## Installation Guide Keyless Entry Remote Start 4105 4-button series

This product is intended for installation by a professional installer only! Attempts to install this product by a person other than a trained professional may result in severe damage to a vehicle's electrical system and components.

# **DIRECTED**<sub>®</sub>

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Bitwriters with a date code of 6A or older require an IC upgrade (P/N 998M). Some Bitwriters with a date code of 6B do not require the IC upgrade, refer to Tech Tip #1112 for more information.



### Contents

Warning! Safety First	4
Wiring Diagram	5
Wiring Connections	
Main (Primary) Harness, White 9-pin connector	5
Door Lock - White 3 pin connector	6
Heavy Gauge Relay, White 6-pin connector	6
Satellite harness - White 4-pin connector	
Remote Start harness, White 5-pin connector	6
D2D Harness, Red 4-pin connector	
Bitwriter/Directed SmartStart Harness, Black 3-pin connector	6
Learning Hardwired or Data Tach (not needed with Virtual Tach)	7
Initializing Virtual Tach (not needed w/hardwire and data tach inputs)	7
Remote Start Shutdown Diagnostics	7
Programming System Features	
Feature Menus	9
Menu 1 - Vehicle Integration & Convenience	
Menu 2 - Remote start	
Bitwriter Only Options	
Bitwriter feature descriptions	
Basic Remote Functions 1	
Reset And Deletion	3
Pairing a Remote Control 1	
Troubleshooting: Keyless Entry 1	
Troubleshooting: Remote Start	4

### Warning! Safety First



 $\Delta$  The following safety warnings must be observed at all times:

- Due to the complexity of this system, installation of this product must only be performed by an authorized Directed dealer.
- When properly installed, this system can start the vehicle via a command signal from the remote control. Therefore, never operate the system in an area that does not have adequate ventilation.

The following precautions are the sole responsibility of the user; however, authorized Directed dealers should:

- Never use a test light or logic probe when installing this unit. Always use a multimeter.
- Never operate the system in an enclosed or partially enclosed area without ventilation (such as a garage).
- When parking in an enclosed or partially enclosed area or when having the vehicle serviced, the remote start system must be disabled using the installed toggle switch. It is the user's sole responsibility to properly handle and keep out of reach from children all remote controls to assure that the system does not unintentionally remote start the vehicle.

USER MUST INSTALL A CARBON MONOXIDE DETECTOR IN OR ABOUT THE LIVING AREA ADJACENT TO THE VEHICLE. ALL DOORS LEADING FROM ADJACENT LIVING AREAS TO THE ENCLOSED OR PARTIALLY ENCLOSED VEHICLE STORAGE AREA MUST REMAIN CLOSED AT ALL TIMES.

Use of this product in a manner contrary to its intended mode of operation may result in property damage, personal injury, or death. Except when performing the Safety Check outlined in this installation guide, (1) Never remotely start the vehicle with the vehicle in gear, and (2) Never remotely start the vehicle with the keys in the ignition. The user is responsible for having the Parking Brake feature of the vehicle periodically checked, wherein the vehicle must not remotely start while the car is in gear. This testing should be performed by an authorized Directed dealer in accordance with the Safety Check outlined in this product installation guide. If the vehicle starts in gear, cease remote start operation immediately and consult with the user to fix the problem immediately.

After the remote start module has been installed, test the remote start module in accordance with the Safety Check outlined in this installation guide. If the vehicle starts when performing the Parking Brake Safety Shutdown Circuit test, the remote start unit has not been properly installed. The remote start module must be removed or properly reinstalled so that the vehicle does not start in gear. All installations must be performed by an authorized Directed dealer.

OPERATION OF THE REMOTE START MODULE IF THE VEHICLE STARTS IN GEAR IS CONTRARY TO ITS IN-TENDED MODE OF OPERATION. OPERATING THE REMOTE START SYSTEM UNDER THESE CONDITIONS MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY. IMMEDIATELY CEASE THE USE OF THE UNIT AND REPAIR OR DISCONNECT THE INSTALLED REMOTE START MODULE. DIRECTED WILL NOT BE HELD RESPONSIBLE OR PAY FOR INSTALLATION OR REINSTALLATION COSTS.

