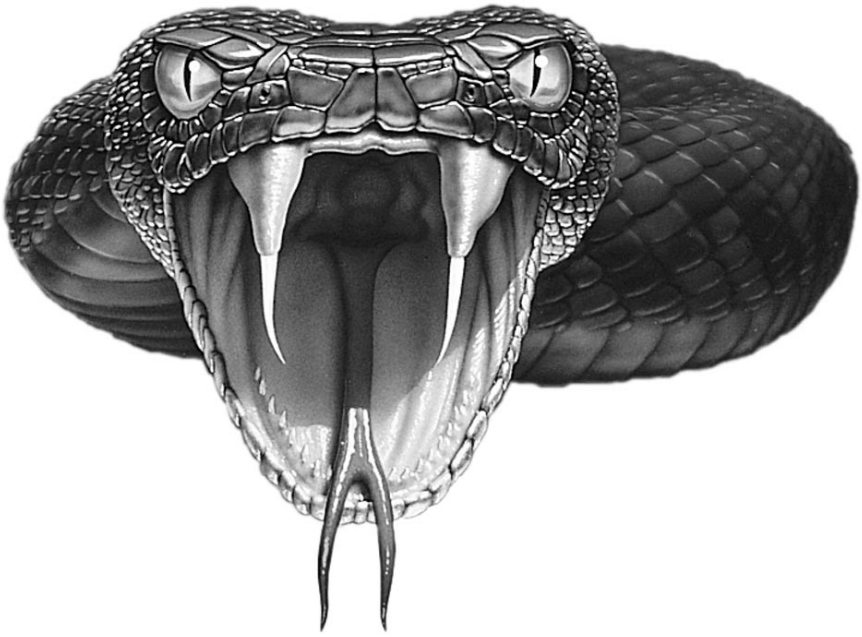
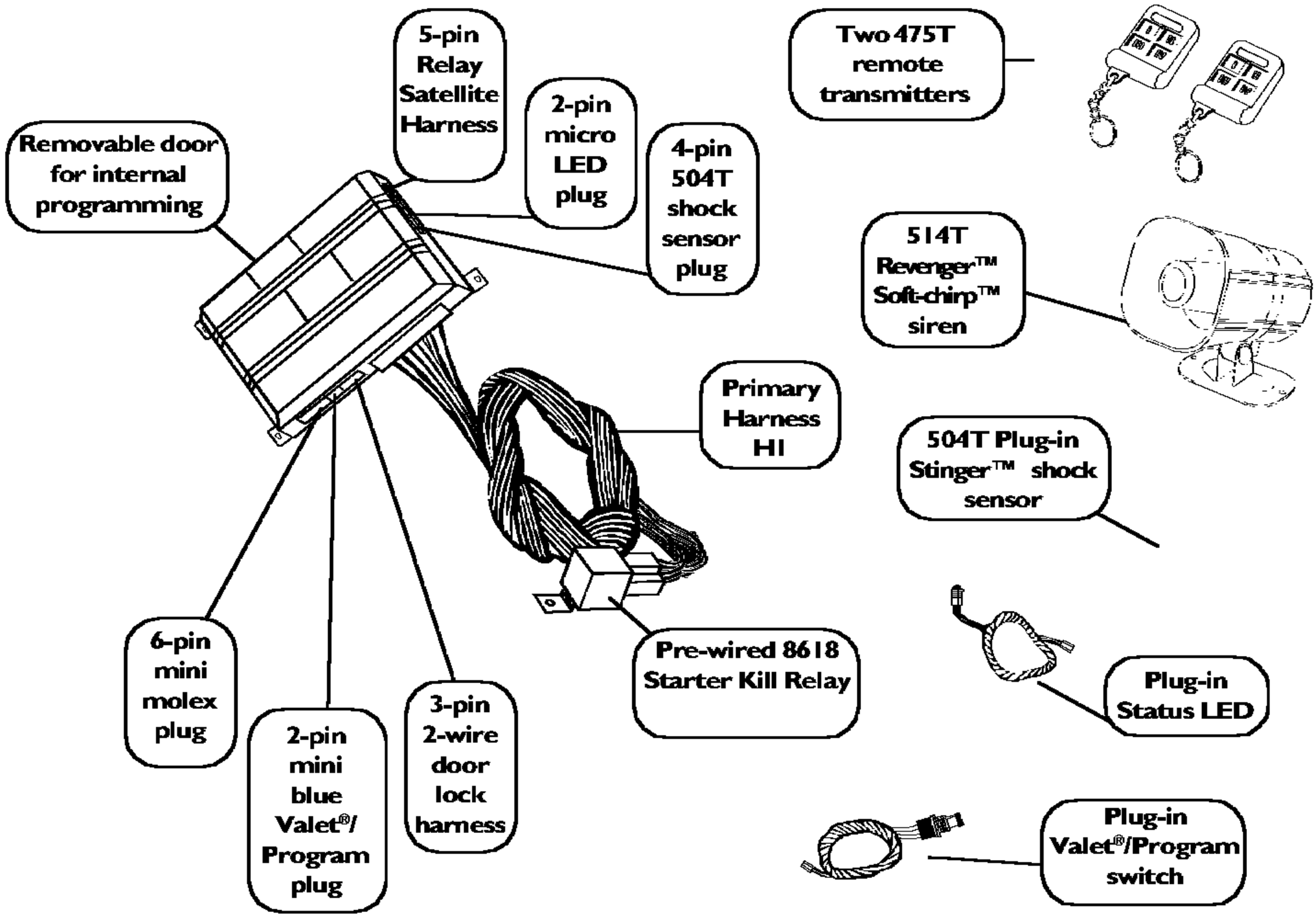
VIPER®



550 HF 8C-9A

Installation Guide

Directed
ELECTRONICS, INC.



INSTALLATION POINTS TO REMEMBER

IMPORTANT! This product is designed for fuel injected, automatic transmission vehicles only. Installation of this product in a standard transmission vehicle is dangerous and is contrary to the product's intended use.

Do not disconnect the battery if the vehicle has an antitheft-coded radio. If equipped with an air bag, avoid disconnecting the battery if possible. Many airbag systems will display a diagnostic code through their warning light after they lose power. Disconnecting the battery requires this code to be erased, a procedure that can require a trip to the dealer.

Before beginning the installation:

- Check with the customer on Status LED location.
- Remove the domelight fuse. This prevents accidentally draining the battery.
- Roll down a window to avoid being locked out of the car.

After the install:

- Test all functions. The "Using Your System" section of the Owner's Guide is very helpful when testing.
- When testing, **don't forget that this system is equipped with Nuisance Prevention Circuitry™.** NPC™ can bypass trigger zones, making them appear to stop working. See *Final Testing*, page 27.

