



Electronic Service Manuals

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Serving the Cleaning Industry Since 1922

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GoCartVac® Service Manual

 **ProTeam®**
Cleaning for Health® Since 1987

Table of Contents

ATTENTION

Before servicing any part or proceeding with any repair procedure on any ProTeam vacuum, ALWAYS disconnect the vacuum from the power source.

Battery Safety	2
Full Vacuum Parts	3
Remove Charger Panel	4-5
Replace Charger Panel	6-7
Remove Vacuum Panel	8
Replace Vacuum Panel	9
Remove Diffuser	10
Replace Diffuser	11
Remove Receptacle	12
Replace Receptacle	13
Remove Power Cable	14
Replace Power Cable	15
Remove/Replace Thermal Switch	16
Remove Battery Control Module (BCM)	17
Replace Battery Control Module (BCM)	18
Remove Motor/BCM Assembly From Vacuum	19
Replace Motor/BCM Assembly Into Vacuum	20-21
Remove Motor Brushes	22-23
Replace Motor Brushes	24
Remove/Replace Motor Assembly	25
Remove Compression Ring	26
Reassemble Compression Ring	27
Remove/Reassemble Tetraseal	28
Remove/Reassemble Motor	29
Batteries/Harness Safety Notice/Precautions	30
Battery Termination Schematic	31
Disassemble/Reassemble GoCart	32
Remove/Replace Fusible Link	33
Remove/Replace Red Jumper Wire	34
Remove/Replace Power Harness	35
Replace Batteries/Harness	36
Remove/Replace Charger	37
Remove Cover of Electrical Enclosure	38
Replace Cover onto Electrical Enclosure	39
Remove/Replace Charger Receptacle	40
Remove Electrical Box & Connections	41
Reassemble Electrical Box & Connections	42
Remove/Replace Power Switch	43
Remove/Replace Power Receptacle	44
Remove/Replace Swivel Elbow Cuff	45
Remove Switch in Hose Handle	46
Reassemble Switch in Hose Handle	47
Stub Tube Replacement	48
Electrical Diagram	49

Battery Safety



WARNING: Risk of electric shock

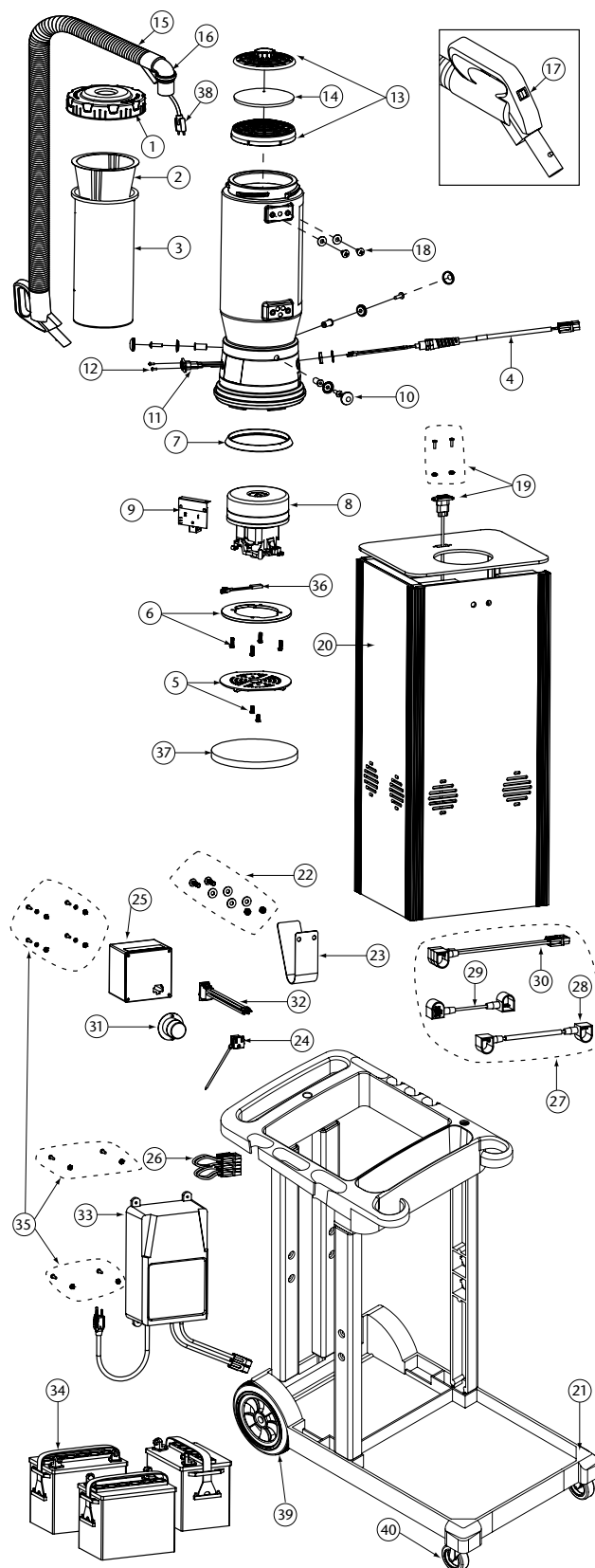
Read complete instructions prior to installation and operation.

1. Observe all safety regulations. Electrical wiring should be performed in accordance with all applicable national, state and local codes to prevent damage to equipment and ensure personnel safety.
2. Hazardous voltages exist within enclosure. Installation and service should be performed only by trained service personnel.
3. **WARNING – Risk of explosive gasses.** Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gasses during normal battery operation. During normal charging operation, some hydrogen gas is released (vented) or diffused through the container walls. The VRLA batteries specified for this equipment are designed to minimize gas produced. The gasses released or diffused must not be allowed to accumulate. The GoCartVac enclosure has been designed to ensure proper ventilation of battery gasses.
4. **WARNING – Risk of battery terminal shorting.** The batteries specified for use in this equipment have very low internal impedance and thus are capable of delivering high currents if externally short circuited. The resultant heat can cause severe burns and is a potential fire hazard.
5. Particular caution should be used when replacing batteries. The person working near the open terminals of batteries should avoid wearing metal rings or watchbands. It is a good practice to remove all metallic items such as watches, bracelets and personal jewelry when working on or around battery terminals.
6. As a further precaution, when installing batteries or working on them, insulating gloves should be worn and only insulated tools should be used to prevent accidental short circuits. Handle recharged batteries carefully as they may be hot.
7. The batteries are interconnected with a Fusible Link for added safety. In the event this link is to be replaced, only use Pro-Team approved replacement parts. Do not handle plug, batteries or appliance with wet hands.
8. Replacement batteries should be carefully inspected prior to installation. Particular attention should be given to ensure that none of the cell cover seals have been broken, no battery case damage is evident and no visible sign of battery leakage exists. If batteries leak fluid, change color, shape or change in any other way, **DO NOT** use them.

Battery Recycling - The Environmental Protection Agency requires the recycling of sealed lead batteries. Proper disposal and recycling of batteries mandatory under the Mercury-Containing Rechargeable Battery Management Act, 42 U.S.C 14301-14336 ("Battery Act"). The Charge Up to Recycle! Program offers various recycling plans for communities, retailers, businesses and public agencies. For more information about the Charge Up to Recycle! Program, or for information about a local collection site visit www.rbrc.com or call RBRD's toll free number 1-800-8-BATTERY

