



# INSTRUCTION BULLETIN

No. 340581  
Machine: 5680  
Published: 11-02  
Rev. 02

**NOTE: DO NOT DISCARD the Parts List from the Instruction Bulletin. Place the Parts List in the appropriate place in your machine manual for future reference. Retaining the Parts List will make it easier to reorder individual parts and will save you the cost of ordering an entire kit.**

*NOTE: Numbers in parenthesis ( ) are reference numbers for parts listed in Bill of Materials.*

Installation instructions for **kit number 397896**

## DESCRIPTION:

This kit contains the parts needed to install the FaST™ detergent system on the model 5680 scrubber.

Please follow step-by-step instructions.

## SPECIAL TOOLS / CONSIDERATIONS: None

(Estimated time to complete: 6 hours)

## PREPARATION:

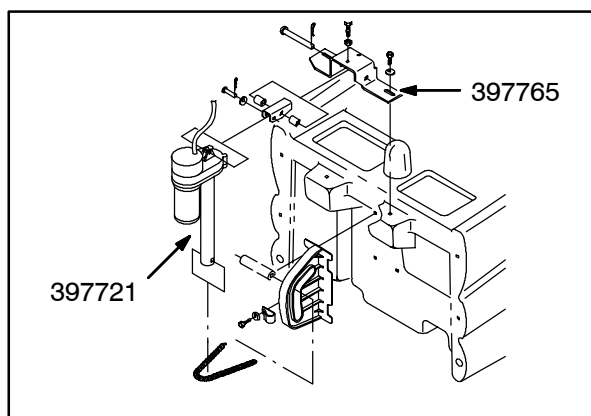
(Refer to FIG 1 thru 7)

1. Drain the solution and recovery tanks.
2. Park the machine on a level surface and turn the machine power off.

**FOR SAFETY: Before leaving or servicing machine, stop on level surface, and turn off machine.**

3. Lower the machine scrub head. Remove the front cover and scrub head from the machine.
4. Remove scrub head lift actuator 397721 and bracket 397765 to allow more room for FaST™ component bracket installation.

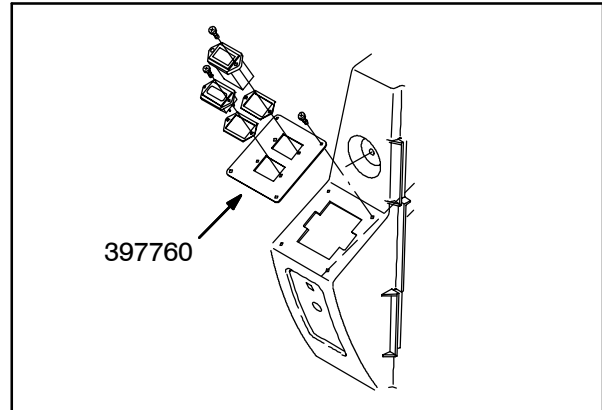
**NOTE:** Do not rotate the actuator shaft once the actuator is removed from the machine.



5. Raise the solution tank and remove both of the negative ground cables from the batteries.

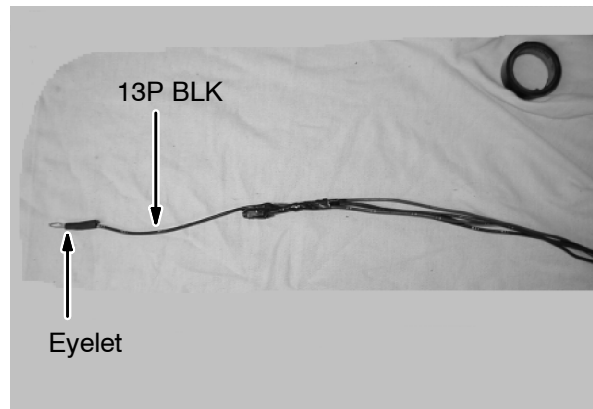
**FOR SAFETY: Disconnect battery connections before working on machine.**

6. Remove the hourmeter and battery meter mounting plate 397760. Disconnect the gauges from the wire harness and set aside.
7. Remove the rear cover from the machine.

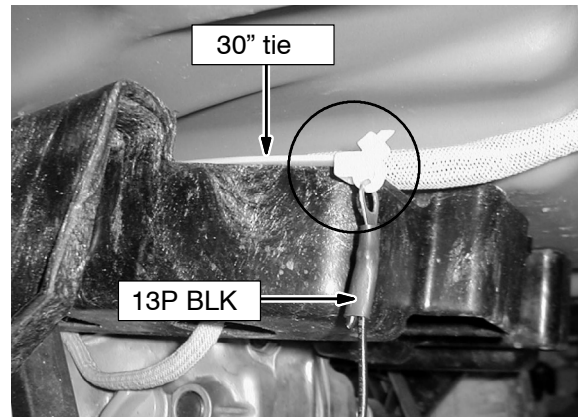


## **FaST™ WIRING HARNESS INSTALLATION:**

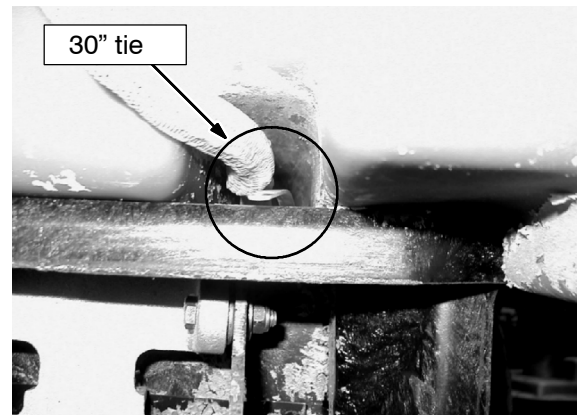
1. There are 2 sections to the FaST harness. Four wires (27 PUR, 28 GRY and 13P BLK) from the front section must be routed to the rear. (27A/PUR pigtailed to 27/PUR).
2. Attach the eyelet on wire 13P BLK on the front section of the harness to the 30" tie wrap using small tie wrap. Tape the remaining wires together to keep from getting jammed when pulled through.



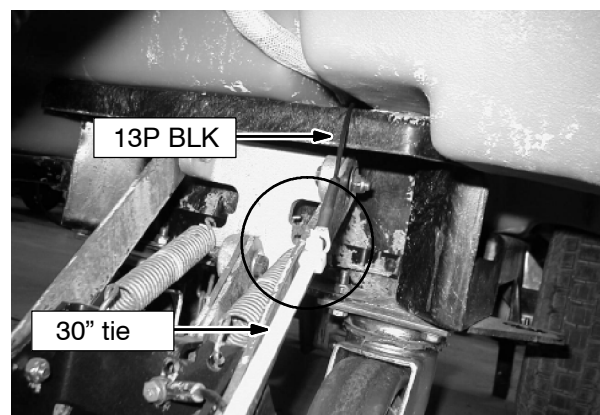
3. Use the 30" long tie wrap to snake along the main harness from the front to the rear.
4. Feed the tie wrap under the front of the machine . . .



5. back along the main harness . . .



6. . . . and out the rear end of the machine, pulling the FaST™ wire harness with it.

