

STQ EZ9 2002* SPEED/TORQUE CONVERSION KIT For EZGO DCS/PDS

Thank you for purchasing our exclusive SK2002 SPEED KIT. We take great pride in our products and feel certain that this kit will offer you many years of trouble-free service. We ask that you take a moment to read these instructions completely before beginning your installation. Familiarity with the parts and an understanding of the procedures will ensure that your installation goes smoothly and safely. Additionally, it will give you an opportunity to determine if your cart might have any damaged, corroded, or missing parts, which will need replacing prior to using your new speed kit. **Note: Controller Pictures are for cable connecting reference and does not represent the activation wire connections, use page 13 wiring diagram for activation wiring.**

ABOUT THIS SPEED KIT

This speed kit is designed specifically for EZGO DCS/PDS 36 volt electric golf carts. If you are unsure of your golf cart type, please see our catalog or contact our technical department, toll free at 1-888-444-9994, or online at www.buggiesunlimited.com. During the installation of this kit you will be upgrading three major electrical components from your golf cart, with three high performance components in our SK2002 SPEED KIT. These parts are: the motor, the speed controller, and the solenoid. All of your electrical connections will be made between these components and either the battery group or a device called a forward/reverse switch. You should allow about 4 hours for installation.

PARTS INCLUDED IN OUR KIT

- 1) Electric motor (per application).
- 2) High Performance speed controller.
- 3) High Performance solenoid (36 V.).
- 4) 4 gage cable kit including:
 - a) 3 red coded cables.
 - b) 1 blue coded cable.
 - c) 1 white coded cable.
 - d) 1 orange coded cable.
 - e) 1 green coded cable.
 - f) 1 black coded cable.
 - g) 5 red/black coded cables.
- 5) Forward & reverse switch assembly
- 6) Custom controller mounting bracket
- 7) Shift lever
- 8) Jumper lead
- 9) Bridge Resistor.
- 10) Hardware kit.



TOOLS AND MATERIALS REQUIRED TO INSTALL KIT

- 1) SAE socket set, with ratchet and 3” and 6” extensions.
- 2) SAE combination wrench set.
- 3) 1/2” wrench (extra).
- 4) #2 Phillips and Flat Tip screwdrivers.
- 5) Wire Terminal Crimper.
- 6) Wire cutters.
- 7) T15 Torx driver.
- 8) Heavy weight grease.
- 9) Drill and 9/32” bit.
- 10) Safety Goggles/Glasses.



ADDITIONAL TOOLS WHICH MAKE THE JOB BETTER AND FASTER

- 1) Battery Carrying Strap. Part # BT8001.
- 2) Battery Terminal Protector Spray. Part # BT60512.
- 3) Battery Terminal Re-facer. Part # BU6002.
- 4) Electronic Multi-meter. Part # BU6001.
- 5) Small Box of Baking Soda. Local store purchase.



BT8001



BT60512



BU6002



BU6001

A NOTE BEFORE STARTING

Throughout this installation, we will be discussing the connection of #4 heavy gauge cables to several different electrical components. Some cables will be attached to **THREADED LUGS** or “posts”, and others will be attached to **FLAT BUS BARS**. An understanding of each of these cable connections is important. Let’s first cover the **THREADED LUGS**. You will notice these lugs utilize a set of double nuts to hold the cable terminal firmly in place. Typically, a cable terminal and a washer will be sandwiched between these two nuts. This configuration is deliberate, and care should be given to properly removing or installing these nuts. An open-end wrench of the appropriate size should be held on the bottom nut while another wrench or socket is used on the top nut to either loosen or tighten this connection. The use of opposing wrenches relieves the threaded lug of excessive stress and eliminates the possibility of damaging the seals at the base of these lugs. Failure to use the opposing wrench technique on double-nutted lugs can permanently damage the component. You will also want to use the opposing wrench technique when making connections at the **FLAT BUSS BARS**, but care should also be given to avoid twisting or bending the bars. Again, these seals at the base of the connection points are fragile and subject to damage if handled improperly. **Seal damage at these electrical contact points will VOID the warranty for that component.**

INSTALLATION

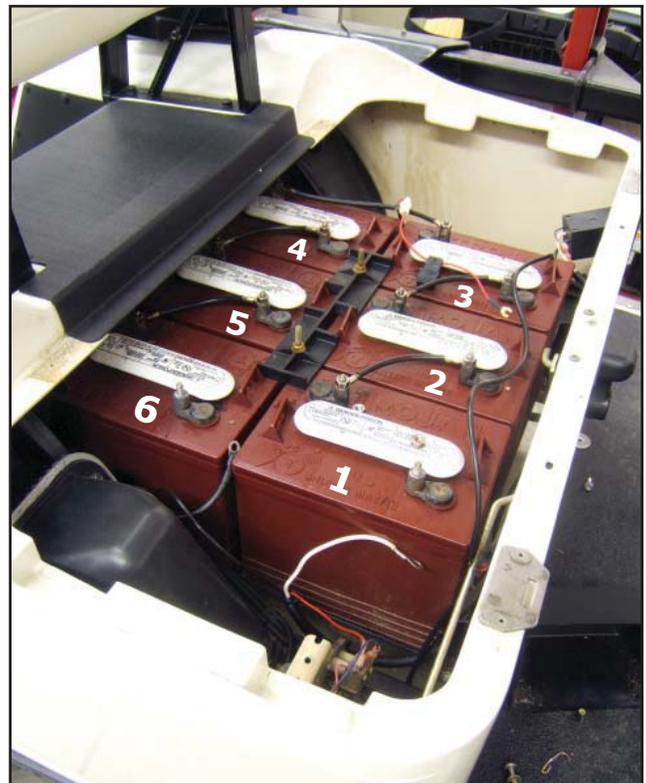
- 1) **SEAT CUSHION REMOVAL:** Remove the seat assembly by lifting the side grab handles. The cushion hinges to the front of the cart, and will simply lift off when it's in the vertical position.
- 2) **ACCESS PANEL REMOVAL:** Remove the black plastic rear access panel located behind the seat, which is secured using five T15 Torx head screws.
- 3) **BATTERY REMOVAL:** There are two things to take note of here: Battery placement and wiring layout. **NOTE: Battery acid can be very damaging...wear rubber gloves, eye protection, and old clothes. Work in a well-ventilated and appropriate area for the task. Battery residue can stain concrete.** Observe the position and orientation of the battery group, as you will need to reinstall all the batteries in the same manner. Failure to orient the batteries correctly can leave some wires too short or too long for their intended purpose. Hint: As you remove and set the batteries aside, place them in a grouping just as they appeared in the battery tray of your cart. This will leave no doubt as to their original position. Also take note of your battery cables. You'll see that the batteries are always connected to each other in a series configuration...that is "positive" to "negative" to "positive" to "negative" and so on through all six batteries. Confirm that your battery cables appear like those in the wiring diagram (pg.10), and remove all existing wiring from the batteries. There will be other smaller wires connected to some of the batteries on your cart. Write down the location of those smaller wires, as you will be reinstalling them in those same locations after you have completed the installation of the speed kit. Hint: Labeling the wires with a small piece of masking tape will go a long way in avoiding confusion upon reinstallation. Once you have made the above notations and removed the cables and wires, you can release the batteries by using a 1/2" socket to remove the two nuts and washers on the bolts of the hold-down plate centered in the battery grouping. Note: Use care in lifting the batteries from the cart...they are very heavy. A battery carrying strap (BT8001) makes this job much easier.