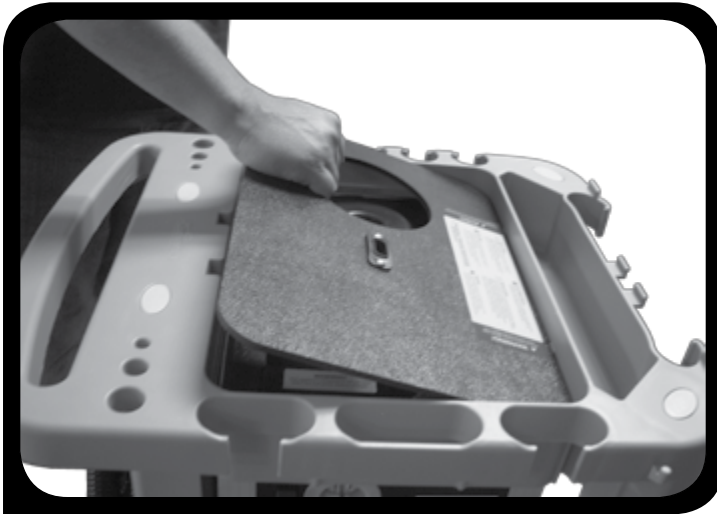
Full Vacuum Parts

No.	Part Name
1 104273	Twist Cap (Black)
2 100431	496 Sq. In. Intercept Micro Filter
3 100564	Micro Cloth Filter
4 106282	Power Cord Replacement, Complete
5 105044	Motor Shroud/Diffuser w/Screw Set: 2 screws
6 100335	Compression Ring w/Connection Screws
100378	Compression Ring Connection Screws
7 100014	Tetraseal
8 103732	36V Motor w/Crimps, Replacement
103731	Carbon Brush Set for 36V motor
103617	Complete 36V Motor Assembly w/Seal, Compression Ring and Control Module (includes: #6, 7, 8, 9)
9 105496	Battery Control Module
10 100368	Motor Mounting System Set
11 103916	Receptacle, 2-Wire w/Crimps
12 104272	Receptacle Screw Set
13 100030	Dome Filter w/Foam Media
14 100343	Foam Filter Media for Dome Filter
101220	High Filtration Disk (Optional) (2 pack)
15 103623	Electrified Hose, 1 1/4" x 20' Long, 2-Wire
16 102715	Replacement Swivel Elbow Cuff, Black
17 106550	Switch Replacement
18 106284	Kit, Vacuum Attachment Hardware for Cart
19 106219	Kit, Power Receptacle Cord
20 106211	Box, Sound w/Corner Rails
21 106213	Cart Assembly Complete
22 106214	Kit, Mounting Hardware
23 103718	Hose Wrap, Blk
24 106241	Kit, Receptacle for Box Assembly
25 106215	Kit, Box Assembly
26 106277	Harness, Charging w/Connectors
27 106216	Kit, Battery Wiring Harness
28 106280	Lead, Wire, Battery, Fusible Link, Replacement #8AWG, w/Terminals
29 106279	Lead, Wire, Battery, Red, #8AWG, w/Terminals
30 106278	Harness, Battery
31 106217	Kit, Receptacle
32 106281	Switch Assembly w/Crimps
33 106218	Kit, Charger, 36V, 18.5A, w/Terminals
34 105828	Battery, Lead Acid, 12V, 37AH
35 106283	Kit, Attachment Hardware for Charger and Box Assembly
36 107294	Thermal Protector
37 106928	Exhaust Muffler
38 105790	2 Wire Electrified Hose Cord (15")
39 106297	Rear Wheel Set w/Axle
40 106298	Front Wheel Set
101678	50' Extension Cord (Not Shown)



Remove Charger Panel

REMOVE CHARGER PANEL



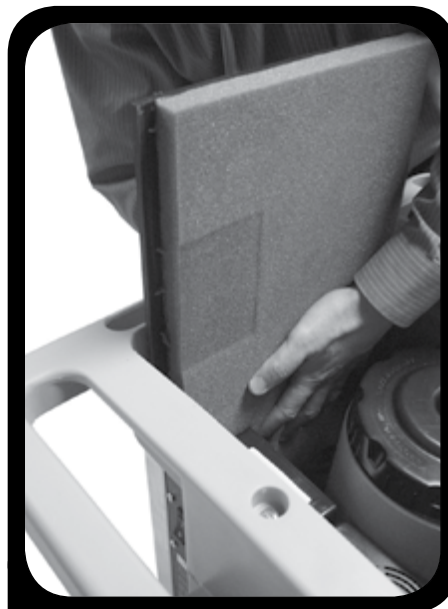
1. Remove cover of cart by pulling straight up carefully. **ATTENTION:** Pull up carefully as cord is attached to vacuum.



2. Place cover into tray of cart.



3. Remove side panel closest to power switch by pushing in and pulling up at the same time.



4. Continue pulling up until panel is removed. Place aside.

(Continued on page 5)

Remove Charger Panel

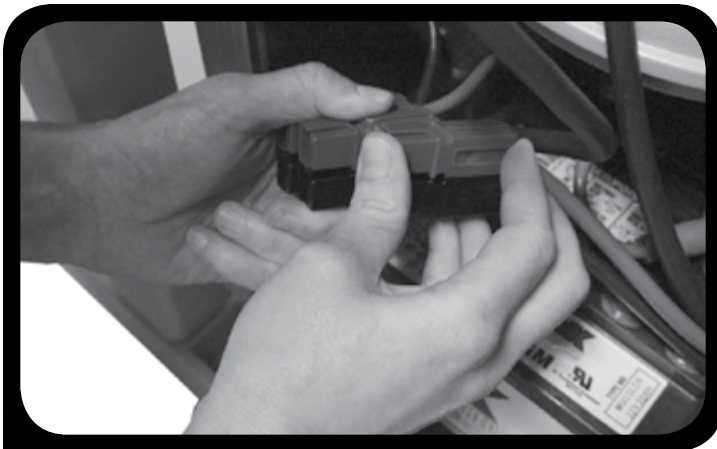
REMOVE CHARGER PANEL *(Continued from page 4)*



5a. Grab each end of the charging harness and work back and forth as you pull apart.



5b.



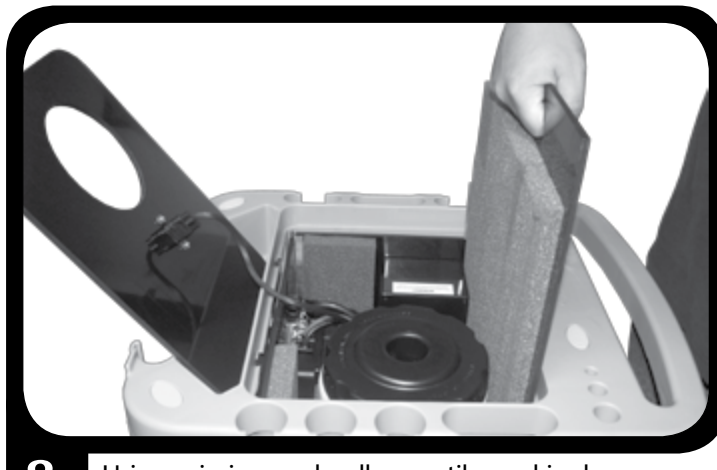
6a. Slide the charger's black/red connector apart from the other two.



6b.



7. Unplug charger from receptacle.



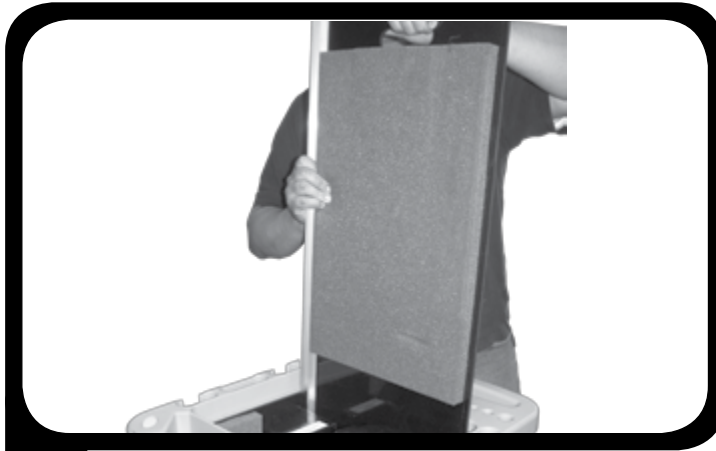
8. Using grip in panel pull up until panel is clear from cart.

Replace Charger Panel

REPLACE CHARGER PANEL



- 1.** Place corner molding on one side of charger panel.



- 2.** Slide panel into cart by placing side without molding into empty channel of molding from side panel. Confirm that the panel is resting on the bottom of the cart and that the corner molding and panel are even at the top.



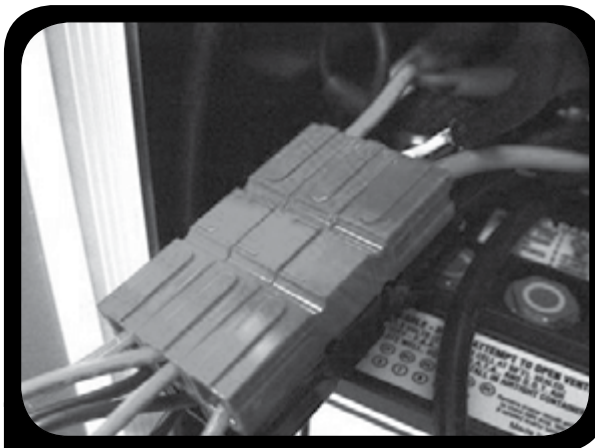
- 3.** Connect plug of battery charger into receptacle inside cart housing.



- 4a.** Slide red and black connector of charger into other two red and black connectors from batteries and vacuum.



4b.



- 5.** Attach the charging harness terminal to the three connectors of the charger, batteries and vacuum.

(Continued on page 7)

Replace Charger Panel

REPLACE CHARGER PANEL *(Continued from page 6)*



- 6.** Slide remaining side panel into cart by placing both sides into empty channels of molding. Confirm that the panel is resting on the bottom of the cart and that the corner molding and panel are even at the top.

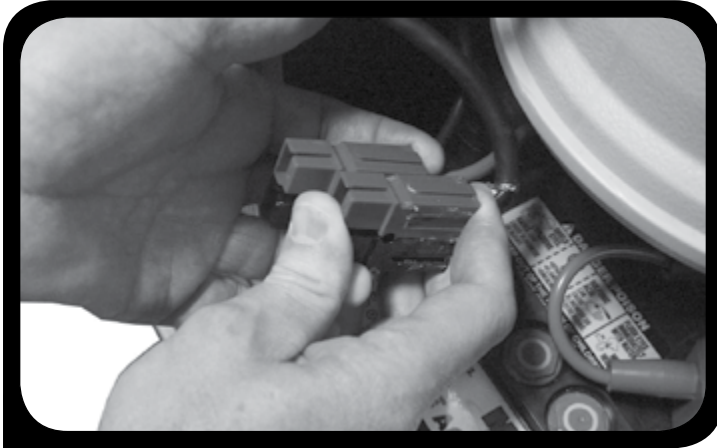


- 7.** Put cover in place on top of cart. Align hole in cover over top of vacuum.

