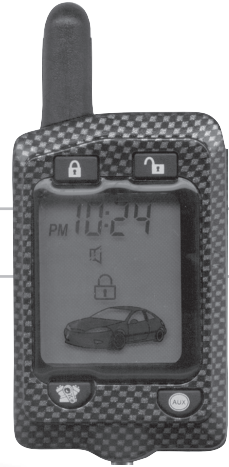


#STARTC2003-TW

TWO-WAY FM/FM REMOTE CONTROL VEHICLE STARTER & ALARM SYSTEM

INSTALLATION GUIDE

FOR AUTOMATIC TRANSMISSION AND DIESEL ENGINE VEHICLES



THIS UNIT MUST BE INSTALLED BY AN AUTHORIZED MICRO ALARM SYSTEMS DEALER

MICRO ALARM SYSTEMS, INC. IS NOT RESPONSIBLE FOR ACCURACY OF APPLICATION OR INSTALLATION.

PLEASE VERIFY ALL WIRING FUNCTIONS AND CONNECTIONS BEFORE OPERATION OF VEHICLE.

PLEASE CHECK ALL MANUFACTURER'S CAUTIONS CONCERNING AIR BAGS, ABS SYSTEMS, ETC.

THIS UNIT MUST BE TESTED COMPLETELY BEFORE REASSEMBLING THE VEHICLE!

PLEASE FOLLOW THESE TEST INSTRUCTIONS CAREFULLY:

TEST 1. BRAKE SHUTDOWN: Press ENGINE button to activate remote start. While engine is running, press the brake pedal. This should cause the engine to SHUT OFF immediately. If the engine fails to shut off, check all brake circuit connections.

TEST 2. HOOD PIN SHUTDOWN: Open the hood while the vehicle is in PARK. Press ENGINE button. The engine should NOT start with the hood open. If the engine starts, check all hood pin circuit connections.

TEST 3. NEUTRAL SAFETY SHUTDOWN: *NOTE:* Be sure that there are SEVERAL FEET OF SPACE in front and behind the vehicle and SET EMERGENCY BRAKE before performing this test! Read all instructions carefully BEFORE attempting!

- A:** Close hood and doors and be certain no other shutdown circuits are activated.
- B:** WITHOUT STARTING VEHICLE, turn ignition to the ON position.
- C:** Be sure that the EMERGENCY BRAKE is set, and put the vehicle in DRIVE.
- D:** Be prepared to step on the brake should the engine start, but DO NOT PRESS BRAKE PEDAL.
- E:** Press ENGINE button. The engine should NOT start. If the vehicle starts, shut the engine off at once by stepping on the brake. Should the vehicle start under these conditions, the vehicle may use a neutral safety switch. Should this occur, contact the vehicle manufacturer for options.

SHOULD VEHICLE FAIL ANY OF THESE TESTS, DO NOT OPERATE REMOTE START UNIT!



**TECHNICAL SUPPORT LINE
323-589-9999 EXT. 6**

STARTC2003-TW FEATURES:

- ▶ One 2-way FM/FM Remote, One 4-button FM/FM multi-channel transmitters
- ▶ New code learning FM/FM frequency operation
- ▶ 6 on board relays for installation ease (starter, ignition, accessory, parking lights, and door locks)
- ▶ Two methods of detecting engine operation: (tachometer learning & smart sense)
- ▶ Additional output for second ignition and second accessory (-)
- ▶ Selectable (+) Pos parking light output, (-) Neg parking light via jumper
- ▶ Hood pin switch disable input (-)
- ▶ Brake pedal disable/reset input (+)
- ▶ Auxiliary output for remote hatch/trunk release (-)
- ▶ Input for activation through alarm's auxiliary output
- ▶ 3 remote start attempts
- ▶ Selectable 12, 24, 36, 48 minute run time
- ▶ Glow plug input (for diesel engines) (+)
- ▶ OEM arm/disarm outputs (-)
- ▶ On board relays for all types of door lock applications
- ▶ (-) Neg. and (+) Pos. door triggers
- ▶ (-) Neg. trunk/hood trigger
- ▶ (+) Pos. 3amp siren output, (-) Neg 500mA siren/horn honk output via program
- ▶ (-) Neg. starter disable output
- ▶ Dual stage shock sensor (single adjustment)
- ▶ Silent arming/disarming through the remote
- ▶ Panic through the remote
- ▶ Plug in LED, VALET/OVERRIDE, & SHOCK SENSOR
- ▶ Programmable passive arming & locking
- ▶ Programmable options through brake pedal

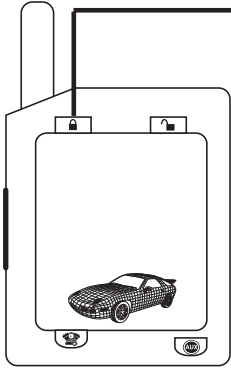
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REMOTE CONTROL OPERATION:

