

K9 Caller™

Version 2003

REMOTE DOOR POPPER
INSTALLATION MANUAL

By IC CUBED™

**Read This Manual Completely
Before Attempting Installation!**

LIMITED WARRANTY

IC Cubed warrants that all IC Cubed products are free from defects in workmanship and materials from the factory. IC Cubed will repair or replace any part or parts that IC Cubed has examined and that IC Cubed is satisfied were originally defective. Defective parts must be returned to IC Cubed accompanied by a copy of the corresponding IC Cubed invoice with transportation charges prepaid within one year of the date of purchase.

This warranty is void if the products or parts have been subject to improper installation, misuse, accident, negligence, or unauthorized service. This warranty is void if the unit(s) have been modified or if the unit(s) are used in a fashion not intended by IC Cubed. This warranty does not cover service or labor charges that may be incurred during replacement or repair.

IC Cubed will not be responsible for expense, loss, or damage caused indirectly or directly by the use of IC Cubed products, or any other cause.

No person, dealer or agent is authorized to make modifications or additions to this warranty or to assume any other liabilities on behalf of IC Cubed.

Removing or defacing serial numbers or other identification, or accessing internal components will void the warranty stated above.

The rights granted to you by this warranty may be supplemented or restricted by state law.

IC Cubed reserves all rights to design of logic and hardware configurations used in all IC Cubed products. All components used in IC Cubed products are protected by patents held by or licensed to IC Cubed.

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The Popper Kit comes with the following;

Main Control Unit (MCU)

900mHz Spread Spectrum Receiver (RCV)

900 mHz Spread Spectrum Transmitter w/Belt Clip (RTS)

Door Release Solenoid (DRS)

Gas Charged Spring (GCS)

2x Door Mount Bracket(s) (DMB) w/Mounting Hardware

In-Park Magnetic Safety Contact Set (SFT) ** New Slide on Magnet Cap**

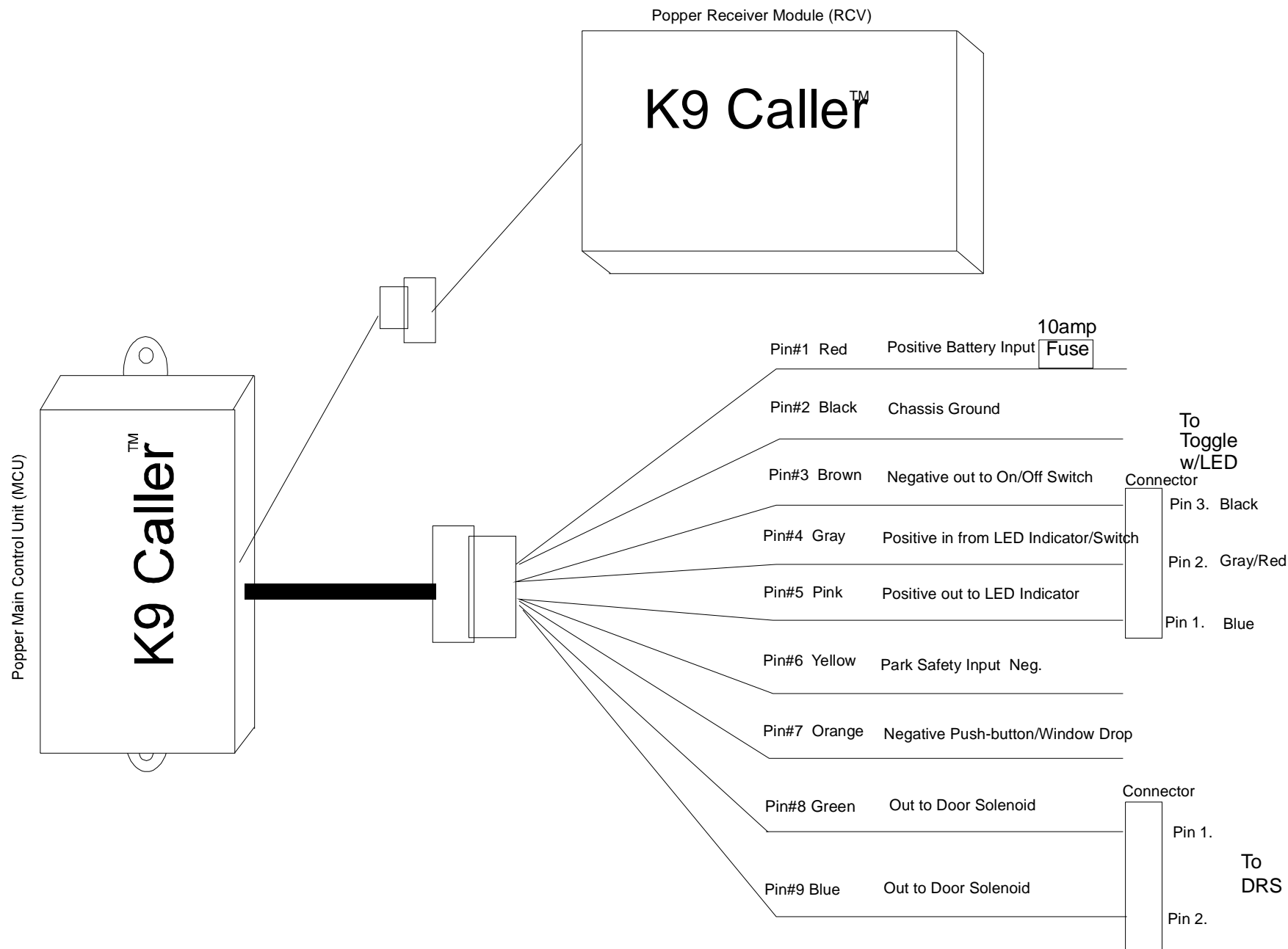
Primary Wire Harness (HKS1)