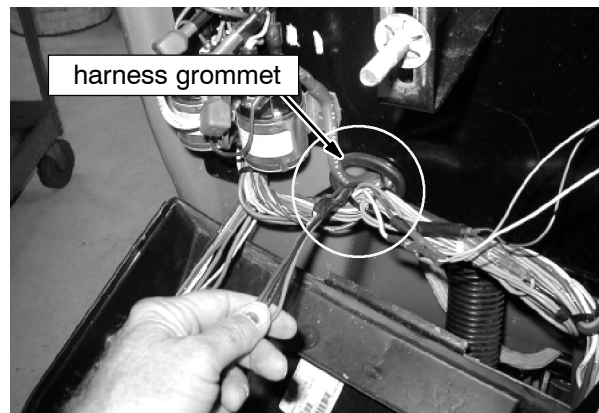


7. Route wire 13P BLK with the eyelet, back up to the battery compartment.

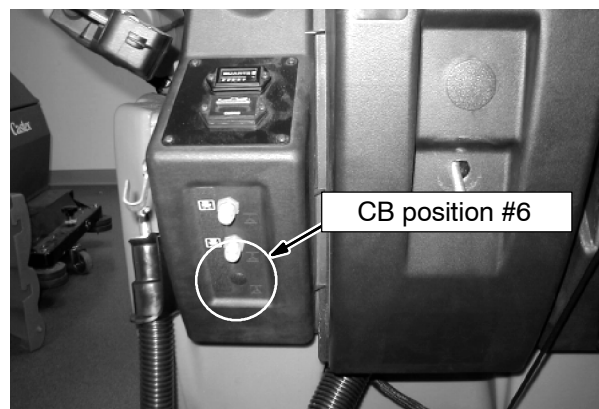
*NOTE: Removal of center battery will make this easier.*



8. Route the other three wires through the machine harness grommet.

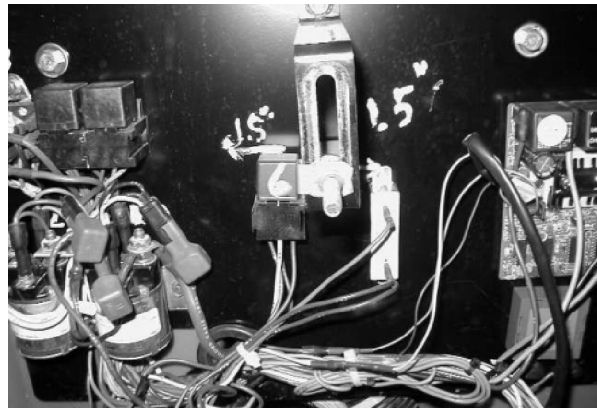
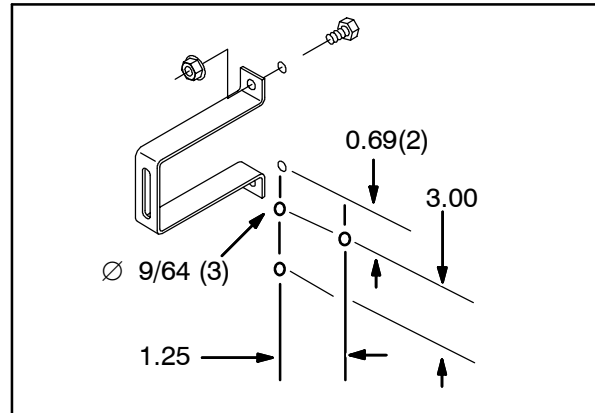


9. Install circuit breaker 383721 in the #6 position on the left side. (Refer to FIG 7)



## ELECTRICAL COMPONENT INSTALLATION:

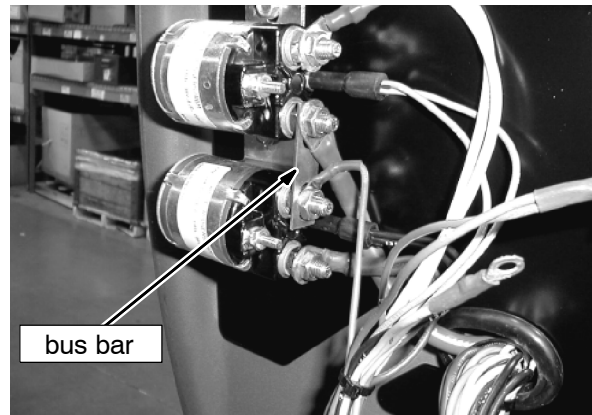
1. Measure 38 mm (1.5 in) to the right and left side of the bottom nut of the rear cover retaining bracket.
2. Drill three 3.5 mm (9/64 in) holes to mount relay box and resistor block using self tapping screws.



3. Enlarge the left hand opening in the cover to accommodate the new FaST™ switch 397889. Attach new plate 1002326, with the switch installed. H.M and BDI. (Refer to FIG 1 and 7)

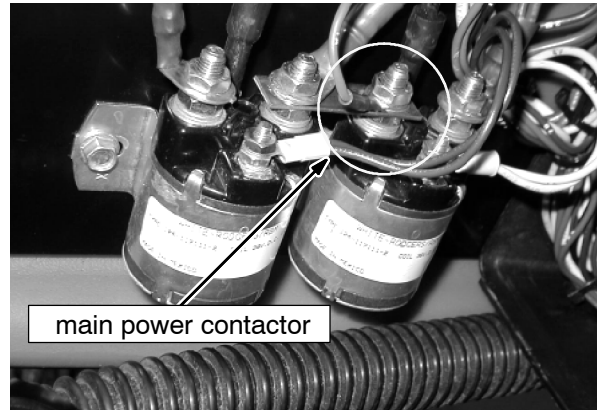


4. Install the new buss bar insulation to the back side of the buss bar to prevent wires from rubbing on the bar.
5. Using the wiring harness diagram, Install wires to electrical components previously installed.
6. Connect wire 27 PUR from the FaST™ harness into the FaST relay base (87 position) on the relay.

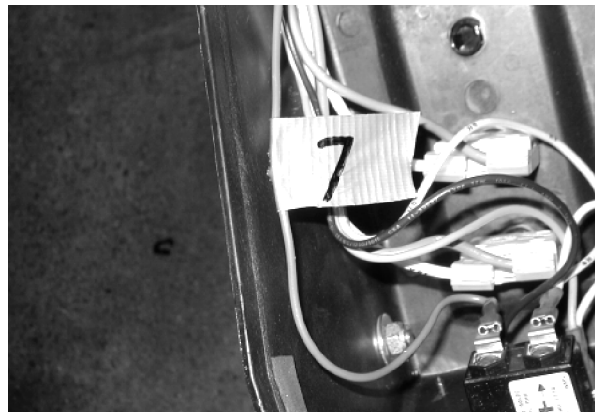


## ELECTRICAL WIRING CONNECTIONS:

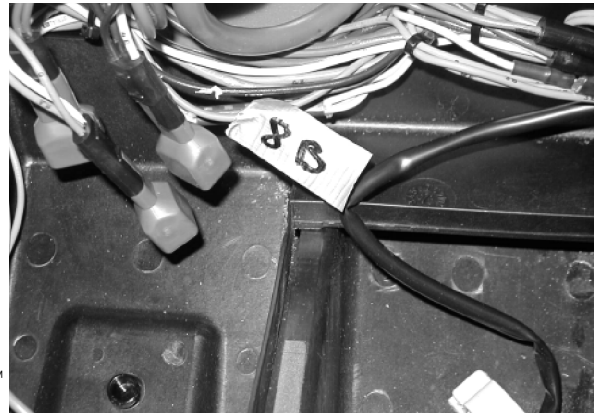
1. Install wire 2B BRN from the FaST™ harness to the main power contactor where 2 BRN and 2A BRN mount to the 5/16 in. post. (Refer to FIG 2)