PRIMARY HARNESS H1, 12-PIN CONNECTOR

H1/1	ORANGE	(-) 500 mA ARMED OUTPUT
H1/2	WHITE	(+)/(-) SELECTABLE LIGHT FLASH OUTPUT
H1/3	WHITE/BLUE	(-) 200 mA CHANNEL 3 INPUT/OUTPUT
H1/4	BLACK/WHITE	(-) 200 mA DOMELIGHT SUPERVISION OUTPUT
H1/5	GREEN	(-) DOOR TRIGGER INPUT, ZONE 3
H1/6	BLUE	(-) INSTANT TRIGGER INPUT, ZONE 1
H1/7	VIOLET	(+) DOOR TRIGGER INPUT, ZONE 3
H1/8	BLACK	(-) CHASSIS GROUND INPUT
H1/9	YELLOW	(+) IGNITION INPUT TO STARTER KILL RELAY
H1/10	BROWN	(+) SIREN OUTPUT
H1/11	RED	(+) CONSTANT POWER INPUT
H1/12	RED/WHITE	(-) 200 mA CHANNEL 2 VALIDITY OUTPUT

REMOTE START PRIMARY HARNESS, 5-PIN CONNECTOR

RED	(+) CONSTANT POWER
YELLOW	(+) IGNITION INPUT TO ALARM
PINK	(-) 200 mA IGNITION RELAY TURN-ON
ORANGE	(-) 200 mA ACCESSORY RELAY TURN-ON
PURPLE	(-) 200 mA STARTER RELAY TURN-ON

HEAVY GAUGE RELAY SATELLITE WIRES

RED	(+) HIGH CURRENT 12V INPUT
RED	(+) HIGH CURRENT 12V INPUT
PINK	(+) OUTPUT TO IGNITION CIRCUIT
ORANGE	(+) OUTPUT TO ACCESSORY CIRCUIT
PURPLE	(+) OUTPUT TO STARTER CIRCUIT

REMOTE START SECONDARY HARNESS, 6-PIN CONNECTOR

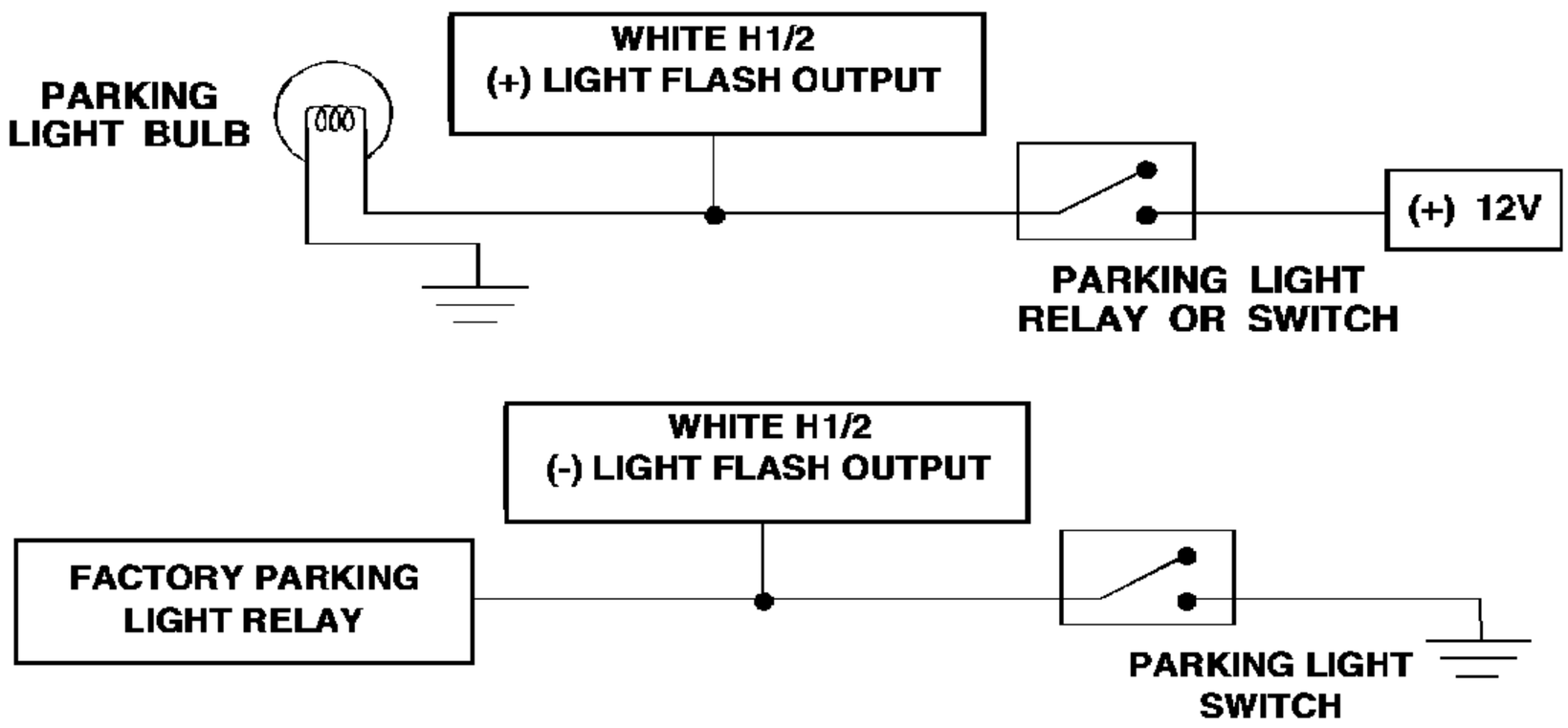
H3/1	BLUE	(-) 200 mA STATUS OUTPUT
H3/2	BLUE/BLACK	(-) 200 mA SECOND IGNITION OUTPUT
H3/3	GREY	(-) REMOTE START SHUTDOWN WIRE
H3/4	BROWN	(+) REMOTE START SHUTDOWN WIRE
H3/5	WHITE	TACHOMETER INPUT WIRE
H3/6	BLACK/WHITE	(-) NEUTRAL SAFETY SWITCH INPUT

WIRE CONNECTION GUIDE

H1/1 ORANGE(-) ground-when-armed output: This wire supplies a (-) 500 mA ground as long as the system is armed. This output ceases as soon as the system is disarmed. The orange wire is pre-wired to control the 8618 starter kill relay.

NOTE: If connecting the ORANGE wire to control another module, such as a 529T or 530T window controller, a 1 amp diode (type 1N4004) will be required. Insert the diode as shown below.

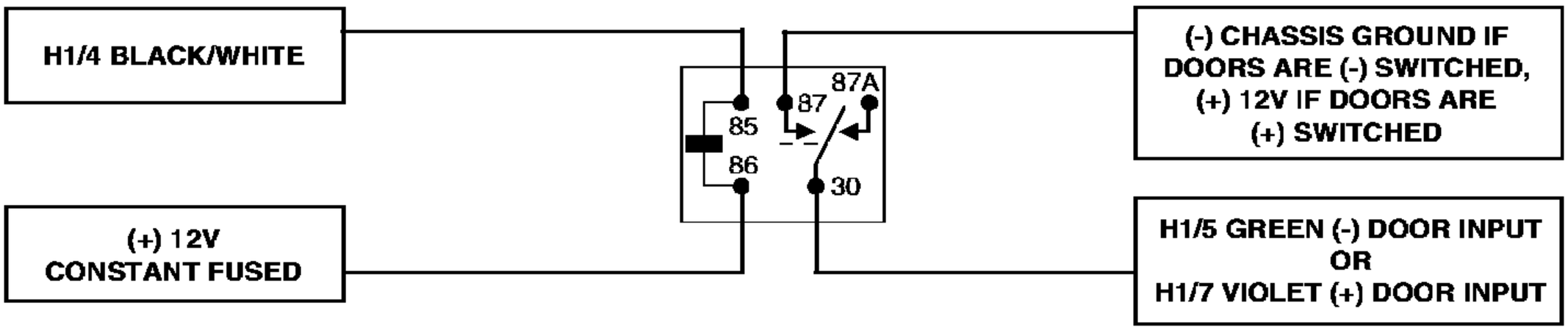
H1/2 WHITE light flash output: As shipped, this wire should be connected to the (+) parking light wire. If the light flash polarity jumper under the sliding door is moved to the opposite position (see *Internal Programming* page 20), this wire supplies a (-) 200 mA output. This is suitable for driving (-) light control wires in Toyota, Lexus, BMW, some Mitsubishi, some Mazda, etc.



