



## Air-Pro® Planters Actuator Field Kit

Used with YP Air-Pro® Planters:

- YP1225A/1625A
- YP4025A
- YP2425A
- 3PYPA
- YP3025A



*When you see this symbol, the subsequent instructions and warnings are serious - follow without exception. Your life and the lives of others depend on it!*

## General Information

These instructions explain how to install an Actuator Field Kit. One kit updates one planter:

| Kit      | Kit Description    |
|----------|--------------------|
| 403-616A | Actuator Field Kit |

### Tools Required

- basic hand tools
- die grinder or cutoff wheel
- 8 ft ladder
- safety glasses and gloves

### Work Location

Move the implement to a flat location with enough room to unfold wings of implement.



#### **Falling Hazard:**

*Practice caution when working on elevated surfaces. Make sure any ladders used have solid footing.*

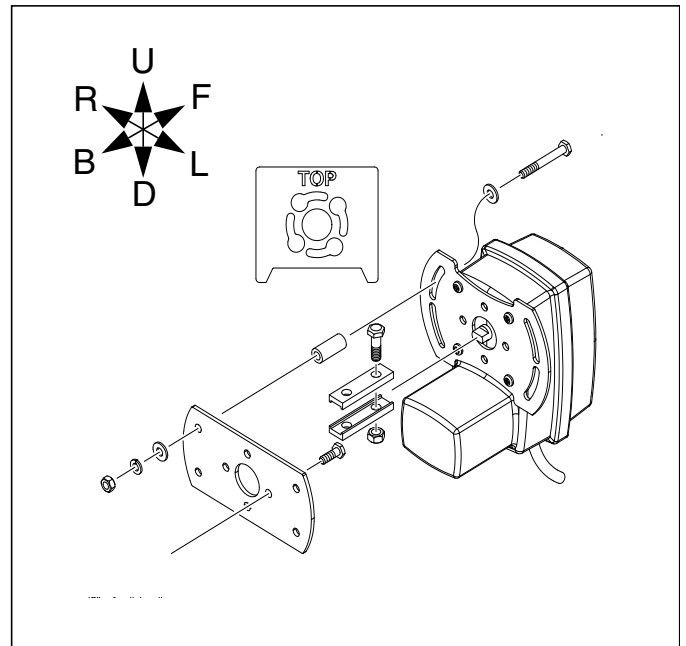
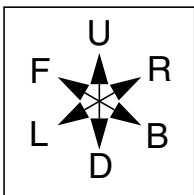


Figure 1  
Actuator Field Kit

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## Notations and Conventions



“Left” and “Right” are facing in the direction of machine travel. An orientation rose in the line art illustrations shows the directions of Left, Right, Front, Back, Up, Down.

### Call-Outs

- ① to ⑨ Single-digit callouts identify components in the currently referenced Figure. These numbers may be reused for different items from page to page.
- ⑪ to ⑳ Two-digit callouts in the range 11 to 23 reference new parts from the list on page 6.

## Remove Old Actuator

Refer to Figure 2

1. Unfold machine.

Note: In some cases, but not all, the machine must be in unfold position to access the actuator.

Note: In some cases a ladder is needed to reach the actuator.

2. Before removing the old actuator, mark the air box mount bracket so that the new actuator can be assembled with the same orientation angle as the old actuator.
3. Remove 4 bolts ① attaching old actuator on air box mount bracket.
4. Remove one bolt holding coupler shaft flats ⑫.
5. Undo weather pack.

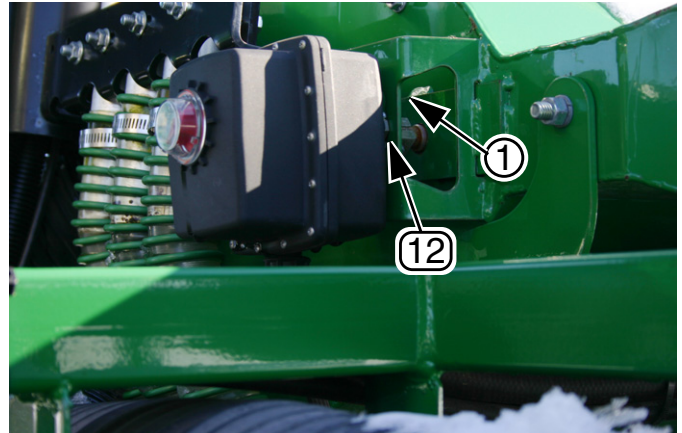


Figure 2  
Old Actuator

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## Install New Actuator

Refer to Figure 3 and Figure 4

### ⚠ CAUTION

#### Safety Hazard:

Always wear protective equipment. Wear safety glasses and gloves when using industrial tools.

6. The new actuator ⑬ will not fit correctly without removing material from the bottom of the existing air box actuator mount ③ (see Figure 4).