2. Splice 7D PUR and 7E PUR from the FaST™ harness into 7 PUR going to the hourmeter. Solder the connection and use electrical tape or heat shrink tubing to protect wire splice. (Refer to FIG 3)



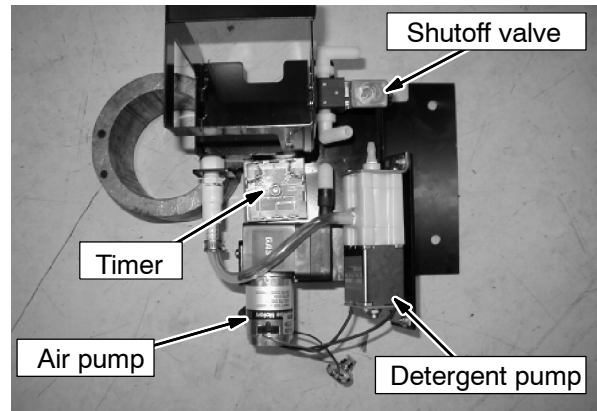
3. Locate machine wire 8B GRY coming from below brush motor contactor. (Refer to FIG 3)
4. Cut machine wire 8B GRY, and splice and solder with FaST™ wire 8B GRY going up to the brush contactor. (Refer to FIG 3)
5. Splice and solder the other end of machine wire 8B GRY (that goes through the grommet) to FaST™ wire 25A GRN. Use electrical tape or heat shrink tubing to protect the wire splices. (Refer to FIG 3)
6. Install the diode into the connector.
7. Attach the switch connector to the switch in the cover. Check that the switch is mounted, so that it corresponds with the label for FaST™ and STANDARD positions. (Refer to FIG 3 and 7)
8. Install the M6 relay 398526 in the relay box. (Refer to FIG 2 and 7)
9. Secure all wires with tie wraps as needed to prevent interference when rear cover is closed.
10. Close and secure the rear cover assembly.



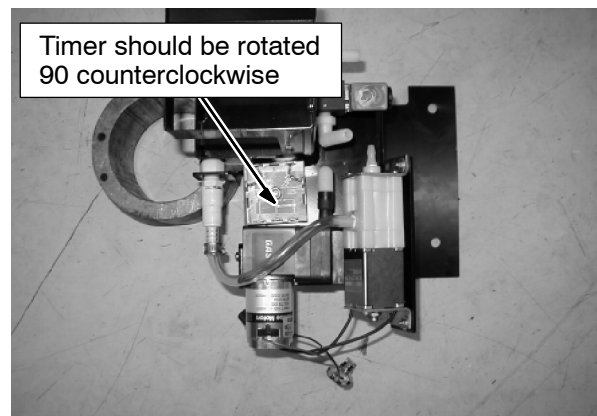
## COMPONENT INSTALLATION - FRONT OF MACHINE:

NOTE: Use teflon tape or pipe sealant on all plastic fittings.

1. Install detergent pump 1006473, air pump 1002344, and timer 1005199 to bracket 1002750. (Refer to FIG 4)

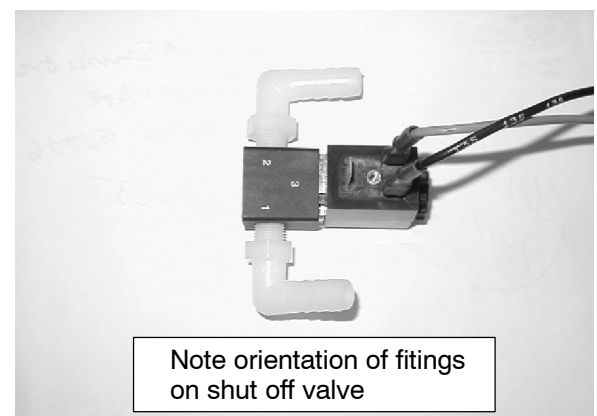


NOTE: Timer 1005199 in photo needs to be rotated 90° counterclockwise. (Refer to FIG 4)

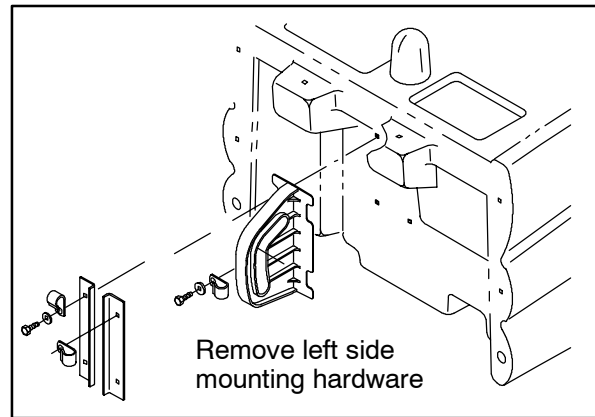


2. Install two fittings 1005564 on the shut off valve 1005015. Mount valve 1005015 on bracket 1002750. Rotate solenoid 90°. (Refer to FIG 4 and 5)

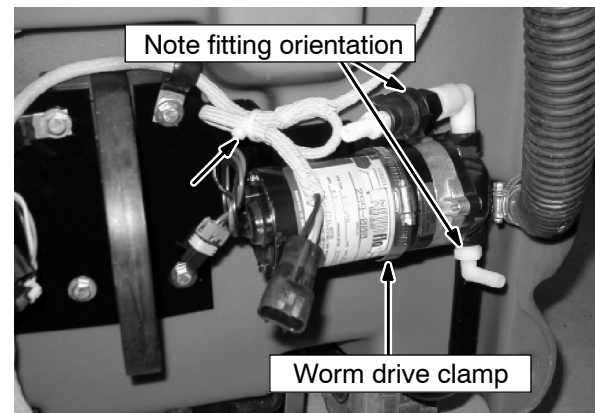
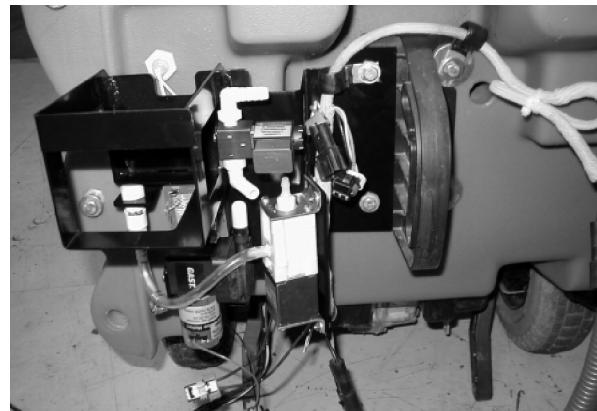
**NOTE:** #2 port is the inlet from the solution pump. Make sure fittings are not screwed all the way into the port, or they will block off the flow route. Screw fittings in with pipe sealant on threads, turning no more than 5-5 1/2 times.