1



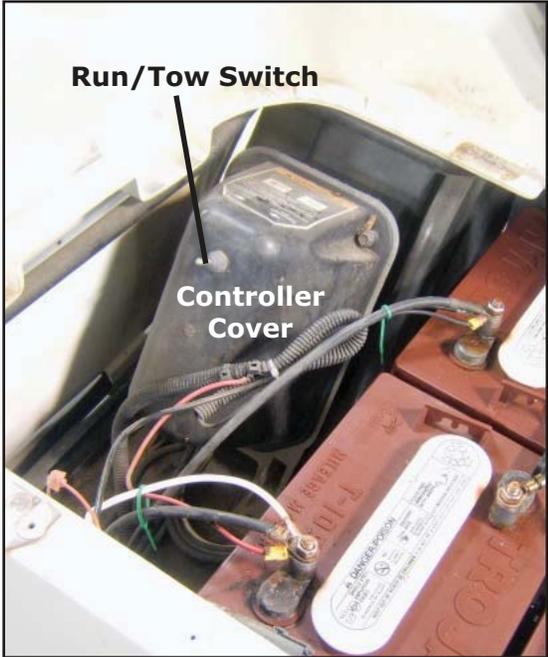
2



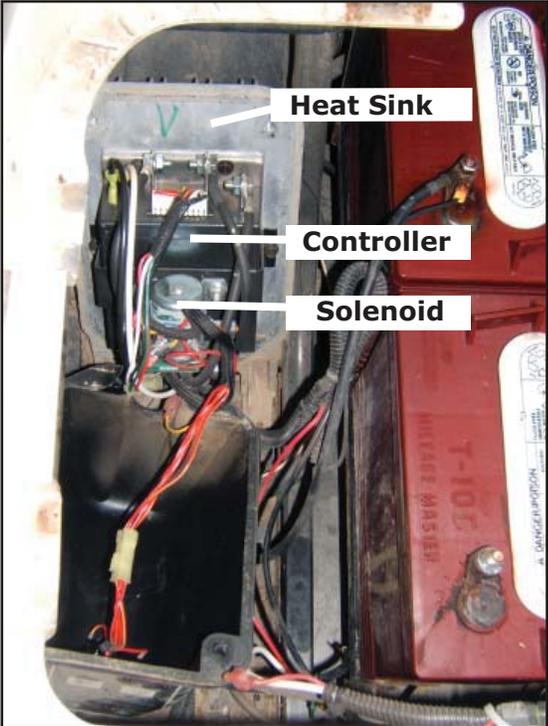
3

4) SPEED CONTROLLER, SOLENOID AND HEAT SINK REMOVAL:

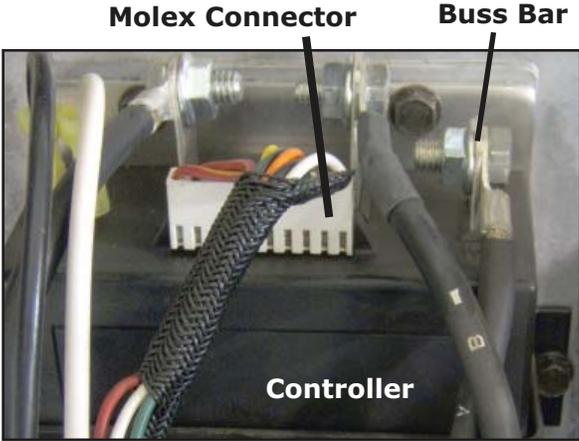
- a) Directly below the passenger’s seat you will find a black plastic cover. This is the controller cover. The cover is secured using four hex head machine bolts. Remove these bolts using a 3/8” socket with the appropriate extension. Remove and discard the cover and run/tow switch. Underneath the cover you will notice the speed controller and the solenoid. The speed controller is the metal box and the solenoid is the cylindrical device mounted on top of the controller. Begin the removal of these components by first discharging the speed controller. Using a standard screwdriver bridge the terminals marked “B-” and “B+”. You may see or hear a small spark and this is normal, and is an indicator that the capacitors inside the speed controller have been de-energized.
- b) Let’s begin with the SOLENOID (the cylindrical device). You will notice it has two large lugs and two smaller lugs. You will be replacing all the cables on the large lugs with cables from our new speed kit. Don’t forget to use the opposing wrench technique when removing these wires and cables. Finally remove the resistor/diode and discard.
- c) Moving on to the SPEED CONTROLLER. You will notice it has three large flat buss bars and one 10-pin Molex connector. The Molex connector has a small tab which needs to be depressed in order to pull the connector from the speed controller. Do not pull the Molex connector by the wires. Grip the body of the connector and wiggle it back and forth as you pull outward. Just like on the solenoid, you will be replacing the large cables on the speed controller with new cables from our SK2002 SPEED KIT. Once all of the wires and cables have been disconnected, you can remove the speed controller, solenoid and heat sink as one assembly. Underneath the chassis (on the passenger side) you will find four 1/4” bolts and using a 3/8” socket remove the four bolts. Then remove the solenoid, controller and heat sink assembly.



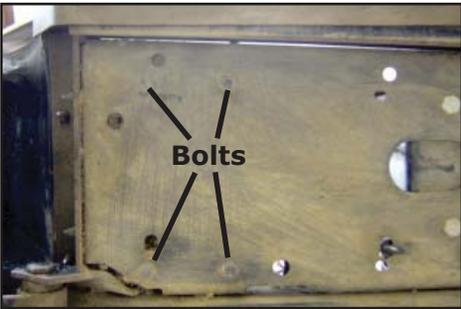
4a. Controller Cover On



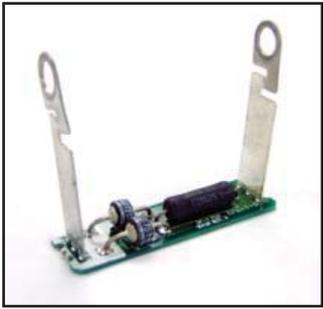
4b. Controller Cover Off



4c. 10-Pin Molex Connector Removal



4c. Remove Four Bolts Holding on Controller Mounting



4b. Resistor/Diode

5) FORWARD/REVERSE SWITCH WIRE REMOVAL:

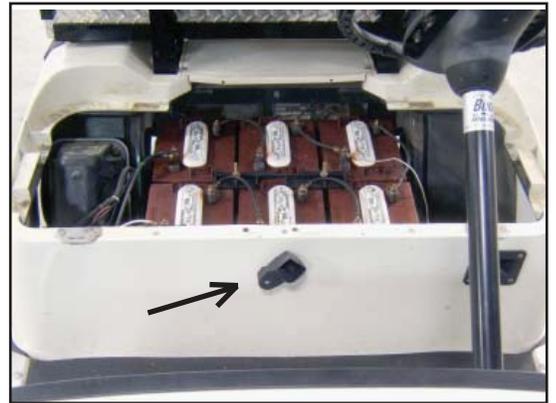
Locate the forward/reverse switch assembly, which is found in the front center of the rear body. (For **PDS MODELS ONLY**, skip to final cable removal (6)). For **DCS MODELS ONLY**, remove the two microswitch wires from the switch assembly. Next remove the shift lever by removing the phillips head retaining screw. Now remove the two 1/4" nuts holding the mounting plate. The entire assembly can now be removed. See the picture (5c) to the right for a visual representation of the forward/reverse switch assembly.

