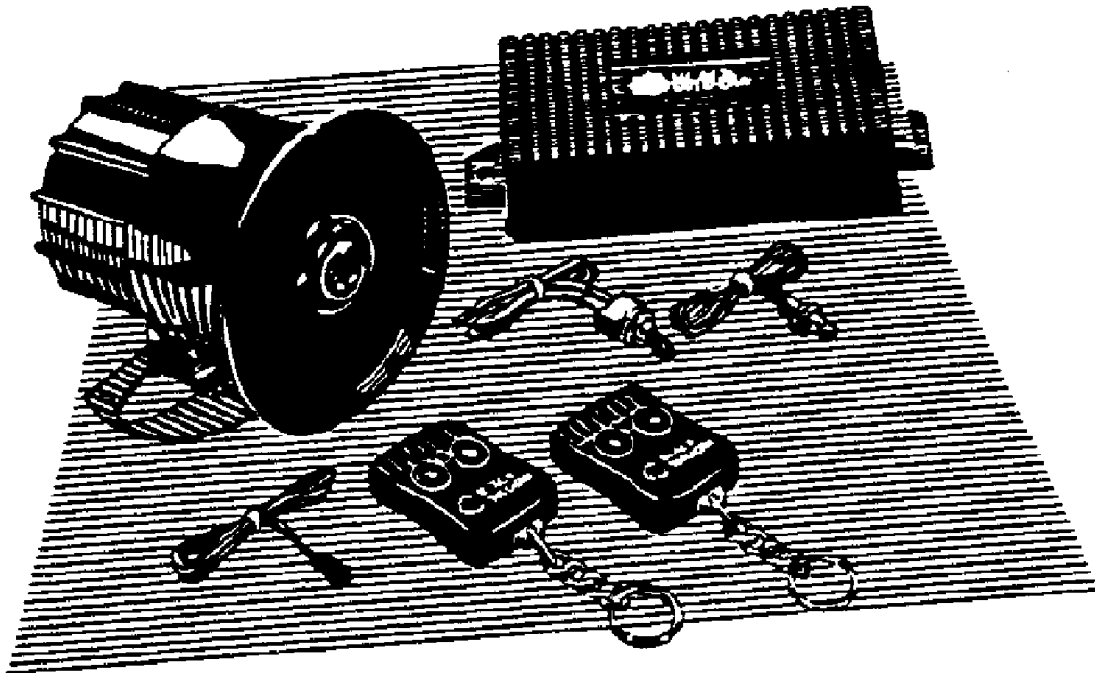


# BW-2000EX **CLASSIC·EX**



## **INSTALLATION MANUAL**

~~~~~  
Please read this Manual carefully before  
attempting to install this system.

**BEFORE INSTALLING THE BW-2000EX CLASSIC ALARM**

Please read the following notes to help you to properly install this alarm the first time.

- DO read through this installation manual.
- DO write the Serial Number and Remote Control Code into the spaces provided on the Owner's Instruction Card.
- DO NOT install the alarm brain in an engine compartment.
- The alarm may arm itself when power is first connected. This is a normal condition.
- The second Remote Control Transmitter button can control accessories connected to the BROWN wire.