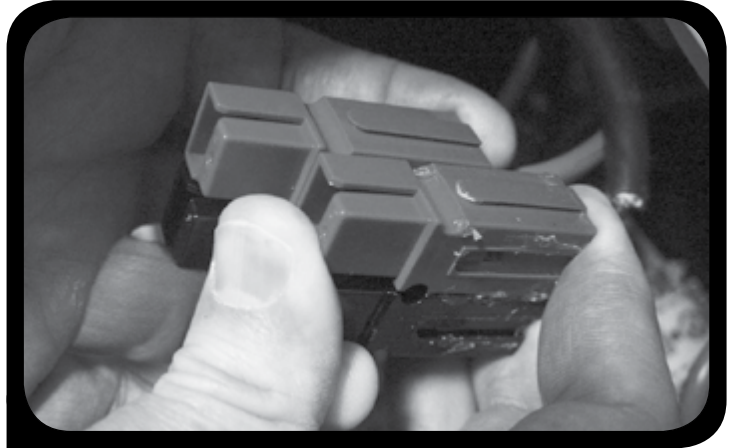
Remove Vacuum Panel

REMOVE VACUUM PANEL

1. Remove Charger Panel (Page 4)



2a. Slide the remaining two red/black connectors apart from each other.



2b.



3. Disconnect plug from vacuum.



Carefully remove vacuum panel from cart.

Replace Vacuum Panel

REPLACE VACUUM PANEL



- 1.** Place corner molding on one side of vacuum panel.



- 2a.** Slide panel into cart by placing side without molding into empty channel of molding from side panel. Confirm that the panel is resting on the bottom of the cart and that the corner molding and panel are even at the top.



- 2b.**



- 3.** Connect the red/black connector of the vacuum to the red/black connector from the batteries.



- 4.** Plug cable from cover of cart into vacuum.

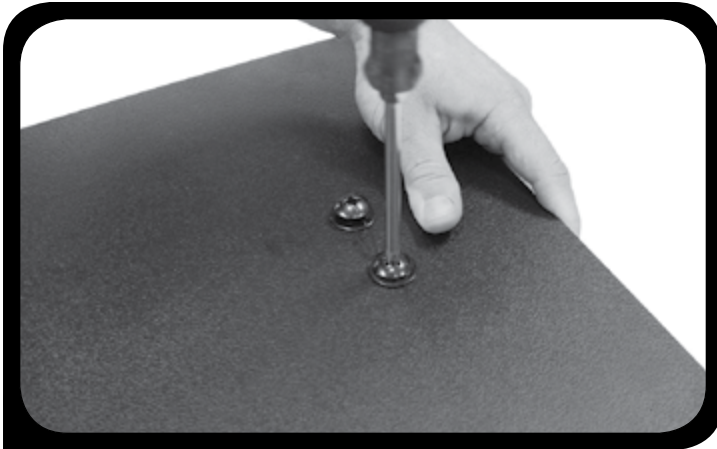
5. Replace Charger Panel (Page 6)

Remove Diffuser

REMOVE DIFFUSER

1. Remove Charger Panel (Page 4)

2. Remove Vacuum Panel (Page 8)



3. Remove vacuum from panel using Phillips screwdriver to remove two screws and washers.



4. Remove cap by twisting counter-clockwise.



5. Remove both cloth and paper filters.



6. Turn vacuum upside down.



7. Using a 5/16 socket or flat head screwdriver, remove two screws holding plastic diffuser to motor.



8. Remove diffuser.

Replace Diffuser

REPLACE DIFFUSER



- 1.** Replace diffuser by placing the side with ridges away from motor.



- 2.** Attach diffuser to motor with two screws.



- 3.** Turn vacuum right side up and place cloth and paper filter into vacuum body.



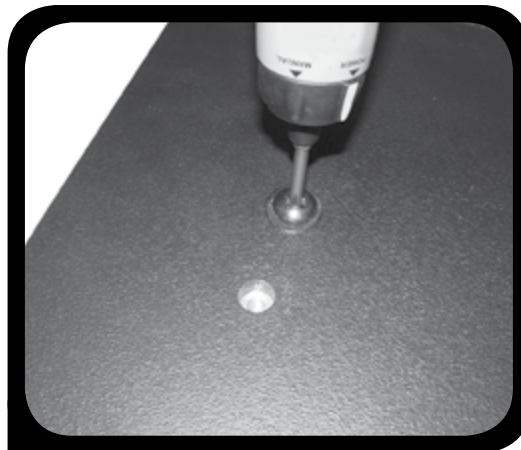
- 4.** Secure lid on vacuum by turning clockwise.



- 5.** Lay vacuum flat with mounting holes up.



- 6.** Lay panel on top of vacuum aligning mounting holes in vacuum with holes in panel.



- 7.** Attach vacuum to back panel with washers and screws.

If all changes are complete:

8. Replace Vacuum Panel
(Page 9)

9. Replace Charger Panel
(Page 6)

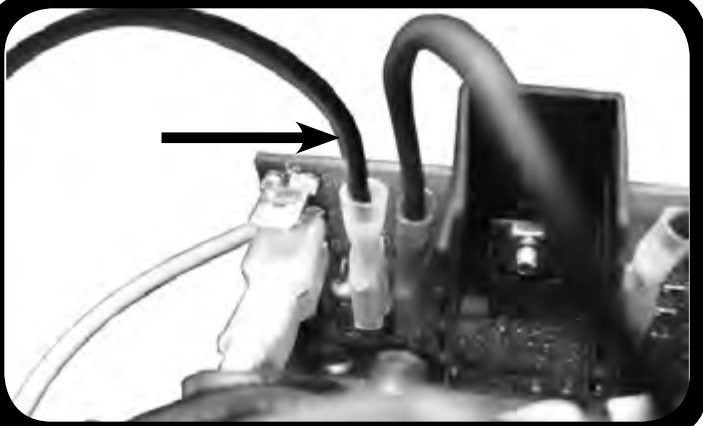
Remove Vacuum Receptacle

REMOVE VACUUM RECEPTACLE

1. Remove Charger Panel (Page 4)
2. Remove Vacuum Panel (Page 8)
3. Remove Diffuser (Page 10)



- 4.** Inside vacuum locate and remove top horizontal connector on battery control module (BCM) (white wire from receptacle) with needlenose pliers.



- 5.** Locate black wire with white connector from receptacle on BCM and remove with needlenose pliers.



- 6.** Remove two screws holding receptacle to vacuum body with Philip's screwdriver.



- 7.** Using fingers or flathead screwdriver, loosen receptacle from vacuum.



- 8.** Remove receptacle from vacuum.

Replace Receptacle

REPLACE RECEPTACLE



- 1.** Thread wires of new or existing receptacle through hole in vacuum body.



- 2.** Push receptacle until flush against body of vacuum.



- 3.** Attach receptacle to vacuum body with two screws using a Phillips screwdriver.



- 4.** Connect the black receptacle wire to the vertical BCM location marked "Switch" with needlenose pliers or fingers.



- 5.** Connect the white receptacle wire onto the top horizontal BCM connection labeled "Switch."

If all changes are complete:

- 6. Replace Diffuser (Page 11)
- 7. Replace Vacuum Panel (Page 9)
- 8. Replace Charger Panel (Page 6)

Remove Power Cable

REMOVE POWER CABLE

1. Remove Charger Panel (Page 4)

2. Remove Vacuum Panel (Page 8)

3. Remove Diffuser (Page 10)



4. Locate white wire from receptacle and remove from BCM.



5. Locate white wire from power cable and remove from BCM.



6. Locate black wire of power cable on BCM. Remove w/needlenose pliers or fingers.



7a. With crescent wrench holding nut unscrew the strain relief.



7b.



8a. Holding outer nut, unscrew the inner nut from the threads on the cable. Remove cable from vacuum.



8b.

Replace Power Cable

REPLACE POWER CABLE



- 1.** Thread wires of new or existing cable through hole in vacuum body.



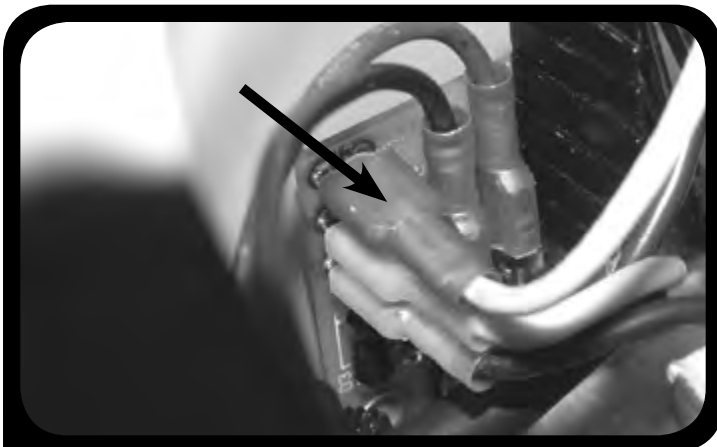
- 2.** Thread wires through inner nut and tighten nut.



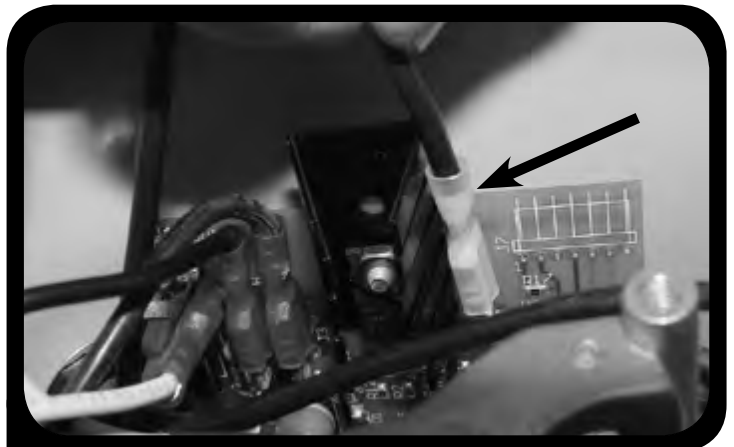
- 3.** Screw strain relief up to washer and outer nut. Tighten all with crescent wrench.