**IMPORTANT!** This product is designed for fuel-injected, automatic transmission vehicles only. Installing it in a standard transmission vehicle is dangerous and is contrary to its intended use.

### Wiring Diagram



### Wiring Connections

#### Main (Primary) Harness, White 9-pin connector

	· · · · · · · · · · · · · · · · · · ·	•			
1	LIGHT GREEN/BLACK	(-) 200mA FACTORY ALARM DISARM OUTPUT			
2	GREEN/WHITE	(-) 200mA FACTORY ALARM REARM OUTPUT			
3	YELLOW	(+) IGNITION OUT (TO ALARM)			
4	WHITE/BLUE	(-) ACTIVATION INPUT			
5	ORANGE	(-) 500mA GROUND WHEN LOCKED/ANTI-GRIND OUTPUT			
6	BROWN	(-) 200mA HORN OUTPUT			
7	RED/WHITE	(-) 200mA TRUNK RELEASE OUTPUT			
8	BLACK	(-) CHASSIS GROUND			
9	WHITE	(+/-) LIGHT FLASH OUTPUT			

#### Door Lock - White 3 pin connector

1	LIGHT BLUE	) 200mA UNLOCK OUTPUT		
2	EMPTY	NOT USED		
3	GREEN	(-) 200mA LOCK OUTPUT		

#### Heavy Gauge Relay, White 6-pin connector

1	RED	(+) 30A HIGH CURRENT 12V INPUT
2	PINK/WHITE	OUTPUT TO SECOND IGNITION/ACCESSORY CIRCUIT
3	RED	(+) 30A HIGH CURRENT 12V INPUT
4	ORANGE	(+) ACCESSORY OUTPUT
5	PURPLE	(+) STARTER OUTPUT
6	PINK	(+) IGNITION 1 INPUT/OUTPUT

#### Satellite harness - White 4-pin connector

1	BLUE	(-) 200mA STATUS OUTPUT		
2	ORANGE	-) 200mA ACCESSORY OUTPUT		
3	PURPLE	(-) 200mA STARTER OUTPUT		
4	PINK	(-) 200mA IGNITION OUTPUT		

#### Remote Start harness, White 5-pin connector

1	BLACK/WHITE	(-) PARKING BRAKE INPUT*			
2	VIOLET/WHITE	ACHOMETER INPUT			
3	BROWN	(+) BRAKE SHUTDOWN INPUT			
4	GRAY	(-) HOOD PIN SWITCH SHUTDOWN INPUT			
5	BLUE/WHITE	(-) 200mA 2ND STATUS/REAR DEFOGGER OUTPUT			

#### D2D Harness, Red 4-pin connector

1	BLUE	D2D - TX
2	BLACK	(-) GROUND
3	GREEN	D2D - RX
4	RED	(+) 12V

#### Bitwriter/Directed SmartStart Harness, Black 3-pin connector

1	RED	(+) 12V
2	ORANGE	ESP2 - RX/TX
3	BLACK	(-) GROUND

\* Connect this wire to one of the wires on the provided Remote Start Shutoff Switch. The other wire on the switch connects to the (-) Parking Brake wire in the vehicle. The switch must be in the ON position for the remote start to work.

**Important:** NEVER connect 200mA low current outputs directly to a motor or high current device WITH-OUT a relay.

### Learning Hardwired or Data Tach (not needed with Virtual Tach)

#### To learn tach signal:

- 1. **Start** the vehicle with the key.
- 2. Within 5 seconds, **press** and **hold** the Control Button (Valet).
- 3. After 3 seconds the system LED will light solid when the tach signal is learned.
- 4. **Release** the Control Button (Valet).

**Important:** This unit can learn the tachometer with the analog input or through D2D using an interface module. The unit confirms which source is used.

#### When programming tach learning with:

- The analog Violet/White Tachometer input, the parking lights flash one time.
- A D2D inerface module, the parking lights flash twice.

If the analog tachometer input on the system is connected to the vehicle, the D2D tachometer input will be ignored.

### Initializing Virtual Tach (not needed w/hardwire and data tach inputs)

Note: Virtual Tach is not recommended for diesel vehicles.