6) FINAL MOTOR CABLE REMOVAL:

You will find four large threaded electrical lugs on the case of the motor, with one cable connected to each lug. Remove these cables, remembering to use the opposing wrench technique. Once you have removed the cables from the motor, all of the heavy gauge cables in your cart should now be disconnected from their mounting points, and you may remove them from the cart, while taking note of the paths in which they were routed.

7) MOTOR REMOVAL:

Before removing the motor, clean the surrounding area of any excessive mud or dirt, which may have accumulated on nearby parts. We want to ensure that internal parts stay as clean as possible. (For **PDS MODELS ONLY**, remove the sense wire running out of this end cap of the motor). You will now notice three hex head bolts on the transaxle case, which bolt through to the motor. Using a 7/16" socket, remove these bolts to release the motor from the housing. If your cart has a cable-retaining loop fastened to one of the motor mount bolts, release that bolt first, and then remove the remaining two bolts. Carefully pull the motor from the housing. Some gentle back and forth pressure, while pulling the motor, should allow the motor to slide off the shaft. Use caution, as the motor is heavy and will drop quickly once it is free from the shaft.



5a. Forward & Reverse Assembly (Front)



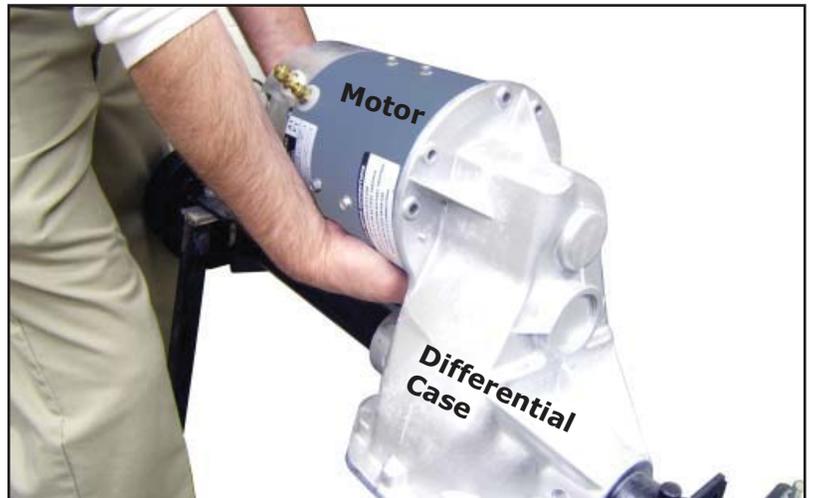
5b. Forward & Reverse Assembly (Back)



5c. Forward & Reverse Assembly



6. Opposing Wrench Technique



7. Gentle Back and Forth Pressure To Remove Motor

8) COMPONENT INSTALLATION PREPARATION:

Before installing the speed kit in your cart, take a little time to clean the areas now exposed by the removed components. The motor mount may have some grit or dirt around the opening of the mount. A moist rag or small brush can be used to clean that area. Avoid letting dirt fall into the housing. The battery trays may have dirt, leaves, or corrosion, which should be cleaned. For instruction on cleaning corrosion, see step 12. While the mounting surface of the controller should be quite clean, inspect it and wipe it down with a damp cloth to remove dirt or film. This area acts as a heat sink and dirt will interfere with its performance.



8. Clean the Motor Mount Area

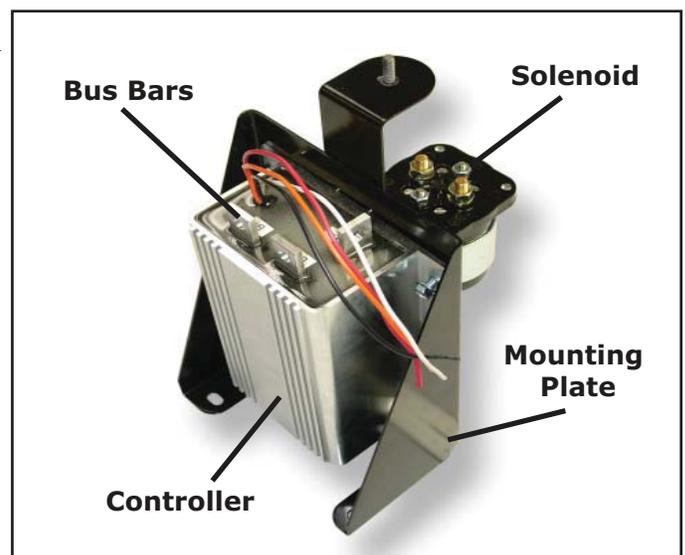
9) **MOTOR INSTALLATION:** Before mounting the motor, lubricate the splines, but **not** the ends of the motor shaft with quality heavy-weight grease... available at any auto parts store. Lifting the new motor up, slide it onto the shaft inside the motor mount housing. With some gentle back and forth movement and pressure toward the housing, the motor should mount up to the housing with little effort. Align the mounting holes of the housing and the mounting holes of the motor by rotating the motor slightly. When aligned properly, the threaded electrical lugs of the new motor will be on bottom and the mounting bolts can be inserted. Don't forget to reinstall your cable-retaining loop, if youe cart has one. Observe a rotating or criss-cross pattern as you tighten the mounting bolts, to insure that the motor is not binding or stressed. Tighten securely...but avoid over tightening.



9. Motor Installed

10) CONTROLLER SOLENOID AND CONTROLLER MOUNTING BRACKET INSTALLATION:

In the kit you will find a controller mounting bracket for the new controller. Using the new mounting plate hardware install the speed controller mounting bracket into the pre-drilled holes of the battery compartment. Mount the speed controller to the speed controller mounting bracket using the new hardware making sure the terminals are facing up. Mount the solenoid on the opposite side of the speed controller mounting bracket using the hardware provided, making sure the terminals are facing up.