**ITEMS SUPPLIED WITH THE BW-2000EX ALARM**

- BWS-2001** Receiver Module
- BWS-382** 2-Button, 2-channel, Remote Control Transmitter (2)
- MTS-20W** Programmable, Multitone, 120 dB Siren
- BWS-260** Manual Override Switch
- BWS-265** Valet Switch
- BWS-180** Flashing LED
- BWS-12020** Wiring Harness, Fuseholder, and Fuse

**OPTIONAL FEATURES**

|                               |                |
|-------------------------------|----------------|
| Trunk Release Module .....    | <b>TR-100</b>  |
| Radar Field Sensor .....      | <b>MAS-2</b>   |
| Window Rollup Module .....    | <b>WRM-2</b>   |
| Backup Battery .....          | <b>BWS-500</b> |
| Remote Starting .....         | <b>RAS-101</b> |
| Transmitter Case .....        | <b>BWS-390</b> |
| Glass-break Sensor .....      | <b>BWS-200</b> |
| Electronic Shock Sensor ..... | <b>BWS-290</b> |
| Relay .....                   | <b>SPDT</b>    |
| Relay Socket .....            | <b>BRS-007</b> |
| Transmitter Case .....        | <b>BWS-390</b> |

**SPECIFICATIONS**

|                                         |                                                                                             |
|-----------------------------------------|---------------------------------------------------------------------------------------------|
| Operating voltage .....                 | 13.8 Volts DC, neg ground.                                                                  |
| Digital coding per channel .....        | Pre-coded with one of 20,000.                                                               |
| Current consumption .....               | 5mA (max) disarmed. 10mA (max) armed with 1 LED.                                            |
| Current sensing trigger .....           | 500 mA drop.                                                                                |
| Siren output drive .....                | 1 Ampere.                                                                                   |
| Automatic reset .....                   | 60 seconds.                                                                                 |
| Remote Control transmit frequency ..... | 310 mHz.                                                                                    |
| Passive arming delay .....              | 34 Seconds approx.                                                                          |
| Auxiliary Output Drive .....            | 250 mA maximum.                                                                             |
| Flashing output drive .....             | 10 Amperes maximum.                                                                         |
| Trigger inputs .....                    | 1) Negative pinswitch. 1) Positive pinswitch.<br>1) Negative sensor or auxiliary pinswitch. |

## **INSTALLATION INSTRUCTIONS**

**1. Mount the BWS-2001 Receiver Module** in a dry and secure area where it cannot easily be found or damaged, and where its wiring can be easily installed. Mount it as far away from metal objects as possible. This will increase the range of its Remote Control Transmitter.

**At this time . . .**

- A)** Cut the BROWN wire loop on the Receiver module if you want to turn OFF the Current Sensing feature.
- B)** Cut the BLUE wire loop on the Receiver module if you want to change the alarm system to PASSIVE, Last-Door-Arming operation. Also see Step 5, below.
- C)** Cut the YELLOW wire loop if you want to extend the EXIT delay to 30 seconds. Leaving it UNCUT provides a 5 second delay.
- D)** Cut the ORANGE wire loop to turn OFF arming and disarming chirps from the siren. Wiring a SPST toggle switch between the ends of these two wires creates a user-option for turning the chirps off and on.

**2. Mount the MTS-20W Siren** under the vehicle's hood. Position it so that the mouth of the siren is pointing down. This will stop water, snow, and ice from collecting in the siren.  
**Do Not Mount the Siren Close to Exhaust or Turbocharger Pipes!**

**3. Mount the BWS-180 Flashing LED** in an easily seen location, such as the dash panel or the inside, top edge of the driver's or passenger's door.

**4. Install the BWS-260 Manual Override Switch** in a hidden location that can be easily reached by the driver. Suggested locations are under the dash panel or somewhere in the center console. Connect one wire from this switch to a good, clean ground. Connect the other wire from this switch to the VIOLET wire of the wiring harness.

**5.** If the alarm is to be used in the PASSIVE ARMING mode, **install the BWS-265 Valet Switch** in a hidden location that can be easily reached by the driver. Suggested locations are under the dash panel or somewhere in the center console. Connect one of its wires to one end of one of the wires from the BLUE loop, cut in Step 1-B, above. Connect the other wire to the remaining wire of the BLUE loop.

**6. Install any of the optional function modules** ordered for the vehicle, following the installation instructions supplied with them.