3. Remove the scrub head guide bracket mounting bolts from the left side of the guide bracket.



4. Mount the FaST™ assembly mounting bracket on the left side of the scrub head guide bracket with scrub head guide bracket mounting bolts. (Refer to FIG 4)
5. Route both the machine wire harness and the FaST™ wire harness up behind the FaST™ component bracket and out, over the top of the bracket.
6. Install the fittings on the solution pump and mount the solution pump to the pump bracket with the worm drive clamp.
7. Remove the scrub head guide bracket mounting bolts from the right side of the guide bracket.
8. Mount the pump bracket on the right hand side of the scrub head guide bracket with the scrub head guide bracket mounting bolts.
9. Using the wiring harness diagram for reference, connect the wires to each component as shown. (Refer to FIG 2 and 3)



10. Install in-line water filter 1005388 into the upper tank with fittings 1005218 and 79273.
11. Using the hose diagram/info. for reference, connect the hoses and foam filter as shown. Secure all of the hoses with proper sized worm clamps. (Refer to FIG 4 thru 6)
12. Secure all wiring with tie wraps as needed, to keep wires away from scrubhead lift actuator and guide pin when scrub head moves up and down.

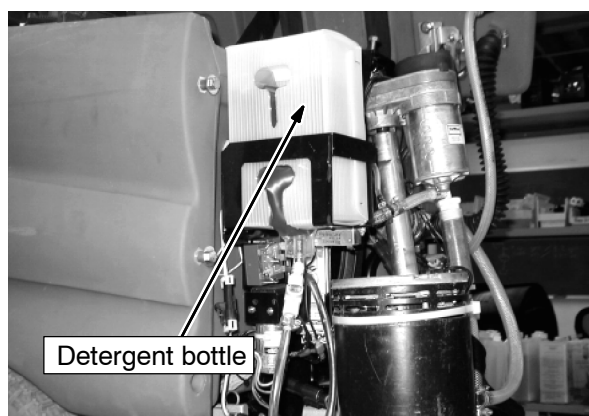


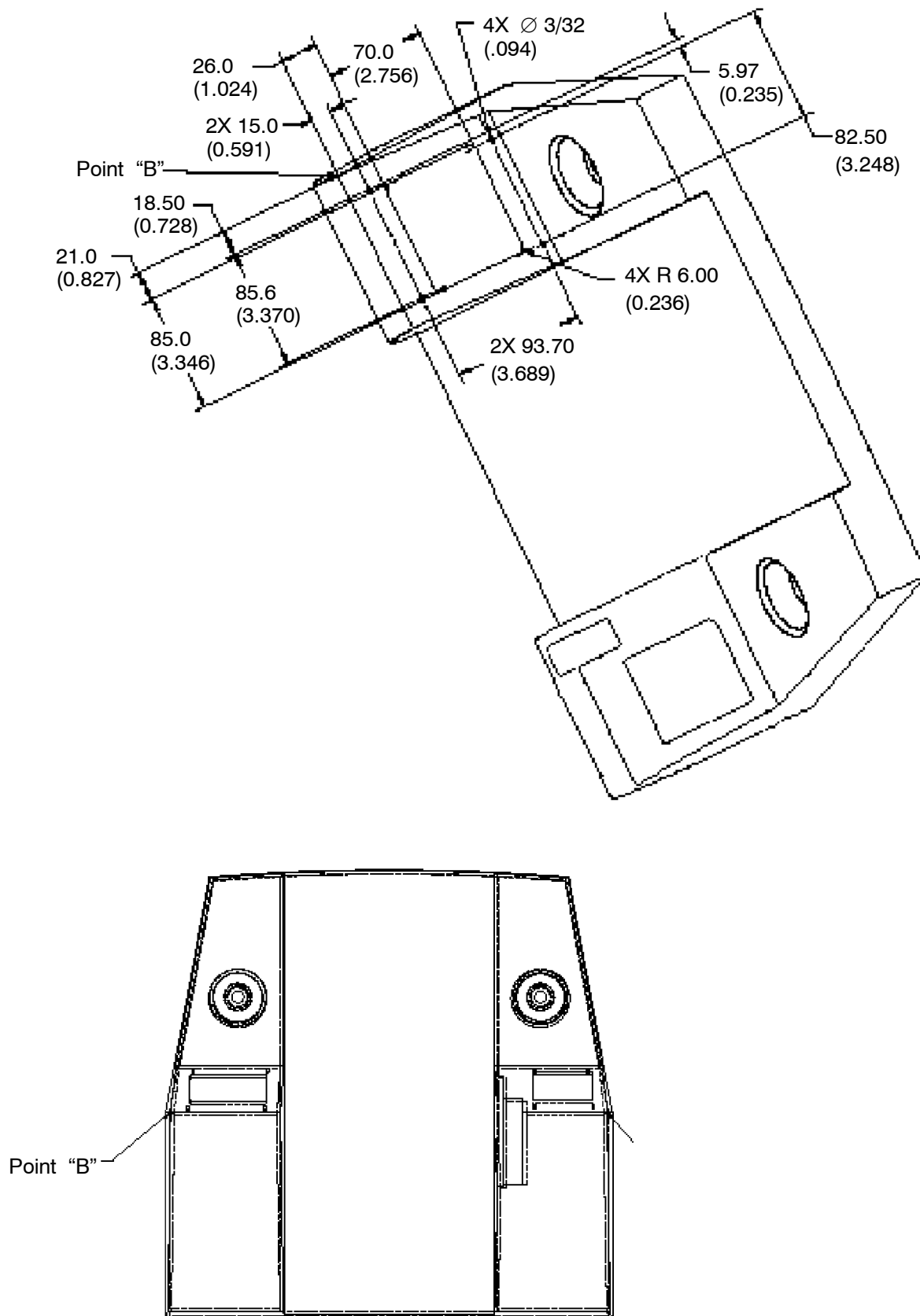
## FINAL ASSEMBLY:

1. Replace scrub head lift actuator and bracket.
2. Replace the scrub head.
3. Reconnect all of the negative cables to the batteries, including 13PBLK.
4. Apply decals to machine. (Refer to FIG 7)
5. Power up the machine and raise and lower the scrub head. Check that there is no interference with wires or hoses.
6. Install the FaST™ detergent bottle in support bracket 1002750. Connect the hose fittings together. (Refer to FIG 4)

## TESTING OF SYSTEM:

1. Partially fill the solution tank with cool, clean water only.
2. Lower the scrub head, and turn on the FaST™ system with the rocker switch. Propel the machine forward.
3. Due to the small quantity of solution dispensed by solution pump and detergent pumps, it may take a few minutes after initial startup for foam to appear.
4. Scrub the floor as normal.