- 4.** Attach the white wire from power cord to the middle connector (marked with +36V).



- 5.** Attach the white wire from switch receptacle to the top connector (marked with SWITCH).



- 6.** Connect black wire of power cable to "-36" on PC board.

If all needed changes are complete:

7. Replace Diffuser (Page 11)

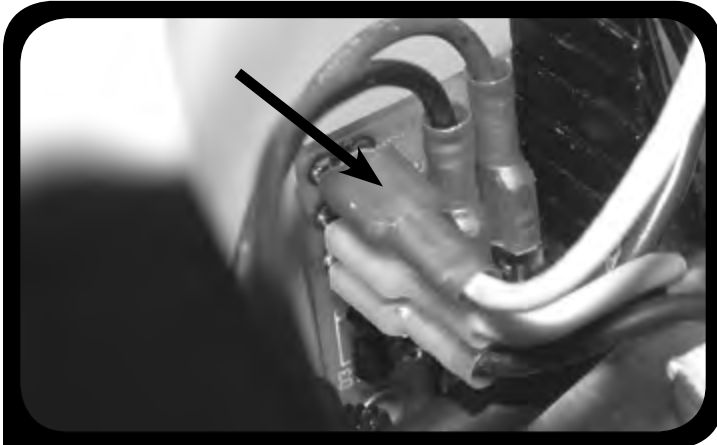
8. Replace Vacuum Panel (Page 9)

9. Replace Charger Panel (Page 6)

Remove/Replace Thermal Switch

REMOVE THERMAL SWITCH

1. Remove Charger Panel (Page 4)
2. Remove Vacuum Panel (Page 8)
3. Remove Diffuser (Page 10)

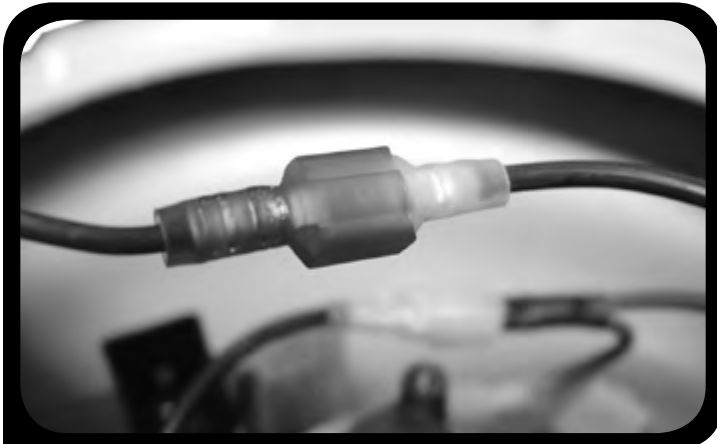


- 4.** Locate and remove thermal switch connector from BCM.

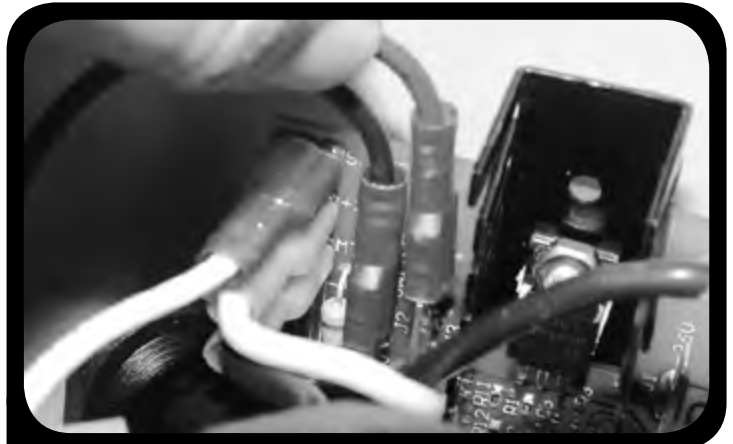


- 5.** Disconnect the other end of the thermal switch from motor wire.

REPLACE THERMAL SWITCH



- 1.** Connect male connector of new or existing thermal switch to motor wire.



- 2.** Connect female connector of thermal switch to "MOTOR" on BCM.

If all needed changes are complete:

3. Replace Diffuser (Page 11)
4. Replace Vacuum Panel (Page 9)
5. Replace Charger Panel (Page 6)

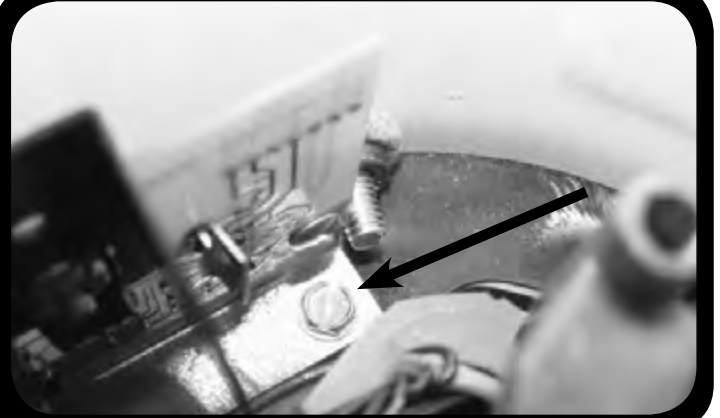
Remove Battery Control Module (BCM)

REMOVE BCM

1. Remove Charger Panel (Page 4)
2. Remove Vacuum Panel (Page 8)
3. Remove Diffuser (Page 10)



- 4.** Remove all wires connected to BCM.



- 5.** Remove screw holding BCM to compression ring with either a flathead screwdriver or 5/16 socket. Remove BCM.

Replace Battery Control Module (BCM)

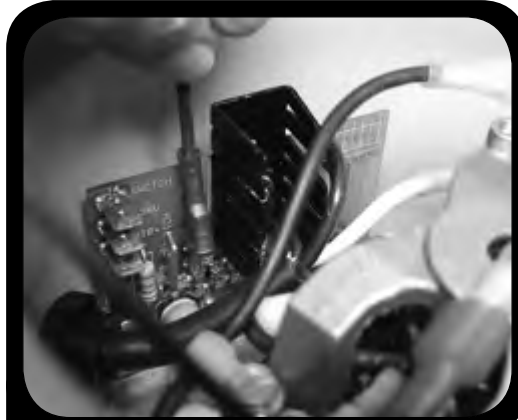
REPLACE BCM



- 1.** Screw new or existing BCM to motor compression ring with either a flat-head screwdriver or 5/16 socket.



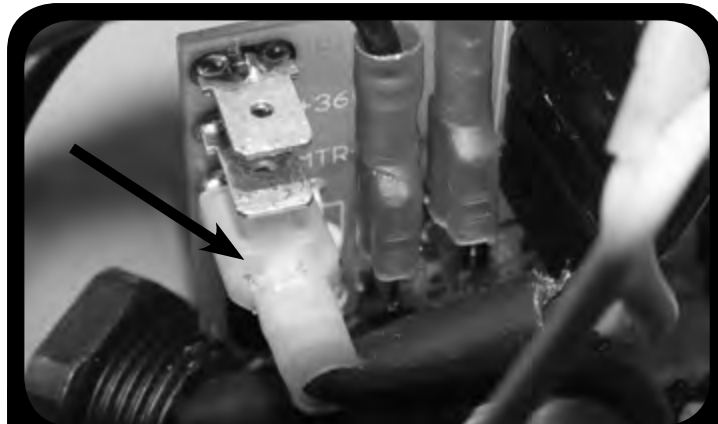
- 2.** Connect black wire of power cable to "-36" on PC board.



- 3.** Connect female connector of thermal switch to "MOTOR" on BCM.



- 4.** Reconnect black wire of receptacle to "SWITCH" on BCM.



- 5.** Attach the black wire from the motor to the bottom horizontal connector (marked with MTR+).



- 6.** Attach the white wire from new power cord to the middle connector (marked with +36V).



- 7.** Attach the white wire from receptacle to the top connector (marked with SWITCH).

If all needed changes are complete:

8. Replace Diffuser (Page 11)

9. Replace Vacuum Panel (Page 9)

10. Replace Charger Panel (Page 6)

Remove Motor/BCM Assembly from Vacuum

REMOVE MOTOR/BCM ASSEMBLY FROM VACUUM

1. Remove Charger Panel (Page 4)

2. Remove Vacuum Panel (Page 8)

3. Remove Diffuser (Page 10)

4. Remove Receptacle (Page 12)

5. Remove Power Cable (Page 14)



6. Use flathead screwdriver to remove 3 washer cover caps.



7. Use Phillips screwdriver to remove screw and Z-washer. Remove all three.



8a. Push well nut into vacuum using screwdriver.



8b.



9. Remove motor from vacuum body.



10. Remove dome filter.

Replace Motor/BCM Assembly into Vacuum

REPLACE MOTOR/BCM ASSEMBLY INTO VACUUM



1. Press dome filter onto bottom of motor.



2. Place motor into vacuum body.

TIP:

Recommend using new well nuts each time. Old well nuts warp over time.