H1/3 WHITE/BLUE channel 3 (-) input/output: A momentary input on this wire will start or stop the motor, just as transmitting channel 3 from the remote transmitter does. It is often connected to an optional momentary push-button switch to make access to Valet Take Over mode and Timer mode more convenient. The WHITE/BLUE will also output whenever the button(s) controlling channel 3 are pressed. The output can be used to disarm factory security systems when remote starting the vehicle.

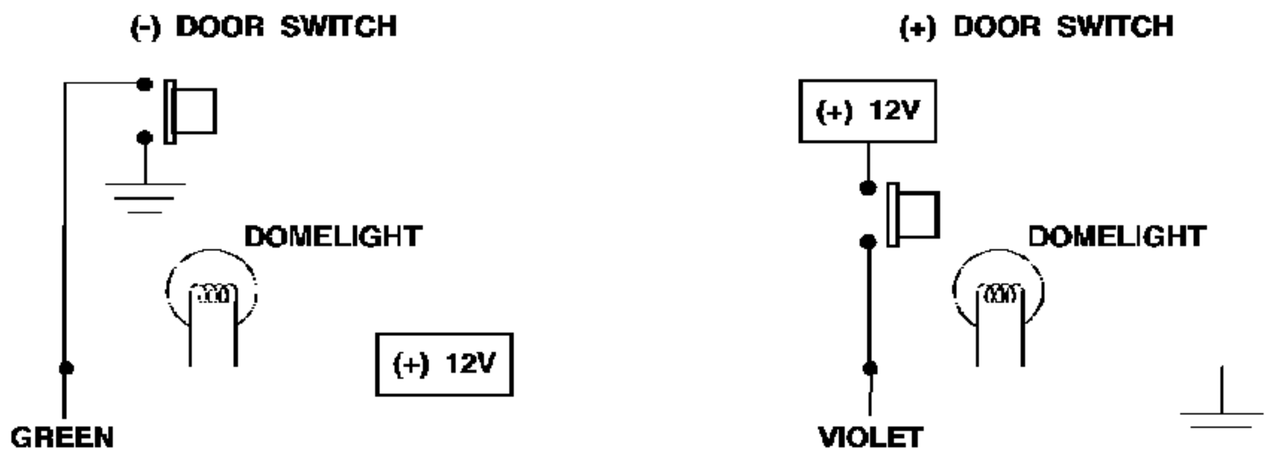
H1/4BLACK/WHITE (-) 200 mA domelight-supervision output: Connect this wire to the optional domelight supervision relay as shown below:

IMPORTANT: This output is only intended to drive a relay. It cannot be connected directly to the domelight circuit, as the output cannot support the current draw of one or more light bulbs.



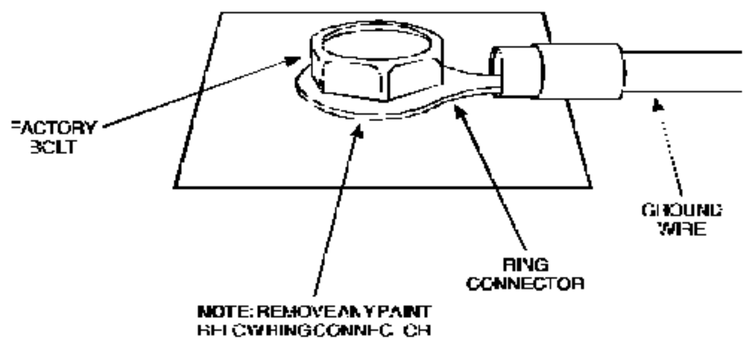
H1/5 GREEN (-) door trigger or ***H1/7 VIOLET*** (+) door trigger input: If the door switch wire you found is (-) when the door is open, connect the GREEN wire to it. If the door switch wire you found is (+) when the door is open, use the VIOLET wire instead.

IMPORTANT! Test to make sure this wire "sees" all doors!

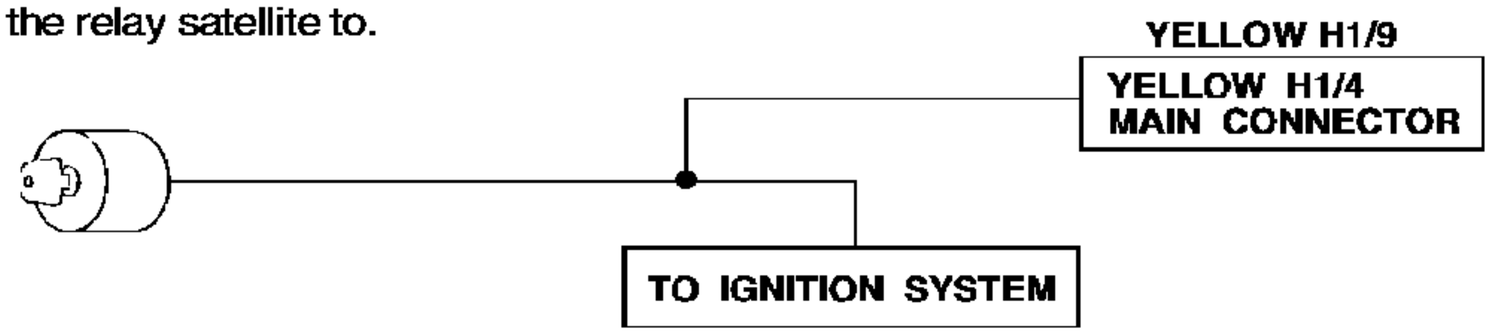


H1/6 BLUE (-) instant trigger: This input will respond to a (-)input with an instant trigger. It is ideal for hood and trunk pins and will report on zone one.

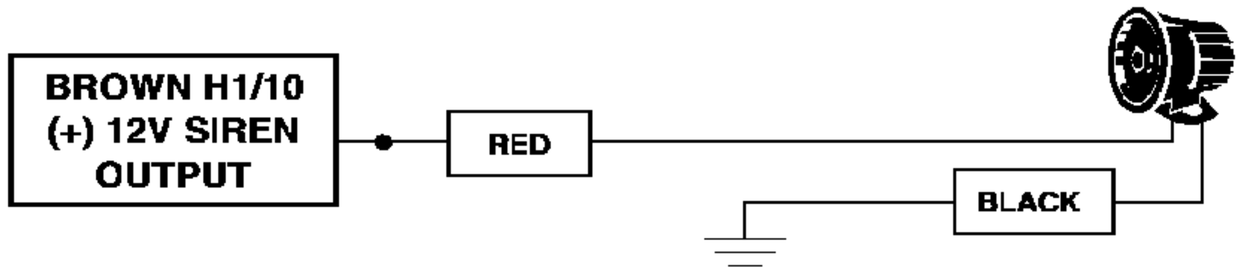
H1/8 BLACK (-) chassis ground connection. Connect this wire to bare metal, preferably with a factory bolt rather than your own screw (screws tend to either strip or loosen with time). We recommend grounding all your components to the same point in the vehicle.