**7. Install the BWS-12020 Wiring Harness** and connect it to all of the items previously installed, using the wiring diagrams and wiring color codes on other pages in this manual. When routing the harness through the vehicle, be careful to run it where it CANNOT be DAMAGED or SHORTED to ground. Also keep it away from ALL MOVING PARTS of the vehicle and locations where HIGH HEAT can damage the wire insulation. Always protect the harness EVERYWHERE that it goes through holes in a metal panel.

**CAUTION!** Before completing the next step, be sure that all accessory items, including the siren, are connected to the wiring harness.

**8. Be sure that the RED wire** of the harness (with the fuseholder) is connected to a CONTINUOUS source of +12 volts, and install the FUSE in the fuseholder. For non-current sensing installations, this wire may be connected directly to the POSITIVE (+) battery terminal.

**CAUTION!** On vehicles with small or a single-bulb interior lights, or on vehicles with the battery in the trunk, the current sensing feature may not work unless this wire is connected to a point of CONTINUOUS 12 volts at an UNFUSED input to the vehicle's fuse block.

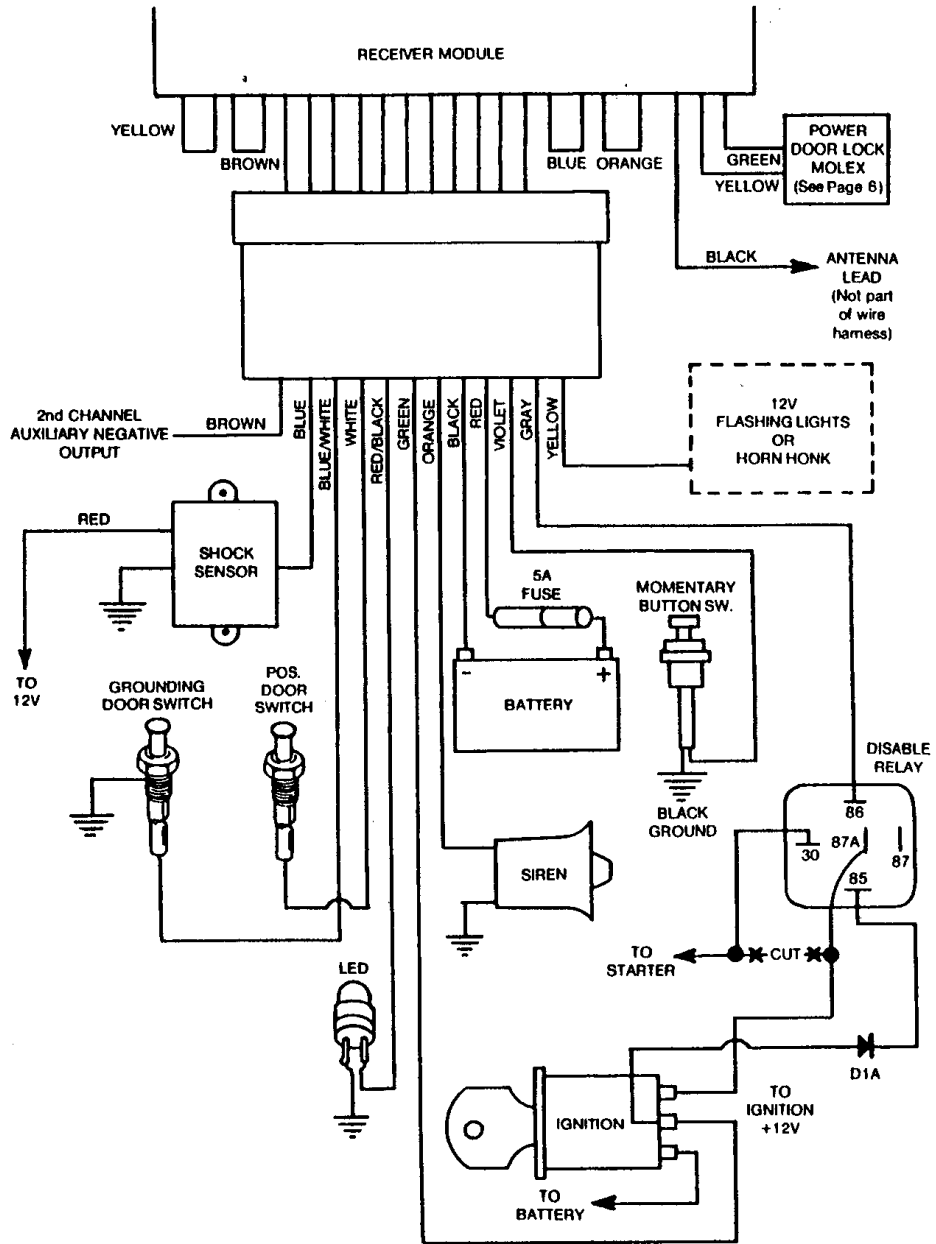
**9. Proceed with checking** out the rest of the alarm system's functions.

**10. Finish the installation of the BW-2000EX alarm** by securely fastening all wires in place. Protecting all wiring with plastic wire loom is always recommended.

**TERMINAL NUMBERING AND WIRE COLOR CODES**

| #                  | COLOR      | FUNCTION               | NOTES                                                                                                                                                                                                            |
|--------------------|------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                  | Brown      | Aux Out                | Provides a NEGATIVE (-) output as long as the SECOND button on the Remote Control Transmitter is held down. It can be used to drive a relay for trunk, hood, or window control.                                  |
| 2                  | Blue       | (-) Trip 1             | Connect this wire to shock, glass, radar, and other sensors or to hood or trunk pinswitches:                                                                                                                     |
| 3                  | Blu/Wht    | (-) Trip 2             | Connect this wire to door switches that are GROUNDED when the door is opened.                                                                                                                                    |
| 4                  | White      | (+) Trip               | Connect this wire to door switches that are POSITIVE when the door is opened.                                                                                                                                    |