#### To program Virtual Tach:

- 1. After the install is complete, **remote start** the engine. The programming operation may require 3 cranks of the starter before the engine starts and runs. **DO NOT** turn off the remote start if this happens, it is a normal programming operation.
- 2. Once the engine begins running, let it run for at least 30 seconds.
- 3. Using the Remote, send the Remote Start command to turn **remote start OFF**. Virtual Tach is programmed. To reset Virtual Tach, (see the Reset and Deletion section of this guide). Virtual Tach cannot be reset with the Bitwriter.

Virtual Tach handles disengaging the starter motor during remote starting – it does not address over-rev. If the customer wants to have the over-rev protection capability, the tach wire must be connected.

**Important:** After successfully learning Virtual Tach, a small minority of vehicle starters may over or under crank during remote start. The Bitwriter can be used fine tune the starter output time in 50mil-liseconds increments to compensate for such an occurrence.

### Remote Start Shutdown Diagnostics

If the remote start activates but fails to stay running, the remote start module has the ability to inform you of what may have caused the remote start failure. Before performing shutdown diagnostics it is important that you let the remote start shut off on its own i.e., let it attempt to start three times then shut down, if this is not done the unit will report the shutdown last used to shut off the remote start.

#### To perform shutdown diagnostics:

- 1. With the ignition OFF, **press** and **hold** the Control Button.
- 2. **Turn** the ignition ON and then back Off while holding the Control Button.
- 3. **Release** the Control Button.
- 4. **Press** and **release** the Control Button.

Status LED Flashes	Shutdown Mode			
1 flash	Timed out			
2 flashes	Over-rev shutdown			
3 flashes	Low or no RPM, low battery (voltage and virtual tach modes)			
4 flashes	Transmitter shutdown (or optional push button)			
5 flashes	(-) Hood shutdown (Remote Start harness GRAY wire)			
6 flashes	(+) Shutdown (Remote Start harness BROWN wire)			
7 flashes	Parking Brake shutdown (Remote Start harness BLACK/WHITE wire)			
8 flashes	Wait-to-start timed out			

The status LED flashes to report the last shutdown for one minute or until the ignition is turned ON, as shown in the following table:

### **Programming System Features**

The System Features Learn Routine dictates how the unit operates. It is possible to access and change most of the feature settings using the Control Button (Valet).

- 1. **Turn** the ignition ON, then OFF.
- 2. Select a Menu. **Press** and **hold** the Control Button. The number of LED flashes and horn honks indicates the Menu number. A single LED flash and honk indicates Menu 1. Two LED flashes and 2 honks indicates Menu 2.
- 3. When the desired Menu LED flashes and honks are heard, **release** the Control Button.
- 4. **Select** a Feature. **Press** and **release** the Control Button the number of times corresponding to the feature desired to change. Then **press** and **hold** one more time to select the feature. The LED flashes and the horn honks to indicate which feature is selected.
- 5. Program the Feature. While holding the Control Button, you can program the feature using the remote control.

For features with only two options;  $\mathbf{a}$  = option 1, while  $\mathbf{a}$  = option 2.

For features with more than two options; *s* selects the options in ascending order. The LED flashes and the horn honks (if connected) indicating which option is selected.

#### Once a feature is programmed:

- Other features can be programmed within the same menu.
- Another menu can be selected.
- The learn routine can be exited if programming is complete.

#### To access another feature in the same menu:

- 1. Press and release the Valet button the number of times necessary to advance from the feature you just programmed to the next one you want to program.
- 2. Then press the Valet button once more and hold it.

#### To select another menu:

- 1. Press and hold the Valet button.
- 2. After 3 seconds, the unit advances to the next menu and the LED flashes and the horn honks, indicating which menu has been accessed.

#### The learn routine exits if any of the following occurs:

- The ignition is turned ON.
- There is no activity for 30 seconds.
- The Valet button is pressed too many times.