**FIG. 1 - Panel rework for FaST™ switch**

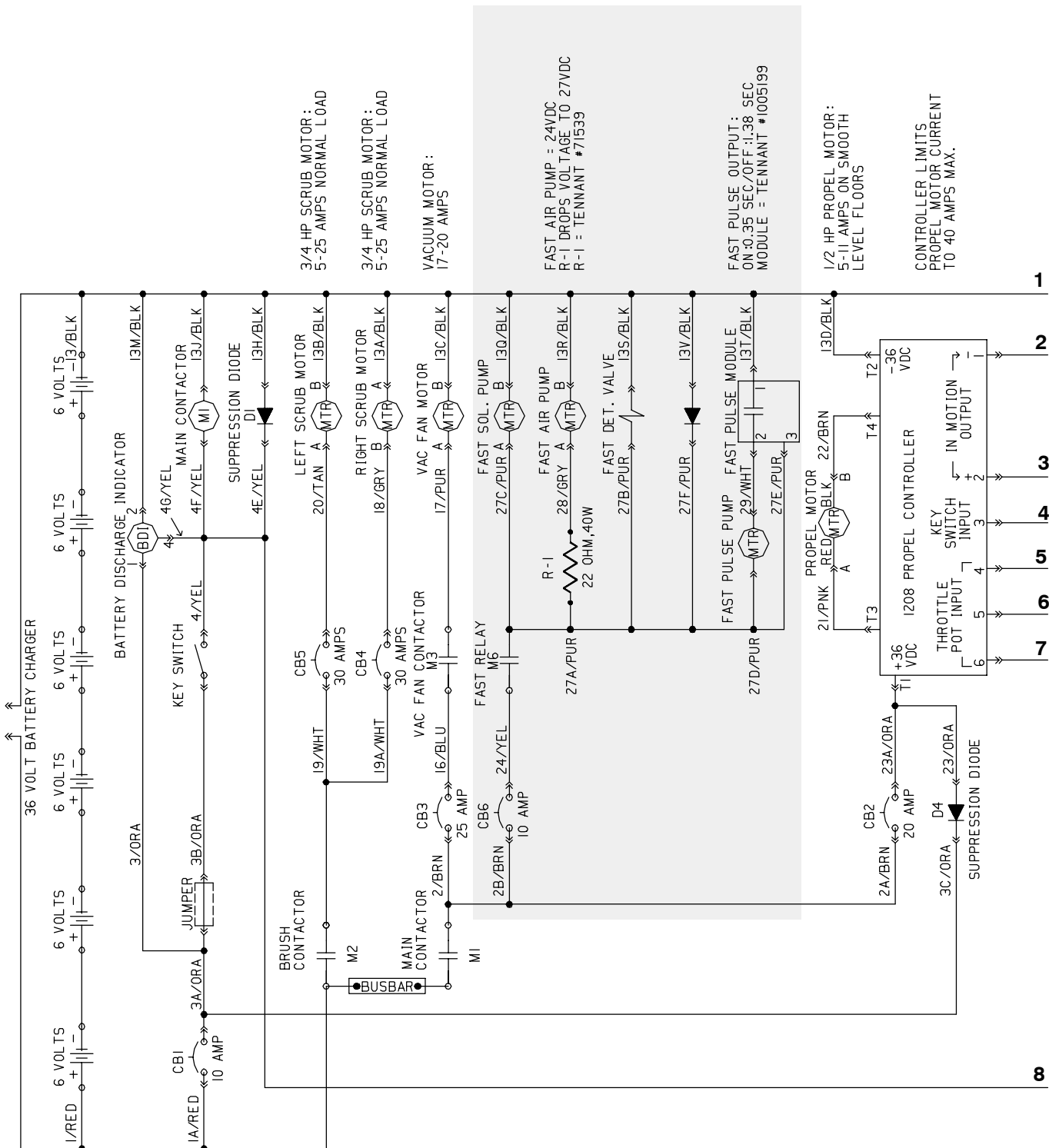
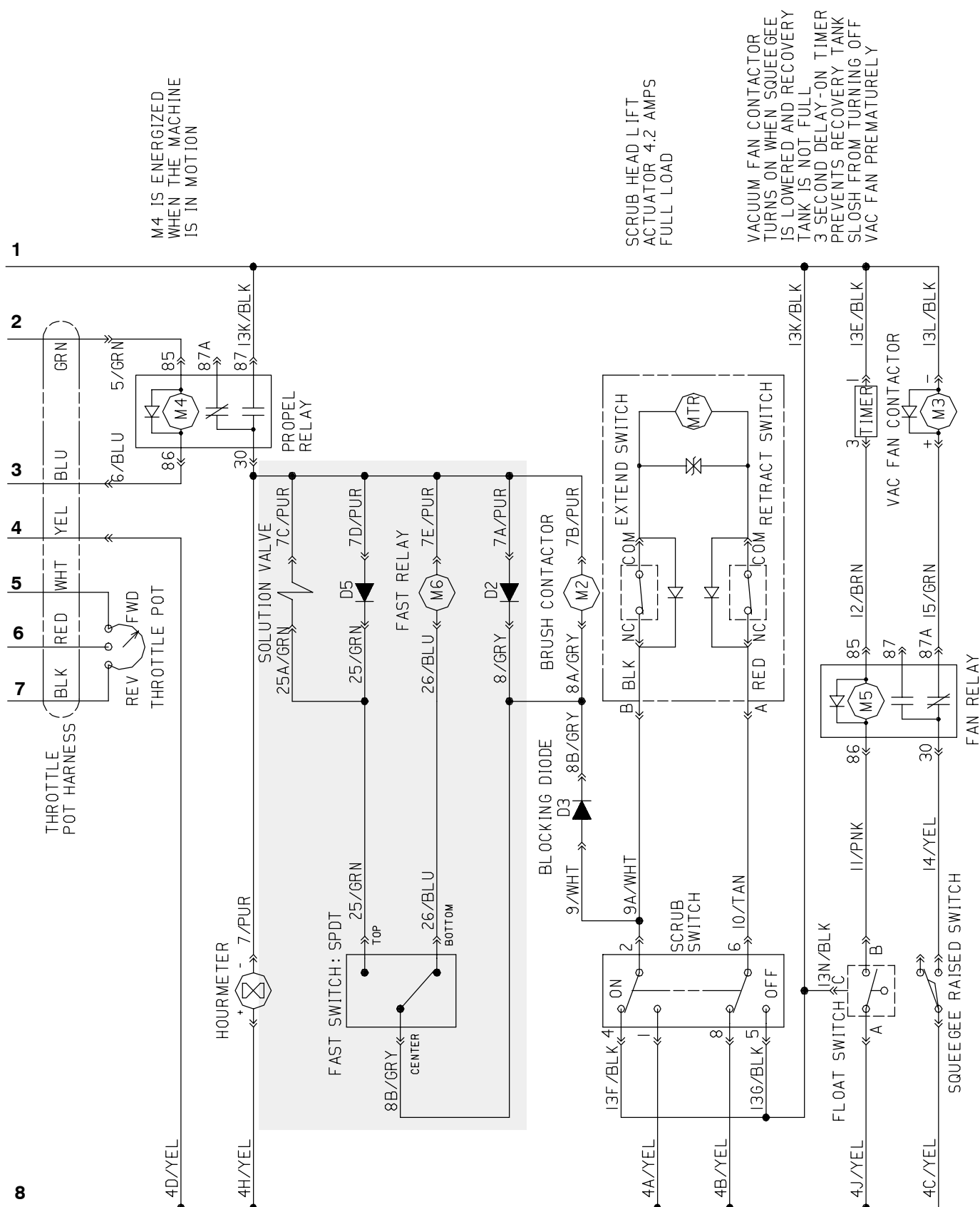
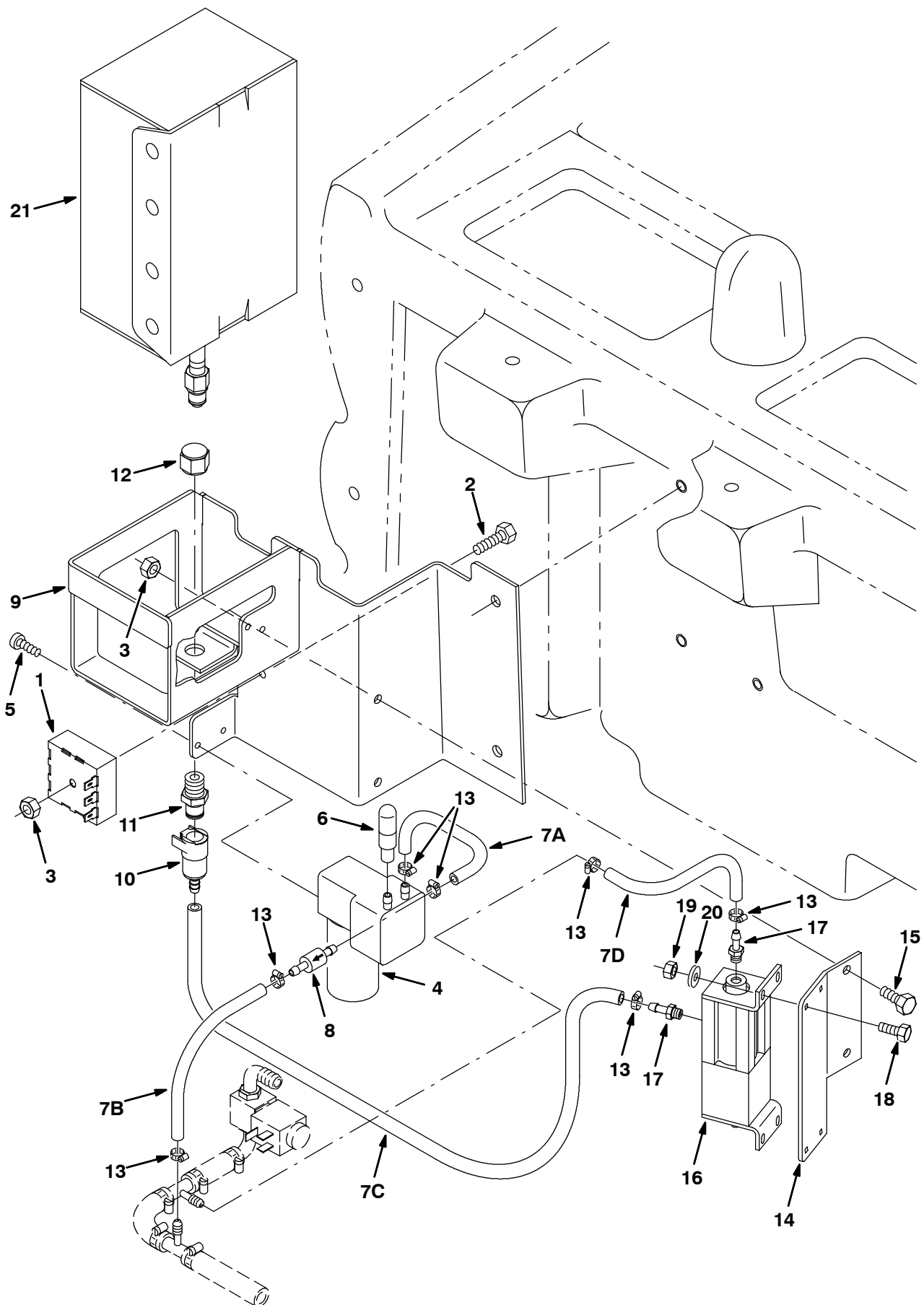