10. Mounting Controller and Solenoid

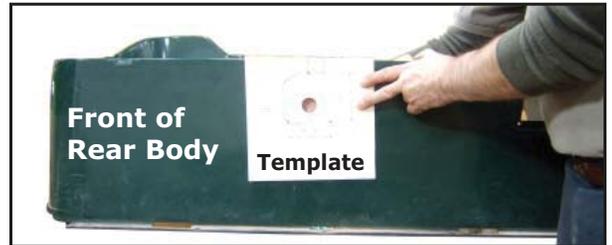
11) INSTALLING THE FORWARD AND REVERSE SWITCH ASSEMBLY :

After removal of the original forward and reverse assembly you will next need to drill three new holes to install the new forward and reverse assembly. We have inclosed a template to help you accurately drill these holes (see pg. 15). First cut out the large circle in the center of the template. Place this circle over the existing hole already in the front of the rear body of your golf cart, while also taking care to line up the appropriate line on the template with the top of the housing (pictures 11a & 11b). Next you will need to drill three 9/32” holes in the marked locations on the template. **NOTE:** It is critical that you drill in the dead center of the holes. We suggest marking the center of the hole with a sharp point before drilling. After the holes are drilled mount the new forward and reverse assembly using the 1/4” x 1-1/4” bolts that are provided. Notice the 1/4” nuts will fit inside the recessed hole on the back of the forward and reverse assembly. Finally install the shift lever using the phillps head screw that is provided.

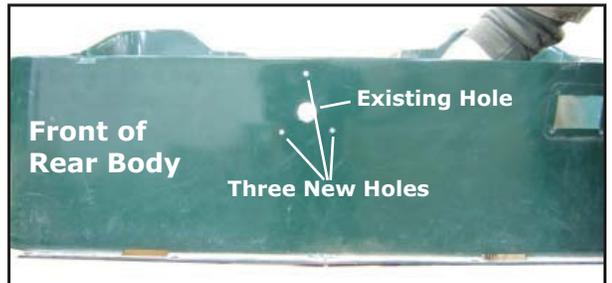
11a.



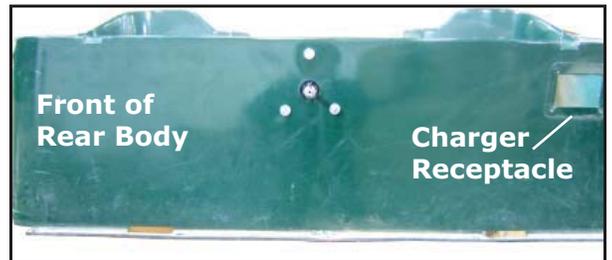
11b.



11c.



11d.



12) CONNECTING THE CABLES:

It is now time to connect the cables to your new controller, solenoid, and motor.

- a) Locate the small resistor wire from the hardware pack. It is a short wire with a ring terminal on each end. This wire will jumper across the two large threaded lugs of the solenoid. Recall that the solenoid is one of the components which will have the double nuts installed on the lugs. Ensure that the bottom nut is threaded onto each of the two large lugs, and then install the wire by placing one ring terminal over each large threaded lug. It may be necessary to bend the wire slightly to make it fit...this is normal.

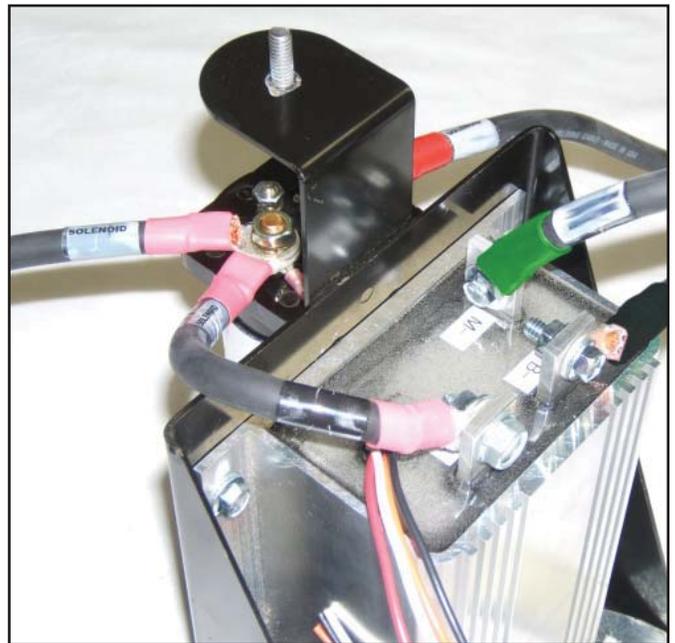


12a. Resistor Installation

- b) Locate the red coded cable that is 27" long. Place one end of this cable onto the large threaded lug of the solenoid, which will be closest to the batteries (or the passenger side of the cart). Using 1/2" wrenches, tighten the connection securely using the lock washer and top nut provided. The other end of this cable will be connected to the positive terminal of battery #1 after the batteries have been installed.

NOTE: When tightening the nuts on each large solenoid post, be sure the lock washer is totally compresses and no movement is found in the cable connections. These copper posts are soft and will break off if too much torque is applied. Check to make sure that cable or wiring on one terminal are not touching cable or wiring positioned on another adjacent terminal.

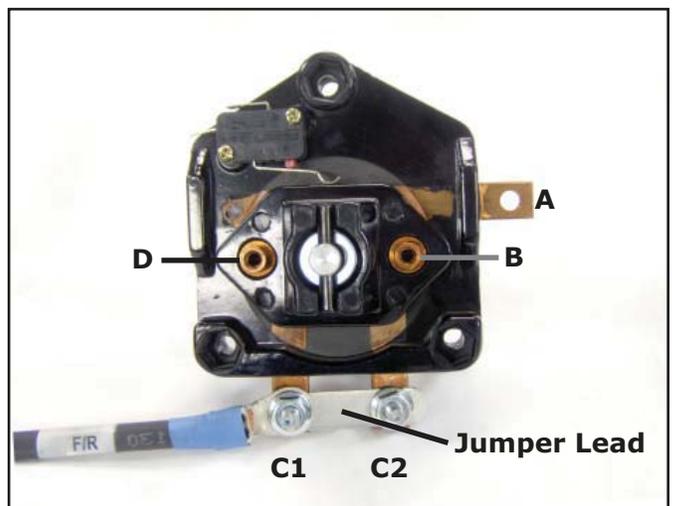
- c) Locate the red coded cable that is 10" long and connect one end of this cable to the other large threaded lug of the solenoid. Tighten the provided nut and bolt securely using 1/2" wrenches. The other end of this cable will be connected in step 12e.
- d) Locate the red coded cable that is 37" long and connect one end of this cable to the threaded lug marked "A1" on the motor. Recall that the motor is one of the components that will have double nuts installed on the lugs. Ensure that the bottom nuts are threaded on each of the four (4) lugs of the motor. Using 1/2" wrenches, install the cable and tighten securely using the opposing wrench technique. The other end of this cable will be connected the solenoid.
- e) Locate the unconnected end of the red 10" cable and connect to B+ on the controller. Using 1/2" wrenches, tighten the connection securely using the lock washer and top nut provided. Remember to use the opposing wrench technique and avoid twisting or bending the bus bar.
- f) Locate the jumper lead included in the hardware kit. Connect one end of the jumper lead to position "C2" on the forward/reverse switch assembly. Place the other end to the other position right next to position "C1". See figure 12 f & g.
- g) Locate the blue coded cable that is 55" long and connect one end of this cable to the threaded lug marked "A2" on the motor. Using 1/2" wrenches, install the top nut and tighten securely using the opposing wrench technique. Using a



