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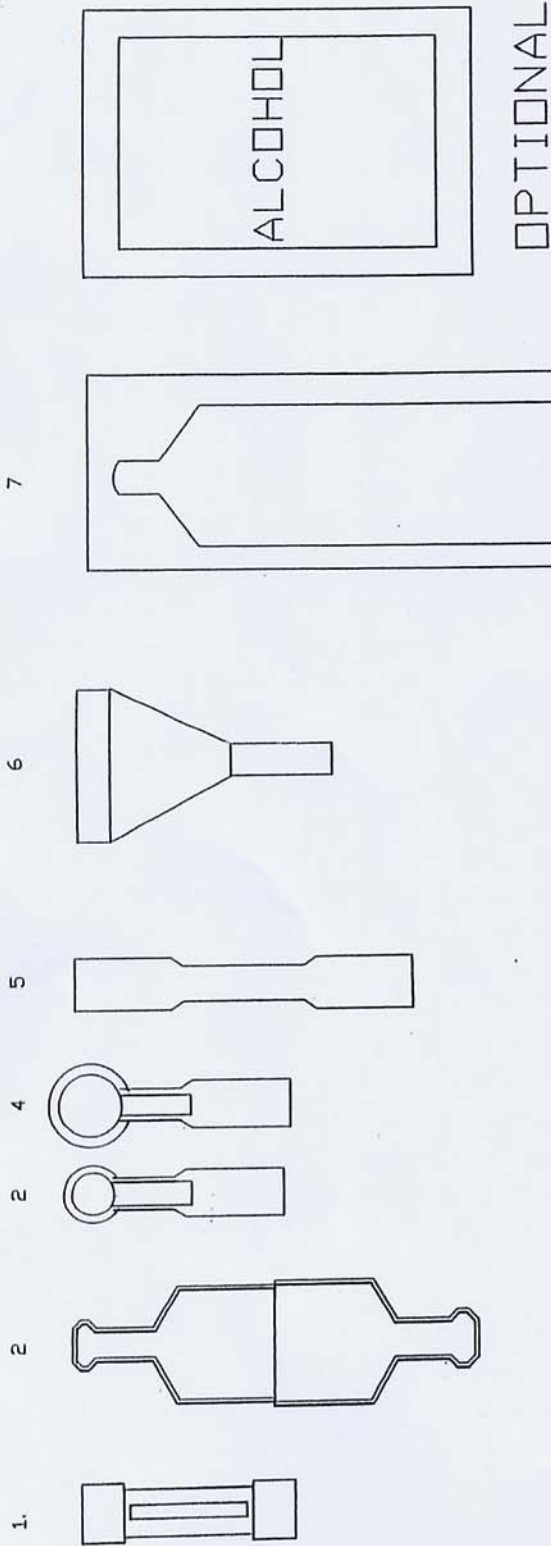
GARDIAN®

Anti - Corrosion Electronic Module

Installation Instructions

April 2008

CONNECTOR PACKAGE



- 1. FUSE
- 2. FUSE HOLDER
- 3. SMALL RING
- 4. LARGE RING
- 5. BUTT CONNECTOR
- 6. HARNESS BOOT COVER
- 7. SILICON DIELECTRIC GREASE (OPTIONAL)
- 8. ALCOHOL CLEANING SWAB (OPTIONAL)