REPLACEMENT REMOTE- Part # REMOTE-FMFM-START-LCD AND REMOTE-FMFM-START

LOCK

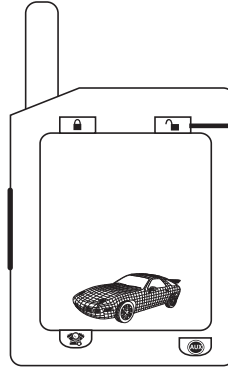


PRESS AND RELEASE
TO LOCK DOORS

PARKING LIGHTS
WILL FLASH ONCE
TO CONFIRM

LED STATUS:
ON

UNLOCK

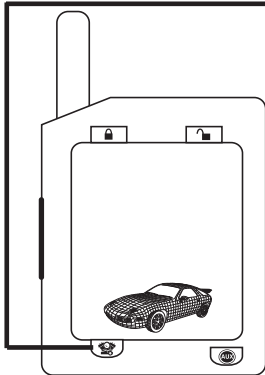


PRESS AND RELEASE
TO UNLOCK
DOORS

PARKING LIGHTS
WILL FLASH TWICE
TO CONFIRM

LED STATUS:
OFF

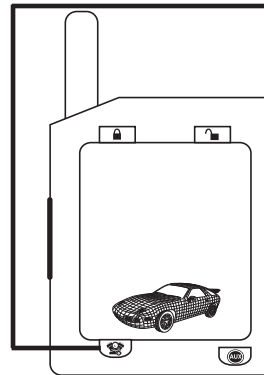
ENGINE START



PRESS AND RELEASE
TO START ENGINE

PARKING LIGHTS
WILL TURN ON
TO CONFIRM

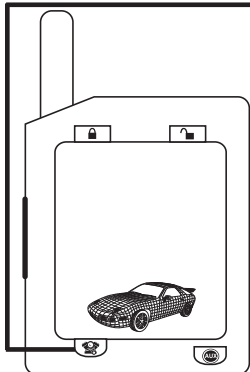
ENGINE SHUT OFF



PRESS AND RELEASE
TO SHUT OFF
ENGINE

PARKING LIGHTS
WILL TURN OFF
TO CONFIRM

4 HOUR SELF-START



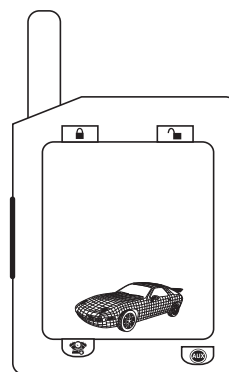
ACTIVATE:

1. Turn vehicle on.
2. Press engine button on remote. Parking lights will stay on.
3. Press valet switch 1 time. Parking lights will shut off then come back on.
4. Remove key from the ignition. Vehicle should stay running.
5. Close door, press remote start button, parking lights will flash 4 times to confirm.

DEACTIVATE: (Vehicle will start every four hours until system is deactivated)

1. Turn ignition on

IDLE DOWN MODE



ACTIVATE:

1. With engine running, press remote start button. Doors will unlock.
2. Remove key from ignition switch.
3. Engine should run at idle speed for the amount of time it is set.
4. Engine can also be shut down by pressing the remote start or pressing brake pedal.

DEACTIVATE:

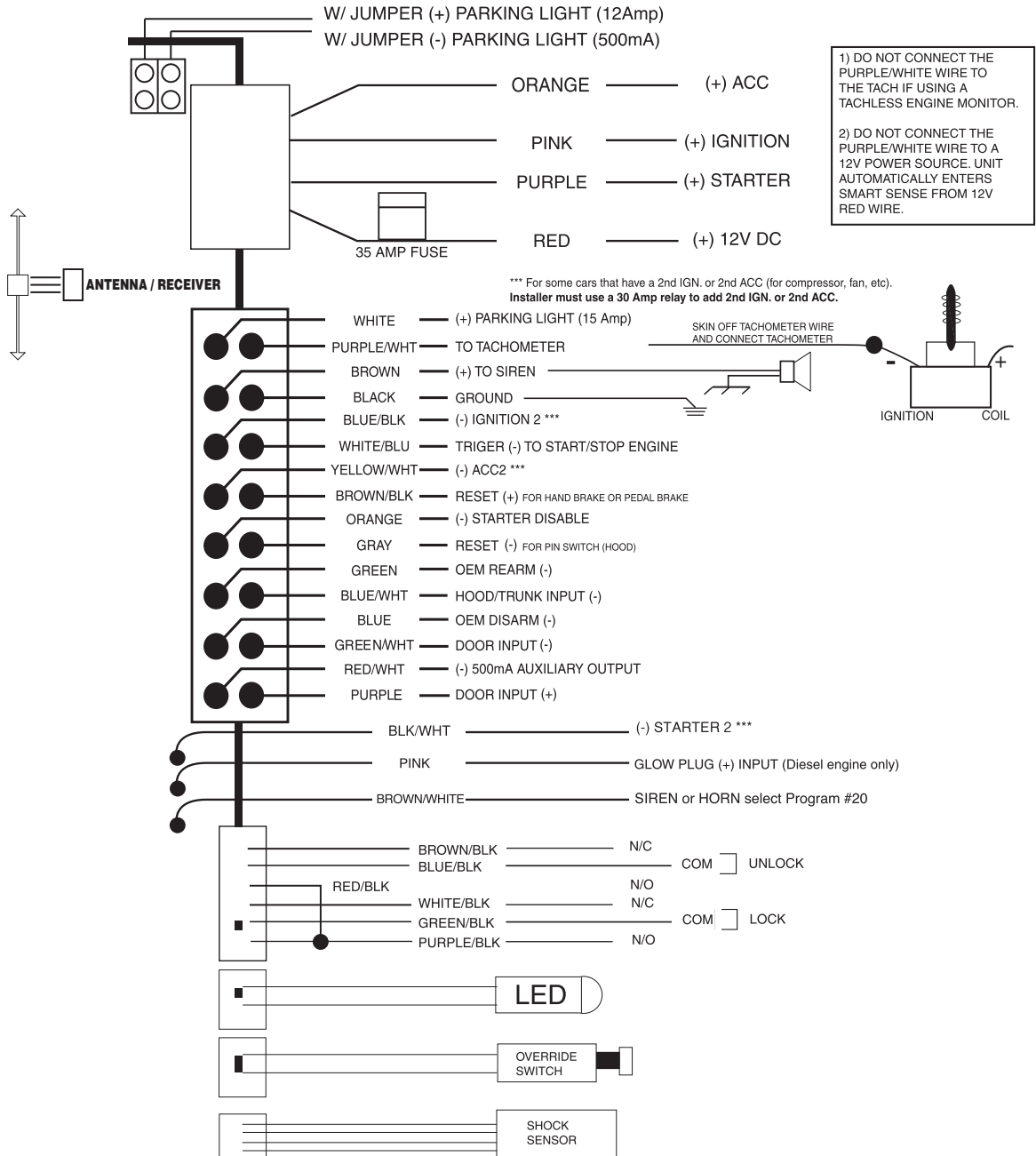
1. Open driver door with ignition key on
2. Press remote start button
3. Press brake pedal

AUXILIARY BUTTON IS FOR OPTIONAL FEATURE SUCH AS TRUNK RELEASE.
ASK YOUR DEALER FOR DETAILS

WIRING INSTRUCTIONS:

NOTE:

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WIRING INSTRUCTIONS (CONTINUED):

4 PIN HARNESS:

H1 ORANGE: PRIMARY ACCESSORY OUTPUT:

- Connect to the vehicle's (+)12v primary accessory wire.
- This output will provide a (+)12v signal to the vehicle's accessory circuit.
- This will allow the remote-start unit to operate the vehicle's heater and air conditioner.
- The vehicle's primary accessory wire will show (+)12v when the ignition key is turned to the ACCESSORY (ACC) and ON positions (this wire will drop out during starter motor cranking)

H1 PINK: PRIMARY IGNITION OUTPUT:

- Connect to the vehicle's (+)12v primary ignition wire.
- This output will provide a (+)12v signal to the vehicle's primary ignition circuit.
- The vehicle's primary ignition wire will show (+)12v when the ignition key is turned to the ON and START positions.
- This wire will NOT drop out during starter motor cranking.
- This wire will NOT show (+)12v when the vehicle's ignition key is turned OFF.