H1/9 YELLOW (+) ignition input to starter kill relay: This wire goes to terminal 86 of the pre-wired starter kill relay. Connect this wire to the vehicle's ignition wire. This will be the same wire that you have connected the heavy gauge pink wire of the relay satellite to.



H1/10 BROWN (+) siren output: Connect this to the red wire of the 514T Revenger™ siren. Connect the black wire of the siren to (-) chassis ground, preferably at the same point you grounded the control module's H1/8 BLACK wire.

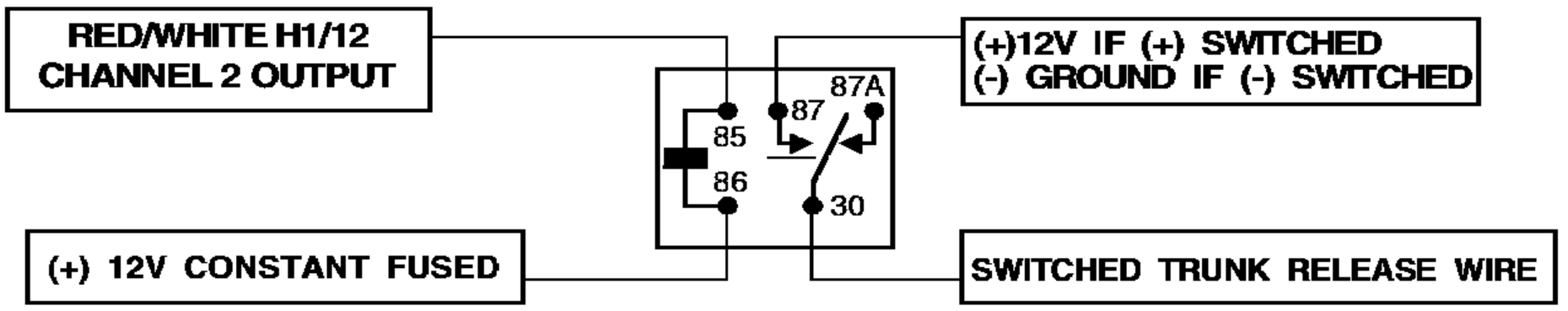


H1/11RED (+)12V constant power input: Before connecting this wire, remove the supplied fuse. Connect to the battery positive terminal or the constant 12V supply to the ignition switch as described on Page 5.

NOTE: Always use a fuse within 12 inches of the point you obtain (+)12V. Do not use the 10A fuse in the harness for this purpose. This fuse protects the module itself.

H1/12RED/WHITE channel 2, 200mA (-) output: When the system receives the code controlling channel 2, for longer than 1.5 seconds, the red/white will supply an output as long as the transmission continues. This is often used to operate a trunk/hatch release or other relay-driven function.

IMPORTANT! Never use this wire to drive anything but a relay or a low-current input! The transistorized output can only supply 200 mA of current, connecting directly to a solenoid, motor, or other high-current device will cause it to fail.



RELAY SATELLITE KEY SWITCH INTERFACE

The five heavy gauge wires coming from the relay satellite are used to energize high current circuits in the vehicle. It is crucial that these connections be well-made and capable of handling the current demands. For this reason, scotchlocks, T-taps and other such connectors are strongly discouraged.

RED (2) (+) 12V input for relays: Remove the two 30 amp fuses prior to connecting these wires and do not replace them until the satellite has been plugged into the control module. These wires are the source of current for all the circuits the relay satellite will energize. They must be connected to a high current source. Since the factory supplies (+) 12V to the key switch that is used to operate the motor, it is recommended that these wires be connected there.

NOTE: If the factory supplies two separate (+) 12V feeds to the ignition switch, connect one RED wire of the satellite to each feed at the switch.

PINK (+) ignition output: Connect this wire to the ignition wire in the vehicle. See page 5.

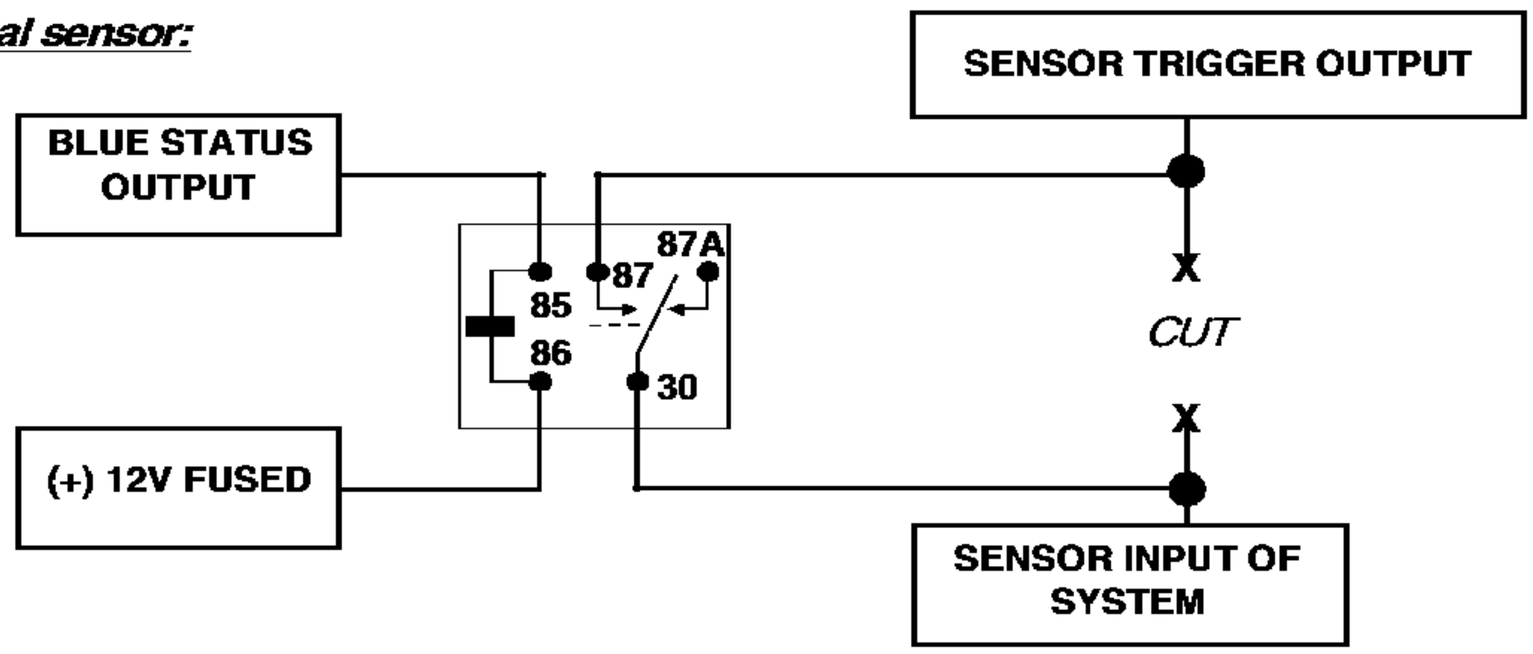
ORANGE (+) accessory output: Connect this wire to the accessory wire in the vehicle which powers the climate control system. See page 6.