FIGURE 1

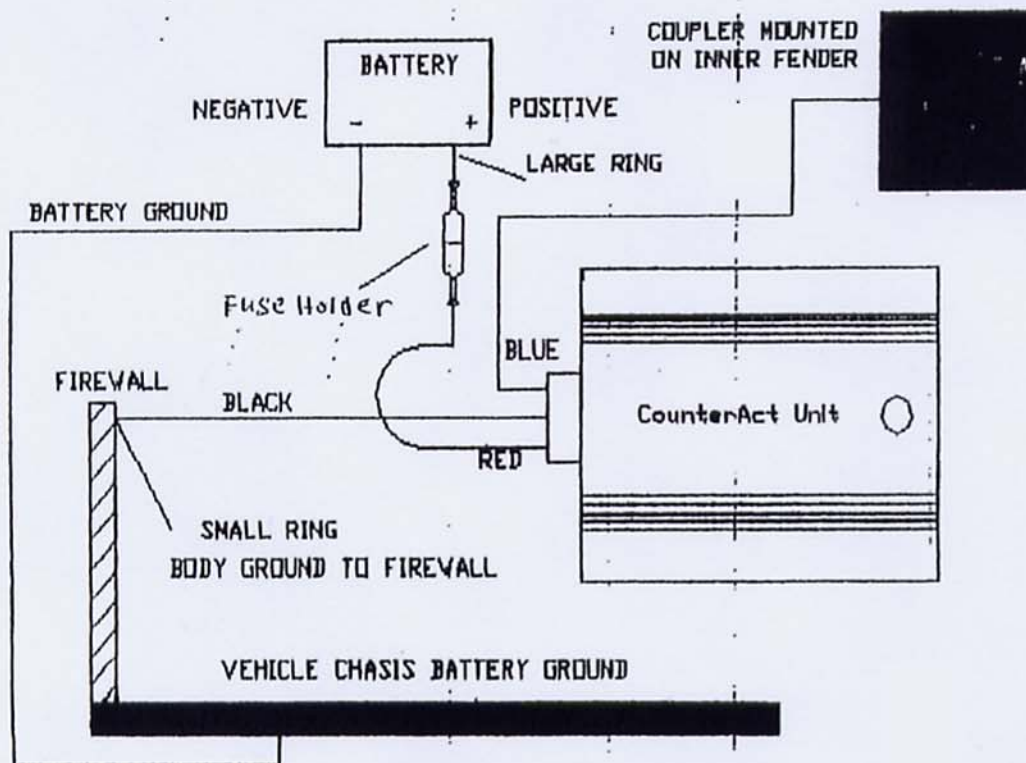
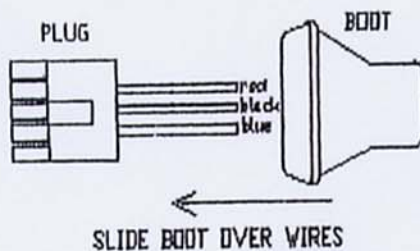


FIGURE 2





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Installation of 1 capacitive coupler (LOW CURRENT) Models

THE COUNTERACT CORROSION CONTROL UNIT IS A CAPACITIVELY COUPLED; CHARGE SENSING, VARIABLE OUTPUT, HIGH VOLTAGE, DC PULSE POWER SUPPLY. THE POWER SUPPLY, COUPLER AND WIRING HARNESS SHOULD BE MOUNTED IN THE ENGINE COMPARTMENT ON MOST VEHICLES AND IN THE TRUNK ON VEHICLES WITH TRUNK MOUNTED BATTERIES. ON VEHICLES WITH BATTERIES MOUNTED UNDER THE REAR SEAT A TRUNK MOUNT IS ALSO INDICATED. ALWAYS CONNECT THE RED "HOT" WIRE DIRECTLY TO THE BATTERY'S POSITIVE TERMINAL TO INSURE PROPER OPERATION. PLEASE DEFER TO THESE INSTRUCTIONS SHOULD THERE BE ANY CONFLICT WITH YOUR PRODUCT MANUAL AS ERRATA MAY OCCUR IN PRINTED MATTER FROM TIME TO TIME

INSTALLATION KIT

EACH UNIT IS SUPPLIED WITH:

1. ONE CAPACITIVE COUPLER PAD WITH ADHESIVE BACKING.
2. ONE FUSE AND FUSE HOLDER TO BE PLACED IN THE RED + INPUT LINE.
3. ONE LARGE RING CONNECTOR FOR THE RED + INPUT BATTERY LEAD
4. ONE SMALL RING CONNECTOR FOR THE BLACK BODY GROUND WIRE
5. ONE HEAT SHRINK INLINE CONNECTOR FOR THE OUTPUT WIRE COUPLER CONNECTION.
6. ONE PRODUCT MANUAL
7. ONE RUBBER WEATHER BOOT
8. ONE PACKET SILICONE DI-ELECTRIC GREASE (AFTER SEPT-1-07)

WIRING HARNESS COLOR CODES FOR THE 1 COUPLER UNIT

1. BLUE TO FRONT COUPLER
2. BLACK TO BODY GROUND (SHOULD BE 2-3 FEET MINIMUM AWAY FROM COUPLER ATTACHMENT)
3. RED TO BATTERY POSITIVE+ TERMINAL CONNECTOR (CONNECT INLINE FUSEHOLDER FIRST BY CUTTING WIRE 8-12 INCHES FROM THE "FREE END" OF THE WIRE, STRIP WIRE ON BOTH SIDES OF CUT THEN CRIMP ON THE FUSE HOLDER