Wire Harness for DRS (HKS2)

Master On/Off Switch w/LED Indicator

8x Wire Ties 12in.

Installer's Guide w/Operating Instructions



Additional information can also be found at our web site at www.iccubed.net/help.htm

Installing the Main Control Unit (MCU) & Receiver (RCV)

Find an accessible location inside the vehicle cabin to mount the MCU & RCV keeping in mind how you will run the cables. Planning your installation will ultimately save time and help to avoid service returns in the future.

1. RED, Battery Positive Fused Input

Find a good source of constant battery power. It is not recommended to use "fuse taps" or "scotch locks" to obtain power as these connections have a tendency to vibrate or pull loose with time. Instead, go to a battery power distribution point and connect the supplied fuse holder by soldering or ring connector. Connect the other side of the fuse holder wire to the red wire pin# 1 of the main harness. Do not plug in the main fuse until all wire connections are completed

2. BLACK, Chassis Ground

Connect this wire to a good source of chassis ground. It is preferred to use a factory ground bolt as opposed to an aftermarket screw.

3. BROWN, gray, & PINK TO 3 PIN TOGGLE CONNECTOR

3, 4, & 5 are now connected via the 3 Pin connectors an PMCU and TS1. The following is

3. BROWN, Positive in from On/Off Switch

Connect this wire to the Red & gray wires of the On/Off switch. See fig. S1

4. gray, Negative Ready LED Signal

Connect this wire to the Black wire of the On/Off switch.

See fig. S1

5. PINK, Positive out to Ready LED

Connect this wire to the Blue wire of the On/Off switch. See fig. S1

Find a suitable mounting location for the On/Off toggle Switch/LED indicator in which a person will not be prone to accidentally switching it's positions. Take into consideration that areas in which the sun will shine on it directly will make it difficult to determine the LED's status in some daylight circumstances. Drill a 3/8 inch hole and fasten with the nut provided.