PURPLE (+) starter output: Connect this wire to the starter wire in the vehicle. See page 6.

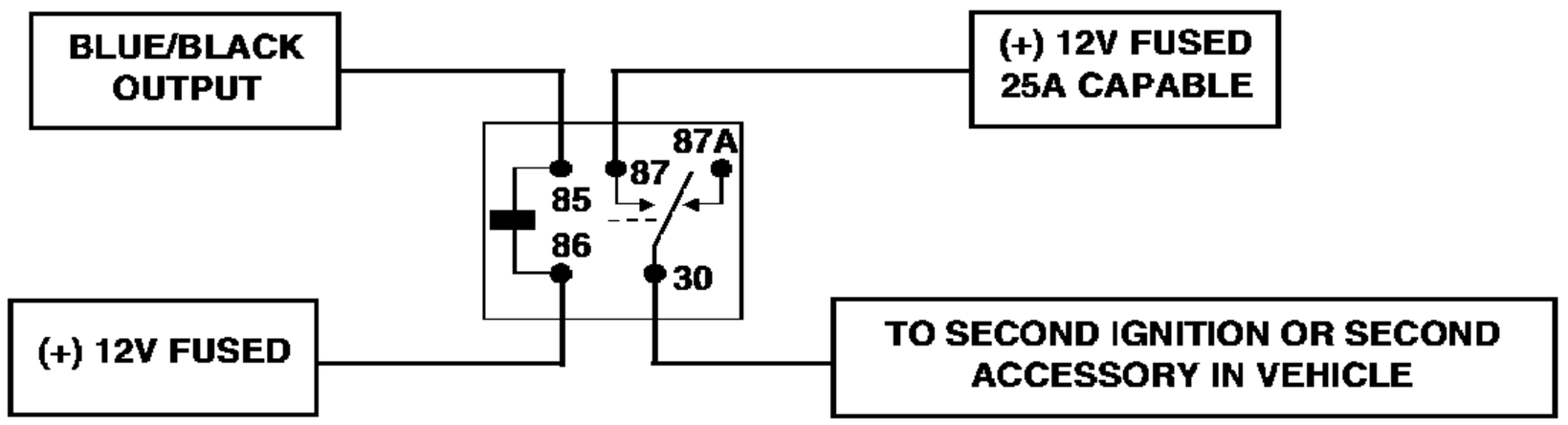
REMOTE START SECONDARY HARNESS

H3/1 BLUE(-) status output: This wire supplies a 200mA output as soon as the module begins the remote start process. It can be used with a relay to disconnect a sensor from the system as shown below. It is also used in the installation of the 516L Valet Voice System.

Bypassing an optional sensor:



H3/2 BLUE/BLACK (-) ignition 2 output: This output provides a 200mA as soon as the remote starter is activated. It is used to power a relay to energize a second ignition or second accessory wire as shown below. This output is capable of driving two relays if necessary.



H3/3 GREY(-) shutdown input: This input can prevent the system from starting the vehicle, as well as shut it down during remote operation. It is strongly recommended that this wire be connected to a hood pin switch to prevent the system from operating with the hood open.

H3/4 BROWN(+) shutdown input: This input operates just like the gray wire except for its polarity. A +12V input to this wire will prevent the vehicle from remote starting or shut it down if the system is operating the motor. It should be connected to the brake switch.

H3/5 WHITE tachometer input: This input provides the module with information about the engine's revolutions per minute (RPMs). It can be connected to the negative side of the coil in vehicles with conventional coils. In multi-coil and high energy ignition systems locating a proper signal may be more difficult. See page 6. Once connected, you must teach the system the tach signal. See *Internal Programming* page 20.

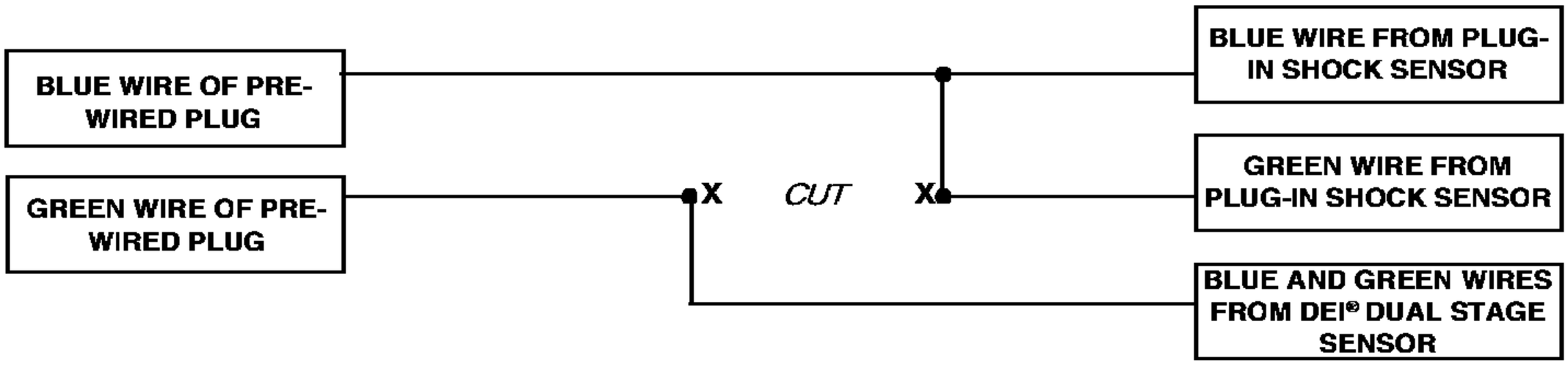
H3/6 BLACK/WHITE neutral safety switch input: This input must be grounded in order for the remote start system to operate. Many automatic transmission vehicles provide a "true" neutral safety switch which prevents the vehicle from starting in any drive gear. In those vehicles, this wire should be connected to chassis ground. In any case where it is possible to engage the starter while in a drive gear, a neutral safety switch input should be used.

NOTE: The BLACK/WHITE wire must be connected to the ground if not used. The system will not activate if this wire is left disconnected.

FOUR-PIN SHOCK SENSOR HARNESS

GREEN (-) Multiplex input: Inputs shorter than .8 seconds will trigger the Warn Away® response, while inputs longer than .8 seconds will trigger full alarm sequence and report zone four. If installing an **optional** DEI® dual stage sensor, connect to the GREEN wire as shown below. The diagram below eliminates the need for diodes to isolate the sensors, as well as providing a separate zone for each sensor.