3. Align motor as shown in picture (BCM close to power cable hole).



4. Press well nuts into holes in vacuum body. Rotating as pushing in may ease assembly.



5. Ensure well nut is flush against vacuum body.



6. Inside vacuum view of well nut.

(Continued on page 21)

Replace Motor/BCM Assembly into Vacuum

REPLACE MOTOR/BCM ASSEMBLY INTO VACUUM *(Continued from page 20)*



7. Replace Z-washers and screws.



8. Tighten screw on Z-washer until well nut has tightened against vacuum wall.



9. Press washer cover/cap over washer.



10. Replace power cable. Follow Steps 1 through 6 on Page 15.



11. Replace receptacle. Follow Steps 1 through 5 on Page 13.

If all changes are complete:

12. Replace Diffuser (Page 11)

13. Replace Vacuum Panel (Page 9)

14. Replace Charger Panel (Page 6)

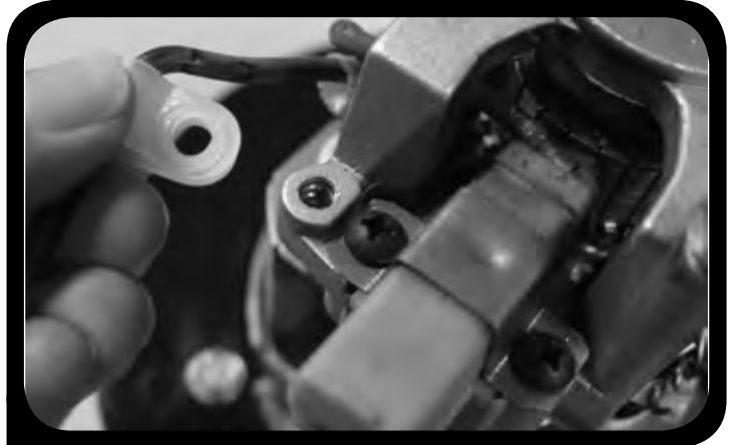
Remove Motor Brushes

REMOVE MOTOR BRUSHES

1. Remove Charger Panel (Page 4)
2. Remove Vacuum Panel (Page 8)
3. Remove Diffuser (Page 10)
4. Remove Motor/BCM Assembly (Page 19)



5a. Remove screw and wire retaining clamp on motor with 5/16" socket.



5b.



6a. Use end of flathead screwdriver, gently wedge between center of motor brush and clip. Turn screwdriver counter-clockwise to push out the wire clip under the motor brush insulation.

Do not press downward on the clip or use excessive force as this may break the clip.

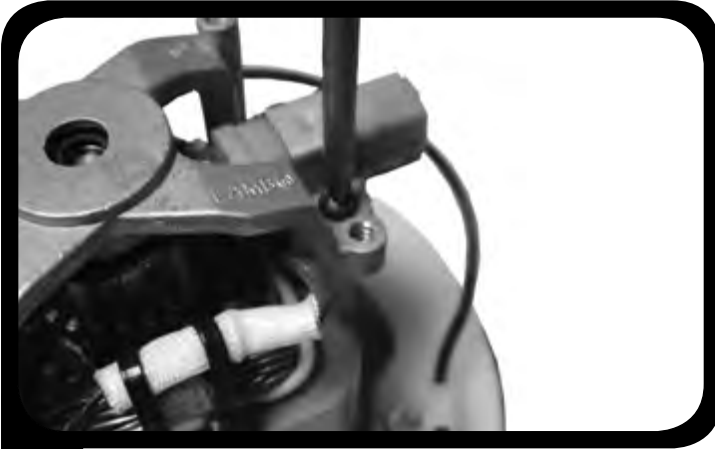


6b.

(Continued on page 23)

Remove Motor Brushes

REMOVE MOTOR BRUSHES *(Continued from page 22)*



7a. Remove two screws and bracket over the motor brushes.



7b.



8. Remove motor brush. Remove 2nd motor brush in same way. Tip brush upward and slide connector out.

TIP:

New carbon brushes give off small sparks briefly once motor is engaged while brushes finish aligning. This is normal.

Replace Motor Brushes

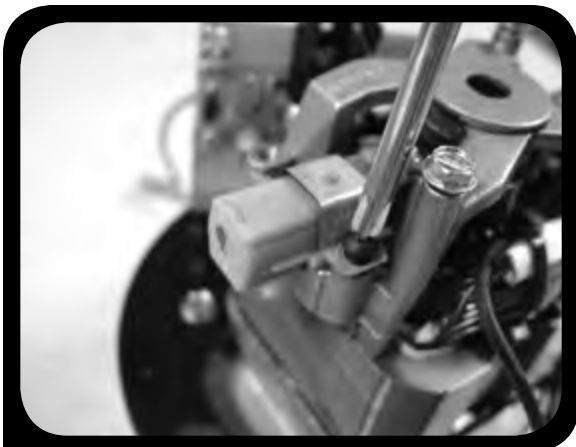
REPLACE MOTOR BRUSHES



1a. Obtain new motor brushes and slide into place with wire clip/tab going under the top insulation.



1b.



2. Replace brush brackets with screws.



3. With end of flathead screwdriver, push wire clip back into place.



4. Replace screw and wire retaining clamp on each side of motor.

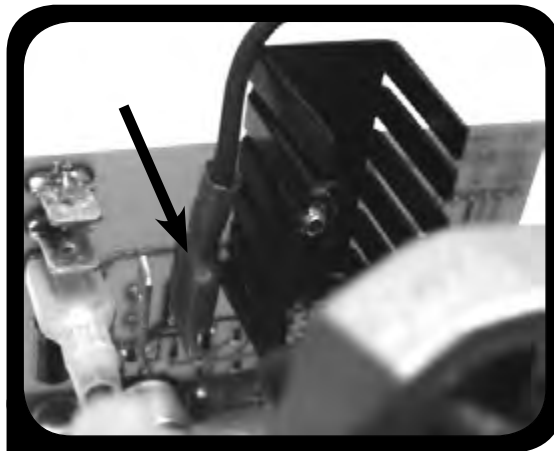
If all changes are complete:

- 5. Replace Motor/BCM Assembly (Page 20)
- 6. Replace Diffuser (Page 11)
- 7. Replace Vacuum Panel (Page 9)
- 8. Replace Charger Panel (Page 6)

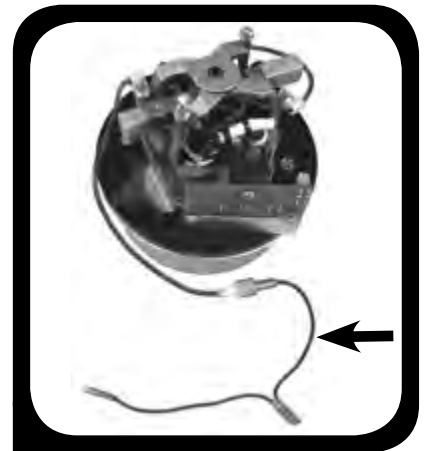
Remove/Replace Motor Assembly

REMOVE MOTOR ASSEMBLY

1. Remove Charger Panel (Page 4)
2. Remove Vacuum Panel (Page 8)
3. Remove Diffuser (Page 10)
4. Remove Motor/BCM Assembly (Page 19)



- 5.** Remove thermal switch connector from BCM.

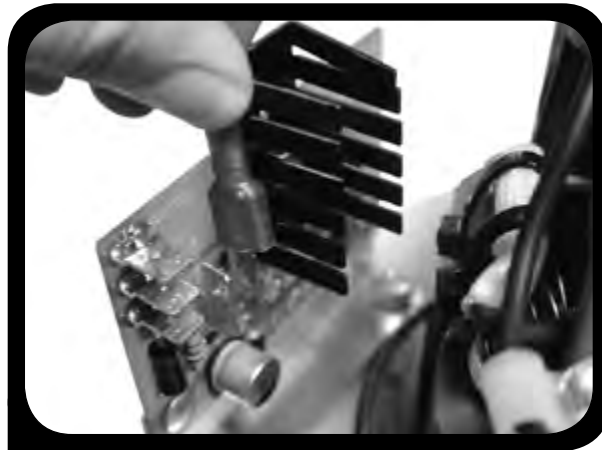


- 6.** Remove thermal switch from motor wire.

REPLACE MOTOR ASSEMBLY



- 1.** Connect one of the thermal switch wires to new motor wire. It does not matter which wire.



- 2.** Connect thermal switch's other wire to "MOTOR-" on BCM.



- 3.** Connect remaining motor wire to "MTR+" on BCM. Go to Page 21 – Step 1-11.

If all changes are complete:

4. Replace Motor/BCM Assembly (Page 20)
5. Replace Diffuser (Page 11)
6. Replace Vacuum Panel (Page 9)
7. Replace Charger Panel (Page 6)

Remove Compression Ring

REMOVE COMPRESSION RING

1. Remove Charger Panel (Page 4)
2. Remove Vacuum Panel (Page 8)
3. Remove Diffuser (Page 10)
4. Remove Motor/BCM Assembly (Page 19)



5. Remove horizontal motor connector from BCM.



6. Remove thermal switch connector from BCM.



7. Remove PC Board.



8. Remove remaining 3 screws which attach compression ring to motor.



9. Remove ring over top of motor.

If all changes are complete:

10. Replace Motor/BCM Assembly (Page 20)
11. Replace Diffuser (Page 11)
12. Replace Vacuum Panel (Page 9)
13. Replace Charger Panel (Page 6)

Reassemble Compression Ring

REASSEMBLE COMPRESSION RING



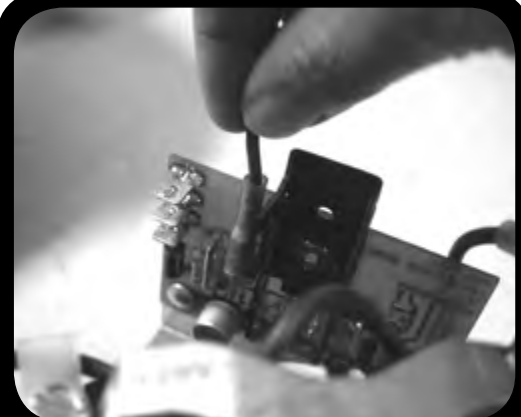
- 1.** Place new or existing compression ring over top of motor such that cut outs in ring are aligned with motor brushes.



