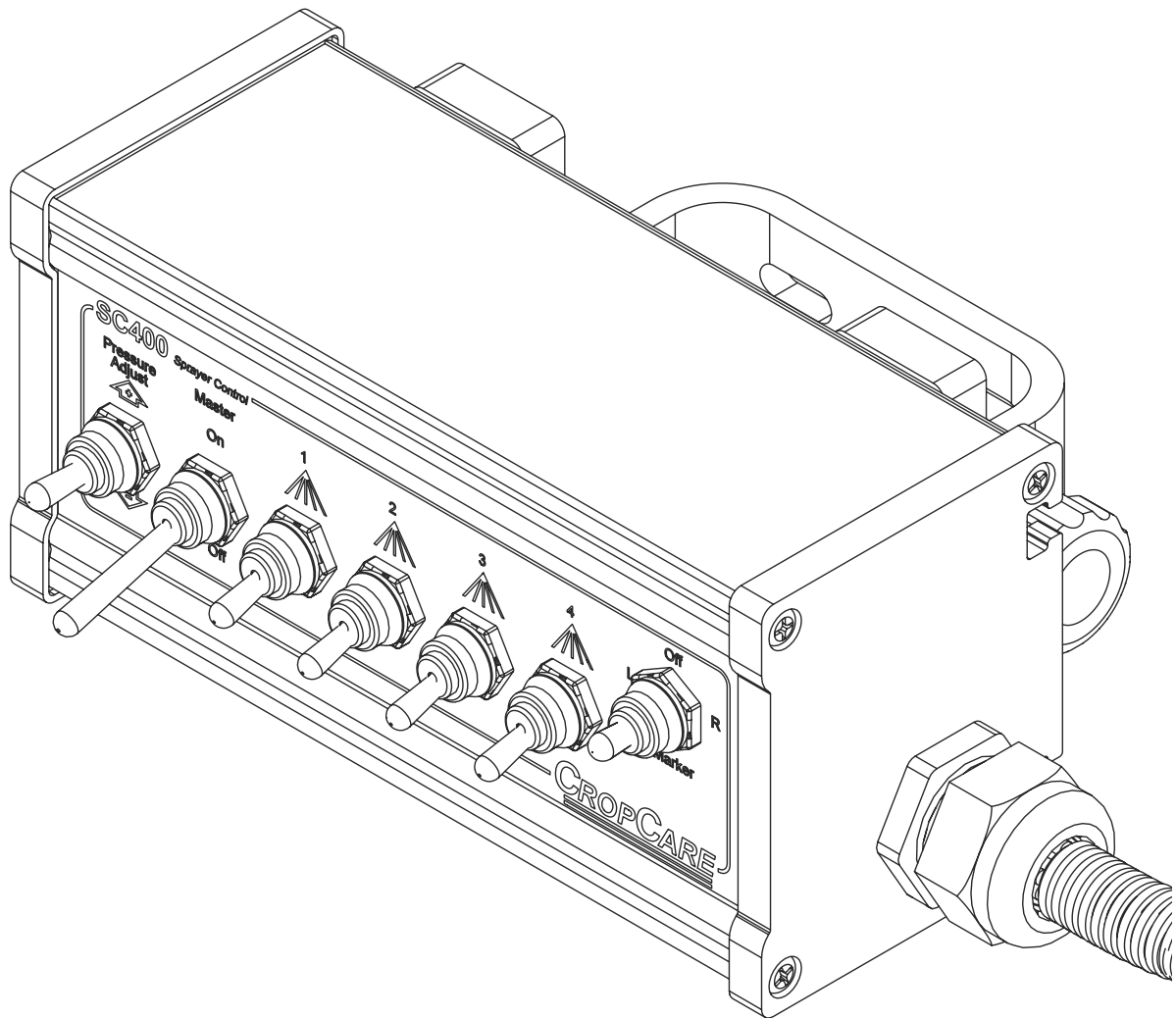


## Owner's Manual

### Sprayer Control Unit

### Model SC400 & SC400-2500



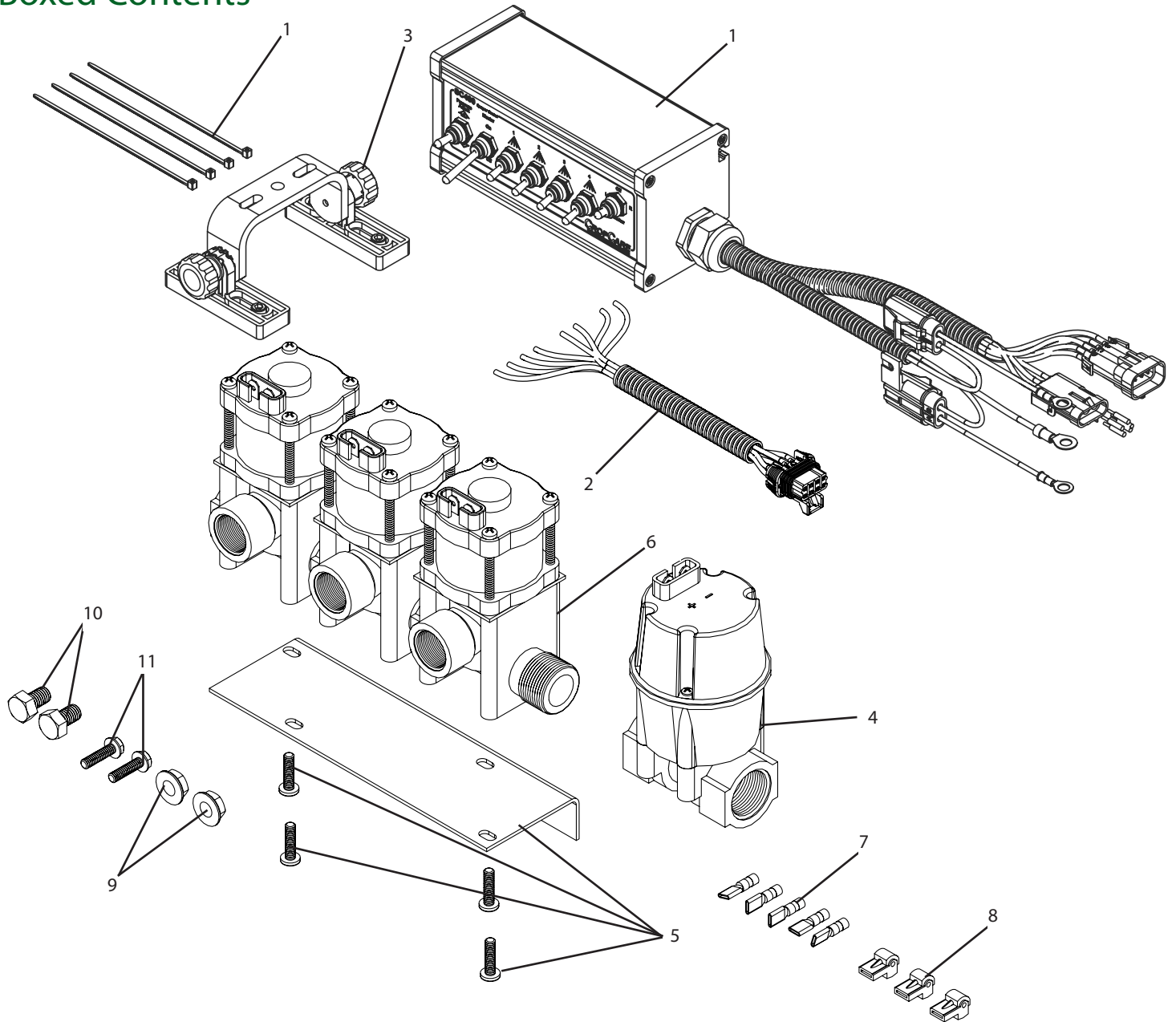
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# Boxed Contents

## Boxed Contents



| Ref# | Qty. | Part Number | Description   |
|------|------|-------------|---|
| 1    | 1    | SC401       | + Sprayer Control Box Only                          |
| 2    | 1    | SC402       | + Harness, Sprayer End 12 Ft                        |
| 3    | 1    | 905046.01   | + Kit, Swivel Mount SC400 Console                   |
| 4    | 1    | 1560A       | Valve, Regulating Electric 3/4" FPT                 |
| 5    | 1    | 2151*       | Bracket, Solenoid Valve Manifold Mounting (3) SS    |
| 6    | 1    | 2502B-3     | Valve, Solenoid Bank (3) 175 PSI 8 GPM              |
| 7    | 5    | 506567      | Terminal, Wire Spade 1/4" Female 16-14 Ga Insulated |
| 8    | 3    | DC908075    | Connector, T-tap 0.25" Female Self Stripping        |
| 9    | 2    | FN516       | Nut, Flange 5/16-18                                 |