### Feature Menus

Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	Horn Function (in milliseconds)	OFF	Siren 20 ms	Siren 30 ms	Siren 40 ms	Siren 50 ms
2	Ignition Controlled Lock	ON	OFF			
3	Ignition Controlled Unlock	ON	OFF			
4	Doorlock Output Duration (in seconds)	0.8 sec.	3.5 sec.	0.4 sec.		
5	Double Pulse Unlock	OFF	ON			
6	Double Pulse Lock	OFF	ON			
7	Factory Alarm Disarm Function	With Unlock	Before Unlock	Remote Start only		
8	Factory Alarm Disarm Pulses	Single	Double			
9	Comfort Closure	Comfort Closure 1	OFF	Comfort Closure 2		
10	Panic Mode	ON	OFF			

Menu 1 - Vehicle Integration & Convenience

#### Default settings are in **bold** type.

- 1. Horn Function
  - 1. OFF: turns the lock/unlock horn honk output off, but Panic is still active for 60 seconds.
  - 2. ON: Opt 2-5, 20-50 ms: sets the lock/unlock horn honk output duration.
- 2. Ignition Controlled Lock
  - 1. OFF: door lock output will not output when ignition is turned ON.
  - 2. ON: door lock output will activate when ignition is turned ON.
- 3. Ignition Controlled Unlock
  - 1. ON: door unlock output will activate when the ignition is turned OFF.
  - 2. OFF: door unlock output will not activate when the ignition is turned OFF.

#### 4. Door Lock Output Duration

- 1. 0.8 sec.: the door lock/unlock pulses for 800 milliseconds in duration.
- 2. 3.5 sec.: the door lock/unlock pulses for 3.5 seconds in duration.
- 3. 0.4 sec.: the door lock/lock pulses for 400 milliseconds in duration.

#### 5. Double Pulse Unlock

- OFF: unlock output pulses once.
  ON: unlock output pulses twice.

#### 6. Double Pulse Lock

- 1. OFF: lock output pulses once.
- 2. ON: lock output pulses twice.
- 7. Factory Alarm Disarm Function
  - 1. With Unlock: Factory Alarm Disarm wire pulses as programmed, at the same time as the unlock (Blue) wire, and when remote start is activated.
  - 2. Before Unlock: Factory Alarm Disarm wire will pulse as programmed before the unlock wire, and when remote start is activated.
  - 3. Remote start only: Factory Alarm Disarm wire will pulse as programmed during remote start only.

8. Factory Alarm Disarm Pulses

- 1. Single: Factory Alarm Disarm wire pulses once per operation.
- 2. Double: Factory Alarm Disarm wire pulses twice per operation.
- 9. Comfort Closure
  - 1. Comfort Closure 1: When locking the door lock pulse (or 2nd pulse for double pulses) will remain on for 20 seconds.
  - 2. No comfort Closure: Comfort Closure is defeated when locking.
  - 3. Comfort Closure 2: When locking 800 milliseconds following the last door lock pulse (or 2nd pulse for double pulses); door lock output will turn on again for 20 seconds.

10. Panic Mode

- 1. ON: Panic output can be activated at any time.
- 2. OFF: Panic output is defeated.

Item	Feature	Opt. 1	Opt. 2	Opt. 3	Opt.4	Opt. 5+
1	Engine Checking Mode	Virtual Tach	Voltage	OFF	Tachometer	
2	Remote Start Runtime	12 min.	24 min.	60 min.		
3	Parking Light Output	Pulsed	Constant			
4	Cranking Time (in seconds)	0.6 sec.	0.8 sec.	1.0 sec.	1.2 sec.	1.4, 1.6, 1.8, 2.0, 4.0 sec
5	Activation Pulse Count	1 pulse	2 pulses	3 pulses		
6	2nd Ignition Behavior	Ignition	Accessory			
7	Accessory During Diesel Start Delay	OFF during wait-to-start	ON during wait-to-start			
8	2nd Status Behavior	Normal	Latch rear defogger	Pulse Rear Defogger		
9	Anti-grind	ON	OFF			
10	Diesel Start Delay (in minutes)	OFF	Timed 15 sec.	Timed 30 sec.	Timed 45 sec.	
11	Timer Mode Runtime (in minutes)	12 min	3 min.	6 min.	9 min.	

#### Menu 2 - Remote start

Default settings are in **bold** type.