- 2.** Replace three of the screws which attach the ring to the motor. Leave out a screw which is not under a wire clamp (where the BCM was attached).



- 3.** Re-attach PC board in remaining hole on compression ring.



- 4.** Reconnect thermal switch's other wire to "MOTOR" on BCM.



- 5.** Reconnect remaining motor wire to "MTR+" on BCM.

If all changes are complete:

- 6. Replace Motor/BCM Assembly (Page 20)
- 7. Replace Diffuser (Page 11)
- 8. Replace Vacuum Panel (Page 9)
- 9. Replace Charger Panel (Page 6)

Remove/Reassemble Tetraseal

REMOVE TETRASEAL

1. Remove Charger Panel
(Page 4)
2. Remove Vacuum Panel
(Page 8)
3. Remove Diffuser
(Page 10)
4. Remove Motor/BCM Assembly
(Page 19)

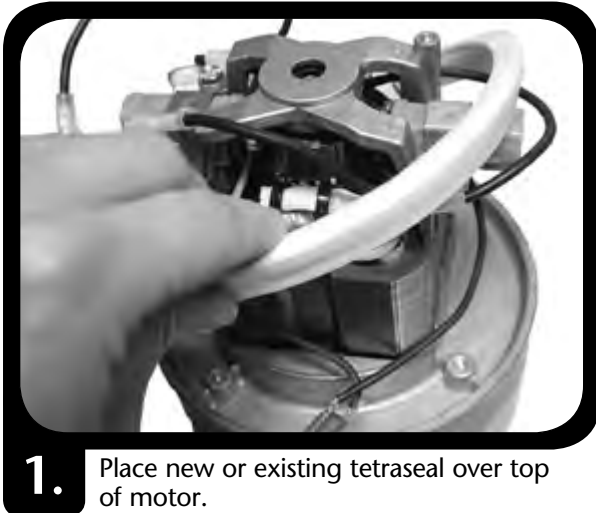


- 5.** Remove compression ring per Steps 5 through 9 on Page 27.



- 6.** Remove tetraseal by pulling up and over the top of motor.

REASSEMBLE TETRASEAL



- 1.** Place new or existing tetraseal over top of motor.



- 2.** Press down on seal until flush with motor flange.



- 3.** Replace compression ring, BCM and re-wire per Steps 1 through 5 on Page 27.

If all changes are complete:

4. Replace Motor/BCM Assembly (Page 20)
5. Replace Diffuser (Page 11)
6. Replace Vacuum Panel (Page 9)
7. Replace Charger Panel (Page 6)

Remove/Reassemble Motor

REMOVE MOTOR

1. Remove Charger Panel (Page 4)
2. Remove Vacuum Panel (Page 8)
3. Remove Diffuser (Page 10)
4. Remove Motor/BCM Assembly (Page 19)



- 5.** Disconnect thermal switch from motor wire.



- 6.** Remove compression ring and tetraseal per Steps 5 and 6 on Page 28.

REASSEMBLE MOTOR



- 1.** Replace compression ring, tetraseal and BCM on new motor per Steps 1 through 3 on Page 28.



- 2.** Reconnect thermal switch to motor wire.

If all changes are complete:

3. Replace Motor/BCM Assembly (Page 20)
4. Replace Diffuser (Page 11)
5. Replace Vacuum Panel (Page 9)
6. Replace Charger Panel (Page 6)

Batteries/Harness Safety Notice/Precautions

TO REPLACE:

Batteries
Fusible Link
Battery Red Jumper Wire
Battery Power Harness

- ⚠ Safety glasses required
- ⚠ Remove all metal jewelry; rings, watches, chains, etc.
- ⚠ Use insulated wrench when working with batteries



SAFETY NOTICE:

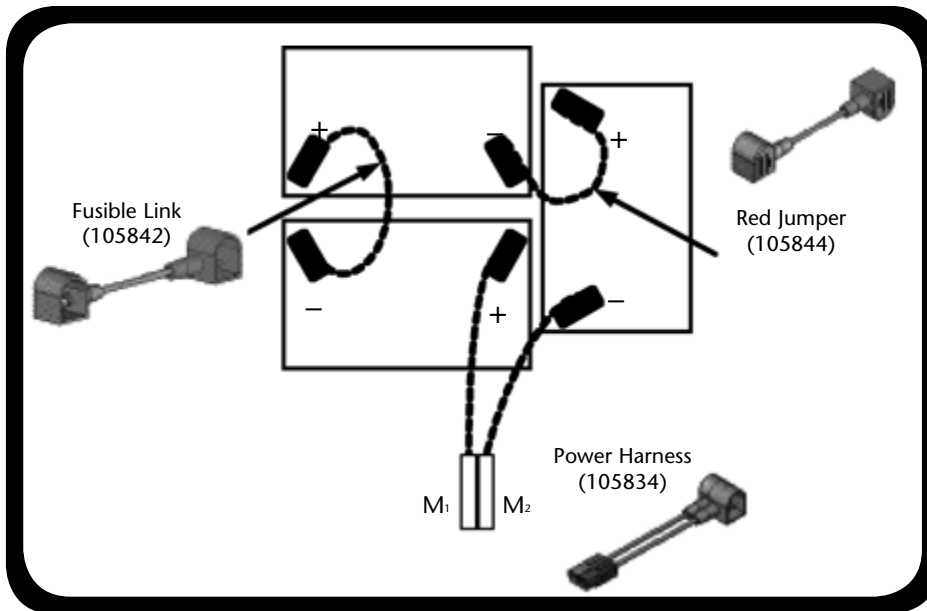
- ⚡ **WARNING:** Risk of electric shock
- ⚠ **CAUTION:** Read Safety Notice prior to assembly

1. Observe all safety regulations. Electrical wiring should be performed in accordance with all applicable national, state and local codes to prevent damage to equipment and ensure personnel safety.
2. Hazardous voltages present.
3. **Warning – Risk of explosive gasses.** Working in the vicinity of a lead-acid battery is dangerous. Batteries generate explosive gasses during normal battery operation. During normal charging operation, some hydrogen gas is released (vented) or diffused through the container walls. The VRLA batteries specified for this equipment are designed to minimize gas produced. The gasses released or diffused must not be allowed to accumulate. The GoCartVac enclosure has been designed to ensure proper ventilation of battery gasses.
4. **Warning – Risk of battery terminal shorting.** The batteries specified for use in this equipment have very low internal impedance and thus are capable of delivering high currents if externally short circuited. The resultant heat can cause severe burns and is a potential fire hazard. Remove all metallic items such as watches, bracelets and personal jewelry when working on or around battery terminals. As a further precaution, only insulated tools should be used to prevent accidental short circuits.
5. Carefully inspect batteries prior to installation. Particular attention should be given to ensure that none of the cell cover seals have been broken, no battery case damage is evident and no visible sign of battery leakage exists.

PERSONAL SAFETY PRECAUTIONS:

1. While performing this assembly, ensure someone is within range of your voice or close enough to come to your aid.
2. When working with lead acid batteries, ensure plenty of fresh water and soap is available nearby in case battery acid contacts skin, clothing or eyes.
3. Wear complete eye protection and clothing protection. Avoid touching eyes while working near batteries.
4. Never smoke or allow a spark or flame in the vicinity of batteries.
5. **Be extra cautious to avoid the risk of dropping a metal tool onto a battery.**
6. Remove personal metal items such as rings, bracelets, necklaces, and watches when working with batteries.

Battery Termination Schematic



Refer to this schematic for removing and replacing of battery wires.

Disassemble/Reassemble GoCart

DISASSEMBLE GOCART

1. Remove Charger Panel (Page 4)
2. Remove Vacuum Panel (Page 8)



3. Remove remaining side panel and molding.

REASSEMBLE GOCART

1. Replace Vacuum Panel (Page 9)
2. Replace Charger Panel (Page 6)
3. Replace Side Panel into Cart

Remove/Replace Fusible Link

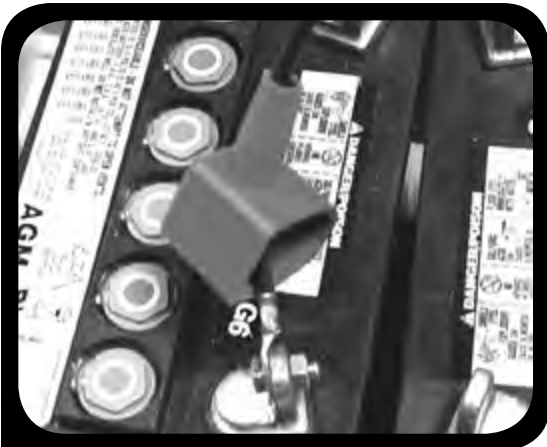
REMOVE FUSIBLE LINK – Please Read Safety Precautions on Page 2

1. Disassemble GoCart (Page 32)



- 2.** Remove fusible link from batteries using insulated wrenches. See Safety Notice and Personal Safety Precautions on Page 30.