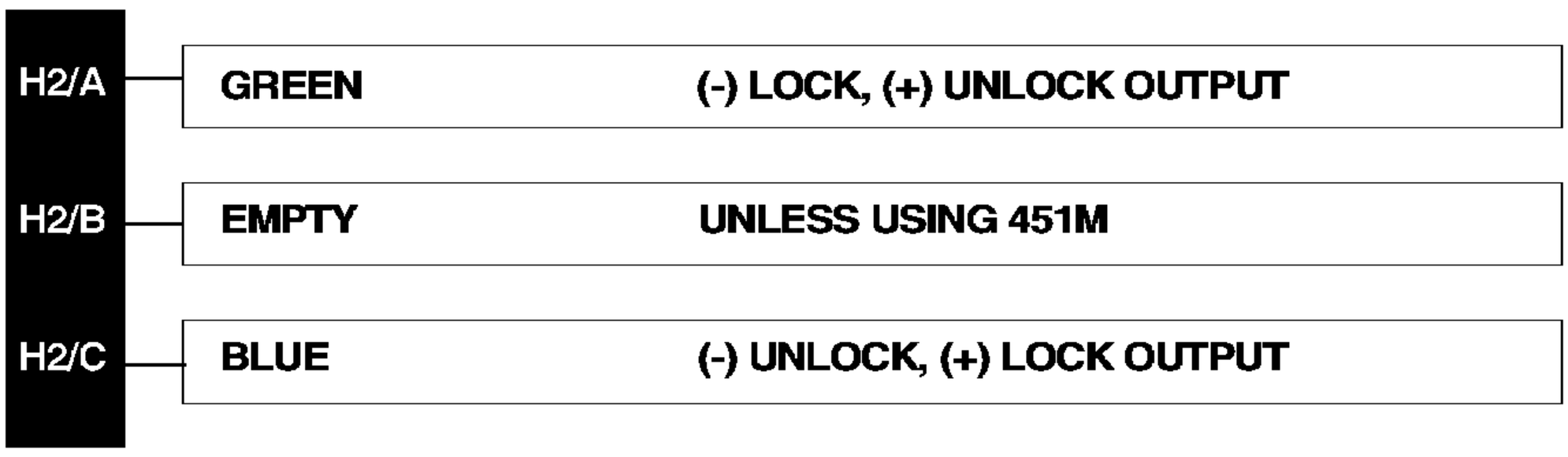
Diagram for adding optional DEI® dual stage sensor to GREEN wire (zone 4)



BLUE (-) Multiplex input: Inputs shorter than .8 seconds will trigger the Warn Away® response, while inputs longer than .8 seconds will trigger full alarm sequence and report zone two.

RED, BLACK: RED is (+)12V constant, BLACK is (-) ground. Do not use these for anything besides the plug in shock sensor.

HARNESS 2, (+/-) DOOR LOCK OUTPUTS



This system can control two common power door lock types without any additional parts! With certain vehicles, or if an actuator is to be installed, either a 451M Door Lock Relay Satellite or two relays will be required.

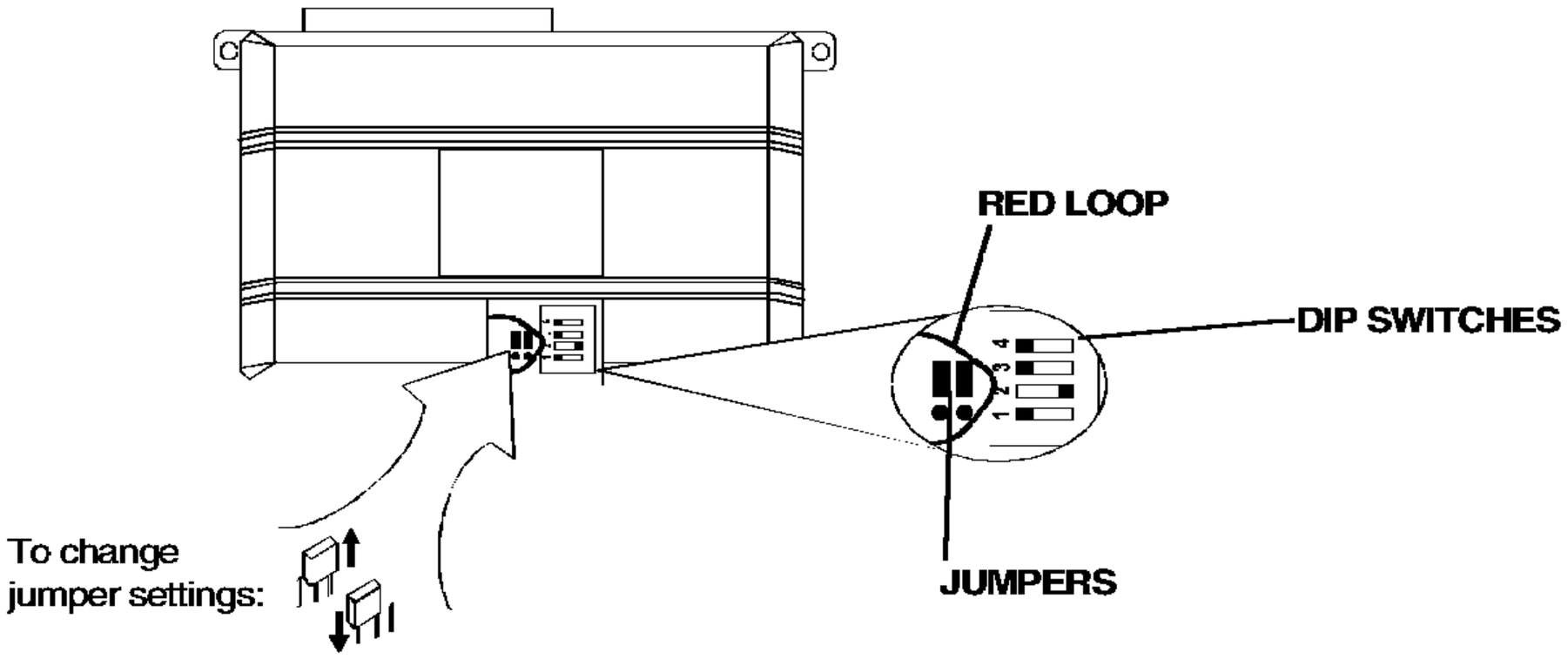
> **IMPORTANT!** If you mistake a Type C direct-wired system for a Type A positive-pulse system, the module will be damaged!

Type A - (+) 12V pulses from the switch to the factory relays

The system can control this type of system directly, with no additional parts. The switch will have three wires on it, and one will test (+)12V constantly. The others will alternately pulse (+)12V when the switch is pressed to the lock or unlock position.

If you cannot get to the switch, and you find a set of wires that pulse (+)12V alternately on lock and unlock, you must take care to ensure that it is not a Type C direct-wire system.

INTERNAL PROGRAMMING



DIP SWITCH SETTINGS

Switch	On Position	Off Position
1	Zero cylinder	Tach input connected
2	Parking lights constant	Parking lights flashing
3	12 minute run time	24 minute run time
4	Learn tach ON	Learn tach OFF

SWITCH #1 ZERO CYLINDER/TACH INPUT CONNECTED: This switch is used to make the system work without the tach input. When the switch is in the zero cylinder position, the system will engage the starter for 2 seconds and then stop. As the system ignores tach input, over-rev protection is not available when the switch is in the zero cylinder position. Whenever the WHITE tach input is connected, the switch should be in the OFF position.

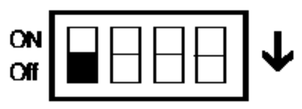
NOTE: DEI® strongly recommends connection the tach input whenever possible. The zero cylinder setting should only be used when absolutely necessary.

SWITCH #2 PARKING LIGHTS CONSTANT/FLASHING: This switch determines what the parking lights will do when the vehicle is running via the remote start system. With the switch in either position, the lights will flash once when the start command is received. Once the vehicle is running, the parking lights will flash with the switch in the off position and light constant with the switch in the on position.

SWITCH #3 RUN TIME 12/24 MINUTES: This switch controls how long the engine will run before it "times out" and shuts down. It will run for 12 or 24 minutes depending on the position of this switch.