12b, c, & e. Red Cable Installation on Solenoid and Controller



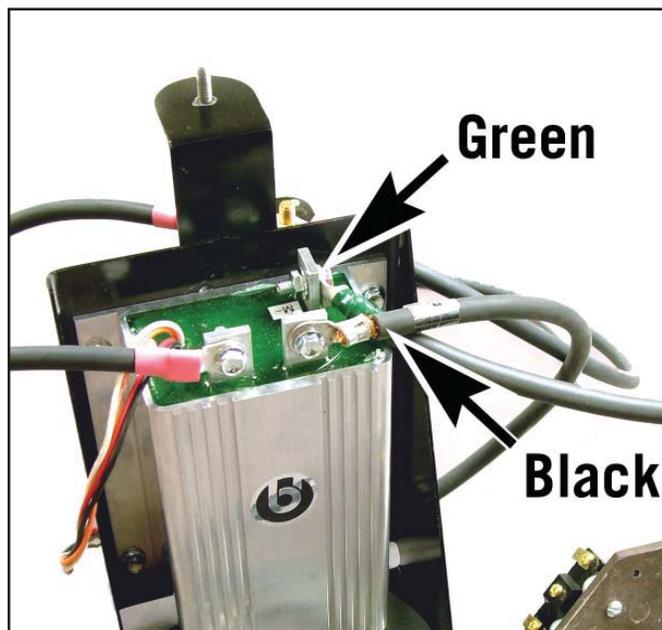
12d, g, i, & j. Motor Cable Installation



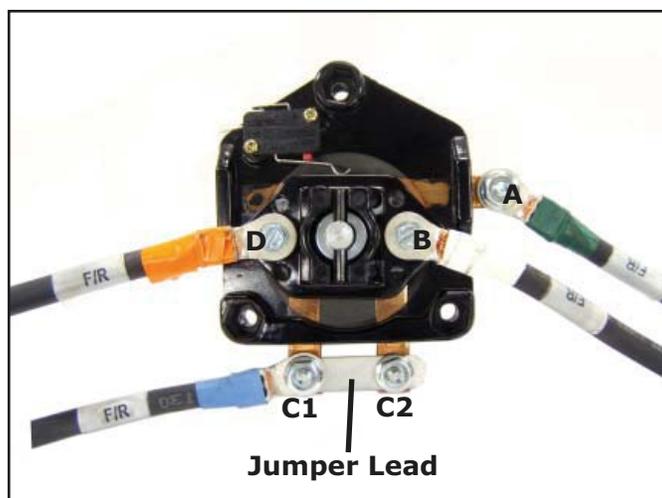
12f & g. Blue Cable Installation on Forward/Reverse Switch

1/2" wrench and the factory hardware, connect the other end of this cable to position "C1" of the forward/reverse switch assembly, as shown on the heavy gauge wiring diagram (pg. 13). Tighten securely, but use caution to avoid over tightening.

- h) Locate the green coded cable that is 41" long and connect one end of this cable to the electric buss bar marked "M-" on the controller. Tighten the provided nut and bolt securely using 1/2" wrenches. Remember to use the opposing wrench technique and avoid twisting or bending the buss bar. Using a 1/2" wrench and the factory hardware, connect the other end of this cable to position "A" of the forward/reverse switch assembly, as shown on the wiring diagram. Tighten securely, but use caution to avoid over tightening.
- i) Locate the orange coded cable that is 55" long and connect one end of the cable to the threaded lug marked "S1" on the motor. Using 1/2" wrenches, install the top nut and tighten securely, remembering to use the opposing wrench technique. Using a 1/2" wrench and the factory hardware, connect the other end of this cable to position "D" of the forward/reverse switch assembly, as shown in the wiring diagram. Tighten securely, but use caution to avoid over tightening.
- j) Locate the white coded cable that is 55" long and connect one end of this cable to the threaded lug marked "S2" on the motor. Using 1/2" wrenches, install the top nut and tighten securely, remembering to use the opposing wrench technique. Using a 1/2" wrench and the factory hardware, connect the other end of this cable to position "B" of the forward/reverse switch assembly. Tighten securely, but use caution to avoid over tightening.
- k) Locate the black coded cable that is 16" long and connect one end of this cable to the electric buss bar marked "B-" on the controller. Tighten the provided nut and bolt securely using 1/2" wrenches. Remember to use the opposing wrench technique and avoid twisting or bending the buss bar. See figure 12 h & k. The other end of this cable will be connected to the negative terminal of battery #6 after the batteries have been installed.



12h & k. Green and Black Cable Installation on Controller



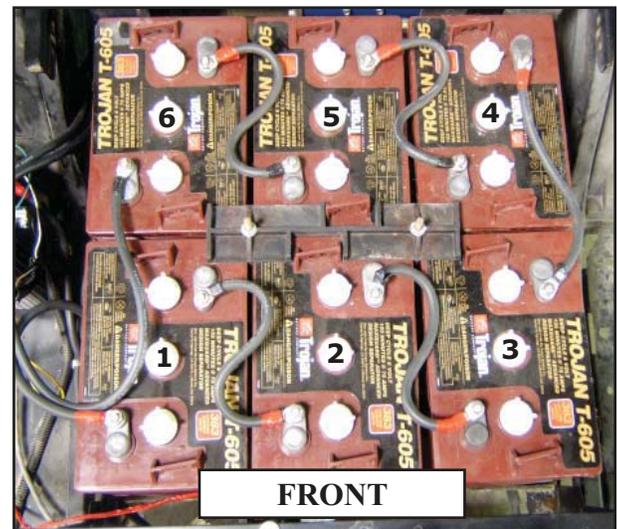
12h, i, & j. White, Green and Orange Cable Installation on Forward/Reverse Switch

13) BATTERY INSTALLATION:

Before installing the batteries, there are a few steps you should take to ensure optimal performance from your new SK2002 SPEED KIT. Begin by giving your batteries a thorough cleaning. Dirt can be removed with a scrub brush and warm soapy water. Residual corrosion and acid spillover can be removed with a baking soda and water mixture using one small box of soda to one gallon of water. **Remember**, battery acid can be very damaging... wear rubber gloves, eye protection, and old clothes. Work in a well-ventilated and appropriate area for the task. Battery residue can stain concrete. Next, re-face the contact surfaces of your battery terminals, as this will ensure good electrical contact with the new cables of your speed kit. While this can be done with a small file or sandpaper, the best tool for this task is our battery terminal re-facer, which insures a flat, smooth surface and maximum electrical contact between the terminal and the battery. Also, inspect the battery-water level in each cell of each battery and fill to the proper level. While the caps are off, wipe them with a moist rag and inspect them for cracks, clogged ventilation holes, or other damage. Lastly, check the condition of the battery hold-down bolts. If they are damaged, or corroded, replace them now. Once these steps are completed, you may install the batteries into the battery tray, remembering the importance of arranging the batteries just as they were when you removed them. Generally, it is easier to first install the three batteries to the rear of the cart, followed by the three batteries in the front. The battery hold-down bolts create a bit of a balancing act, but with a little patience and persistence you will have all six batteries installed, and you will be able to set the hold-down plate over the bolts and secure them using the factory hardware and a 1/2" wrench. See page one for helpful tools.