Place the template ⑮ supplied with the kit over the actuator mount, lining up the slots on the template with those on the mount and mark the area at the bottom of the mount ③ to be removed.

Use a die grinder or cutoff wheel and remove the area from the bottom of the bracket ③.

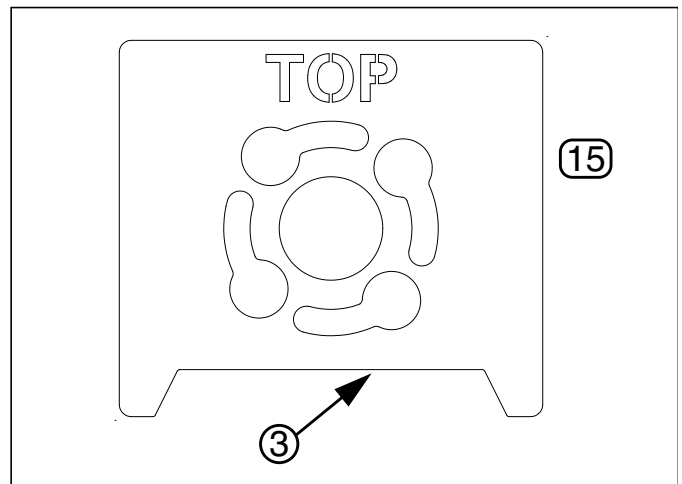


Figure 3  
Template

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## Install New Actuator (cont'd)

### Refer to Figure 3

#### 7. Select one:

⑭ 403-787D ACTUATOR ADAPTER PLATE

Select four each:

⑰ 802-004C HHCS 1/4-20X3/4 GR5

⑳ 803-006C NUT-HEX 1/4-20 PLT

㉒ 804-006C WASHER LOCK SPRING 1/4 PLT

Square actuator adaptor plate ⑭ up against air box mount bracket ③ on machine. Secure through four center holes of adaptor plate using bolts ⑰, lock washers ㉒ and nuts ㉑.

#### 8. Mount actuator with the electrical connection facing downward.

Select:

⑯ 467096051 DJ ACTUATOR ROTARY

Select four each:

⑱ 802-152C HHCS 1/4-20X2 GR5

⑬ 403-785D TUBE 5/8 X 10GA X 1.2

㉒ 804-006C WASHER LOCK SPRING 1/4 PLT

⑳ 803-006C NUT-HEX 1/4-20 PLT

Select eight:

㉓ 804-007C WASHER FLAT 1/4 SAE PLT

Loosely mount the actuator ⑯ to air box mount bracket ③ with adaptor plate (previously installed in step 7). Place four bolts ⑱ and flat washers ㉓ through slots ⑤ of actuator mount plate (as shown), then place tube ⑬ over bolt end and finally secure with flat washers ㉓, lock spring washers ㉒ and hex nuts ㉑ on back of air box mount bracket ③.

#### 9. Select:

⑫ 403-783D COUPLER 1/2" SHAFT W/ FLATS

Select two each:

⑲ 802-159C HHCS 5/16-18X1 GR5

㉑ 803-011C NUT LOCK 5/16-18 PLT

Attach coupler shaft flats ⑫ to actuator shaft ④ using two bolts ⑲ and lock nuts ㉑.

#### 10. The mounting hardware for the actuator is located in slots to allow for adjustment. When installing a new actuator, leave the mounting hardware loose until the final adjustment is made.

a. Use the switchbox to electrically rotate the actuator to one end of its travel.

b. Manually rotate the actuator housing until you feel the vane make contact inside the valve. Back off just slightly and tighten the hardware.

c. Be sure to operate the actuator through its full range of travel before disconnecting the switchbox.

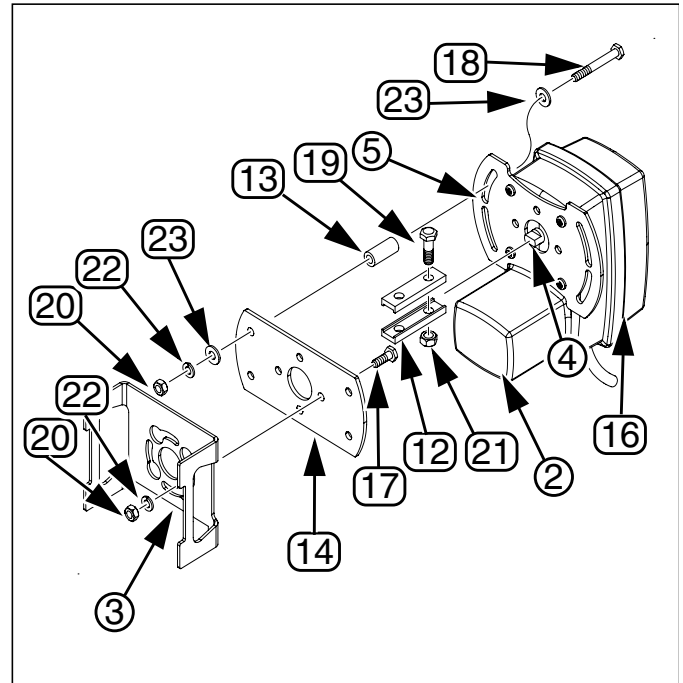


Figure 4  
New Actuator

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## Finish Installing New Actuator