| 10   | 2    | H5C516*12   | Bolt, Hex 5/16-18 x 1/2" Gr 5                       |
| 11   | 2    | HT10*34     | Screw, Hex Washer Tap #10 x 3/4"                    |

+ Items included in SC400 kit.

# Installation Procedures

## Sprayer End Wiring Harness

1. The sprayer end wiring harness is made up of 8 wires with a Metripack female terminal (a) on the end that connects to the output wiring harness, and bare wires on the other end (Figure 1).
2. The bare wires are: the control valve power and ground wires (b), the regulating valve power and ground wires (c), and the control valve signal wires (d) (Figure 1).
3. Refer to figure 2 for the pin names, and the corresponding wire colors and signal names for the sprayer end harness.

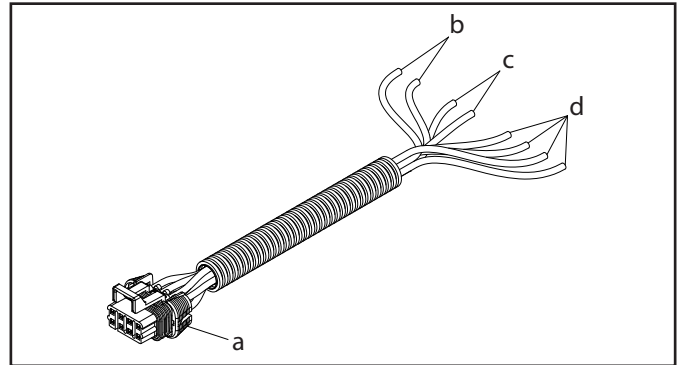


Figure 1: Sprayer end wiring harness

| Pin | Color  | Signal Name     |
|-----|--------|-----------------|
| a   | red    | power (+)       |
| b   | black  | ground (-)      |
| c   | blue   | reg. valve (-)  |
| d   | orange | reg. valve (+)  |
| e   | gray   | boom 1 (signal) |
| f   | purple | boom 2 (signal) |
| g   | tan    | boom 3 (signal) |
| h   | pink   | boom 4 (signal) |