H1 PURPLE: STARTER MOTOR OUTPUT:

- Connect to the vehicle's (+)12v starter motor wire.
- The vehicle's starter wire will ONLY show (+)12v while the starter-motor is actually cranking.
- This output will provide a (+)12v signal to crank the vehicle's starter motor.

H1 RED: MAIN POWER CONNECTION.

- Connect to the (+)12v battery terminal, fused at 30amps.

WIRING INSTRUCTIONS (CONTINUED):

16 PIN HARNESS:

H2 WHITE: PARKING LIGHT OUTPUT "SWITCHABLE VIA JUMPER (+) POS PARKING LIGHT (-) NEG PARKING LIGHT: - THIS IS A VITAL CONNECTION AS THE VEHICLE'S PARKING LIGHTS WILL CONFIRM REMOTE ENGINE START

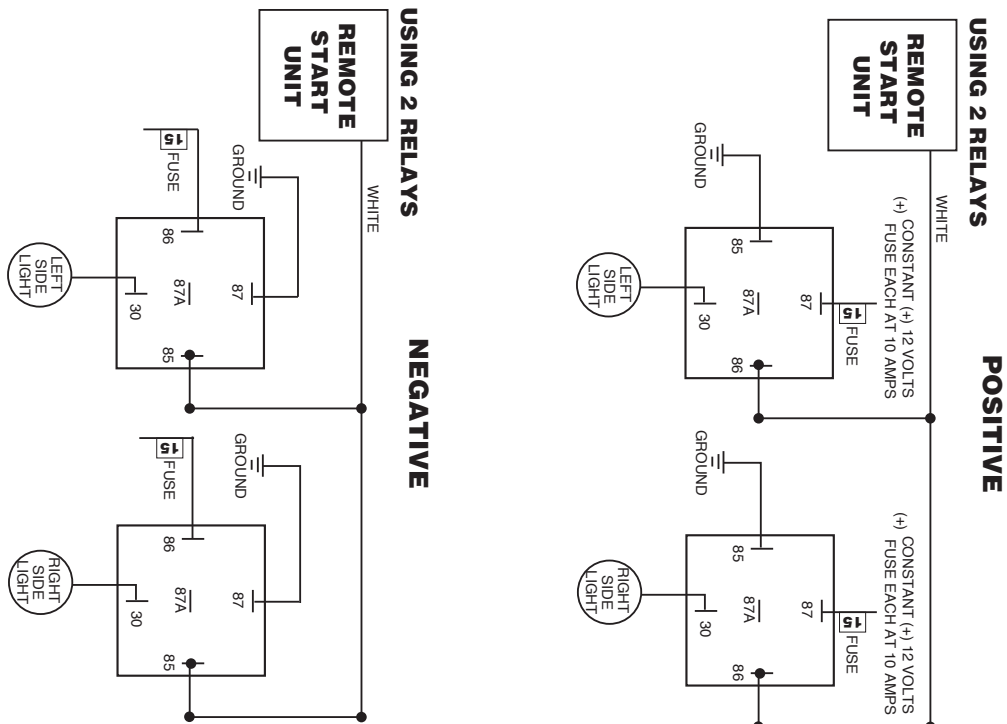
- Connect this wire to the vehicle's (+)12v or (-) Neg parking light circuit.
- This output will provide a flashing (+)12v or (-) Neg signal to energize the vehicle's parking lights.
- The vehicle's parking light wire will show (+)12v only when the light switch is turned to the PARKING LIGHT and HEAD LIGHT positions.
- The vehicle's parking light wire can usually be found at the light switch, fuse junction block, or in the harness which runs to the rear of the vehicle (usually found in the driver's side kick-panel).
- For vehicles with separately fused LEFT and RIGHT side parking light circuits, either 2 diodes (6-10 amps each) or 2 external relays can be used to separate the left side parking lights from the right side parking lights.

(SEE DIAGRAM ON NEXT PAGE)

NOTE: DO NOT connect this wire to the dimmer switch. This could cause damage to the vehicle's circuit.

NOTE: DO NOT connect the modules flashing light wire directly to flash the vehicle's headlights. The headlight circuit is a very high amperage circuit and will draw more than the 7.5 amp maximum load the unit's on-board relay can provide. If flashing headlights are desired, an external relay is required.

NOTE: Halogen lights are not designed for flashing applications and may therefore burn out quicker.



WIRING INSTRUCTIONS (CONTINUED):

16 PIN HARNESS (CONTINUED):

H2 PURPLE/WHITE: TACHOMETER INPUT:

- DO NOT USE THIS WIRE IF USING SMART SENSE:

- This wire is the input for engine sensing. This is the ONLY way that the remote-start unit knows that the vehicle's engine is running. This signal is necessary for the unit to turn off the starter motor. The hook-up and interface will depend on which method of sensing is being used. There are 2 types:

1) TACH LEARNING: (Recommended installation method):

1. Start vehicle with key
2. Press valet switch 4 times, parking lights flash 4 times, led will light up steady red
3. Press valet switch 17 times, press engine button
4. Tach is learned when parking lights flash 2 times and led turns off.

NOTE: If you have questions regarding this procedure, please see: PROGRAMMING OPTIONS: Page 16

2) SMART SENSE:

1. Ignition on, DO NOT START THE CAR!
2. Remove 35amp fuse from the 12V red wire.
3. Turn on headlights, radio and fan and any other accessories for a minimum of 1 minute.
4. Put fuse back in after 1 minute.
5. Press remote start button to start vehicle.

NOTE: If you have questions regarding this procedure, please see: VOLTAGE DETECT SETTING: Page 16

H2 BROWN: (+) SIREN OUTPUT OR HORN HONK VIA PROGRAM OPTION #20: THIS WIRE WILL PROVIDE A (+) 12 VOLT POSITIVE OUTPUT FOR POWERING A SIREN / HORN HONK.