13. Battery Installation



14. Battery Wiring

14) BATTERY WIRING:

A note on battery wiring: With new cables and re-faced battery posts, you are prepared to make an excellent connection at each battery post. The last factor in a great connection is a good tight fit of the terminal to the post. You will want to tighten all of your lug nuts securely (90 to 110 inch lbs. recommended), but avoid over tightening. Putting too much effort into securing the nuts can distort the battery plates and care should be given to supporting the post while tightening. Stripped threads will lead to loose connections, increased heat, and premature failure. Battery lug nuts typically require 1/2" or 9/16" sockets. Use whatever size socket fits your particular application.

- a) Locate the four (4) black/red coded cables, which are 9.5" long. Using the **heavy gauge wiring diagram** for reference, install one cable between the negative terminal of battery #1 and the positive terminal of battery #2. Install another 9.5" cable between the negative terminal of battery #2 and the positive terminal of battery #3. Install another 9.5" cable between the negative terminal of battery #4 and the positive terminal of battery #5. Install the last 9.5" cable between the negative terminal of battery #5 and the positive terminal of battery #6. Tighten securely using the above-mentioned cautions.

- b) Locate the black/red coded cable, which is 11” long. Using the **heavy gauge wiring diagram** for reference, install this cable between the negative terminal of battery #3 and the positive terminal of battery #4.
- c) Before proceeding, ensure that the key is removed from the ignition switch.
- d) Locate the 27” long red coded cable, which you installed in step 12b. Connect the free end of this cable to the positive terminal on battery #1. **It is critical that this connection is made accurately!** This wire should run only from the battery side (or driver’s side) large threaded lug of the solenoid directly to the positive terminal of battery #1. Double-check your work before proceeding.
- e) Locate the 16” long black coded cable, which you installed in step 12k. Connect the free end of this cable to the negative terminal on battery #6. **It is critical that this connection is made accurately!** This wire should run only from the “B-” bus bar of the speed controller to the negative terminal of battery #6. Double-check your work before proceeding.

15) ACTIVATION WIRING (Use the Activation Wiring Diagram for reference)

PDS Activation:

The main wiring harness will house a white 16 gauge wire and a white wire with a Yellow tracer. Cut the harness to expose these wires. All other wires will be taped up. Install a 10 amp in-line fuse (included) to the white wire, this is the positive feed for the key switch and will connect to the solenoid large positive post connection. The white wire with the yellow tracer, using the yellow wiring harness provided will connect to the bottom terminal of the forward and reverse micro switch. From the top micro switch terminal connect the red 16 gauge wire that is provided and connect this wire to the red wire that is inclosed in the gray harness for the foot pedal assembly. You will need to cut the insulation on the gray harness to expose four wires that are in this harness, a red, black, green and white wire. The green wire in this harness will connect to the open solenoid small post and to pin #1 on the controller using the green or red wire provided. The white wire in the gray harness will connect to pin #3 on the controller and the black wire connects to pin #4.

DCS Activation:

Remove the main harness that is held by quick disconnects. Discard this section of wiring. You will find a 16 gauge yellow wire in the main harness and this is the positive feed to the key switch. Using a 10 amp fuse assembly (included) connect the yellow wire to the main solenoid positive post on the solenoid. You will see a white wire with a yellow tracer and this connects to the bottom micro switch terminal on the forward and reverse assembly. The top terminal of the micro switch using the red wire provided will connect to the red wire in the gray foot pedal harness. In the gray harness you will find a red, green, white and black wire. Wiring will be provided to extend the red wire and the white wire with the yellow tracer. The green wire will connect to one small solenoid post and to Pin #1 on the controller. This wire is provided as well. The white wire will connect to pin #3. The black wire will connect to pin #4. **Place the black 16 gauge wire provided to “B-” and the open small solenoid post.**

16) CONTROLLER COVER INSTALLATION:

Place the newly provided cover over the controller, solenoid and mounting unit as shown in picture 16b. The stud pointing up out of the mounting unit should fit through the hole in the cover. Use the provided 1/4” nut to tighten and hold the cover in position.



16a. Controller Cover Off



16b. Controller Cover On

FINAL INSPECTION AND TESTING

At this time you should take a moment and review your installation and make sure that all cables have been connected to the appropriate terminal. Look for a loose connection, which you may have failed to tighten. Ensure that all of the smaller wires have been returned to their original locations. Once you are confident that all of your work is sound, reinstall the seat assembly on the cart to begin the testing procedure. Testing should only be done outside with at least 30 feet in front of and in back of the cart. If you have installed your kit inside a garage, you will have to push (not drive) the cart outside where ample space is available and perform the following procedures:

- 1) Ensure that the steering wheel is centered and the front wheels are pointed straight ahead.
- 2) Ensure that other people are not standing in front of or behind the cart during testing.
- 3) Place the cart in neutral and ensure that the parking brake is OFF.
- 4) With your left foot “over” the brake pedal, and your right foot OFF the throttle pedal. Turn the key switch on. Be prepared to apply the brake and turn the key off simultaneously, if the cart should move. It should NOT move. If the cart does move, remove the key, set the brake and check your wiring. If the cart did not move proceed to step 5.
- 5) Select the “forward” direction and SLOWLY apply pressure to the throttle. If the cart does not move forward SLOWLY, set the brake, remove the key, and check your wiring. If the cart does move forward slowly, proceed to step 6.
- 6) Select the “reverse” direction and SLOWLY apply pressure to the throttle. If the cart does not move backward SLOWLY, set the brake, remove the key, and check your wiring. If the cart does move, drive the cart to an appropriate open area, select the “forward” position and check the acceleration and top speed. If the cart performs properly, proceed to step 7.
- 7) Remove the seat once again and spray the battery posts, nuts, and terminals with Battery Terminal Protection Spray. This coating will protect your batteries and extend their life. Replace the seat cushion, and enjoy your new speed kit!