Figure 2: Sprayer end pin outs

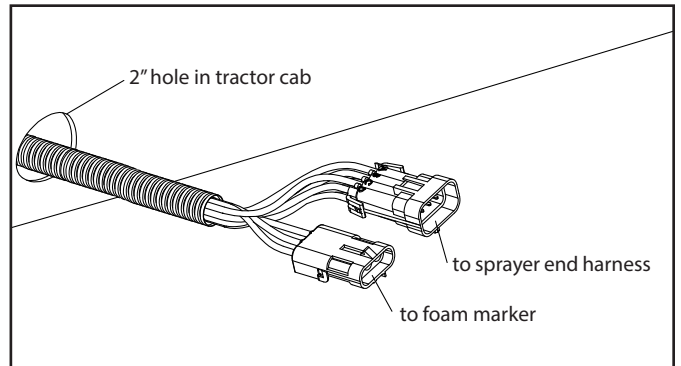


Figure 3: Wire harness routing

## Control End Wiring Harness

1. Determine the best routing path for the wiring harness. Be sure that the harness will be out of the operator's range of movement. Be careful to avoid routing the harness near any moving parts or sharp objects.
2. Cut an opening, approximately 2" in diameter, which will be used to feed the wiring harness through from inside the tractor to outside (Figure 3).
3. Be sure to remove any burrs or sharp edges from the opening to prevent damage to the wiring harness.
4. Route the wiring harness and fasten with cable ties.
5. Connect the control end wiring harness to the sprayer end wiring harness (Figure 3).
6. Refer to Figure 4 for the pin names, and the corresponding wire colors and signal names for the control end harness.
7. Connect the foam marker input harness to the wiring harness foam marker (Figure 3).
8. Refer to Figure 5 for the pin names, and the corresponding wire colors and signal names foam marker input harness.

| Pin | Color  | Signal Name     |
|-----|--------|-----------------|
| a   | red    | power (+)       |
| b   | black  | ground (-)      |
| c   | blue   | reg. valve (-)  |
| d   | orange | reg. valve (+)  |
| e   | gray   | boom 1 (signal) |
| f   | purple | boom 2 (signal) |
| g   | tan    | boom 3 (signal) |
| h   | pink   | boom 4 (signal) |

Figure 4: Control end pin outs

| Pin | Color  | Signal Name |
|-----|--------|-------------|
| a   | brown  | left (+)    |
| b   | yellow | ground (-)  |
| c   | green  | right (+)   |

Figure 5: Foam marker pin outs

# Installation Procedures

## Power Wiring Harness

1. The input power wiring harness consists of (3) wires, (2) red (a), and (1) black (b) (Figure 4). The red wires should be connected to a 12 volt 30 amp power supply. It is recommended to use a power source from inside the cab of the tractor if possible. If a power source is not available in the tractor cab, route the input power harness to the tractor's battery.
2. **IMPORTANT:** Make sure the 15 and 10 amp fuses on the power harness are in place before operating. The fuses are located inside the Metripack fuse covers (c) (Figure 4). (NOTE: The 10 amp fuse is in the feed for the boom section valves, and the 15 amp fuse is for the foam marker.)
3. The black (negative) wire needs to be connected to a good chassis ground, or the negative terminal of the tractor's battery.

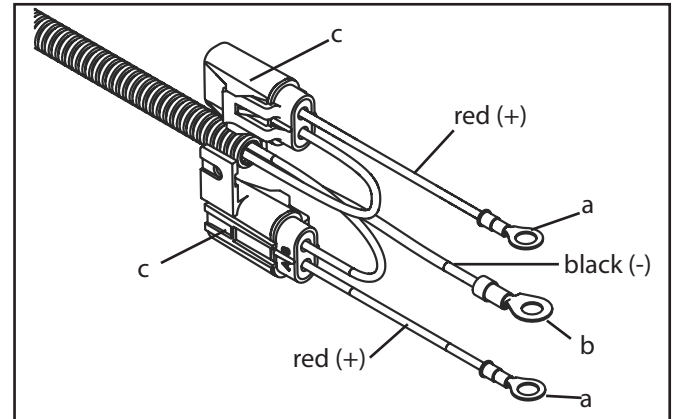


Figure 4: Input power harness

## Control Unit

1. Make sure all switches on the SC400 control unit are flipped to the "off" position.
2. Determine the best location for the control unit in the tractor cab. Be sure the switches are easily accessible for the operator and that a 12 volt DC power source is easily accessible.
3. Drill two 1/4" holes at the desired mounting location
4. Install the mounting bracket with two 1/4" bolts (a) and nuts (b) as shown (Figure 5). 1/4" nuts and bolts not included.
5. Adjust the angle of the unit by turning the knobs (c) on the sides of the mounting bracket (Figure 5).
6. When using the SC400 control unit on an open station tractor, the control unit must be protected from the elements when not in use.