- Connect alarm BROWN wire to siren's RED wire
- Connect siren's BLACK wire to ground

Warning: Do not ground the alarm's BROWN wire or severe damage will occur to the unit

NOTE: If more than one siren is desired or if a high-current sounding device is to be used (ie. Mechanical siren, air horns, etc), a relay will be necessary.

H2 BLACK: GROUND:

- Connect this wire to chassis ground.
- It is of utmost importance that the location of this connection be as clean as possible. Make sure that the area is rust and grease free. Scrape off any paint or debris so that the surface is clean metal.
- If the ground connection is poor, the unit may act in an erratic manner.

H2 BROWN/WHITE: (-) SIREN/HORN HONK:

THIS WIRE WILL PROVIDE A 500mA (-) NEGATIVE OUTPUT

- Connect to vehicle's (-) Neg horn relay

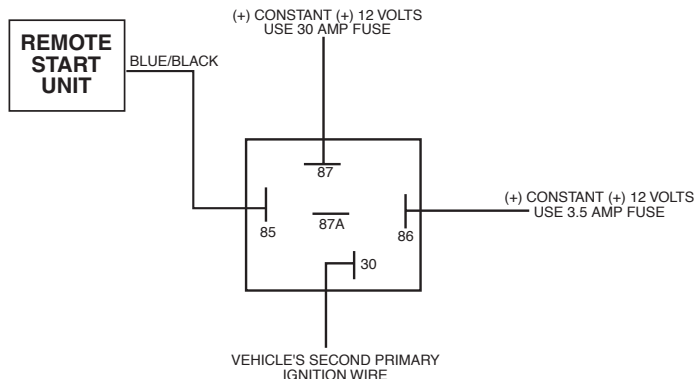
WIRING INSTRUCTIONS (CONTINUED):

16 PIN HARNESS (CONTINUED):

H2 BLUE/BLK: SECONDARY IGNITION OUTPUT: (Relay Required):

- This output will provide a (-) signal to trigger an external relay for use with vehicles with a second ignition circuit. (SEE DIAGRAM)

2ND
IGNITION
HOOK-UP



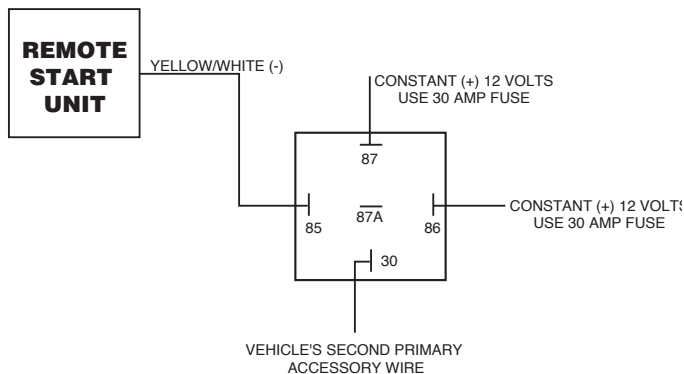
H2 WHITE/BLUE: ACTIVATION INPUT BY ALARM'S AUXILIARY CHANNEL

- Connect this wire to the alarm's auxiliary (-) negative output wire. (for use only if the remote-start unit is to be used as a slave to the alarm system, therefore the remote-start unit will only be activated through the use of the alarm's auxiliary channel).

H2 YELLOW/WHITE: SECONDARY ACCESSORY OUTPUT: (Relay Required):

- This output will provide a (-) signal to trigger an external relay for use with vehicles with a second accessory circuit. (SEE DIAGRAM)

2ND
ACCESSORY
HOOK-UP



H2 BROWN/BLACK: BRAKE PEDAL DISABLE/RESET INPUT:

- DO NOT connect this wire to the constant (+)12v side of the brake pedal switch or the remote-start unit will NOT OPERATE.
- If the brake pedal switch circuit is a (+)12v system, connect this wire to the "COLD" side of the (+)12v brake pedal switch.
- The "cold" side of the brake pedal switch will show (+)12v ONLY when the brake pedal is depressed.
- If the brake pedal switch is a (-) negative ground system, a relay is needed to invert the polarity. (Remember to always FUSE all constant (+)12v wires when wiring a relay)
- This reset input is a MANDATORY HOOK-UP SAFETY FEATURE that will cancel the remote-start command if the vehicle's brake pedal is depressed BEFORE the ignition key has been inserted and turned ON. This feature prevents an unauthorized person from driving off with the vehicle after it was started by the unit.

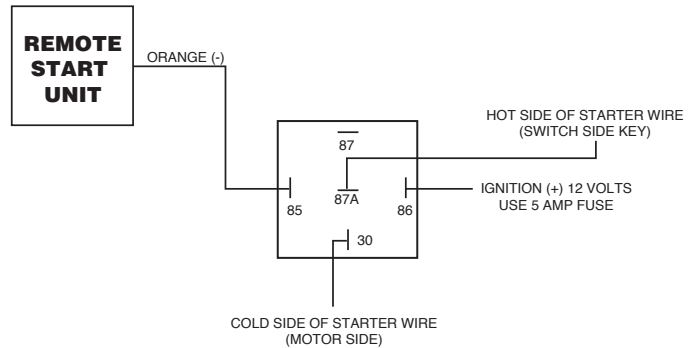
WIRING INSTRUCTIONS (CONTINUED):

16 PIN HARNESS (CONTINUED):

H2 ORANGE: STARTER KILL (ANTI-GRIND):

- This output can also be used to trigger a starter motor anti-grind relay. This would prevent the use from accidentally trying to start the vehicle while the engine is already running. (SEE DIAGRAM)

**STARTER-MOTOR
ANTI-GRIND
HOOK-UP**



H2 GRAY: OPEN-HOOD START COMMAND DISABLE INPUT:

- Connect this wire to a mandatory installed (-) pin-switch mounted under the vehicle's hood. This wire serves as a SAFETY input and is a MANDATORY hook-up. It reports an open-hood condition to the remote-start unit cancelling a remote start command and/or turns the vehicle off if the hood is opened while it is running. (If the vehicle's hood is open the remote-start unit will NOT start the vehicle).

H2 GREEN: OEM ARM

- This wire sends a negative pulse to factory alarm after vehicle has started for security convenience.

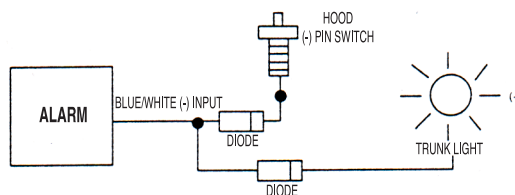
H2 BLUE/WHITE HOOD/TRUNK (-) INSTANT TRIGGER INPUT

The Hood/Trunk (-) input is an instant trigger zone.