| 5                  | Red/Blk    | LED Drive              | This output is POSITIVE (+) when ARMED and OPEN when DISARMED. Connect it to the POSITIVE wire of the LED. <b>Do not connect this wire to a horn or light circuit!</b>                                           |
| 6                  | Green      | Ignition               | Connect to Ignition RUN or ON output from Ignition Switch. When 12 volts is applied to this wire the Remote Control is disabled to prevent accidental arming.                                                    |
| 7                  | Orange     | Siren                  | Output is +12 volts when the alarm is triggered.                                                                                                                                                                 |
| 8                  | Black      | Ground                 | Connect this wire to a clean, solid GROUND. <b>Do not confuse this wire with the short, black Antenna wire on Receiver Module! Do not attempt to ground the antenna wire!</b>                                    |
| 9                  | Red        | +12V In                | Main Power. Connect this wire to the battery POSITIVE (+) terminal with the supplied 5 amp fuse <b>installed at the end of the wire!</b> Be sure to read the CAUTION in item 8 of the Installation Instructions. |
| 10                 | Violet     | Override               | Input from Manual Override Switch.                                                                                                                                                                               |
| 11                 | Gray       | Starter Disable        | This output is at GROUND (-) whenever the alarm is ARMED. It is used to drive the starter interrupt relay.                                                                                                       |
| 12                 | Yellow     | Flash                  | Pulsing positive (+) output during an alarm, for parking lights or horn during the alarm period.                                                                                                                 |
| <b>On PC board</b> |            |                        |                                                                                                                                                                                                                  |
| 13                 | Brown Loop | Current Sensing        | Cut this loop if it is necessary to defeat current sensing. See Installation Step 1-A.                                                                                                                           |
| 14                 | Blue Loop  | Passive Arming & Valet | Cutting this loop activates PASSIVE arming. <b>DO NOT</b> cut for MANUAL (active) arming. See Installation Step 1-B. For Valet wiring see Installation Step 1-D.                                                 |

**WIRING DIAGRAM**



 Symbol indicates a ground wire.