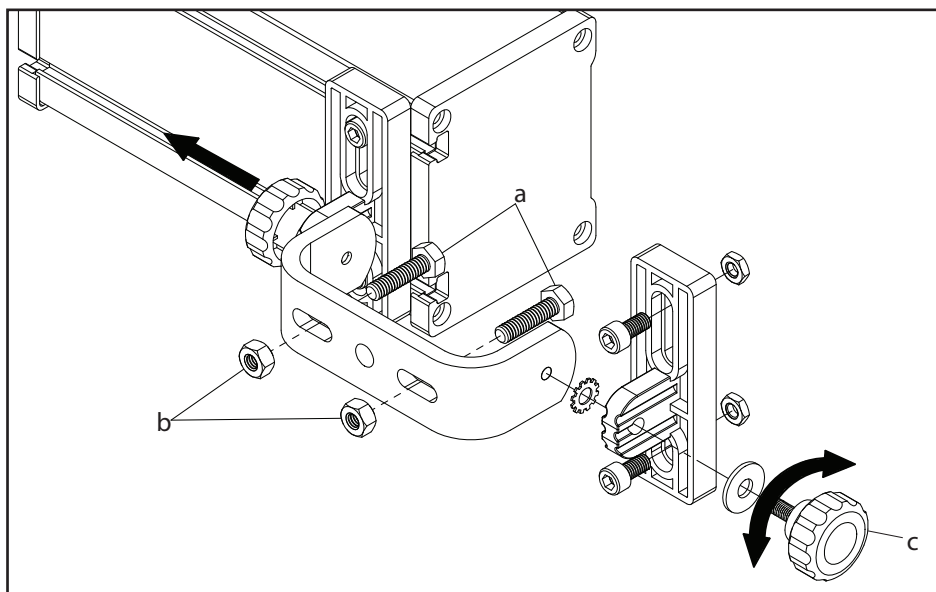
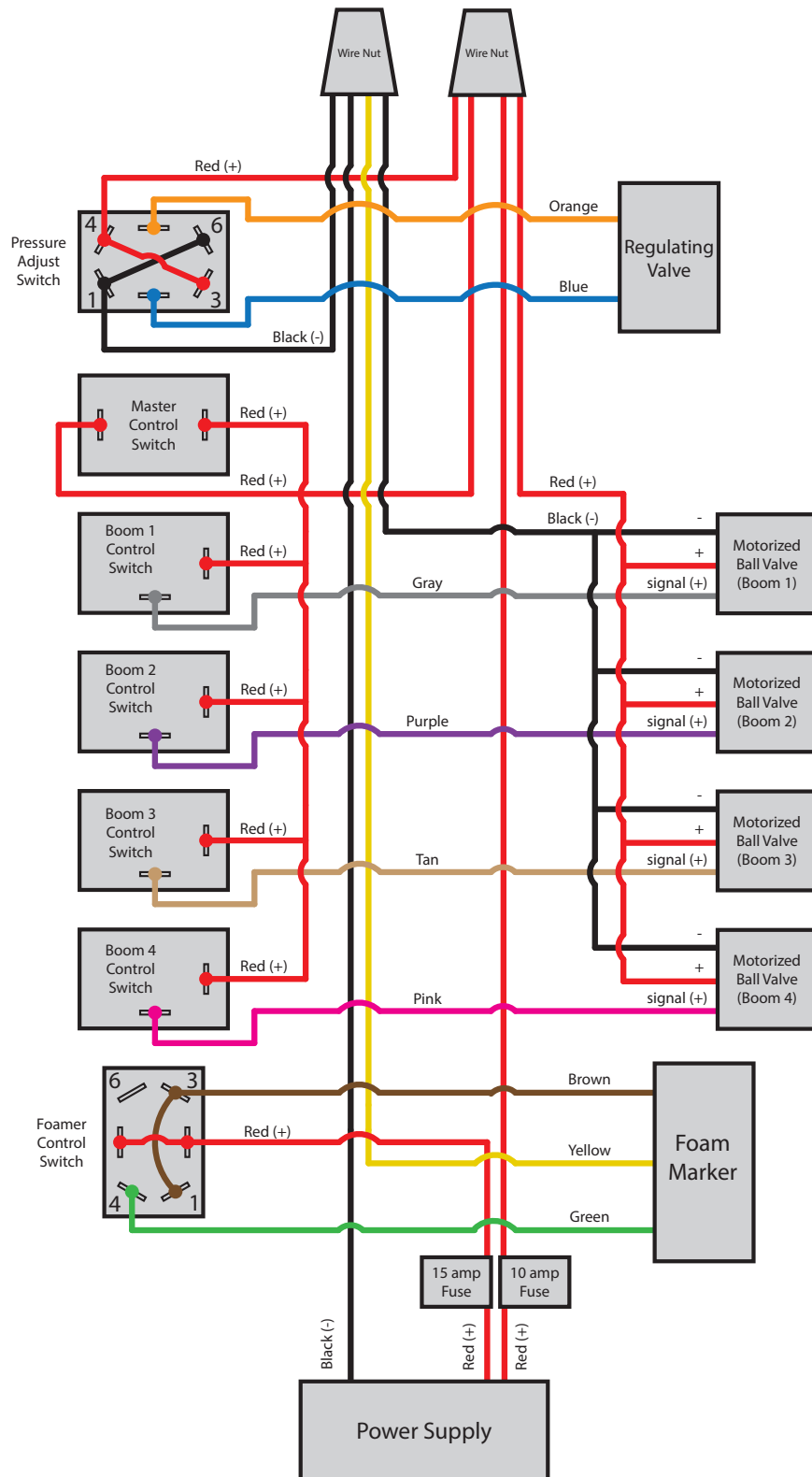