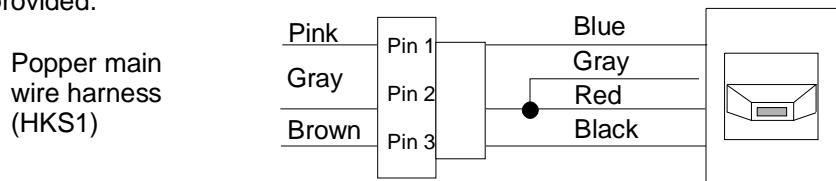


Fig. S1

Page 2

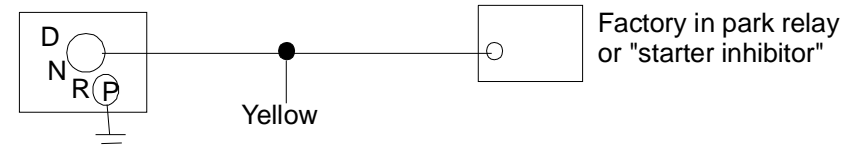
6. YELLOW, In park safety input Negative

Connect this wire to a circuit that provides a negative signal when the vehicle is in park. This can be done by connecting to a factory park safety circuit or by using the provided SFT contact set. This wire must be connected for the system to work properly.

Connecting to a Factory Park Safety Circuit

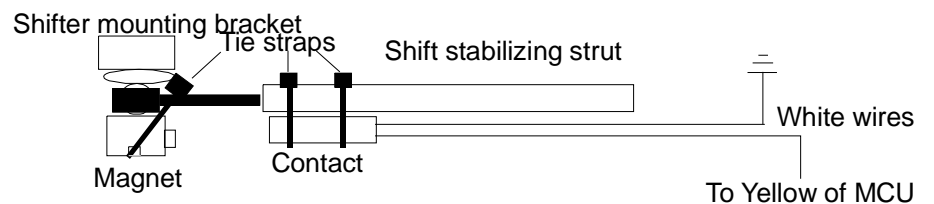
Determine if the vehicle is factory equipped with an "in park" output. To work properly it must supply a 12 volt negative signal with a 500mA headroom capacity. This means that in addition to the load of the circuits it is designed to supply this signal must be capable of supporting an additional 500mA.

NOTE, if you are uncertain about the capacity or functionality of a factory "in park" circuit DO NOT TIE INTO IT. On many newer vehicles the side effects will not be realized right away and can cause undesired operation. It is wiser and easier to use the park safety contact set that is supplied in the kit then to track down problems later!



Installing the SFT contact set

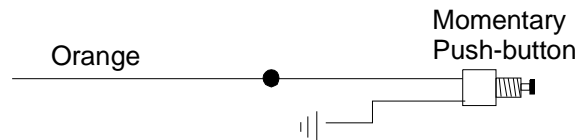
Under the driver's side dash, or at the steering column, find the automatic transmission shift mechanism or strut. Find a mounting location in the park position in which the safety contact and magnet can be located 1/4in apart, tip to tip. Press the plastic magnet cap over the shifter knuckle until snug. Use a tie strap to secure the magnet cap in place. Use tie straps to attach the contact to the shift stabilizing strut. With a multi-meter attached to the white wires of the contact, you should read a closed circuit when the vehicle is in park. If your meter does not read a closed circuit, gradually move the contact closer to the magnet unit you have a closed circuit. Now move the transmission from the park to the reverse position, the meter should now show an open circuit. If the circuit is still closed, gradually move the contact away from the magnet until the circuit show open. If you have made this adjustment test again that the circuit shows closed when in park. Once properly aligned you can permanently fix the contact in place with silicone or epoxy glue. Connect one of the white contact wires to chassis ground.



7. ORANGE, Negative Manual Activation/Window Drop

This wire can perform two main functions. First it can be connected to a momentary push button that when pressed will open the deployment door. Second, it can connect to a window drop module (WDM) and will operate when the remote (RTS) is activated.

When used as a manual activation input, connect this wire to a normally open momentary push button switch with the other terminal of the switch connected to chassis ground. This button will work only when the vehicle is in park.



When using with an optional window drop module, connect the orange wire to the activation input of the window drop module. This wire supplies a 2.5 second negative output with a 200mA load capacity. See instructions that come with WDM for complete hook-up.