*Refer to Figure 5*

11. There is a bolt ② not visible in photo (similar to bolt ①) located on the inside of the air box. It may interfere with the fit of the new actuator and need to be taken out and reversed to provide clearance for the actuator.
12. Reattach weather pack.

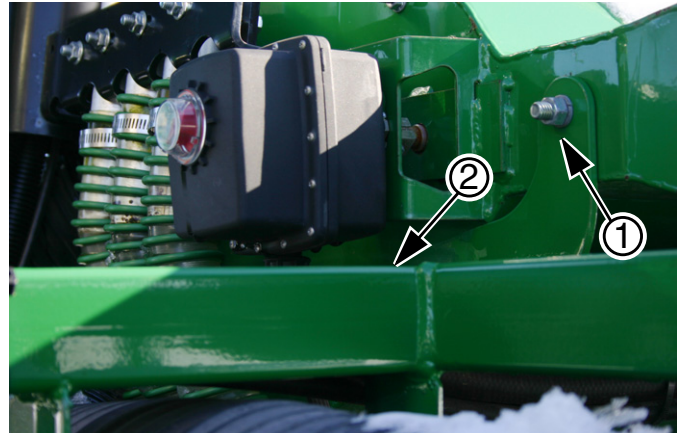
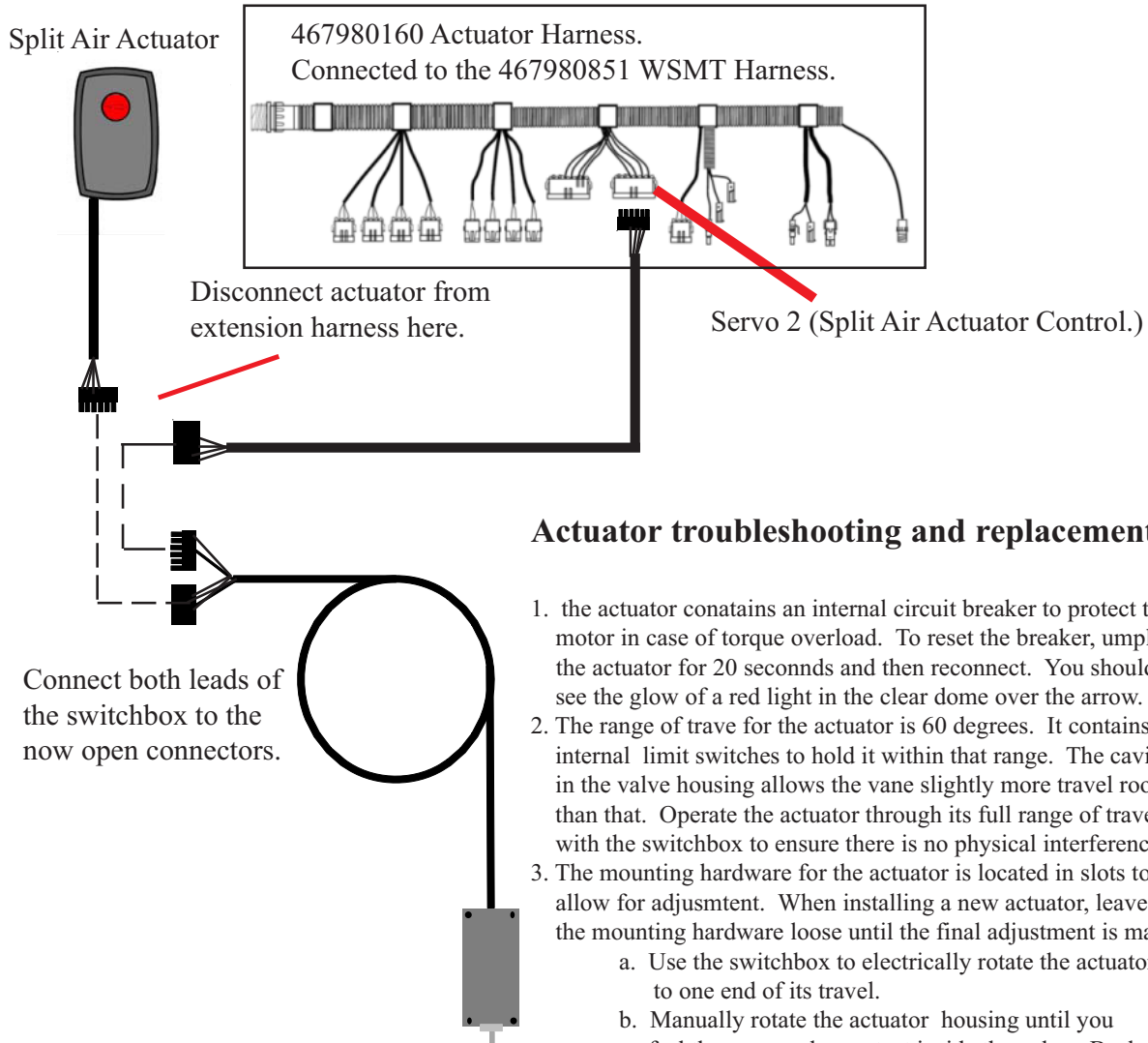