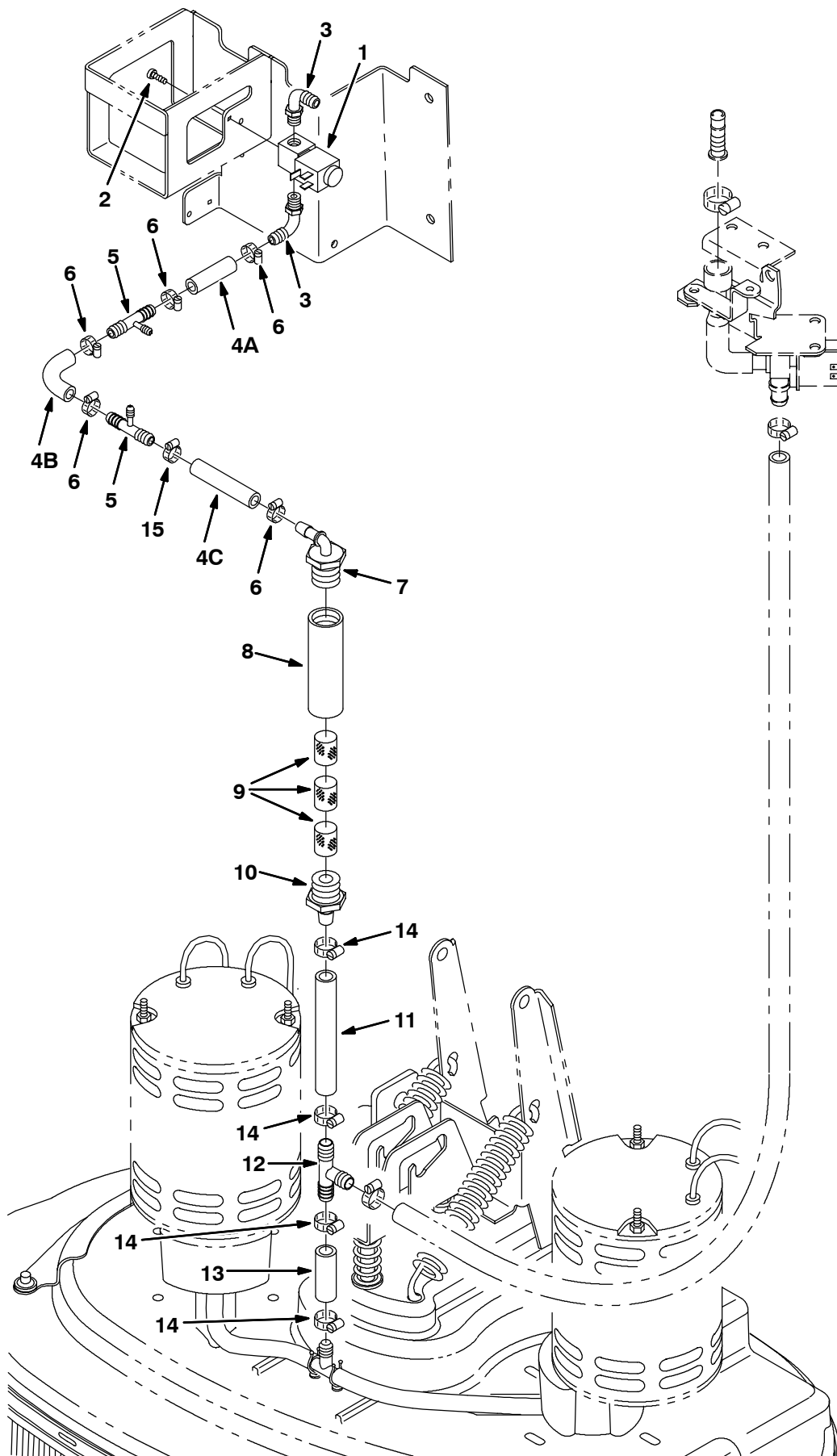
FIG. 2 - Electrical Schematic (012930- )