Note, install the DRS before connecting the Green & Blue wires

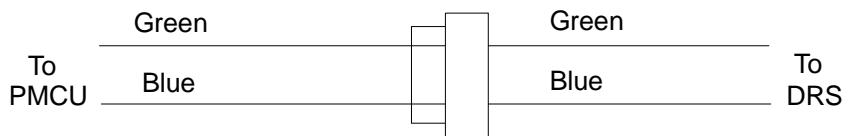
The PMCU now connects directly to the DRS via a 2 Pin connector. This will provide a pull at the solenoid when activated. A push can be provided by reversing operation at the solenoid. To reverse operation you will need to cut and cross connect Green and Blue at the harness side.

8. GREEN, Output to Door Solenoid

Provides Positive output for Pull release
Provides Negative output for Push Release

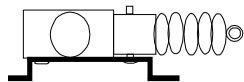
9. BLUE, Output to Door Solenoid

Provides Negative output for Pull release
Provides Positive output for Push Release



Installing the Door Release Solenoid (DRS)

Remove the door panel covering access to the desired deployment door. Find a connecting rod between the door opening handle and the latch release mechanism that does not have a heavy return spring. This rod when pushed or pulled depending on design, should open the door with minimal effort. Find a mounting location for the door release solenoid (DRS) that allows the DRS rod to run parallel to the connecting rod you have selected. It is likely that you will need to bend or trim the DRS rod to some degree for a good fit. Attach the DRS rod to the door latch connecting rod using the provided mounting clamp and screws. If the door latch connecting rod is pulled toward the DRS to open the door, then extend the door solenoid to full stroke and with a center punch mark the spot of the two mounting holes of the DRS. If the door latch connecting rod is pushed away from the DRS to open the door then compress the DRS to a closed stroke and use a center punch to mark the spot of the two mounting holes of the DRS.



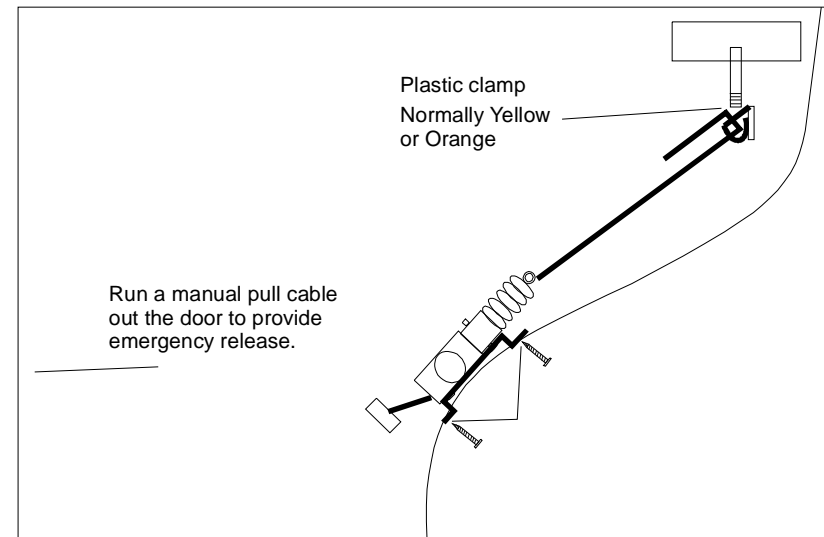
Full Stroke



Closed Stroke

Installing the Door Release Solenoid continued

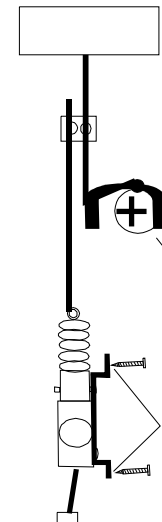
Example mounting on a Crown Victoria with outside handle disconnected.



The preferred method of mounting is to disconnect the outside handle at the plastic snap connecting the handle rod to the latch. You can unsnap the plastic clamp and drop in the DRS rod after creating 2 90 degree bends or square loop. It is recommended that you install a manual bypass cable that can connect to the same clamp.

If the outside handle is disconnected you can attach the rod of the DRS to the door release mechanism without using the mounting clamp.