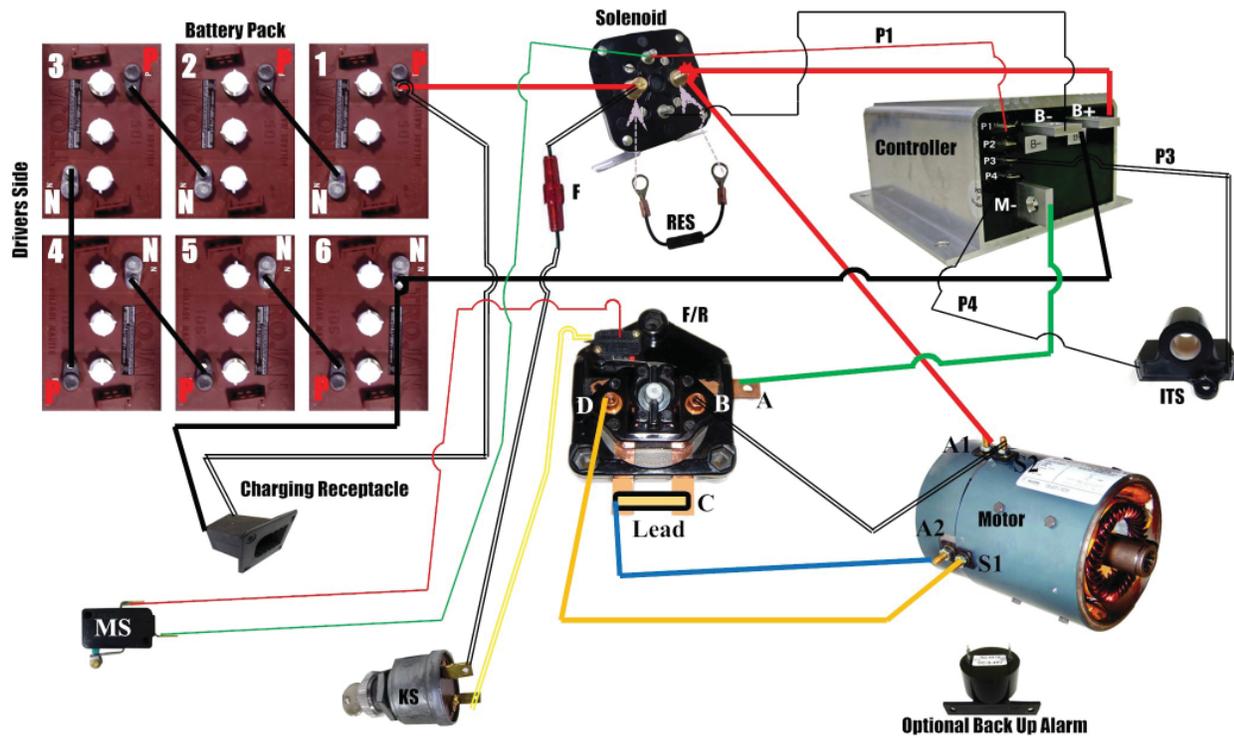
INDEMNIFICATION AND INSURANCE AGREEMENT

High speed motor installation should be performed by a professional. The high speed motor purchaser assumes sole and entire responsibility for, and shall indemnify and save harmless Mattison Avenue Corporation (d.b.a. Buggies Unlimited), from any and all claim, liability, responsibility, and damage, or any costs or expenses resulting from any loss of life or injuries or claimed injuries to persons or property that may be sustained in connection with the use of any product before or after purchase, including but not limited to high speed motors. The high speed motor purchaser also shall indemnify Mattison Avenue Corporation (d.b.a. Buggies Unlimited) and save Mattison Avenue Corporation (d.b.a. Buggies Unlimited) harmless with respect to any and all liability that may be incurred.

Golf carts are recommended for use only by those aged 16 and older. Golf carts can be especially hazardous to operate. Always remember that riding and alcohol/drugs don't mix. Never ride on public roads. Never carry more than two passengers (except shuttles and trams). Never engage in stunt driving. Avoid excessive speeds and be particularly careful on difficult terrain. Buggies Unlimited reserves the right, at any time, to discontinue or change specifications, prices, designs, features, models or equipment without notice and without incurring any obligation.

Buggies Unlimited
1-888-444-9994
www.buggiesunlimited.com

© Copyright 1997-2008 Buggies Unlimited. All Rights Reserved.



Battery Pack = Connect the batteries in series starting at battery number one Negative Post. The pack above is viewed from the Passenger side and the right hand battery being number one.

Solenoid = First battery positive connection from battery number one positive post to the solenoid first empty large post. Make sure the RES is in place and connect the next cable connections to the empty solenoid post.

RES = 250 ohm resistor that connects across the two large solenoid posts.

KS = Key Switch

F/R = Forward and Reverse Assembly.

ITS = Inductive Throttle Sensor and is located inside the accelerator box.

B- = First Negative connection from battery number six negative post.

B+ = Positive connection on the controller.

M- = Controller to the A connection on the F/R

A1 = Positive from solenoid activation to Motor A1 terminal.

A2 = A2 at the motor to the C terminal on the F/R (make sure the Lead is in place).

S1 = S1 at the motor to the D terminal on the F/R assembly.

S2 = S2 at the motor to the B terminal on the F/R assembly.

P1 = Pin number one on the controller (red wire).

P2 = Pin number two on the controller and is not used unless a Back Up Alarm is used.

P3 = ITS white wire.

P4 = ITS black wire.

MS = Foot Pedal Switch and is located in the accelerator box.

F = In-Line fuse.