- This (-)input will trigger the alarm if it becomes grounded while the alarm is armed. (ie: Trunk is opened)
- If this (-)input is grounded at the time the alarm is armed, the unit will by-pass this particular zone until it becomes ungrounded.
- If this (-)input is grounded before the alarm is armed, the unit will NOT passively arm (self-arm) until the input is ungrounded (The Hood/Trunk is closed).

CONNECT The alarm's blue/white wire to an aftermarket or factory (-) pin-switch/mercury switch or a (-) trunk light circuit which shows ground ONLY when the vehicle's hood or trunk is open.

NOTE: It is necessary to DIODE ISOLATE all circuits and/or devices if connecting the alarm's blue (-) input wire to more than one circuit or device. (SEE DIAGRAM)



WIRING INSTRUCTIONS (CONTINUED):

16 PIN HARNESS (CONTINUED):

H2 BLUE: OEM DISARM

- This wire sends a negative pulse to the factory alarm wire when you remote start the vehicle.

H2 PURPLE: (+) POSITIVE TRIGGER DOOR INPUT

- The (+)door input is an instant trigger zone for vehicles equipped with a (+) positive type pin-switch dome-light circuit.

- This (+)input will trigger the alarm if it receives (+) 12 volts while the alarm is armed (ie. A door is opened).
- If this (+)input is receiving (+) 12 volts at the time the alarm is armed, the unit will by-pass this particular zone until it is removed from (+) 12 volts.
- If this (+)input is receiving (+) 12 volts before the alarm is armed, the unit will NOT passively arm (self-arm) until the input is removed from (+) 12 volts (The doors are closed).

INSTALLATION NOTE: This trigger input can be programmed for a 60 second delay option designed for vehicles with extended dome-light delays. (See PROGRAMMABLE OPTIONS on page 16)

CONNECT The alarm's purple wire to the (+) 12 volt positive factory OEM pin-switch/dome-light circuit. This circuit will show (+) 12 volts ONLY when a vehicle door is open.

NOTE: It is necessary to confirm that all vehicle doors are included in the circuit.

H2 RED/WHITE: AUXILIARY #1 OUTPUT

- This auxiliary channel will provide a momentary (-)negative output when the button AUX is pressed for 3 seconds.

H2 GREEN/WHT: (-) NEGATIVE TRIGGER DOOR INPUT

- The (-) door input is an instant trigger zone for vehicles equipped with a (-)Negative type pin-switch/dome-light circuit.

- This (-)input will trigger the alarm if it becomes grounded while the alarm is armed. (ie: a door's opened)
- If this (-)input is grounded at the time the alarm is armed, the unit will by-pass this particular zone until it becomes ungrounded.
- If this (-)input is grounded before the alarm is armed, the unit will NOT passively arm (self-arm) until the input is ungrounded (The doors are closed).

INSTALLATION NOTE: This trigger input can be programmed for a 60 second delay option designed for vehicles with extended dome-light delays. (See PROGRAMMABLE OPTIONS on page 16)

CONNECT The green wire to the (-)negative factory OEM pin-switch/dome-light circuit. This circuit will show (-)negative ground ONLY when a vehicle door is open.

NOTE: It is necessary to confirm that all vehicle doors are included in the circuit.

H2 PINK: (+) GLOW PLUG INPUT (DIESEL ENGINES ONLY):

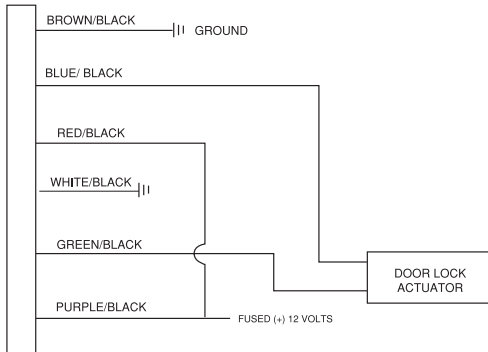
- Connect the pink to the signal side of the "wait-to-start" bulb.
- If signal is negative, use a relay to convert signal to positive.
- When "wait" bulb shuts off, vehicle will remote start.

H2 BLACK/WHITE: (-) SECONDARY STARTER OUTPUT:

- This output will provide a (-) signal to trigger an external relay for use on vehicles with a second starter wire.

DOOR LOCKING SECTION:

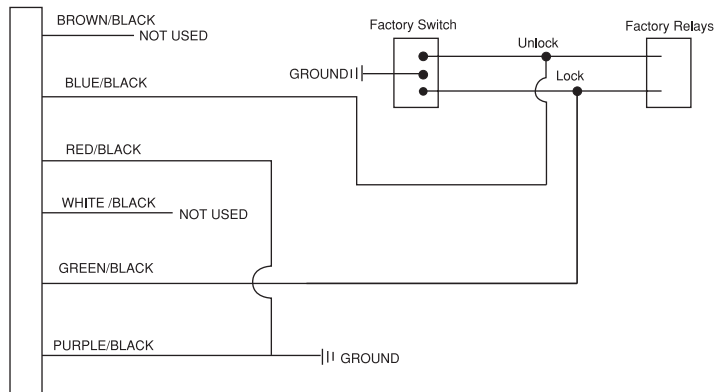
AFTERMARKET ACTUATOR HOOK-UP



This Alarm Is Equipped With On Board Door Locking Relays. The Following Is A Guide For Using These On Board Relays With Most Popular Door Locking Systems.