REPLACE FUSIBLE LINK



- 1.** On positive terminal of battery B1, and using the red terminal end of the fusible link:
- Place 7/16 bolt through ring of harness and battery terminal.
 - Place 7/16 nut on end of bolt.
 - Tighten assembly with either two 7/16 insulated end wrenches or a torque wrench
 - Torque to 25-30 in-lbs.
 - Place protector over the battery terminal.



- 2.** On negative terminal of battery B2, and using the black terminal end of the fusible link: Follow a) thru e) of Step 1 in this section.

3. Resassemble GoCart (Page 32)

Remove/Replace Red Jumper Wire

REMOVE RED JUMPER WIRE

1. Disassemble GoCart (Page 32)



2. Remove red jumper wire from batteries using insulated wrenches. See Safety Notice and Personal Safety Precautions on Page 30.

REPLACE RED JUMPER WIRE



1 On negative terminal of battery B1, and using the black terminal end of the red jumper harness: Follow a) thru e) on Step 1 of Replace Fusible Link on Page 33.



2 On positive terminal of battery B3, and using the red terminal end of the red jumper harness: Follow a) thru e) on Step 1 of Replace Fusible Link on Page 33. If only replacing red jumper, Follow a) thru e) on Step 1 of Replace Fusible Link on Page 33.

Remove/Replace Power Harness

REMOVE POWER HARNESS

1. Disassemble GoCart (Page 32)



2. Remove power harness wire from batteries using insulated wrenches. See **Safety Notice** and **Personal Safety Precautions** on Page 30.

REPLACE POWER HARNESS



1. On negative terminal of battery B2, and using the black terminal end of the power harness follow a) thru e) on Step 1 of Replace Fusible Link on Page 33.



2. On positive terminal of battery B2 and using the red terminal end of the power harness follow a) thru e) on Step 1 of Replace Fusible Link on Page 33.

3. Reassemble GoCart (Page 32)

Replace Batteries/Harness

REPLACE BATTERIES

1. Disassemble GoCart (Page 32)



- 1.** Remove all wire harnesses from the batteries using insulated wrenches. See **Safety Notice and Personal Safety Precautions** on Page 30.



- 2.** Place new batteries in cart as shown. To replace all harnesses follow directions on Page 35.

3. Reassemble GoCart (Page 32)

Remove/Replace Charger

REMOVE CHARGER

1. Remove Charger Panel
(Page 4)



- 2a.** Remove the screws, nuts and washers from existing charger.



- 2b.**

REPLACE CHARGER



- 1.** Place new Charger in cut-out location on panel.



- 2.** Position so that the fan vents are toward the handle of the panel. Push screws through holes in panel and charger.



- 3a.** Place the washer and then the nut/star washer over the screws. Tighten screw to 10 in-lbs.



- 3b.**

Remove Cover of Electrical Enclosure

REMOVE COVER OF ELECTRICAL ENCLOSURE

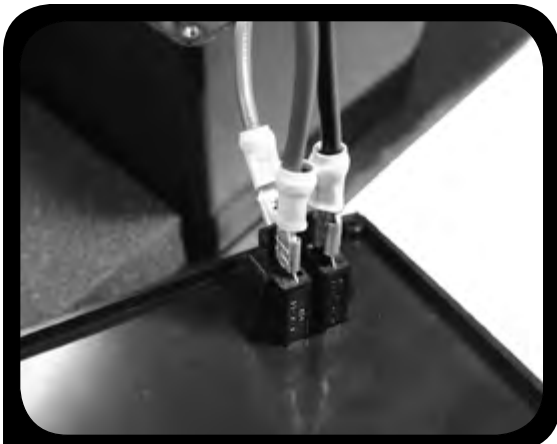
1. Remove Charger Panel (Page 4)



2. Remove the 4 screws holding the cover of the electrical enclosure.



3. Pull open the cover to expose wires and components.



4a. Remove the black, red and green wires from the receptacle terminals.



4b.

Replace Cover of Electrical Enclosure

REPLACE COVER ONTO ELECTRICAL ENCLOSURE



- 1** Push crimped end of green, black and red wire from switch onto terminals of receptacle.



- 2** Using the four screws secure cover to enclosure.

Remove/Replace Charger Receptacle

REMOVE CHARGER RECEPTACLE

1. Remove Charger Panel (Page 4)
2. Remove Cover of Electrical Enclosure (Page 38)

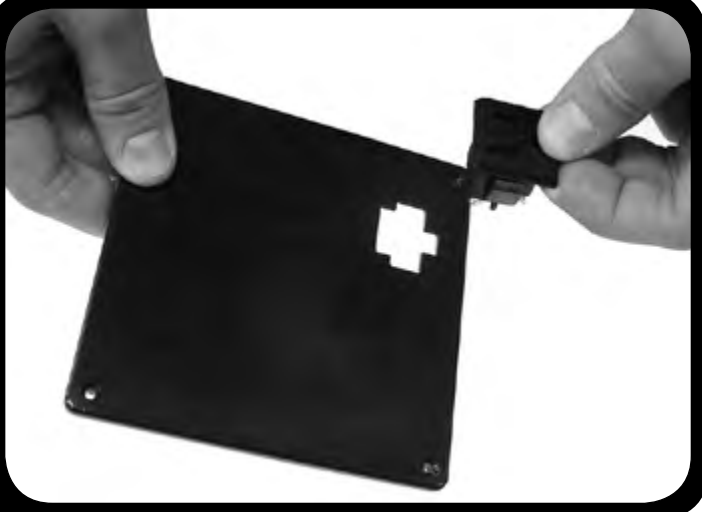


- 3.** Squeeze together the sides of the receptacle.



- 4.** Push through hole while continuing to squeeze sides.

REPLACE CHARGER RECEPTACLE



- 1.** Push new receptacle through the cover of the enclosure.

2. Replace Cover onto Electrical Enclosure (Page 39)
3. Replace Charger Panel (Page 6)

Remove Electrical Box and Connections

REMOVE ELECTRICAL BOX & CONNECTIONS

1. Remove Charger Panel (Page 4)
2. Remove Cover of Electrical Enclosure (Page 38)



- 3a.** Remove 4 screws, nuts and washers holding electrical enclosure to panel with Phillips screwdriver and 3/8" end wrench.



- 3b.**



- 4.** Remove black wire with Phillips screwdriver from power receptacle.



- 5.** Remove red wire with Phillips screwdriver from power receptacle.

REASSEMBLE ELECTRICAL BOX AND CONNECTIONS



- 1.** Using Phillips screwdriver put bare end of red wire from switch into silver terminal of receptacle.



- 2.** Using Phillips screwdriver put bare end of black wire from switch into gold terminal of receptacle.



- 3.** Place enclosure over switch and receptacle.



- 4.** Place four screws through panel into threaded screw locations in corners.



Place washer and nut/star-washer over end of screw and tighten using screwdriver. Torque to 10 in-lbs.

(Page 39)(Page 6)

REMOVE POWER SWITCH

1. Remove Charger Panel (Page 4)
2. Remove Cover of Electrical Enclosure (Page 38)
3. Remove Electrical Box and Connections (Page 41)



4. Squeeze together sides of switch.



5. While continuing to squeeze, pull switch from hole in panel.

REPLACE POWER SWITCH



1a. Push new switch assembly through cut-out in the panel such that the line (on-state) is closest to the top of the panel.



1b.

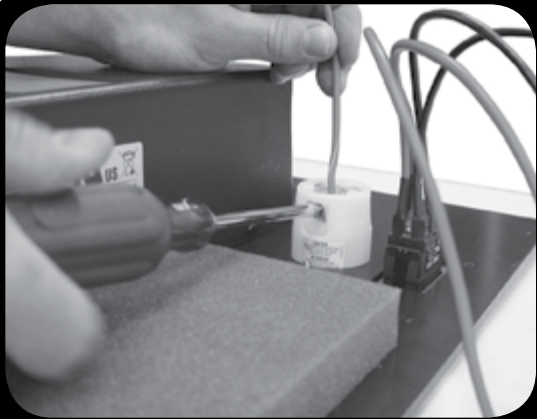
If all changes are complete:

2. Reassemble Electrical Box and Connections (Page 42)
3. Replace Cover onto Electrical Enclosure (Page 39)
4. Replace Charger Panel (Page 6)

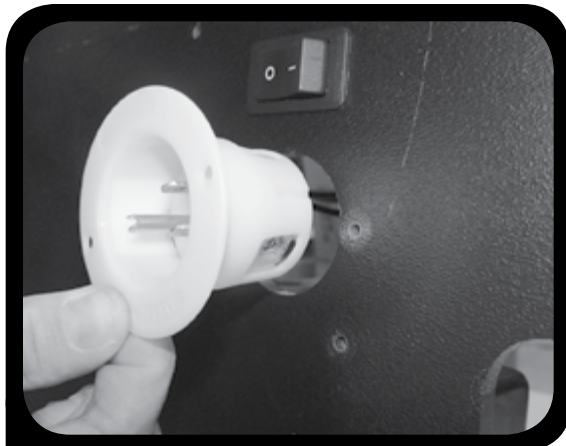
Remove/Replace Power Receptacle

REMOVE POWER RECEPTACLE

1. Remove Charger Panel (Page 4)
2. Remove Cover of Electrical Enclosure (Page 38)



Using Phillips screwdriver remove green ground wire from receptacle.