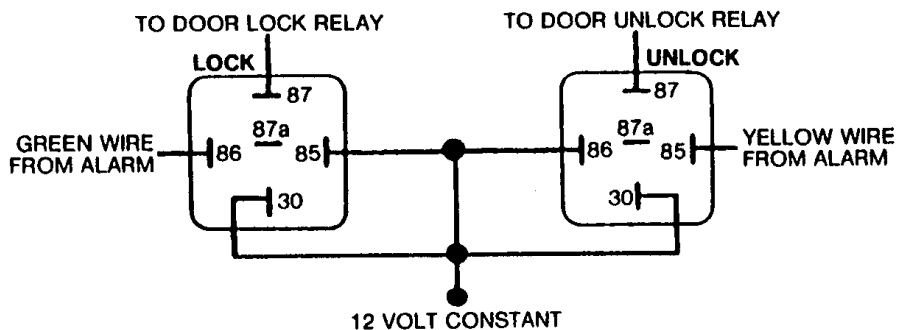
*Ignition +12V MUST NOT DROP OUT during starting of vehicle.*

### POWER DOOR LOCK INSTRUCTIONS

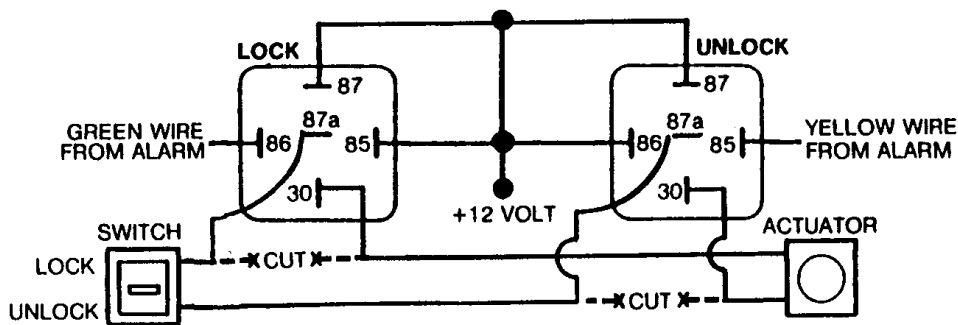
The Classic • EX comes equipped to handle ground door lock installations. The molex, connected to the Yellow and Green wires from the Receiver Module, is ready to install to Actuator, allowing a grounding pulse.

The following instructions require two SPDT Relays, not included in the Classic • EX. These Relays must be ordered separately.

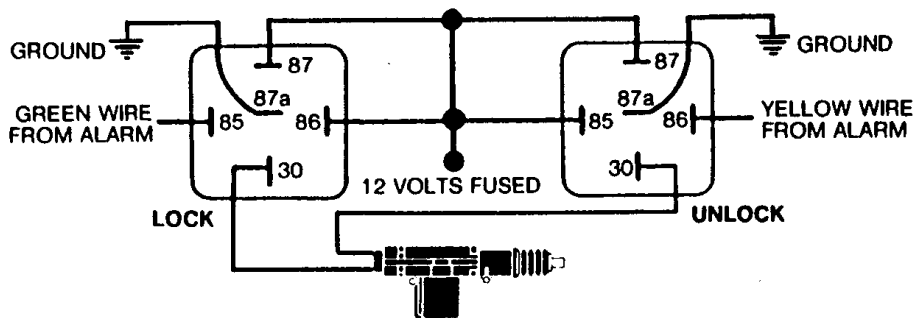
#### POSITIVE TRIGGER DOOR LOCK CIRCUIT:



#### REVERSE POLARITY (DIRECTLY TO ADD ON ACTUATORS):



#### REVERSE POLARITY USING FACTORY SYSTEMS:



**TROUBLESHOOTING**

| SYMPTOM                                                       | PROBABLE CAUSE                                                                                                                                          | SUGGESTED CORRECTION                                                                                                                                                     |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unit alarms any-time it is armed.                             | BLU, BLU/WHT or WHT wire is shorted to ground or mis-connected. Bad pinswitch. Misadjusted shock (BWS-290), glass sensor (BWS-200), or optional sensor. | Disconnect all trigger wires and retest each one. If they are all okay, use a test light to locate shorted wires. Readjust ALL sensor.                                   |
| Current sensing does not work.                                | RED wire connected at the wrong place. Bad dome light or wiring. Dome light switch is in the OFF position.                                              | Reconnect RED wire to an <i>un-fused battery</i> input to the main fuse block. Repair dome light or its wiring. Turn dome light ON.                                      |
| Alarm will not rearm.                                         | Bad pinswitch. BLU/WHT or WHT wire misconnected or shorted to ground. Sensor is reacting to the sound of the siren. VIO wire is shorted to ground.      | Disconnect all sensors and trigger wires and recheck. Check trigger wires while alarm is armed. Move siren and sensors farther apart. Check Valet Switch and its wiring. |
| Passive arming does not work.                                 | Defective pinswitch. BLU or BLU/WHT wire at ground. WHT wire always at a positive voltage.                                                              | Repair or replace pinswitches. Check BLU, BLU/WHT, and WHT wires for shorts.                                                                                             |
| Remote Control does not arm or disarm alarm.                  | BLK Remote Control antenna wire is grounded. Remote Control Transmitter Battery weak or dead. GRN wire is always at a positive voltage.                 | Un-ground and insulate BLK antenna wire. Check the transmitter battery. Reconnect the GRN wire to the proper location.                                                   |