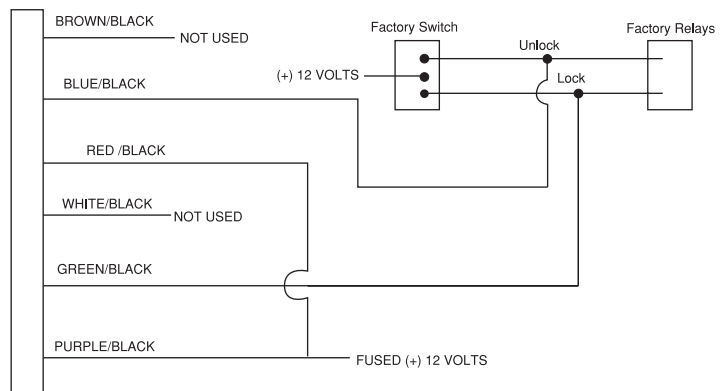
TYPE #1: 3-WIRE NEGATIVE TRIGGER TYPE

- This Is The Simplest Of All Door Locking Systems. If You Were To Look At The Door Lock/Unlock Switch In The Driver's Door It Would Have 3 Wires Coming Out Of It. (A Lock Wire, An Unlock Wire, & A Constant (-)Negative Ground Wire)
- The Lock & Unlock Wires Will Show A (-)Negative Ground Pulse Only While Actually Locking And Unlocking The Doors, Otherwise They Will "Float".
- The LOCK Command Will Be A (-)Negative Pulse.
- The UNLOCK Command Will Be A (-)Negative Pulse.



TYPE #2: 3-WIRE POSITIVE TRIGGER TYPE

- This Type Door Of Locking System Is Common On Many GM's And Other Makes. If You Were To Look At The Door Lock/Unlock Switch In The Driver's Door It Would Have 3 Wires Coming Out Of It. (A Lock Wire, An Unlock Wire, & A Constant +12 Volt Positive Wire)
- The Lock & Unlock Wires Will Show A (+)12 Volt Positive Pulse Only While The Locking And Unlocking The Doors, Otherwise They Will "Float".



TYPE #3: 5-WIRE REVERSING POLARITY TYPE (Rest At Ground)

- Reversing Polarity Is Often Confused With The 3-Wire Positive Trigger Type System. This Happens Because Both Systems Show (+)Positive Lock & Unlock Pulses, The Difference Is That In A Reversing Polarity System The LOCK & UNLOCK Wires REST AT (-)GROUND. Carefully Observe That You Do NOT Accidentally Reverse Any Of The Connections And Most Importantly USE FUSES!!!!

- In This Type Of Locking System There Are NO Factory Relays. The Actual Lock/Unlock Switch Directly Operates The Motors. The Switches Do This By Reversing The Polarity Of The Motor Wires.

- **This System Rests At (-)Negative Ground, So If (+)12 Volts Positive Is Pulsed Into The Lock Or Unlock Wire There Will Be A Short-Circuit. This Is Why The Internal Relays Are Necessary To Mimic The Actions Of The Actual Lock/Unlock Switch. Both The Lock And The Unlock Wires Will Be Cut (ONE WIRE AT A TIME) And Run Through The Internal Relays Which Will Momentarily Interrupt The Circuit Allowing A (+)Positive Pulse To Safely Operate The System.

- ** As Mentioned Before, The Connections Are Of SUPREME IMPORTANCE. If The Connections Are Reversed By Accident, SEVERE DAMAGE Can Occur To Both The Vehicle And The Unit.

- If You Were To Look at The Lock/unlock Switch Inside The Driver's Door There Would Be 5 Wires Coming Out Of The Switch. There Will Be A Constant (+)12 Volt positive Wire, 2 Wires Showing Constant (-)Negative Ground, And 2 Wires Which REST AT (-)NEGATIVE GROUND But Invert Polarity (Show A Positive Pulse) When The Lock/Unlock Switch Is Pressed.

- FOR EXAMPLE: When The LOCK Button Is Being pressed One Wire Will Show (+)12 Volts Positive (This Is The Lock Wire) While The Second Wire Is STILL RESTING AT (-)NEGATIVE GROUND.

- When The UNLOCK Button Is Being Pressed The Polarity Of The 2 Wires Will Reverse. The Wire That Was Still Resting At (-)Negative Ground Will Now Show (+)12 Volts Positive (This Is The UNLOCK Wire) And The Other Wire Will Now Be RESTING AT (-)NEGATIVE GROUND.

- ** IT IS NOT NECESSARY TO ACTUALLY CATCH THE WIRES INSIDE THE DOOR. THEY CAN USUALLY BE FOUND IN THE KICK PANELS.

- It Is Of Upmost Importance To Figure Out Which Of The 2 Reversing Wires Is The Lock Wire And Which Is The Unlock Wire.

- a) The Lock Wire Will Be The One That Shows (+)12 Volt Positive While The Vehicle's LOCK Button Is Being Pressed.

- b) The Unlock Wire Will Be The One That Shows (+)12 Volt Positive While The Vehicle's UNLOCK Button Is Being Pressed.

- Once You Have Determined This We Can Start.....

- 1) CUT The LOCK Wire. At This Time You Will Have 2 Halves Of The Wire.

- 2) Press BOTH The Lock And Unlock Button. If You Have Cut The Correct Wire The Door Locking System Should NOT OPERATE At All (The Doors Should NOT Lock Or Unlock).

NOTE: If The System Still Operates In Either Direction (Lock Or Unlock) You Have Either Cut The WRONG Wire Or This Is Not A Reversing Polarity System.

DOOR LOCKING SECTION:

3) Next We Need To Figure Out Which Side Of The Cut Wire Is Coming From The Door Lock SWITCH And Which Side Is Going To The Actual MOTORS (THIS IS VERY VERY IMPORTANT). Once You Have Confirmed That This Is Truly A Reversing Polarity System And That You Have Cut The Correct LOCK Wire PRESS & HOLD THE LOCK Button Down (MAKE SURE THAT YOU ARE PRESSING DOWN THE LOCK BUTTON NOT THE UNLOCK).

- The SWITCH Side Will Be The One That Shows (+)12 Volt Positive When Pressing The "LOCK " Button (This Will ONLY Be True If You Have Cut The LOCK Wire). NOW Connect The SWITCH Side Of The Cut LOCK Wire To The White/Black Wire On The 6-Pin Door Lock Harness.

- The Other Side Of The CUT LOCK WIRE Will Be The MOTOR Side. NOW Connect The MOTOR Side Of The Cut LOCK Wire To The Green/Black Wire On The 6-Pin Door Lock Harness.

4) Next CUT The UNLOCK Wire. This Will Be The Wire That Shows (+)12 Volt Positive While Pressing The "UNLOCK" Button.

NOTE: After CUTTING The UNLOCK Wire The Entire Locking System Should NOT Operate In Either Direction.

5) Repeat The Procedure Of Finding Which Side Is The SWITCH Side And Which Side Is The MOTOR Side.