Figure 5: Control unit mounting

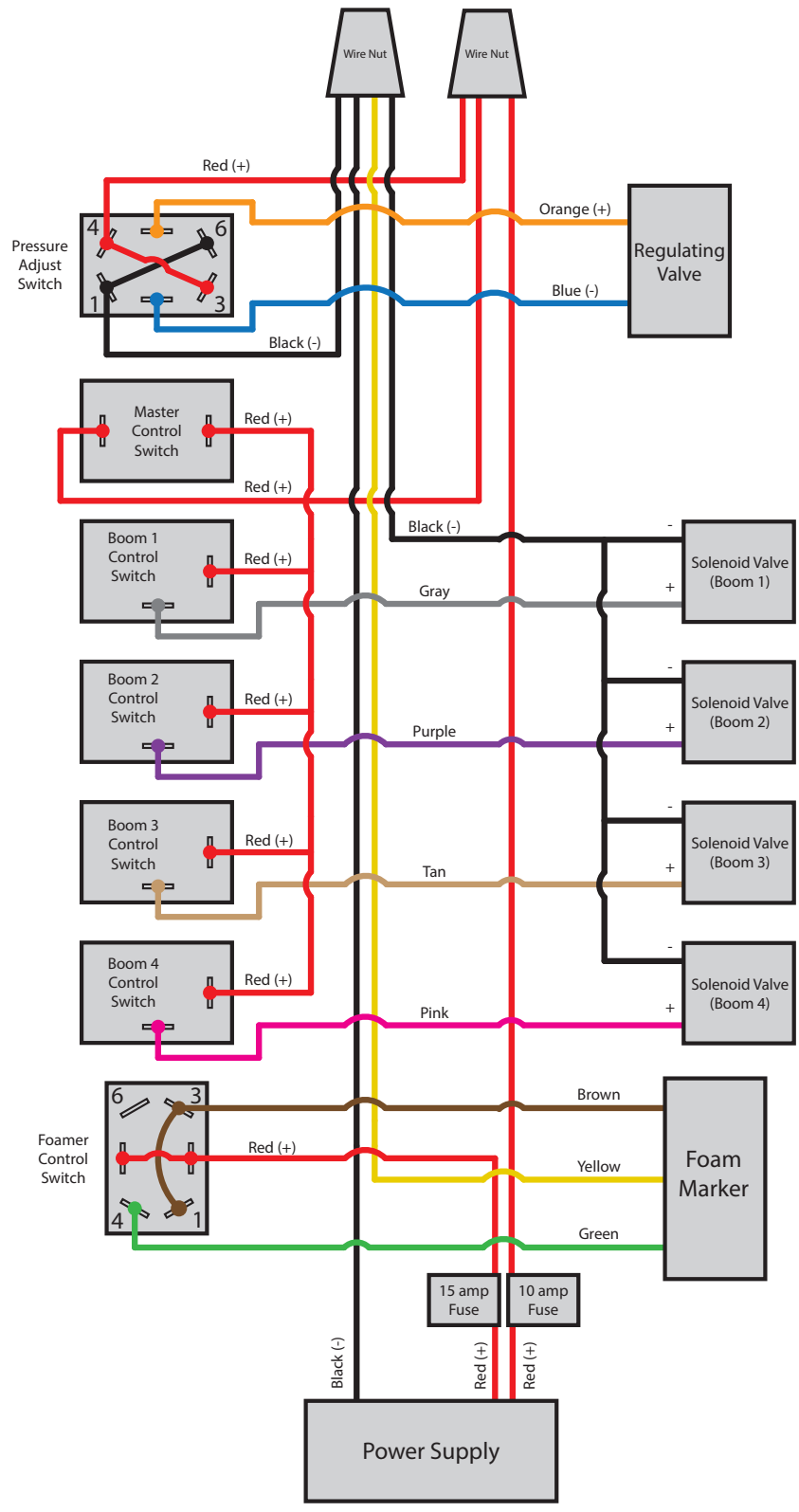
# Wiring Diagrams

## SC400 w/ Motorized Ball Valves Wiring Schematic



# Wiring Diagrams

## SC400 w/ Solenoid Valves Wiring Schematic



# Operating Instructions

1. The SC400 sprayer control unit has 7 toggle switches on the unit's face plate.
2. The master control switch (a), is the long toggle switch and it controls the power to all boom sections.
3. There are 4 boom control switches (c). Each switch controls a separate boom section. If the master control switch is in the off position, all boom sections are off. If the master switch is in the on position, the individual boom sections can be turned on or off using the boom control switches.
4. To turn on an individual boom section simply flip the corresponding boom control switch to the "spray" (up) position.
5. The foam marker control switch (d) controls the power to the foam marker unit as well as which side of the foam marker in operation. The toggle switch has 3 positions off (middle), L (left), and R (right).
6. The pressure adjustment switch (b) is located to far left of the control unit and is used to raise or lower the spraying pressure. To operate, press and hold the switch up or down until the desired pressure is achieved.

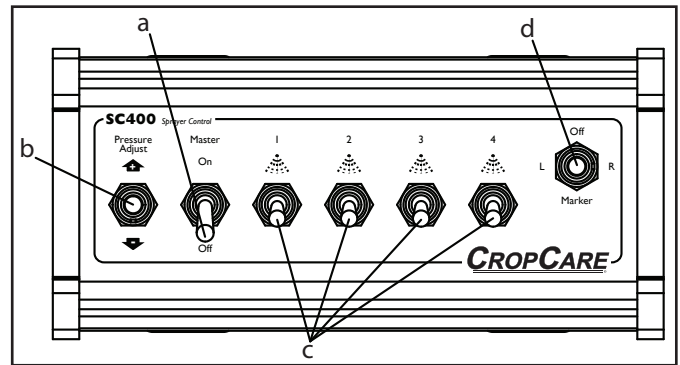


Figure 6: Control unit

7. To increase the pressure, press and hold the switch up (+). To decrease the pressure, press and hold the switch down (-).