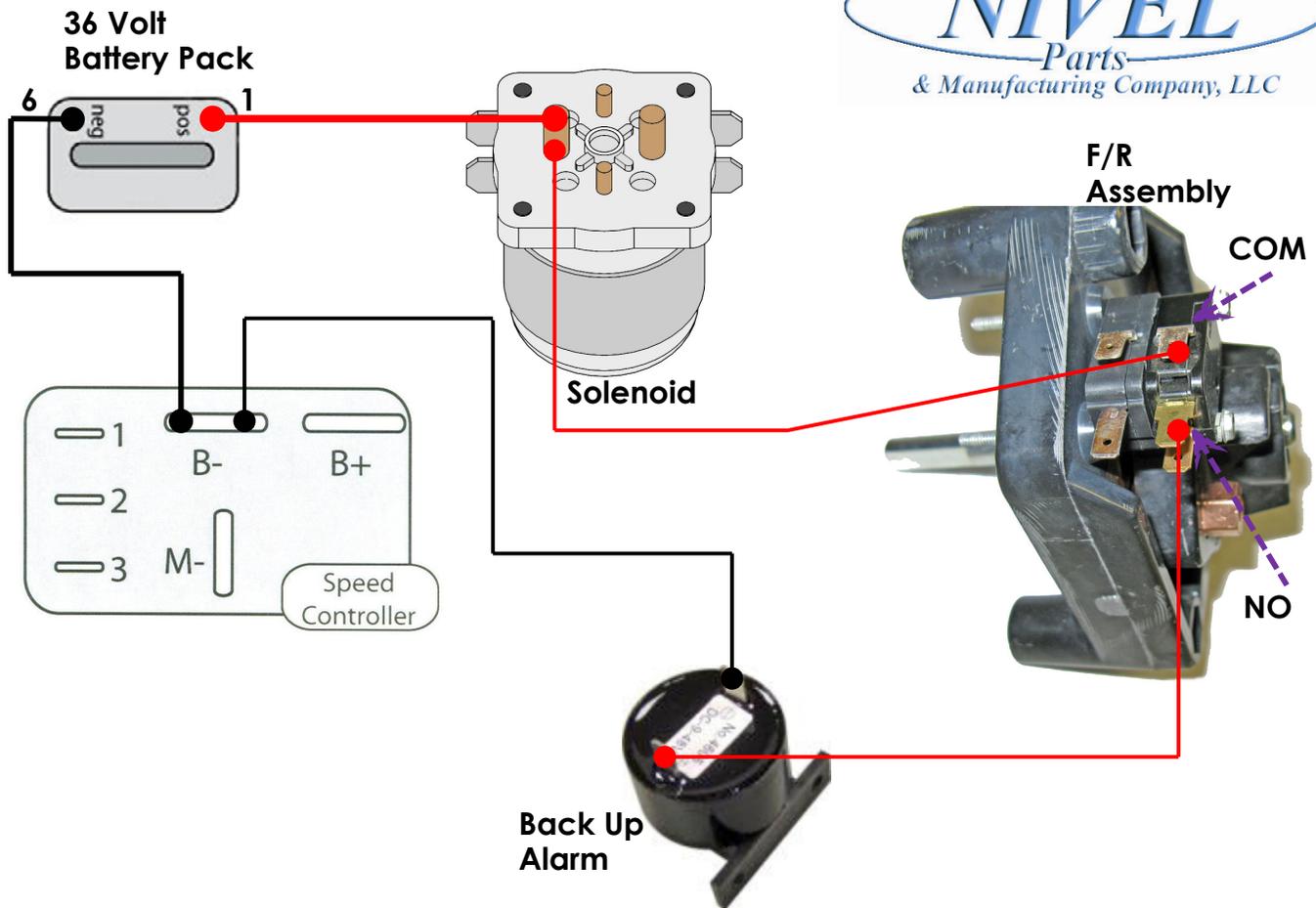
Back Up Alarm is optional and if you wish to use it call Technical Services at 888-444-9994.

Note: The yellow wire from the Micro switch located on the F/R assembly is for DCS conversion and white will be for PDS conversion.

SK2002 PDS/DCS Conversion

Buggies Unlimited
1-888-444-9994
www.buggiesunlimited.com

©1997-2008 Buggies Unlimited. All Rights Reserved.



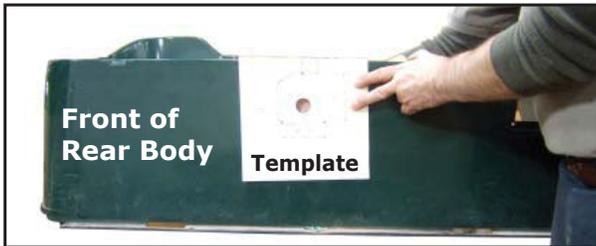
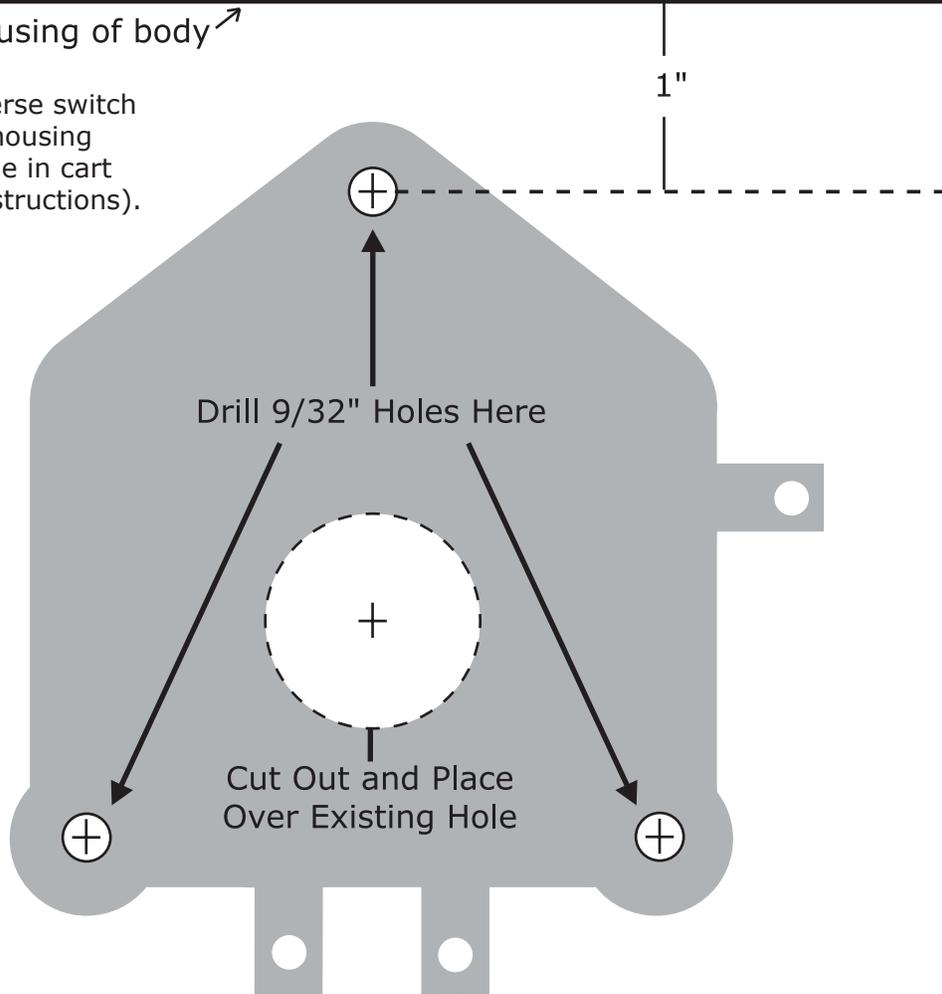
**Instructions:
Back Up Alarm DCS/PDS Conversion**

Mount the back up switch on top of the existing anti-arcing switch. Route a red wire from the COM terminal to main battery positive on the solenoid (large terminal). Route another red wire from the NO terminal to B+ on the back up alarm. Route a black wire from B- on the back up alarm to the B- terminal on the controller.

If you wish you can connect to battery number 6 negative terminal instead of B- on the controller for battery negative. Likewise you can connect to battery number 1 positive terminal instead of the solenoid for battery positive.

Align with top of housing of body ↗

Install forward and reverse switch one inch from the top housing of body on center of hole in cart body (see step 11 in instructions).



BUGGIES
UNLIMITED

Buggies Unlimited
1-888-444-9994
www.buggiesunlimited.com

© Copyright 1997-2008 Buggies Unlimited. All Rights Reserved.

SK2002 Forward and Reverse Mounting Template