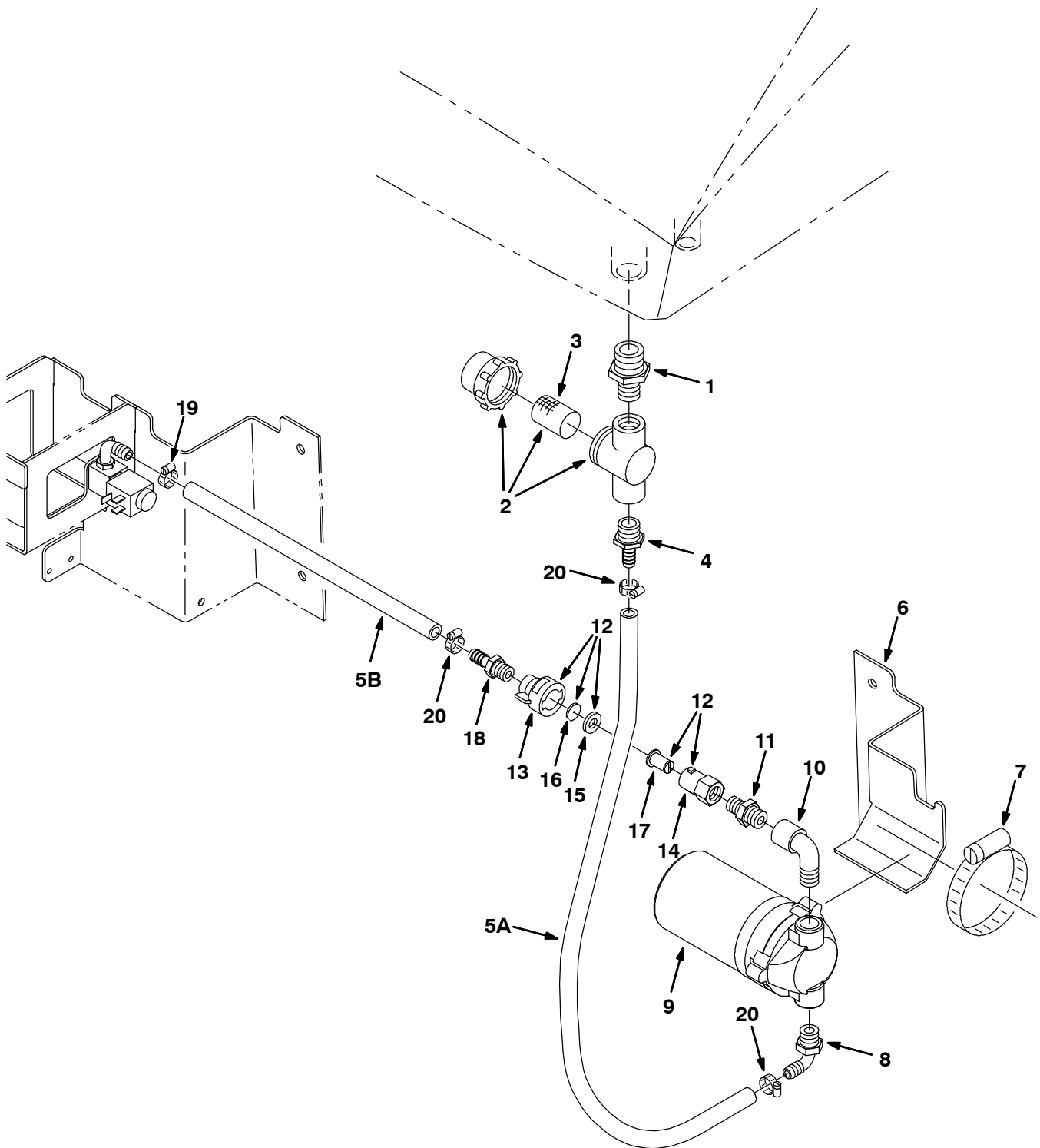
**FIG. 3 - Electrical Schematic (012930- )**



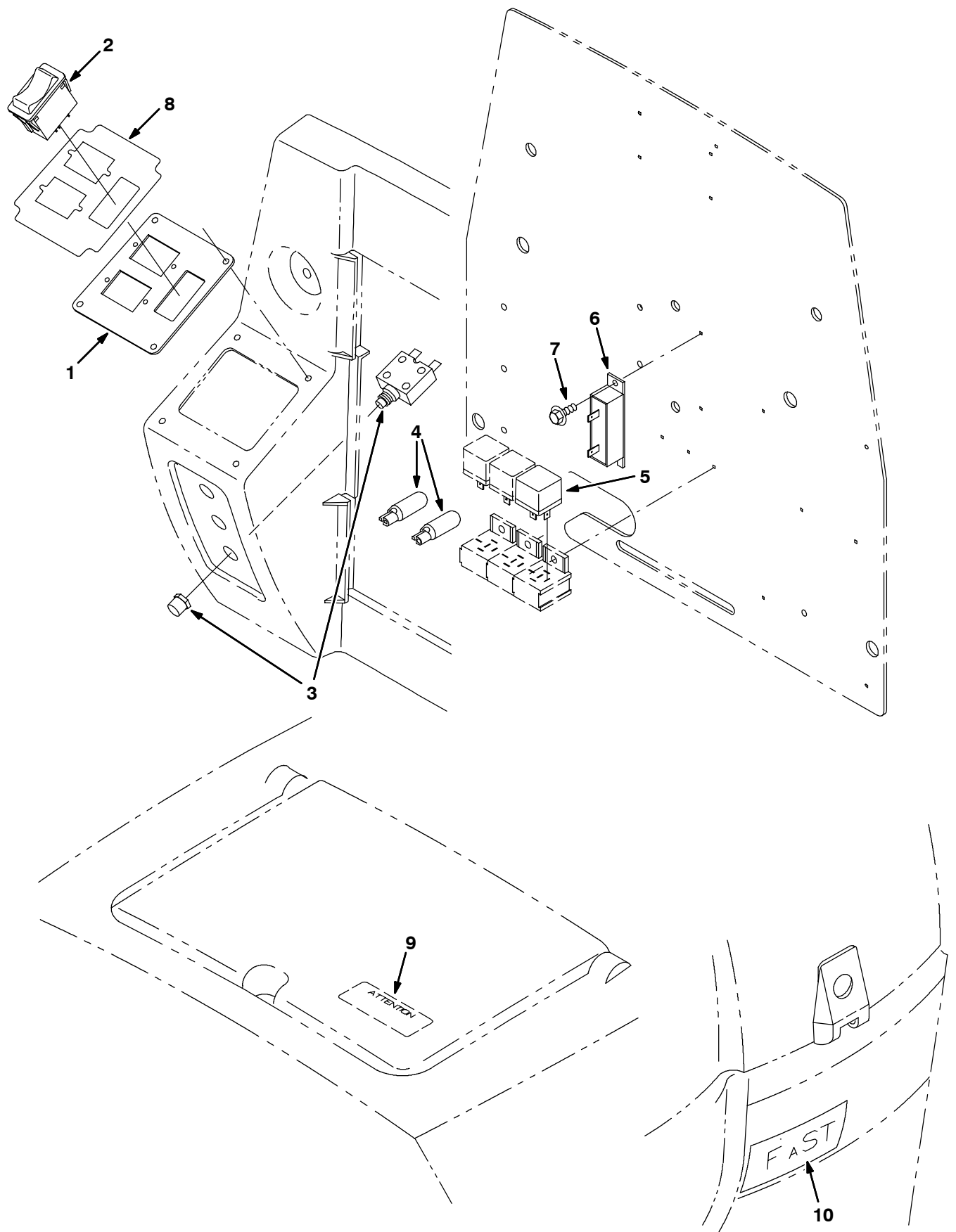
**FIG. 4 - FaST™ Air Pump and Detergent Group**