| Manual override does not work.                                | One side of Override Switch not grounded. Defect in VIO wire. GRN wire not positive when Ignition is ON.                                                | Check switch ground. Test VIO wire. Check Ignition Switch.                                                                                                               |
| Flash output does not work.                                   | Bad connection on YEL wire. Drive is the wrong polarity for the circuit being driven. This drive is positive.                                           | Check YEL wire. Wire a SPDT relay to the YEL wire and apply the opposite polarity to the driven circuit.                                                                 |
| Second Remote Control button does not work.                   | Auxiliary decoder code does not match.                                                                                                                  | Recode decoder.                                                                                                                                                          |
| Door locks do not lock and/or unlock, or are reversed action. | Defective GRN or YEL wire from Molex connector. Wrong door lock wiring used. GRN and YEL wires reversed to relays.                                      | Check GRN and YEL wires. Check vehicle door lock operating polarity and use correct door lock schematic. Reverse the GRN and YEL wires to the external relays.           |





## **LIFETIME LIMITED WARRANTY**

The Black Widow Division of DLC, Inc. warrants to the original purchaser that the vehicle alarm system purchased will be free from defects in workmanship.

If it is determined that a defect exists, at our option, we will repair defective parts or replace the system. If product is defective within one (1) year from date of purchase, item will be repaired or replaced at no cost to original purchaser. If product is defective after one (1) year from date of purchase, ship defective unit prepaid to Black Widow Division, DLC, Inc. along with \$20.00 U.S. (\$30.00 Canadian) cashier's check or money order to cover cost of handling.

**Proof of purchase by the original owner must accompany warranty request before service is rendered.**

This warranty covers normal use. It does not cover damage from alteration, misuse, abuse, accident, improper installation or maintenance. Warranty does not cover transmitter batteries or cases. This warranty gives you specific legal rights and you may have rights which vary from state to state. If you have any questions, contact your authorized Black Widow dealer.



**DLC/U.S.A.**  
12753 Moore Street  
Cerritos, California 90701

**DLC/CANADA**  
Suite 201B, 20771 Langley Bypass  
Langley, British Columbia  
V3A 5E8, Canada