SWITCH #4 TACHOMETER LEARN: This switch is used to teach the system the tach input. The system will analyze what signal is present on a wire and set the over and under rev limits automatically.

Teaching the unit a tach input:

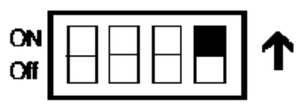


1) Make sure switch #1 is in the OFF position.

2) Make sure the white wire is connected to the tach wire in the vehicle.

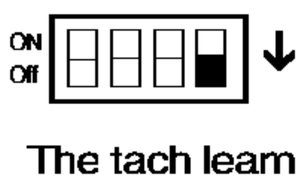
3) Start the vehicle using the key.

4) Wait for the motor to idle normally



5) Flip switch #4 to the ON position.

6) When tach is learned, the plug-in LED will light steady.

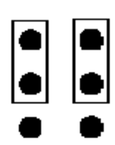


7) Flip switch #4 to the OFF position.

The tach learn routine of this system is very versatile. If a coil wire cannot be located directly, the system can learn wires from coil packs, fuel injectors and other systems in the vehicle.

NOTE: The RED loop must be connected for the LED to confirm tach learning.

JUMPER SETTINGS



LIGHT FLASH JUMPER: This jumper is used to determine the light flash output. In the (+) position, the onboard relay is enabled and the unit will output +12V on the WHITE wire, H1/2. In the (-) position, the onboard relay is disabled. The WHITE wire, H1/2, will supply a 200mA (-) output suitable for driving factory parking light relays.

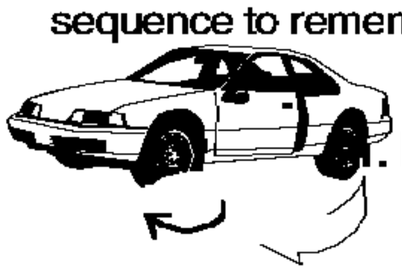
LEARN ENABLE/VALET® ONLY JUMPER: In the Learn enable position (L), you can use the Valet®/Program switch to access both the Learn Routine™ and Valet® mode. In the Valet® only position (V), the Valet®/Program switch will only function as a Valet® switch. Entering Learn Routine™ is not possible with the jumper in the (V) position.

RED LOOP

Whenever the key is turned on, and the RED loop is connected, the LED will indicate what caused the last shut-down of the remote start system. See *Shutdown Diagnostics,* page 28. Once installation and final testing has been completed, cut the RED loop. Should diagnostics be required at a later time, the RED loop can be reconnected.

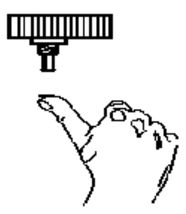
TRANSMITTER/RECEIVER LEARN ROUTINE™

In order to enter Learn Routine™, the jumper under the sliding door must be placed into learn position. See *Internal Programming,*page 20. The Valet®/Program button, plugged into the blue port, is used for programming. There is a basic sequence to remember whenever programming this unit: Door, Key, Choose, Transmit and Release.



1. Door Open a door. Either the H1/5 GREEN or the H1/7 VIOLET door trigger wire must be connected for the control unit to "see" an open door.

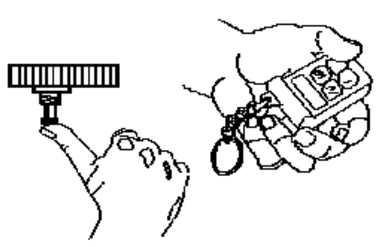
2. Key Turn the ignition on to the run position. The H1/9YELLOW switched ignition input must be connected.



3. Choose Within 15 seconds, press and release the momentary button to select the channel you wish to program:

Press and Release	**To Program**
One time	Arm/disarm/panic
Two times	Channel two output (Silent Mode™/Remote Valet®)
Three times	Channel three output

Once you have selected the step, press the button once more and **hold** it. The unit will chirp one, two or three times depending on the channel selected. Do **not** release the momentary button.



4. Transmit While holding the momentary button, press the button on the transmitter that you would like to control the selected receiver channel. One chirp will confirm that the code has been learned.

5. Release Once the code is learned, the button can be released.

You can step from one step to another by releasing the Valet® /Program button and tapping it to advance steps and then holding it. For instance: You have programmed channel one and you want to program channel two. Release the Valet® /Program button. Press it one time and release it to advance from step one to step two. Now, press and hold the button down and the unit will chirp twice. As before, **do not release it**.

If you want to program channel three after programming channel one, release the momentary button press it twice and release it to advance to step three. Then press it once more and hold it. The siren will chirp three times to confirm it is ready to receive the code from the transmitter.

Learn Routine™ will be exited if:

- Ignition is turned off.
- Door is closed.
- Program button is pressed too many times.
- More than 15 seconds elapses between steps.

One long chirp indicates that Learn Routine™ has been exited.

OPERATING-SETTINGS LEARN ROUTINE™

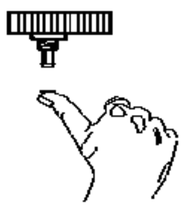
Many of the operating settings of this unit are programmable. They can be changed whenever necessary through a computer-based Learn Routine™. In order to access Learn Routine™, the jumper underneath the sliding door on the module must be in the learn position. See *Internal Programming,* page 20. The Valet®/Program push-button switch, plugged into the blue port is used together with a programmed transmitter to change the settings. To program settings remember: Door, Key, Choose, Transmit and Release.

1. Door

Open a door. Either the H1/5 GREEN or the H1/7 VIOLET door trigger wire must be connected for the control unit to "see" an open door.

2. Key

Turn the ignition **on and then back off**. The H1/9 YELLOW switched ignition input must be connected.

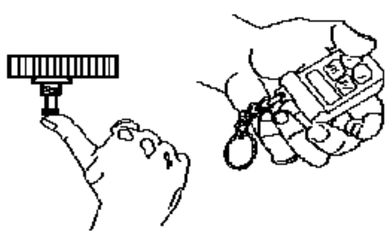


3. Choose

Within 15 seconds, press and release the Valet®/Program button the number of times corresponding to the number of the desired feature (see the chart below). The one chirp settings below are the factory default settings, except where indicated by bold text.

Feature Number	One-chirp setting	Two-chirp setting
1	Active arming	Passive arming
2	Arm/disarm chirps on	Arm/disarm chirps off
3	Ignition-controlled door locks	Standard door locks
4	Active locking only	Passive locking
5	Panic with ignition on	No panic with ignition on
6	0.8 second door lock pulses	3.5 second door lock pulses
7	Forced passive arming on	Forced passive arming off
8	Automatic engine disable on	**Automatic engine disable off**
9	Double pulse unlock off	Double pulse unlock on
10	Code Hopping™ on	Code Hopping™ off
11	Siren	Horn honk

Once the button has been pressed and released the correct number of times press it once more **and hold it**. After a second, the siren will chirp to indicate what step you have accessed. For example, three chirps would indicate access to the ignition controlled door lock feature.



4. Transmit While holding the Valet®/Program button, use the arm/disarm button of the transmitter, to toggle between the one and two chirp settings. The one-chirp settings are the factory defaults.