**FIG. 5 - FaST™ Foam Filter Group**



**FIG. 6 - FaST™ Solution Pump Group**



**FIG. 7 - FaST™ Operator Console Group**

# BILL OF MATERIALS FOR FaST™ INSTALLATION KIT 397896

## FaST™ Air Pump and Detergent Group (Fig. 4):

Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	1005199	(000000-	) Module, Timer, Detergent, 36v	1
2	06945	(000000-	) Screw, Hex, M06 X 1.0 X 30, 8.8	1
3	08708	(000000-	) Nut, Hex, Lock, M06 X 1.0, NI	3
▽ 4	1002344	(000000-	) Pump, Air, Ele, 24vdc	1
▲	391449	(000000-	) Kit, Repair, Diaphragm, Air Compressor	1
5	49162	(000000-	) Screw, Pan, #08-10 X 0.50, F/Plstc	2
6	1005255	(000000-	) Filter Assy, Air, Molded Ure	1
7A	1005183	(000000-	) Parts, Phantom, Hose, PVC, 0.19ID X 7.0	1
7B	1005183	(000000-	) Parts, Phantom, Hose, PVC, 0.19ID X 7.0	1
7C	1005430	(000000-	) Parts, Phantom, Hose, PVC, 0.25ID X 12.0	1
7D	1005183	(000000-	) Parts, Phantom, Hose, PVC, 0.19ID X 7.0	1
8	1005327	(000000-	) Fitting, Plstc, Cvalve, Bm03/Bm03	1
9	1002750	(000000-	) Brkt Wldt, Box, Dtrgt	1
10	1002898	(000000-	) Coupling, Fem, W/ Valve, .25 Brb	1
11	1002899	(000000-	) Coupling, Mal, .25 Npt	1
12	1005435	(000000-	) Fitting, Plstc, Piep, Cap, Pf04	1
13	43844	(000000-	) Clamp, Hose, Wormdrive, 0.25-0.62d	7
14	1006132	(000000-	) Plate, Mtg, Pump	1
15	08716	(000000-	) Screw, Hex, M06 X 1.0 X 20, Ss	2
▽ 16	1006473	(000000-	) Pump, Detgt, 36vdc	1
▲	391450	(000000-	) Kit, Repair, Pump, Concentrate	1
17	1005739	(000000-	) Fitting, Plstc, Str, Bm03, 1/4-28, Kynar	2
18	09206	(000000-	) Screw, Hex, M04 X 0.7 X 12, 8.8	4
19	42368	(000000-	) Nut, Hex, Std, M04 X 0.7	4
20	19065	(000000-	) Washer, Flat, #08	4
21	1002887	(000000-	) Detgt, Tco 365 (1pc=1cartn=(2)Boxes)	-
21	1002889	(000000-	) Detgt, Tco 362 (1pc=1cartn=6boxes)	-

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**FaST™ Foam Filter Group (Fig. 5):**

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Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
1	1005015	(000000- )	Valve, Shutoff, Ele, 36vdc	1
2	49162	(000000- )	Screw, Pan, #08-10 X 0.50, F/Plstc	2
3	1005564	(000000- )	Fitting, Plstc, E90, Bm06/Pm02, Nyl	2
4A	1005149	(000000- )	Parts, Phantom, Hose, PVC, Brd 0.38ID X 2.0	1
4B	1005149	(000000- )	Parts, Phantom, Hose, PVC, Brd 0.38ID X 2.0	1
4C	1005154	(000000- )	Parts, Phantom, Hose, PVC, Brd 0.38ID X 3.0	1
5	61456	(000000- )	Fitting, Plstc, Tee, Bm06/Bm03/Bm06	2
6	43844	(000000- )	Clamp, Hose, Wormdrive, 0.25-0.62d	5
7	79484	(000000- )	Fitting, Plstc, E90, Bm06/Pm12, Nyl	1
8	1005086	(000000- )	Tube, Plastic, 25mm Id	1
9	1002789	(000000- )	Filter, Foam	3
10	79273-1	(000000- )	Fitting, Plstc, Str, Bm08/Pm12	1
11	1005142	(000000- )	Parts, Phantom, Hose, PVC, BRD, 0.50ID X 5.0	1
12	63245-1	(000000- )	Fitting, Plstc, Tee, Bm08/Bm08/Bm08	1
13	392255	(000000- )	Parts, Phantom, Hose, PVC BRD, 0.50 X 2.0	4
14	54333	(000000- )	Clamp, Hose, Wormdrive, 0.31-0.88d	4

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**FaST™ Solution Pump Group (Fig. 6):**

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	Ref.	Tennant Part No.	Machine Serial Number	Description	Qty.
	1	1005218	(000000- )	Fitting, Plstc, Str, Pm08/Pm12	1
▽	2	1005388	(000000- )	Filter, Inline, Pf08/Pf08, 80 Mesh	1
▲	3	1005304	(000000- )	Screen, Filter, 80 Mesh	1
	4	79273	(000000- )	Fitting, Plstc, Str, Bm06/Pm08	1
	5A	1005421	(000000- )	Parts Phantom, Hose, PVC, BRD, 0.38ID X 24.0	1
	5B	1005439	(000000- )	Parts Phantom, Hose, PVC, BRD, 0.38ID X 12.0	1
	6	1002603	(000000- )	Brkt, Pump, Solution	1
	7	43555	(000000- )	Clamp, Hose, Wormdrive, 1.62-3.50d	1
	8	1005630	(000000- )	Fitting, Plstc, E90, Bm06/Pm06, Nyl	1
▽	9	1005866	(000000- )	Pump, Solution, Ele, 36vdc	1
▲		391433	(000000- )	Head, Pump, Kit	1
	10	1005318	(000000- )	Fitting, Plstc, E90, Pf06/Pm06, Nyl	1
	11	1005219	(000000- )	Fitting, Plstc, Str, Pm04/Pm06	1
▽	12	1005522	(000000- )	Fitting, Plstc, Cap Assy, 0.040b, Pf04	1
▲	13	1005506	(000000- )	Fitting, Plstc, Cap, Spray, Pf04	1
▲	14	1005507	(000000- )	Fitting, Plstc, Body, Spray, Pf04	1
▲	15	1005508	(000000- )	Washer, 0.34b 0.75d 0.12, Epdm	1
▲	16	1005510	(000000- )	Plate, Orifice, 0.040id	1
▲	17	1006447	(000000- )	Screen, 50 Mesh, Ss	1
	18	1005220	(000000- )	Fitting, Plstc, Str, Bm06/Pm04	1
	19	43844	(000000- )	Clamp, Hose, Wormdrive, 0.25-0.62d	4

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**FaST™ Operator Console Group (Fig. 7):**


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<b>Ref.</b>	<b>Tennant Part No.</b>	<b>Machine Serial Number</b>	<b>Description</b>	<b>Qty.</b>
1	1002326	(000000-	) Plate, Ele, Cover	1
2	397889	(000000-	) Switch, Rocker, 36vdc 05a Dpst On/N/On	1
3	383721	(000000-	) Circuitbreaker, 10.0a	1
4	222290	(000000-	) Diode, Ele, Plug	2
5	398526	(000000-	) Relay, 36vdc, 05a, Spdt N/O	1
6	71539	(000000-	) Resistor, 022.00ohm, 40watt	1
7	16944	(000000-	) Screw, Hex, M04 X 0.7 X 10, Fmg	2
▽	1005425	(000000-	) Label Set, Fast [5680]	1
▲	8 1005335	(000000-	) Label, Switch, Fast [5680]	1
▲	9 1006779	(000000-	) Label, Attention, Fast	1
10	1005416	(000000-	) Label, Fast [5680]	2

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