Figure 5  
Bolt Location

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## Split Air Actuator Switchbox

Planter harness must be electrically connected to tractor for switchbox to function. If this is not possible, another 12VDC power supply needs to be connected to the tower connector of the switchbox harness (connector with only two wires). Pin A of the two wire connector is power and pin B is ground.



### Actuator troubleshooting and replacement.

1. the actuator contains an internal circuit breaker to protect the motor in case of torque overload. To reset the breaker, unplug the actuator for 20 seconds and then reconnect. You should see the glow of a red light in the clear dome over the arrow.
2. The range of travel for the actuator is 60 degrees. It contains internal limit switches to hold it within that range. The cavity in the valve housing allows the vane slightly more travel room than that. Operate the actuator through its full range of travel with the switchbox to ensure there is no physical interference.
3. The mounting hardware for the actuator is located in slots to allow for adjustment. When installing a new actuator, leave the mounting hardware loose until the final adjustment is made.
  - a. Use the switchbox to electrically rotate the actuator to one end of its travel.
  - b. Manually rotate the actuator housing until you feel the vane make contact inside the valve. Back off just slightly and tighten the hardware.
  - c. Be sure to operate the actuator through its full range of travel before disconnecting the switchbox.

The Actuator Switchbox is to be used for the troubleshooting of the split air actuator on Air-Pro planters as well as an aid in the proper installation of a replacement actuator if needed. **DO NOT USE THIS TOOL AS A REPLACEMENT FOR INTELLI-AG CONTROL DURING PLANTING!** The switch is a spring centered momentary switch. Moving the switch to one side or the other will cause the actuator to rotate either clockwise or counter-clockwise. When the switch is released it will recenter itself and stop actuator motion.

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## Appendix

### Part Lists

#### New Parts

The part call-out numbers in this list match all Figures in these installation instructions. Part descriptions match those in your updated Parts Manual.

Quantities are units ("ea").

#### Kit Contents

403-616A Actuator Field Kit

| Callout | Quantity | Part Number | Part Description            |
|---------|----------|-------------|-----------------------------|
| 11      | 1        | 401-809M    | MANUAL ACTUATOR FIELD KIT   |
| 12      | 2        | 403-783D    | COUPLER 1/2" SHAFT W/ FLATS |
| 13      | 4        | 403-785D    | TUBE 5/8 X 10GA X 1.2       |
| 14      | 1        | 403-787D    | ACTUATOR ADAPTER PLATE      |
| 15      | 1        | 403-790D    | TEMPLATE                    |
| 16      | 1        | 467096051   | DJ ACTUATOR ROTARY          |
| 17      | 4        | 802-004C    | HHCS 1/4-20X3/4 GR5         |
| 18      | 4        | 802-152C    | HHCS 1/4-20X2 GR5           |
| 19      | 2        | 802-159C    | HHCS 5/16-18X1 GR5          |
| 20      | 8        | 803-006C    | NUT-HEX 1/4-20 PLT          |
| 21      | 2        | 803-011C    | NUT LOCK 5/16-18 PLT        |
| 22      | 8        | 804-006C    | WASHER LOCK SPRING 1/4 PLT  |
| 23      | 8        | 804-007C    | WASHER FLAT 1/4 SAE PLT     |

### Abbreviations

|        |                    |
|--------|--------------------|
| DJ     | Dickey-john        |
| GA     | Gauge              |
| GR5    | Grade 5            |
| HHCS   | Hex Head Cap Screw |
| HOP    | Hopper             |
| PL/PLT | Plated             |

|       |  |
|-------|--|
| PLTR  | Planter                                    |
| RHSNB | Round Head Shank Neck Bolt                 |
| SAE   | Society of Automotive Engineers (standard) |
| SS    | Stainless Steel                            |
| W     | with                                       |
| X     | by   |

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