.

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Table 1 Cylinder Kit Compatibility

	Row Units											
	JD 7200/7300/17xx					JD 7000		Kinze				
	Regular (14" Parallel Arms)		Long (21" Parallel Arms)									
Row Cleaner	Chain Drive	Pro Drive	Row Cleaner Only	Yetter Single Arm, or Dawn Coulter, UMO 100	JD Cast Coulter	Row Cleaner Only	Yetter Single Arm Coulter, UMO 100	Row Cleaner Only	Yetter Single Arm Coulter, UMO 100	Kinze Double Arm Coulter	White	Case
Martin MTS, MTS-XP, MTS-81, MTS-IH	755190	755190	755190	N/A	N/A	755190	N/A	755190	N/A	N/A	755190	755190[1]
Martin MTR, MTR-XP, MTR-81, MTR-IH	755195[2]	755195[3]	755195[4]	755195[4]	755195[5]	755225[6]	755225[6]	755195	755195	755195[7]	755225[6]	755225[6]
Martin BD, BK, BW, BCIH 1360	755200	755200	755200[8]	N/A	N/A	755200	N/A	755200	N/A	N/A	755200	755200[1]
Martin BDC 1360	755205	755205	N/A	N/A	755205[4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yetter 2967-035 (short brkt)	755175	755175	755175	N/A	N/A	755175	N/A	755175	N/A	N/A	755175	N/A
Yetter 2967-035	755180[2]	755180[3]	755180[4]	755180[4]	755180[5]	755230	755230	755180	755180	755180[7]	755230	N/A
Yetter 2967-042, 043	755160	755160	755160[4]	755160[4]	755160[4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yetter 2967-115	755170	755170	755170	755170	N/A	755170	755170	755170	755170	N/A	N/A	N/A
Yetter 2967-007	755185	755185	755185[4]	755185[4]	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Yetter 2967-029	755210	755210	755210	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

[1] Mount using bottom hole on base bracket, top hole on rod bracket, flip cylinder upside down, set row cleaner stop bolt high enough so that fittings aren't crushed.
[2] If JD cast coulter is installed, optional shim (755159) may be necessary to help align the cylinder brackets. For UMO compatibility, see Table 2.
[3] Mount using bottom holes on both rod and base brackets, flip cylinder upside down. If JD cast coulter is installed optional shim (755159) may be necessary to help align the cylinder brackets. For UMO compatibility, see Table 2.
[4] Mount using bottom holes on both rod and base brackets, flip cylinder upside down, and install 1/8" stop blocks (755202). For UMO compatibility, see Table 2.
[5] Mount using bottom holes on both rod and base brackets, flip cylinder upside down, and install 1/8" stop blocks (755202). Optional shim (755159) may be necessary to help align the cylinder brackets. For UMO compatibility, see Table 2.
[6] Only compatible if the row cleaner frame is mounted in rear pivot holes or the row cleaner base (see Figure 2 on pg 4)
[7] Kinze coulter bracket must be significantly modified in order to make the base bracket fit. (See Knowledge Base article #49 for details.)
[8] If AirForce bracket 726551 is installed, use bottom holes on both rod and base brackets.

Compatible Coulters and Fertilizer Openers

JC Cast Iron Coulter
Yetter Single Arm Coulter
Dawn Single Arm Coulter
Kinze Double Arm Coulter (See footnote 7 on page 1)
Martin UMO 100 (note: Martin calls their 1360/UMO combo "BD-UMO". CleanSweep is not compatible with this combination. This is not the same as the BDC 1360, which only mounts to the JD Cast Coulter) See Table 2 for compatibility

Incompatible Coulters and Fertilizer Openers

Yetter Double Arm Coulter
JD Double Disk Fertilizer Opener
JD Single Disk Fertilizer Opener

Table 2 UMO-100 compatibility

CleanSweep Compatibility on C125 MTR row cleaners w/ LH mounted UMO-100				
		1" Left	2" Left	3" Left
755195	3/4" above seed	All Clear	All Clear	Top hole of CS bracket only. Cannot use bottom hole. Row cleaner may not be set any deeper than 3" above seeding depth.
	Even w/ seed	All Clear	All Clear	Top hole, no interference. If using bottom hole, row cleaner may not be set any deeper than 3" above seeding depth
	3/4" below seed	All Clear	All Clear	All Clear
755225	3/4" above seed	All Clear	No Go	No Go
	Even w/ seed	All Clear	No Go	No Go
	3/4" below seed	All Clear	No Go	No Go

Kit Specific Considerations

755170

Lift force and down force are flip-flopped on this design. That is, the extend side of the cylinder provides the lift force and the retract side provides the down force. Hence, connect the gray tubes to the extend side of the cylinder (base side) and the black tubes to the retract side (rod side).

Extra hardware is included to ease installation. Choose between using carriage bolts or hex bolts depending on which installs more easily.

Mount cylinder in the hole that corresponds to the position of the row cleaner pivot. E.G: If the row cleaner pivot is in the top most position, use the top hole to mount the cylinder to the base bracket. If the row cleaner is 1/2" below the top position, use the middle hole. If it's 1" below the highest position, use the bottom hole. If it's lower than that use the bottom hole and check to make sure there's clearance around the cylinder (in all functional positions) before using CleanSweep. CleanSweep cannot be used if the row cleaner pivot is lower than 1.5” below the highest position. (see Figure 1)

Flip cylinder upside down.

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