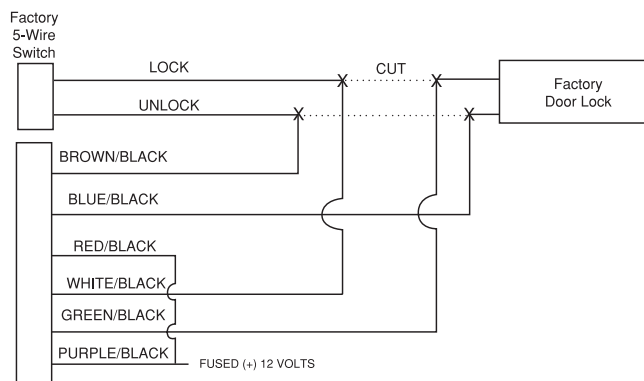
- The SWITCH Side Will Be The One That Shows (+)12 Volt Positive When Pressing The "UNLOCK " Button (This Will ONLY Be True If You Have Cut The UNLOCK Wire). NOW Connect The SWITCH Side Of The Cut UNLOCK Wire To The Brown/Black Wire On The 6-Pin Door Lock Harness.

- The Other Side Of The CUT UNLOCK WIRE Will Be The MOTOR Side. NOW Connect The MOTOR Side Of The Cut UNLOCK Wire To The Blue/Black Wire On The 6-Pin Door Lock Harness.

6) Connect the purple/black and red/black wires to a fused (+) 12V source capable of supporting up to 15AMPS.

******THE DOOR LOCKING SYSTEM SHOULD NOW OPERATE NORMALLY******

Follow The Diagram For The Rest Of The Connections:



DOOR LOCKING SECTION:

TYPE #4: VACUUM OPERATED TYPE

This Type Of System Uses A COMPRESSOR To LOCK And UNLOCK The Vehicle's Doors. Depending On What Signal The Compressor Receives From The Actual Door Lock Motors It Will Either PULL or PUSH The Motors.

The COMPRESSOR CONTROLLING WIRE Must Be Located And CUT.

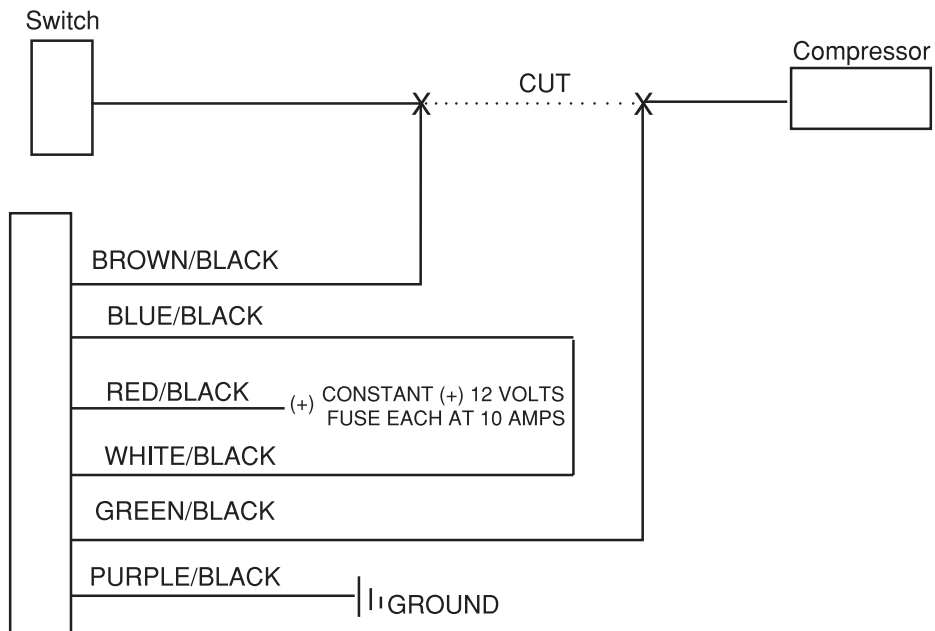
***** WARNING *****

IT IS OF SUPREME IMPORTANCE THAT THE SWITCH SIDE AND THE COMPRESSOR SIDE OF THE WIRE BE NOTED. REVERSING THE SIDES OF THE COMPRESSOR CONTROLLING WIRE CAN PERMANENTLY DAMAGE THE COMPRESSOR.

***** WARNING *****

DO NOT PROBE THIS WIRE WITH A TEST LIGHT OR DAMAGE MAY OCCUR TO THE VEHICLE. IF NECESSARY USE A VOLT-METER.

NOTE: For Most Mercedes Benz The Compressor Construing Wire Will Either Be A GREEN Or A BLUE Wire Located In The Vehicle's KICK PANELS. This Wire Will Show (+)12 Volts Positive When The Doors Are UNLOCKED And Will Show (-)Negative Ground When The Doors LOCK. Test Wire With Doors Unlocked Only. Compressor Side Will Lock With (-) Ground And Unlock With (+)12 Volts.



PROGRAMMABLE FEATURES:

REMOTE CONTROLS: (Code-Learning Mode):

1) CODE-LEARNING MODE MUST BE ENTERED:

- Turn ignition key switch to the ON position
- Press VALET switch 5 times
- Parking lights will flash 5 times to confirm code learning mode has been entered.

2) PRESS LOCK AND UNLOCK OF EACH REMOTE CONTROL THAT YOU WANT TO PROGRAM:

- Maximum of 4 remote controls can be programmed
- Parking lights will flash to confirm each time a remote has been learned.

3) IT IS ALWAYS ADVISABLE TO FILL ALL FOUR OF THE MEMORY SLOTS:

- If you only have 1 remote control program it 4 times.
- If you have 2 remote controls program each one twice.

4) EXIT CODE-LEARNING MODE

- Turn off vehicle ignition using vehicle key.

NOTE: The remote controls provided with this system are already programmed and ready for use. Programming is necessary only for new or replacement remote controls.

NOTE: Every time a new remote control is programmed the unit's memory is cleared. This means that any remote controls previously programmed in the memory have been erased and now have to be reprogrammed.

NOTE: If at any time 10 seconds elapse without input, the alarm will automatically exit code-learning mode.

PROGRAMMING OPTIONS:





Use the following steps to access programming features.

NOTE: Do not press the brake pedal while programming

1. Turn ignition on
2. Press valet switch 4 times, **wait** for parking lights to flash **4 times**
3. Led lights up red to confirm programming mode
4. Press the valet switch the number of times (see "OPTION BUTTON column") that corresponds to the feature setting that you wish to change
5. Once the desired feature has been chosen, press remote button lock, unlock, engine or aux, according to the function you wish to change on the unit.
6. To end programming, turn ignition off.