ATTACHING COUPLERS

OPTIMAL PLACEMENT OF THE SINGLE CAPACITIVE COUPLER IS IN THE ENGINE COMPARTMENT OR TRUNK (WHEREVER YOUR BATTERY IS LOCATED) ON AN INNER FENDER, FIREWALL OR THE UNDERSIDE OF THE HOOD OR TRUNK LID. THE COUPLER PAD SHOULD BE INSTALLED ON A CLEAN, FLAT (IDEALLY) OR AT MOST ONLY MODERATELY CURVED PAINTED METAL AREA ON THE BODY SHARING A COMMON GROUND WITH THE REMAINDER OF THE BODY. AVOID PLACING THE COUPLER OVER WELDS, SEAMS, HOLES, SHARP EDGES OR CORNERS OR WELDING SPATTER. IF PLACING THE COUPLER ON A "SLIGHTLY CURVED SURFACE" THE COUPLER MAY BE MILDLY HEATED WITH A HAIRDRYER IN ORDER TO SOFTEN AND BEND IT SLIGHTLY. (DO NOT OVERHEAT THE COUPLER AS THIS MAY CAUSE THE ADHESIVE TO "SET" AND BECOME BRITTLE) DO NOT PLACE THE COUPLER NEAR FLUID RESERVOIRS. INSTALLATION SHOULD BE PERFORMED IN A HEATED ENCLOSURE WHEN TEMPERATURES FALL BELOW 5 DEGREES CELSIUS TO INSURE OPTIMAL BONDING. PRESS FIRMLY WHEN INSTALLING COUPLER AND ALLOW 72 HRS AT ROOM TEMPERATURE FOR 100% BOND STRENGTH

THE SURFACE CHOSEN FOR COUPLER ATTACHMENT SHOULD BE CLEANED WITH ISOPROPYL ALCOHOL TO REMOVE ANY DIRT, OIL, OR WAX TO ALLOW PROPER BONDING OF THE ADHESIVE BACKING. IF GREASE OR UNDERCOATING IS PRESENT CONSULT TECHNICIAN FOR AN APPROPRIATE SOLVENT. IT MAY SOMETIMES BE USEFUL TO WIPE THE ADHESIVE SURFACE OF COUPLER WITH ISOPROPYL ALCOHOL AS WELL IF THE SURFACE BECOMES CONTAMINATED WITH DIRT OR LIQUIDS DURING THE INSTALLATION PROCEDURE. DO NOT REMOVE ANY PAINT OR DAMAGE THE PAINTED SURFACE. THE PAINT ON THE SURFACE. THE COUPLER ADHESIVE

AND EPOXY/FIBERGLASS MATERIAL LAYER OF THE COUPLER FORMS A DIELECTRIC LAYER SIMILAR TO THE DIELECTRIC (INSULATOR) MATERIAL USED IN CONVENTIONAL CAPACITORS.

- Step 1. Make certain that the vehicle engine is turned off and allowed to cool to avoid potential accidents and burns.
- Step 2. Determine where you will place the power supply, coupler and body ground. Make sure that the wire will reach your proposed coupler site and grounding point and can be safely routed to these points. Make sure that the site for the coupler is a clean painted metal surface flat or only slightly curved (when installing on a slightly curved surface mildly heat the coupler with a hairdryer to make it more flexible before applying) with no seams welds, seams, holes or welding sputter. Normally only cleaning with isopropyl alcohol (medical swabs or gas line antifreeze aka "dry gas" are good choices) is necessary. If removing tar, sprayed undercoating grease oil etc. a typical automotive cleaning solvent such as "Gunk" may be required
- Step 3. Make sure that the surface where you will mount the power supply is secure and fixed so that the power supply or area beneath the power supply will not become detached from the vehicle body. (Note point of attachment for power supply need not be metallic.)
- Step 4. Clean the surface with isopropyl alcohol in preparation for placing the power supply with the included double-sided tape.
- Step 5. Pack the power supply connector with white "silicone di-electric grease" (available from most auto parts suppliers)
- Step 6. Place the power supply at the chosen site.
- Step 7. Install the rubber weather boot for the harness plug (make sure to slide it on to the wire harness larger "open" end toward the harness plug) before installing the fuse holder or ring connectors
- Step 8. Having determined proper wire lengths for your installation use wire strippers and crimpers to install the included ring connectors on the wire's ends. Install the large ring connector at the end of the red wire and the small at the end of the black wire. Apply heat to the connectors once crimped on the wire using a heat gun or hairdryer in order to shrink and hermetically seal the connectors.
- Step 9. Cut the red positive wire lead 8-12 inches from the end closest to the just attached ring terminal.
- Step 10. Strip both red wire ends and crimp on the inline fuse holder using ordinary wire crimpers.
- Step 11. Install the included glass fuse in the holder and snap the fuse holder halves together.
- Step 12. Install the black wire body ground ring connector to an existing hole in the body with a self-tapping screw or to an existing stud, which is grounded to the body with an appropriate size nut.
- NOTE: DRILLING HOLES IN A NEW VEHICLE'S BODY MAY VOID SOME MANUFACTURER'S PERFORATION WARRANTY COVERAGE IN THOSE AREAS**
- Step 13 Pack the wire harness plug with white silicone di-electric grease and route the wire along the planned path.
- Step 14 Install the large ring connector on the fused positive red wire onto the positive terminal of the battery using appropriate pliers or wrench.