**NOTE:** If the regulating valve wiring is incorrect, the pressure adjustment function will be reversed. If this happens, press and hold the pressure adjustment switch up (+) until the pressure begins to increase. This could take up to 25 seconds.

**IMPORTANT:** Leaving the master switch and section switch(s) in the "ON" position when no liquid is flowing through the valve manifold causes the solenoid coil(s) to overheat and short out. Overheated valve coils and resulting damage to other components are not covered by the product warranty.

# Maintenance Instructions

## Routine Maintenance

Several routine procedures should be followed to help maintain the SC400 sprayer control unit.

1. Check all wires and connections for damage, wear, and frayed ends to prevent shorting out and further damaging the system.
2. Check and be sure the control unit is mounted properly and securely.
3. All terminals and connections should be free of any corrosion.
4. The SC400 control unit is water-resistant but is not water-proof. DO NOT submerge the unit when cleaning.
5. When not in use, store in a dry area away from the elements.

# Maintenance Instructions

## Replacing Switches

Should any of the 7 toggle switches on the SC400 control unit fail or sustain damage, follow these steps to remove the switch and replace it with a new one.

1. Remove the end cap (a) from the control box by removing the four screws (Figure 7).
2. Slide the face plate (b) out of the control box (Figure 7).
3. Disconnect wire terminals (c) from the switch (Figure 7).
4. Remove the rubber switch boot (e) from the selected switch (Figure 7).
5. With the switch boot removed, loosen the nut (d) that holds the switch onto the face plate (Figure 7).
6. With the nut removed the switch can now be removed and replaced with a new one.
7. NOTE: Be sure the new switch is connected correctly. Refer to the wiring schematics on pages 6-7 for wiring the switches.
8. When the switch is replaced, slide the face plate back into the control box. Be sure the face plate gaskets (f) slide back in properly (Figure 7). Also make sure that the wires slide back in and are not pinched or caught anywhere.

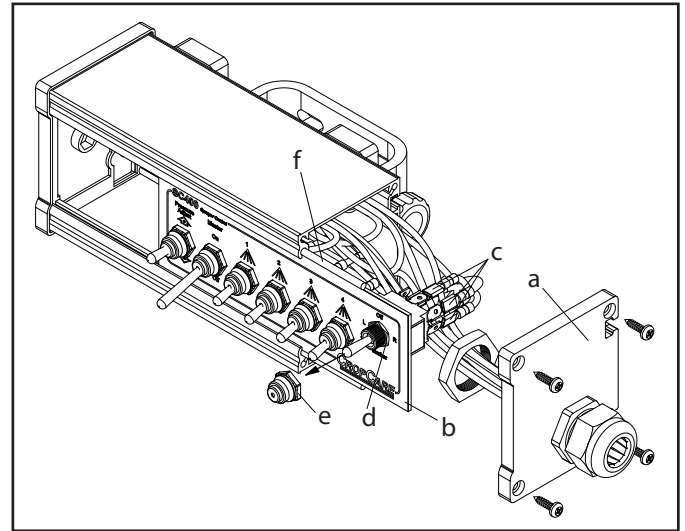
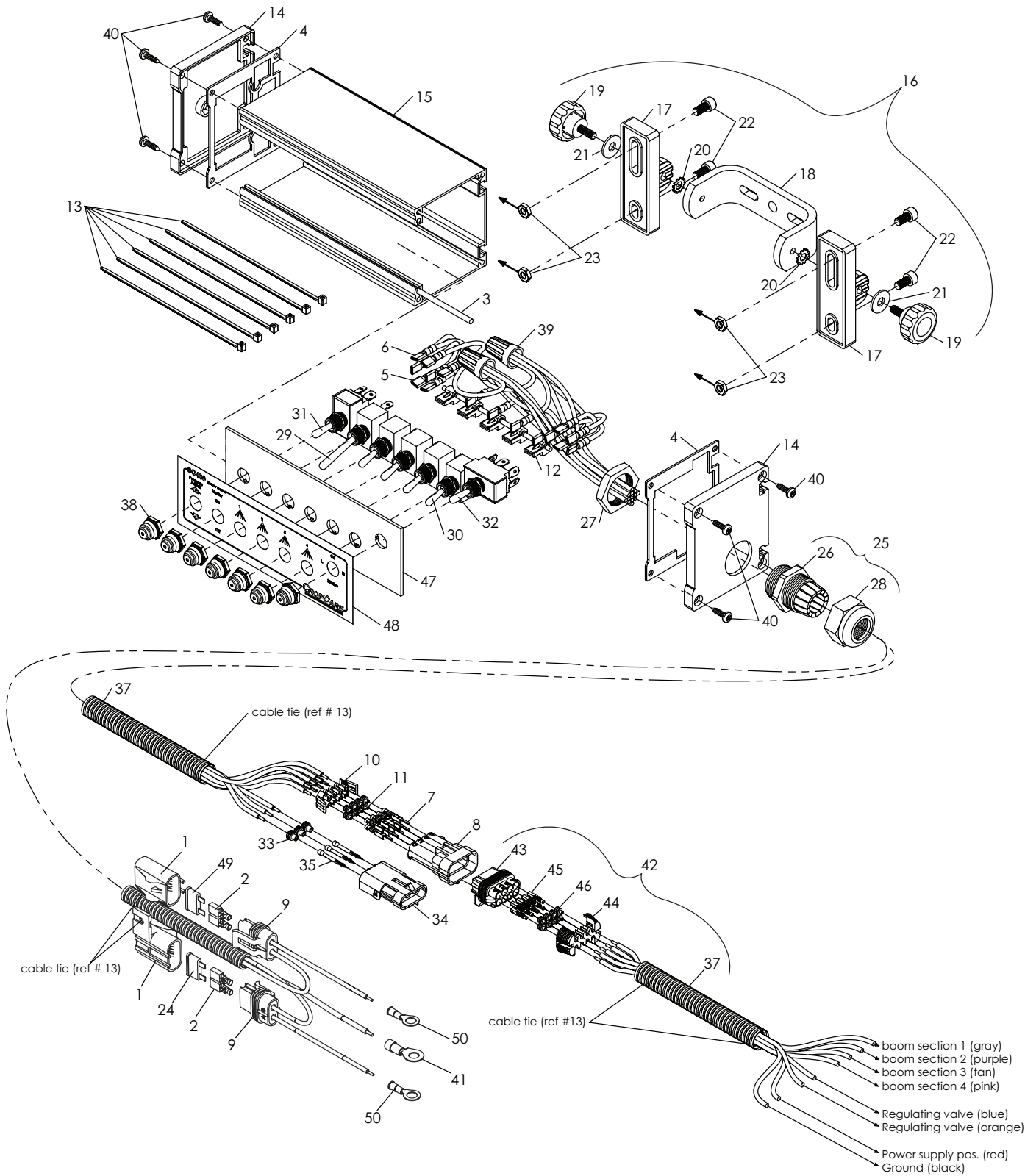