PROGRAMMABLE FEATURES (CONTINUED):

PROGRAM OPTION CHART:

OPTION BUTTON	OPTION DESCRIPTION	FACTORY PRE-SET	TX BUTTON 	TX BUTTON 	TX BUTTON 	TX 
3	LAST DOOR ARMING FEATURE	ON	ON	OFF		
4	LAST DOOR ARM WITH LOCK	OFF	OFF	ON		
5	DOME LIGHT DELAY CAR	OFF	OFF	ON		
6	IGNITION DOOR LOCK	ON	ON	OFF		
7	AIR COMPRESSOR DOOR LOCK (BENZ)	OFF	OFF	ON		
8	2 PULSE LOCK UNLOCK (NEW G.M. & V.M.)	OFF	OFF	ON		
9	ROLLING CODE	OFF	OFF	ON		
10	SHUT-DOWN DIAGNOSTIC	ON	ON	OFF		
11	ANTI-GRIND	ON	ON	OFF		
12	SOFTWARE GEAR SENSOR	OFF	OFF	ON		
13	VOLTAGE DETECT SETTING (#13)	ON	ON	OFF		
14	VOLTAGE DETECT SETTING (#14)	ON	ON	OFF		
15	REMOTE START RUNTIME	12	12	24	36	48
16	OEM PULSE INTERFACE	1	1	2	3	4
17	TACH LEARNING				LEARNING	
18	SECURITY REARM (NEVER LOCK DOOR)	OFF	OFF	ON		
19	SILENT ARM / DISARM					
20	SIREN/HORN OPTION RESET	SIREN	SIREN	HORN		
21	OPTION RESET			RESET		

TACH LEARNING: See page 7

REMOTE START RUN TIME: Controls how long the engine will run before it shuts down.

ANTI-GRIND: When using such features as window module or voice module, you may need to turn this feature off. With anti-grind on, the GROUND-WHEN-ARMED will be active during remote start operation.

ROLLING CODE: This will turn remote rolling code on and off.

IGNITION OVERRIDE: This feature should not be turned on in the United States.

PASSIVE STARTER DISABLE: When active, the system will disable the starter 30 seconds after the ignition is turned off.

PASSIVE LOCK AND UNLOCK: If the passive starter disable is active, and passive lock and unlock is active, this feature will lock the doors 30 seconds after the ignition is turned off.

OPTION RESET: This feature will reset all the programming to it's original factory preset.

NOTE: OPTION RESET will also erase any transmitter code that is stored in the memory. You will need to code learn all your remotes back to the car starter again. Please see page 15 for code-learning procedure.

PROGRAMMABLE FEATURES (CONTINUED):

OEM INTERFACE:

This feature allows you to use a transmitter from an OEM factory alarm or keyless entry instead of the STARTC2002 transmitter.

1. For factory alarm/keyless entries, you can connect the white/blue wire from the remote start to a negative lock trigger and set it for the number of pulses to remote start engine.
2. To set for pulses:
 - Turn ignition on
 - Press valet 4 times
 - Led turns red to confirm
 - Press valet 16 times
 - Then press the STARTC2002 remote button as follows to set corresponding number of pulses you want to use on the factory transmitter lock button:

<u>LOCK</u>	<u>UNLOCK</u>	<u>ENGINE</u> (recommended)	<u>AUX</u>
1 Pulse	2 Pulse	3 Pulse	4 Pulse
 - To end programming, turn ignition off

IDLE DOWN MODE:

This is used to let the engine run at idle speed while away from the vehicle. It is also used to let engines with turbochargers cool down.

ACTIVATE:

1. With engine running, press remote start button. Doors will unlock.
2. Remove key from ignition switch.
3. Engine should run at idle speed for the amount of time it is set.
4. Engine can also be shut down by pressing the remote start or pressing brake pedal.

DEACTIVATE IDLE DOWN MODE WITHOUT SHUTTING OFF ENGINE:

1. Open driver door
2. Ignition key on
3. Press remote start button
4. Press brake pedal

SOFT GEARSSENSOR:

TURBO TIMER (SOFT WARE GEAR SENSOR "OPTION BUTTON" IS OFF):

1. Turn ignition on, press start button
2. Turn ignition off, set "OPTION BUTTON" & turn ignition off within 10 seconds, press start button to finish (parking light will keep flash 10 minutes)

TURBO TIMER (SOFT WARE GEAR SENSOR "OPTION BUTTON" IS ON):

1. Turn ignition on, press start button
2. Turn ignition off within 10 seconds, press start button to finish (parking light will keep flash 10 minutes)

NOTE: If SOFT WARE GEAR is on, start button will not activate remote start

TROUBLESHOOTING:

4 HOUR REMOTE START MODE:

ACTIVATE:

1. Turn vehicle on.
2. Press engine button on remote. Parking lights will stay on.
3. Press valet switch 1 time. Parking lights will turn off then come back on.
4. Remove key from the ignition. Vehicle should stay running.
5. Close door, press remote start button, parking lights will flash 4 times to confirm.

DEACTIVATE:

1. Turn ignition on.

NOTE: Vehicle will start every four hours until system is deactivated.

SECURE FUNCTIONS:

UNDER THE FOLLOWING CONDITIONS THE CAR WON'T START:

1. If hood is open
2. Brake pedal pressed
3. Vehicle on = Starter won't activate
4. If diesel input still active after 45 seconds.

VALET OVERRIDE:

TO ENTER VALET MODE:

1. Turn ignition on
2. Press and hold valet button for five seconds.
3. Led lights up solid red

TO EXIT VALET MODE:

1. Turn ignition on
2. Press and hold valet button for five seconds.
3. Led shuts off

DIAGNOSTICS:

- 4 RED FLASHES = System time out from 12 min, 24 min, 36 min, or 48 min
- 5 RED FLASHES = Tachometer or voltage not learned correctly
- 6 RED FLASHES = 3 attempts failed
- 7 RED FLASHES = Brake is not detected/Hood is opened
- 9 RED FLASHES = Starter shut-down was caused by remote or by white/blue (-) trigger input
- 10 RED FLASHES = Glow plug failure

NOTE: Led will flash the correct number of times and then stop. System will continue the diagnostic until the ignition is turned on.

NOTES:

Lined area for notes.