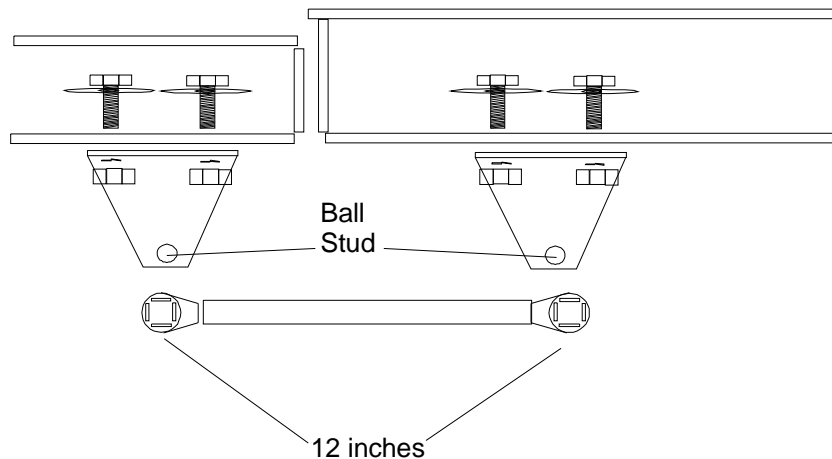
Example mounting in parallel to existing latch rod with mounting clamp.



Installing the Door Mount Brackets (DMB)

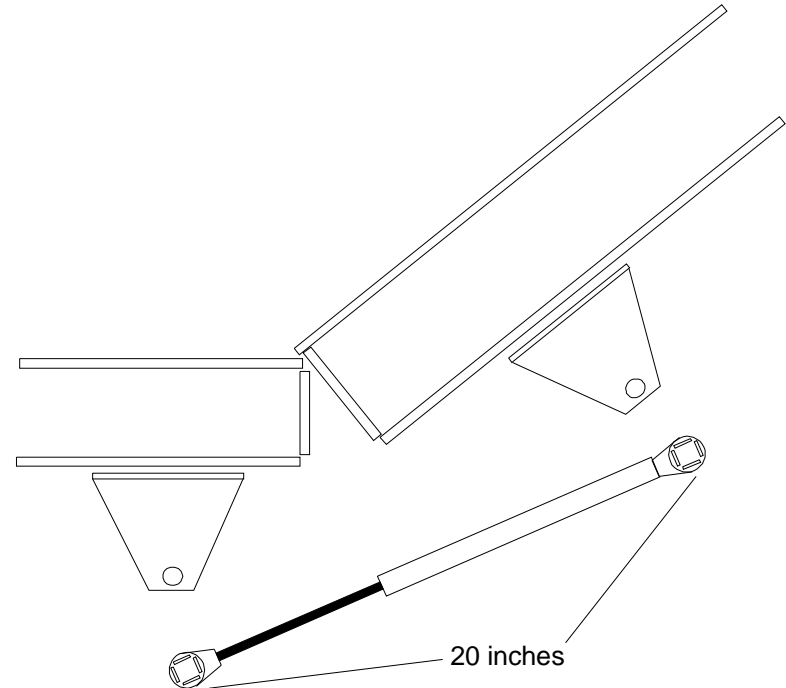
It is recommended that you leave the door panel off until the system has been tested, as some adjustment to the DRS may be necessary. If you are mounting the bracket for the gas charged strut (GCS) to the door panel, then finish all other wiring and mounting to the point that the system can be tested to open the door without the GCS installed. You can simulate the GCS's effect simply by applying pressure to the door with your body from the inside of the vehicle.

Once you have tested and confirmed the system is working properly it is time to install the mounting brackets (DMB) and the gas charged strut (GCS). Find a location on the vehicle's door post or some other strong metal surface. This mounting location will need to handle the pressure of the GCS, "40lbs" over a long period of time. Do not mount to plywood or plastic! Drill two 1/4" holes and install using the mounting hardware provided. With the door closed, measure 12 inches on the deployment door from the point of the ball stud of the mounted DMB and mark it. This will be where the ball stud of the second DMB will need to be located. Align the ball stud of the second DMB with the mark and mark and drill two holes in the appropriate locations. Install the second DMB with the hardware provided.