Remove 2 screws holding receptacle to panel and remove receptacle.

REPLACE POWER RECEPTACLE



1. Place flanged receptacle in the side panel cut-out, with ground pin down. Attach with screws. Tighten to 5 in-lbs.



2. Using Phillips screwdriver put bare end of green ground wire back into ground terminal of receptacle.

If all changes are complete:

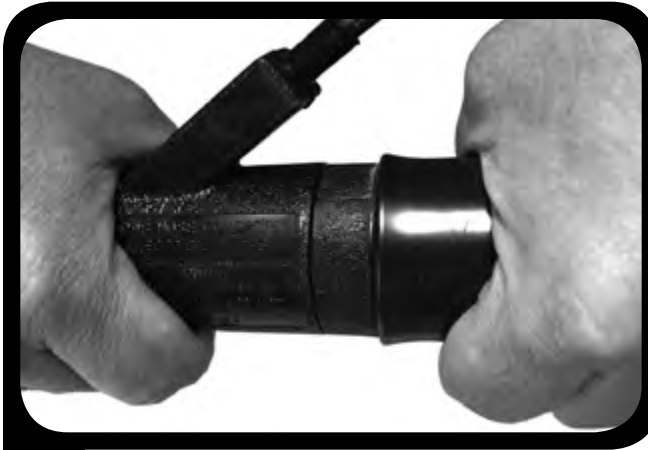
3. Reassemble Electrical Box and Connections (Page 42)
4. Replace Cover onto Electrical Enclosure (Page 39)
5. Replace Charger Panel (Page 6)

Remove/Replace Swivel Elbow Cuff

REMOVE SWIVEL ELBOW CUFF



1.



2.

Place one hand on hose (close to cord strain relief) and one on the elbow cuff.



3a.

Bend down until the cuff is loose from the hose.



3b.

REPLACE SWIVEL ELBOW CUFF



1.

Push the smaller end of new elbow cuff into hose until the textured part of the elbow is against the hose.

Remove Switch in Hose Handle

REMOVE SWITCH



1.



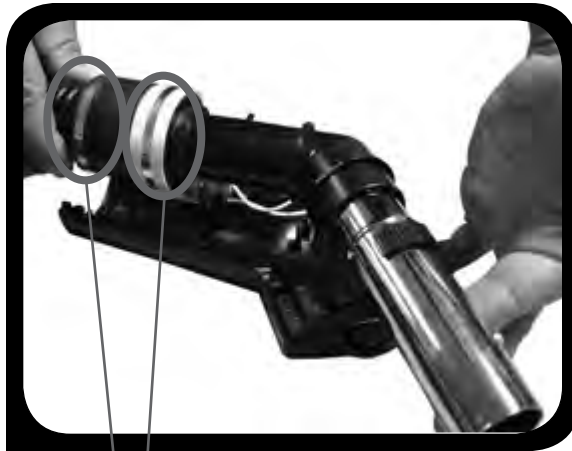
2.

Remove the 8 screws which hold the handle together.



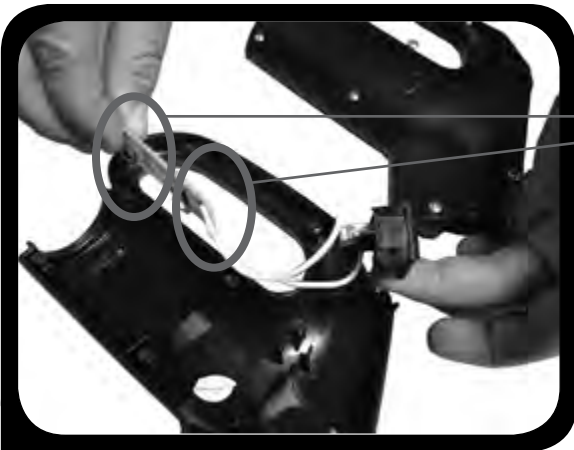
3.

Remove top cover.



4.

Lift up and remove angled tube.



5.

Lift out and remove switch and BCM.

COPPER CONTACTS.

Use pencil eraser to clean away any build up.

Reassemble Switch in Hose Handle

REASSEMBLE SWITCH



1. Place new switch/BCM in handle.



Place switch with the ON position (I) facing the stub tube.



3. Place BCM such that wires are closest to the switch and not against handle wall.



4. Ensure stub tube is inserted into angle tube. Place angled tube into handle.



5. Confirm copper rings on angled tube are against the metal clips on BCM.



6. Replace handle cover.



7. Tighten 8 screws holding 2 sides of handle together.

Stub Tube Replacement

Tools needed: Phillips Head Screw Driver (not included in kit).



- 1.** Remove eight Phillips screws from hose handle then remove top half of housing.



- 2.** Remove stub tube from top half of hose handle.



- 3.** Remove stub tube from plastic adapter by pressing button and sliding apart. Insert NEW stub tube. Make sure to lock button in place.



- 4.** Insert the connected stub tube and plastic adapter into handle. Align ridge on stub tube with groove in handle.



- 5.** Make sure copper strips on hose are making contact with the copper relays on the control board.

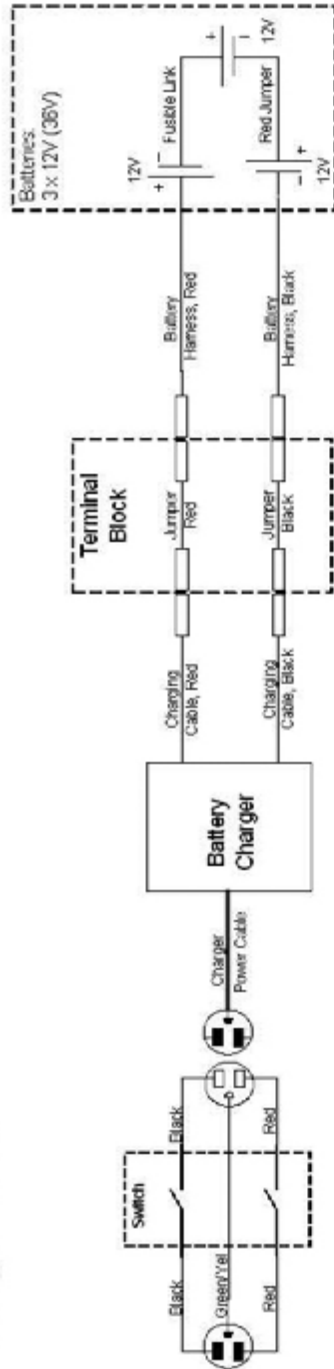


- 6.** Replace top half of hose handle and tighten screws. Follow numbered screws above to make tightening easy.

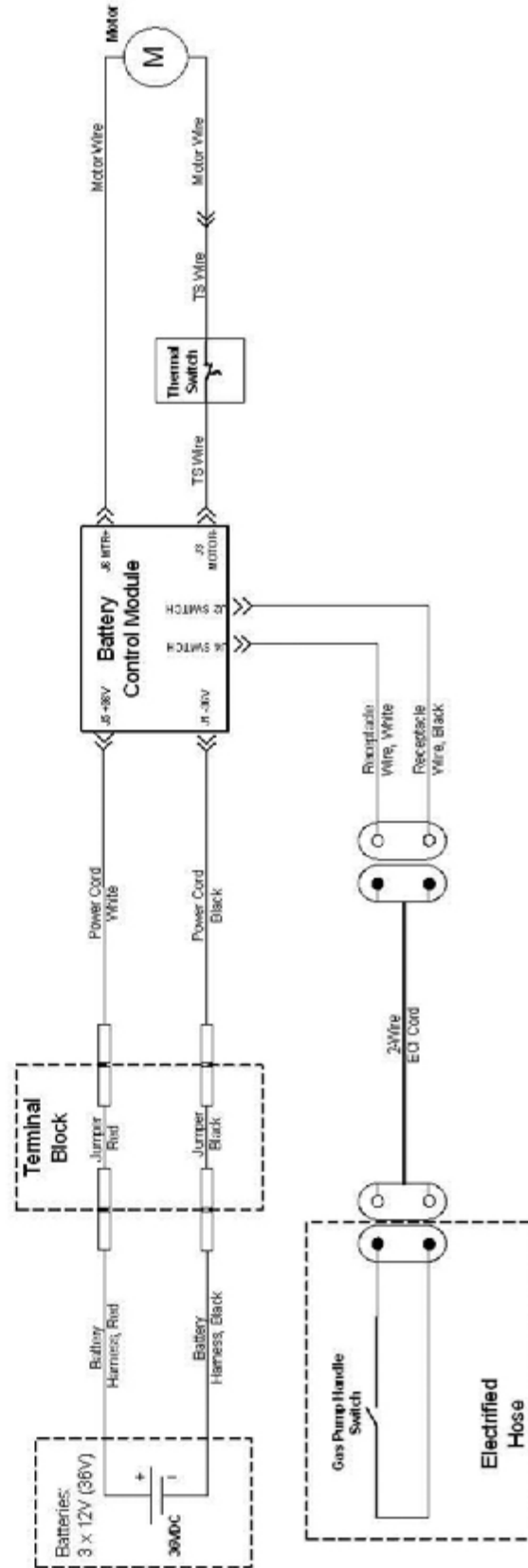


- 7.** Insert hose handle into upper section of wand. Connect hose handle power plug with the powerhead's power plug.

Charger Circuit



Vacuum Circuit





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