Figure 7: Removing/Replacing switches

# Breakdowns & Parts Lists

## SC400 Breakdown



# Breakdowns & Parts Lists

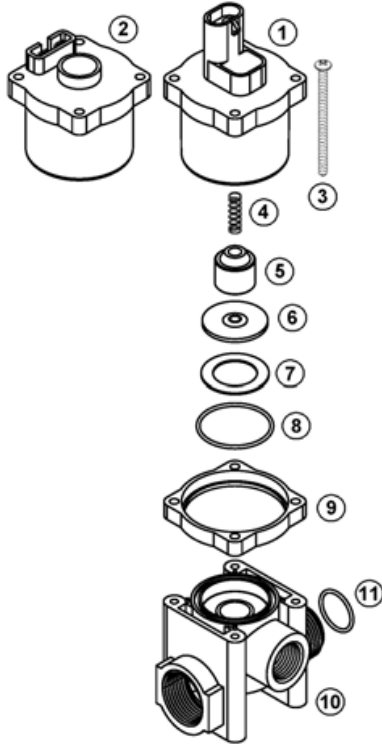
## SC400 Parts List

| Ref # | Qty. | Part Number | Description   |
|-------|------|-------------|---|
| 1     | 2    | 12033731-B  | Metripack fuse cover  |
| 2     | 4    | 12015870-L  | Terminal, Fuse Metri-Pack 630, 16-14 Ga                       |
| 3     | 2    | 250056      | Panel o-ring  |
| 4     | 2    | 250069      | End cap gasket  |
| 5     | 12   | 506567      | Term. disconnect, female                                      |
| 6     | 4    | 562890      | Term. disconnect, female                                      |
| 7     | 8    | 12045773    | Metripack female terminal                                     |
| 8     | 1    | 12047931    | Metripack male plug, 8 pin 150 series                         |
| 9     | 2    | 12085030-B  | Metripack fuse housing  |
| 10    | 1    | 15324525-B  | Metripack TPA lock, 8 pin male                                |
| 11    | 8    | 15324973-B  | Metripack cable seal  |
| 12    | 5    | 1A074       | Self-stripping t-tap, female, .25"                            |
| 13    | 6    | 618UV       | cable tie, 6" long  |
| 14    | 2    | 760059-01   | Extrusion end cap, plastic                                    |
| 15    | 1    | 760134-187  | Aluminum extrusion, 187mm long                                |
| 16    | 1    | 905046-01   | SC400 swivel mount (Includes ref #'s: 17-23)                  |
| 17    | 2    | 760074.01   | + Mounting bracket  |
| 18    | 1    | 760074.02   | + Metal bracket   |
| 19    | 2    | 100065      | + Adjustment knob   |
| 20    | 2    | EW14        | + external tooth lock washer, 1/4"                            |
| 21    | 2    | FW14        | + flat washer, 1/4"   |
| 22    | 4    | SCC6*12M    | + Socket head cap screw, 6 x 12mm, 1.0 pitch                  |
| 23    | 4    | JNC6M       | + Jam nut, 6mm  |
| 24    | 1    | ATC-10      | ATC fuse, 10amp   |
| 25    | 1    | DC2656      | Strain relief, .45" - .70" with nut (Includes ref #'s: 26-28) |
| 26    | 1    | N/A         | + Strain relief body  |
| 27    | 1    | NP-21-BK    | + Plastic nut   |
| 28    | 1    | N/A         | + Locking nut   |
| 29    | 1    | DC7200030   | toggle switch, on-off, SPST                                   |
| 30    | 4    | DC7200102   | toggle switch, on-off, SPST                                   |
| 31    | 1    | DC7300135   | Pressure adjusting switch                                     |
| 32    | 1    | DC7300131   | Foam marker switch  |
| 33    | 3    | DC75004     | cavity seal 16-14 gauge                                       |
| 34    | 1    | DC75020     | Male plug, 3-prong  |
| 35    | 3    | DC75034     | male terminal, 16-14 gauge                                    |
| 36    | N/A  | DC784       | Flex-guard loom, 3/8"   |
| 37    | N/A  | DC786       | Flex-guard loom, 1/2"   |
| 38    | 7    | DC7900003   | Toggle switch half boot, black                                |
| 39    | 2    | E10307      | Wire nut set screw 30-222 large                               |
| 40    | 8    | PT8*58      | Phillips pan head tapping screw, #8 x 5/8"                    |
| 41    | 1    | RV10516     | Terminal, Wire Ring 5/16" 12-10 Ga Insulated                  |
| 42    | 1    | SC402       | Sprayer end harness (Includes ref #'s: 37, 43-46)             |
| 43    | 1    | 12047937    | + Metripack female plug, 8 pin 150ser                         |
| 44    | 1    | 12066304    | + Metripack TPA lock, 8 pin female                            |
| 45    | 8    | 12048074    | + Metripack female terminal                                   |
| 46    | 8    | 15324973-B  | + Metripack cable seal  |
| 47    | 1    | SC403       | Switch panel, aluminum  |
| 48    | 1    | DE56        | Decal, SC400 face plate                                       |
| 49    | 1    | ATC-15      | ATC fuse, 15amp   |
| 50    | 2    | DC452565    | Terminal, Ring, 5/16" Stud, 16-14ga Blue                      |