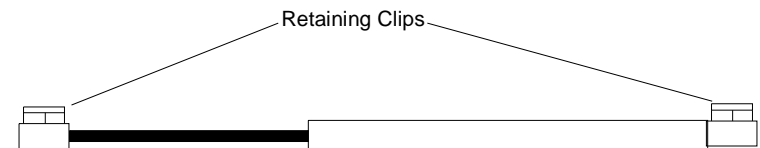


Installing the Gas Charged Spring (GCS)

Open the deployment door and snap on one end of the GCS to the ball stud of the first DMB. Snap on the other end of the GCS to the ball stud of the second DMB. Close the door and test the system. When testing you should allow at least 15 seconds between activation. Repeated triggering of the unit can overheat the solenoids if done rapidly and consistently.



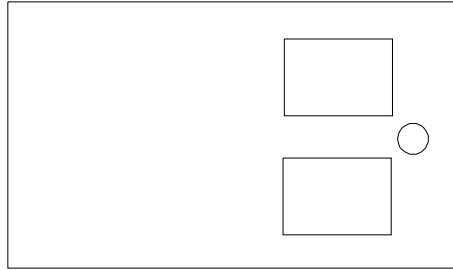
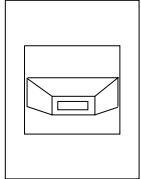
When you are satisfied the system is working properly, close or replace any panels that were removed to perform the installation. Press fit the retaining clips on the GCS to prevent it from popping off.



Operating Instructions

With the vehicle's transmission in the park position and the On/Off toggle switched to the on position, the green ready LED will light;

Depress both buttons on the remote transmitter and the door will open.



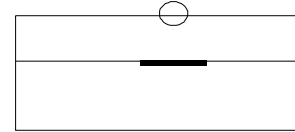
SPECIAL NOTE 1 : On most patrol vehicles it is recommended that the outside door handle be disconnected from the factory latch. In addition if vehicle is equipped with power door locks, the solenoid in the deployment door only should be unplugged. This is because with most vehicles the door latch will not open the door while the door is locked. By disconnecting the outside handle, you will secure this entry while allowing the Sic'em to open the door properly. By unplugging the door lock solenoid, you remove that door from the normal lock/unlock cycle and can secure your other doors.

IF YOU DISCONNECT THE OUTSIDE HANDLE AS STATED IN SPECIAL NOTE 1 THEN SPECIAL NOTE 2 DOES NOT APPLY!

SPECIAL NOTE 2 : The Sic'em MCU is designed to reset the position of the DRS 2 seconds after the unit receives a signal and opens the door. This is to counter the way certain vehicles, especially 4x4s, locking and release mechanism are configured. On these vehicles the factory return spring is not strong enough to pull the DRS back into standby position after the system has trigger the door to open. If the door is then locked or unlocked while the solenoid is not fully returned, the door latch can jam in a position that does not allow the door to unlock or to open! With the reset function of the Sic'em the problem is adverted. In addition, if the door is locked and the outside handle is pulled manually then before you attempt to unlock the doors you must activate the Sic'em using the remote. This will reset the DRS and prevent the door from jamming.

Operating Instructions continued

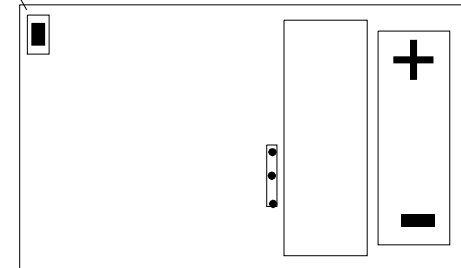
The RTS uses a 3 volt lithium battery which has a normal life between 3-5 years. You must open the transmitter housing to replace the battery.



To open the transmitter, with a small flat head screw driver, gently press in on the tab located in front.

If the transmitter battery is removed or replaced, you must press the reset button before closing the transmitter housing

Reset Button



Battery
Replace with
CR2 Lithium

To remove the gas charged strut, use a small flat head screw driver to raise and remove the retaining clips, then pop either mount end off of the ball stud mounts.