5. Release The button can now be released.

For example, to program the arming mode from active to passive, press and release the Valet®/Program button once. Then press and hold it. The siren will chirp once, indicating that the setting can now be changed. While holding the Valet®/Program button, press the arm/disarm button on the transmitter. The siren will chirp twice to indicate that passive arming has been programmed. If this is the desired setting, release the Valet®/Program button. If this is not the desired setting, continue to hold the Valet®/Program button and press the arm/disarm button on the transmitter again. The siren will chirp once indicating that active arming has been programmed. Once the desired setting has been selected, release the Valet®/Program button.

You can advance from step to step by pressing and releasing the Valet®/Program button the number of times necessary to get from the step you just programmed to the step you wish to access. If you just programmed the arm/disarm chirps to off and you want to program passive locks, release the Valet®/Program button, press and release it twice to step from feature two to feature four. Then press it once more and hold it. The unit will chirp four times to confirm that you have accessed feature number four.

The Learn Routine™ will be exited if:

- The ignition is turned on.
- The door is closed.
- The Valet® button is pressed too many times.
- More than 15 seconds elapses between steps.

The siren will emit a long chirp when Learn Routine™ is exited.

FEATURE DESCRIPTIONS

1 ACTIVE/PASSIVE ARMING: When active arming is selected, the system will only arm when the transmitter is used. When set to passive, the system will arm automatically 30 seconds after the last door is closed. Passive arming is indicated by the rapid flashing of the LED when the last protected entry point is closed.

2 ARM/DISARM CHIRPS ON/OFF: This feature controls the chirps that confirm the arming and disarming of the system.

3 IGNITION CONTROLLED DOOR LOCKS ON/OFF: When turned on, the doors will lock three seconds after the ignition is turned on and unlock when the ignition is turned off. The doors will not lock if the ignition is turned on with the door open.

4 ACTIVE/PASSIVE LOCKING: If passive arming is selected in step one, then the system can be programmed to either lock the doors when passive arming occurs, or only lock the doors when the system is armed via the transmitter. Active locking means the system will not lock the doors when it passively arms. Passive locking means that the system will lock the doors when it passively arms.

5 PANIC WITH IGNITION ON: This step controls whether or not the panic mode is available with the ignition on. In some states, there are laws prohibiting a siren sounding in a moving vehicle. This feature makes the system compliant with these regulations.

6 DOOR LOCK PULSE DURATION: Some European vehicles, such as Mercedes-Benz and Audi, require longer lock and unlock pulses to operate the vacuum pump. Programming the system to provide 3.5 second pulses, will accommodate door lock interface in these vehicles. The default setting is .8 second door lock pulses. See *Type E- Mercedes-Benz and Audi (1985 and Newer)* diagram on page 19.

7 FORCED PASSIVE ARMING ON/OFF: To use this feature, passive arming must be selected in step one. When turned on, forced passive arming will ensure that the system will passively arm, even if a zone is left open or invalid. Forced passive arming occurs one hour after the ignition is turned off.

8 AUTOMATIC ENGINE DISABLE (AED) ON/OFF: AED is a full time, passive starter disable that works independently of the security system. When turned on, the H1/1 ORANGE, ground when armed output will go active 30 seconds after the ignition is turned off. The LED will flash at half its normal rate when the ignition is turned off to indicate that AED is on and will interrupt the starter in 30 seconds. AED does not occur in Valet® mode and can be bypassed using the emergency override procedure. The transmitter can be used to disarm AED, however, the system would have to be armed and then disarmed when using the transmitter.

9 DOUBLE PULSE UNLOCK OFF/ON: Some vehicles require two pulses on a single wire to unlock the doors. When the double pulse unlock feature is turned on, the BLUE H2/C wire will supply two negative pulses instead of a single pulse. At the same time, the GREEN H2/A wire will supply two (+) pulses instead of a single pulse. This makes it possible to directly interface with double pulse vehicles without any extra parts.

10 CODE HOPPING™ ON/OFF: The system uses a mathematical formula to change its code each time the transmitter and receiver communicate. This makes the group of bits or "word" from the transmitter very long. The longer the word is, the easier it is to block its transmission to the unit. Disabling the Code Hopping™ feature lets the receiver ignore the Code Hopping™ part of the transmitter word. As a result, the unit may have better range with Code Hopping™ off.

11 SIREN/HORN HONK: The system can be programmed to output pulses instead of a continuous output when the system is triggered. This is useful to honk the factory horn in applications where a siren is undesirable. Remember that the unit is only capable of supplying 1 amp off current. A relay will be required to interface with most factory horn systems.

FINAL TESTING

Nuisance Prevention Circuitry™

NPC™ requires that you change the way you test the system as NPC™ will bypass an input zone for 60 minutes.

If the system "sees" the same zone trigger three times **AND** the triggers are spaced less than an hour apart,
The system will bypass that input zone for 60 minutes.

If that zone does not attempt to trigger the system during the 60-minute bypass period, the zone's monitoring will begin again at the end of the hour. **NEW! If it does attempt to trigger while bypassed, the 60-minute bypass starts over again.**

Disarming and rearming the system does not reset NPC™. The only way to reset NPC™ is for the 60 minutes to pass, without a trigger, or for the ignition to be turned on. This allows the system to be repeatedly triggered, disarmed and rearmed, and still allow NPC™ to bypass a faulty zone.
When disarming the system, 5 chirps indicate NPC is activated. The LED will report the zone that has been bypassed (see diagnostics).

VALET® MODE

To enter or exit Valet® Mode with the Valet®/program switch:

Turn the ignition key off (in order to turn it off, you must have turned it on).

At anytime during the next 10 seconds, press and release the Valet® switch.

Now the Status LED will light up constantly if you have entered Valet® Mode, and go out if you have exited.

To enter or exit Valet® Mode with a transmitter:

Open any door.

Press button 1 (or the arm/disarm button).

Press button 2 (or the channel 2 button).

Press button 1 again.

You have now entered or exited Valet® Mode (verify by checking your Status LED).

TABLE OF ZONES

When using the Diagnostic functions, use the Table of Zones to see what input has triggered the system. It is also helpful in deciding what input to use when connecting optional sensors and switches.

Zone #	*Trigger type*	*Input description*
One	Instant	H1/6 BLUE wire. Connect to optional hood/trunk pins.
Two	Multiplex	BLUE wire of plug-in shock sensor. Inputs shorter than .8 seconds will trigger a Warn Away® response, while inputs longer than .8 seconds will instantly trigger full alarm sequence.
Three	Two-stage, progresses from warning to full alarm	Door switch circuit. H1/5 GREEN or H1/7 VIOLET.
Four	Multiplex	GREEN wire of plug-in shock sensor. Inputs shorter than .8 seconds will trigger a Warn Away® response, while inputs longer than .8 seconds will instantly trigger full alarm sequence.
Five	Two-stage (similar to doors)	Ignition. H1/9 YELLOW.

The Warn Away® response does not report on the LED.

SHUTDOWN DIAGNOSTICS

The unit has the ability to report the cause of the last shutdown of the remote start system. The RED loop under the sliding door must be connected. To check the shutdown diagnostics, turn on the ignition. The dash-mounted LED will flash for one minute in groups as follows:

LED Flashes	*Shutdown Mode*
One	12/24 minute timed shutdown
Two	Over-rev shutdown
Three	Low or no RPM
Four	Transmitter shutdown (or optional push-button)
Five	(-) Shutdown (H3/3 GREY)
Six	(+) Shutdown (H3/4 BROWN)
Seven	(-) Neutral safety shutdown (H3/6 BLACK/WHITE)