+ Included in a complete assembly

# Breakdowns & Parts Lists

## 2502B Solenoid Valve Breakdown



| Ref # | Qty. | Part Number | Description                                 |
|-------|------|-------------|---|
| 1     | 1    | N/A         | Coil weather pack terminals                 |
| 2     | 1    | N/A         | Coil, 1/4" spade terminals                  |
| 3     | 4    | N/A         | 8 x 2 1/2 Screw                             |
| 4     | 1    | 2315        | * Spring                                    |
| 5     | 1    | N/A         | Plunger                                     |
| 6     | 1    | 2307        | * Disc Valve, Viton                         |
| 7     | 1    | 2363        | * Washer                                    |
| 8     | 1    | 2314        | * "O" ring, 028 Viton                       |
| 9     | 1    | N/A         | Adaptor ring                                |
| 10    | 1    | N/A         | Valve body for 2500B valve                  |
| 11    | 1    | 2166        | "O" ring, 018                               |
|       |      | 2352        | Repair kit. Consists of items marked with * |

| Specifications           |                                |
|--------------------------|--------------------------------|
| Valve housing            | Glass filled nylon             |
| Wetted metal parts       | 430 Stainless Steel            |
| Seal and "O" Rings       | Viton                          |
| Coil                     | Epoxy Encapsulated             |
| Terminals                | 1/4" male tabs or weather pack |
| Voltage                  | 12 volt DC                     |
| Current                  | 2.0 Amp at 12 volt             |
| Operating Pressure 2502B | 175 PSI (1200 kPa) Max.        |
| Flow 2502B               | 0-8 GPM (35 L/M)               |
| Temperature              | 120 F (50 C) MAXIMUM           |

## Disassembly

It is not necessary to take the valve out of the line to service it. The valve can be disassembled by removing the four No. 8 x 2 1/2 screws (3).

## Assembly

Assemble the valve as shown in the illustration. Be sure the small seat on the disc valve (6) is in the up position. Do not over tighten the No. 8x 2 1/2 screws.

# CropCare<sup>®</sup> Limited Warranty

Sprayer Control Unit: model SC400

## Warranty Coverage

CropCare<sup>®</sup> hereby provides a Limited One (1) Year Warranty on Sprayer Control Units, manufactured by CropCare<sup>®</sup>. Sprayer Control Units manufactured by CropCare<sup>®</sup> are warranted against any manufacturer's defects in any of the control unit's components in the 12 months following the original date of purchase.

Defective components will be repaired or replaced at the discretion of the manufacturer. It is the responsibility of the purchaser to return warranted components to the manufacturer. This warranty is limited to the repair or replacement of control unit components only. CropCare<sup>®</sup> is not to be held liable for incidental or consequential damages of any kind. This warranty covers the purchaser of this control unit and any other owners who own it during the one year warranty period.

To retain the warranty, the control unit must be operated and maintained as ascribed by its owner's manual. For warranty service, please have a copy of the purchase invoice available.

## Warranty Is Void if:

1. The control unit has been subjected to, in the opinion of CropCare<sup>®</sup>, negligent handling, misuse, an accident or if the instructions in the owner's manual were not completely followed.
2. The control unit's components have been altered in any manner or repairs have taken place with unapproved parts.

## Getting Warranty Service

All sprayer control unit warranty claims must be made through the original retailer. All warranty claims must be submitted with an invoice or a proof of purchase that denotes the purchase date and place of purchase. If you have any questions or comments concerning this warranty, please contact the original retailer.

## Ordering Parts

Please contact the original retailer to order replacement parts for your product.

# ***CROPCARE***

by PBZ<sup>®</sup>

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