Pull off the adhesive backing to install coupler pad

- Step 15 Remove the protective backing from the coupler adhesive and install the coupler applying firm pressure to the coupler and insuring that it is flush mounted without gaps in the engine compartment or trunk at the chosen site and making sure the site has been cleaned as directed above. Note. On the firewall or at the front corner of the engine compartment are good siting choices. Should the coupler adhesive become contaminated with dirt or fluids use an alcohol swab or saturated cloth to gently wipe the coupler adhesive surface.
- Step 16 Connect the wire harness plug to the connector plug on the power supply.



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Step 17 Start your vehicle's engine and observe the indicator led for proper operation as indicated below

OPERATION OVERVIEW

CounterAct Anti-Corrosion Power Supplies have built in battery protection and low voltage sensing to help protect and preserve the vehicle. The circuitry also varies the current draw to aid in supplying the proper amount of charge while helping conserve battery energy.

THE OPERATING MODES ARE AS FOLLOWS:

1. NORMAL OPERATION MODE:

WHILE THE UNIT IS OPERATING IN THIS MODE, THE LED PULSES BRIGHTLY AT ABOUT 2 PULSES PER SECOND " PPS."

2. LOW BATTERY VOLTAGE MODE:

YOUR COUNTERACT DEVICE IS DESIGNED TO SENSE THE BATTERY DEPLETION POINT. THE DEVICE WILL SHUT DOWN WHEN YOUR BATTERY REACHES ABOUT 80% OF CAPACITY SO AS NOT TO DRAIN YOUR BATTERY. THIS WILL NORMALLY BE WHEN THE BATTERY OUTPUT VOLTAGE REACHES THE 12.2-12.3V RANGE. PRIOR TO UNIT SHUT-OFF, THE LED WILL VISIBLY DIM AND THE PULSE RATE WILL SLOW FOR A PERIOD OF TIME INDICATING DEPLETED BATTERY CONDITION, THE LED WILL GO OUT COMPLETELY AS THE SHUT-OFF THRESHOLD POINT IS APPROACHED.

AFTER INSTALLATION VERIFICATION

1. PLACE FUSE IN THE INLINE FUSE HOLDER AND SNAP FUSE HOLDER HALVES TOGETHER. THE UNIT WILL ENTER NORMAL OPERATION MODE. (WHILE THE UNIT IS OPERATING IN THIS MODE, THE LED PULSES BRIGHTLY ABOUT 2 PPS.)
2. IF YOU WISH TO VERIFY THE LOW BATTERY VOLTAGE MODE AND OR SHUT-OFF, THE INDICATOR WOULD NEED TO BE CHECKED PERIODICALLY OVER AN EXTENDED PERIOD OF TIME WHILE THE VEHICLE IS NOT BEING OPERATED.

NOTE: OPERATING TIME BEFORE THE LOW BATTERY SHUT-OFF POINT IS REACHED WILL VARY. THE TIME TO SHUT-OFF DEPENDS ON YOUR BATTERY CONDITION AND STORAGE CAPACITY, LEVEL OF CHARGE, TEMPERATURE, CHARGING SYSTEM CONDITION AND THE INDIVIDUAL BATTERY'S CHARACTERISTICS. THE TIME TO SHUTOFF WILL ALSO VARY IF OTHER ELECTRONICS SUCH AS SECURITY SYSTEMS ARE DRAWING POWER FROM THE BATTERY WHILE THE VEHICLE IS PARKED.