- 1. Engine Checking Mode
  - 1. Virtual Tach: battery voltage drop/rise during cranking determines when the starter output is released. During runtime, constant voltage level is monitored to determine if the engine is running.
  - 2. Voltage: starter output during cranking is a programmed duration (Set in Cranking Time). During runtime, constant voltage level is monitored to determine if the engine is running.
  - OFF: starter output during cranking is a programmed duration (Set in Cranking Time). The remote start keeps the ignition/accessories active for the programmed runtime whether the engine is running or not.
  - 4. Tachometer: tach input signal during cranking and runtime determines when the starter output is released and if the engine is running.
- 2. Remote Start Runtime
  - 12/24/60 minutes: sets engine runtime during normal remote start operations.
- 3. Parking Light Output
  - 1. Pulsed: the lights will pulse ON/OFF during remote start runtime.
  - 2. Constant: the lights will turn ON solid during remote start runtime.
- 4. Cranking Time
  - 0.6/0.8/1.0/1.2/1.4/1.6/1.8/2.0/4.0 seconds: determines the starter output duration during cranking for the 'Voltage' and the 'OFF' Engine Checking Mode options.
- 5. Activation Pulse Count
  - 1/2/3 pulses: sets the number of remote control commands received or Activation Input required to activate and de-activate remote start.
- 6. 2nd Ignition Behavior
  - 1. Ignition 2: the relay will emulate the Ignition 1 output during remote start.
  - 2. Accessory 2: the relay will emulate the Accessory 1 output during remote start.
- 7. Accessory During Diesel Start Delay
  - 1. Off: the Accessory outputs will be OFF during diesel start delay.
  - 2. On: the Accessory outputs will be ON during diesel start delay.
- 8. Status 2 Output (Blue/White wire on 24 pin harness)
  - 1. Status : the output will activate before the ignition outputs turn ON, and de-activate after remote start turns OFF.
  - 2. Latch rear defogger: the output activates 10 seconds after start. It turns off after 10 minutes or upon remote start OFF.
  - 3. Pulse rear defogger: the output activates (for 800ms) 10 seconds after start.
- 9. Anti-grind
  - 1. ON: the Orange wire (Main Harness pin 5) Ground When Locked/Anti Grind output will be activated during remote start as anti-grind protection.
  - 2. OFF: the Orange wire (Main Harness pin 5) Ground When Locked/Anti Grind output will not be activated during remote start, no anti-grind protection is available.
- 10. Diesel Start Delay
  - 1. OFF
  - Timed: 15/30/45 seconds: delays the starter output per the selected time, the WTS wire does not function.
- 11. Timer Mode Run Time
  - 12/3/6/9 minutes: sets the runtime when the engine is started by the Timer Mode feature.

### **Bitwriter Only Options**



If programming with the Bitwriter or XKLoader 3, the Learn Routine can be locked or unlocked. If the Learn Routine has previously been locked, it must be unlocked with Bitwriter® - this cannot be done manually with the Control Button.

The Bitwriter® gives you access to a wider range of system options. These features and the adjustments that may be programmed are described in the table below.

Menu Item	Feature	Default	Options
1	Engine Runtime	12 min.	1-60 min.
2	Diesel Start Type	OFF	Timed
3	Diesel Start Delay Time (seconds)	15 sec.	1-90 sec.
4	Virtual Tach Fine Tune	Not initialized	0 to 1 second in 50 millisecond increments
5	Remote Control Programming	Unlocked	Locked
6	Feature Programming	Unlocked	Locked

#### Bitwriter feature descriptions

1. Engine Runtime:

Sets engine runtime during normal remote start operations from 1-60 minutes.

2. Diesel Start Type:

OFF: there is no delay before the engine cranks with the remote start. Timed: turns on the timer for the delay before the engine cranks (to be used in conjunction with the Diesel Start Delay).

- Diesel Start Delay: Sets the delay before engine crank in 1 second intervals from 1-90 seconds for diesel engine vehicles.
- Virtual Tach Fine Tune: Adds or subtracts crank time in Virtual Tach mode to overcome engine types that short crank or over-crank on the first start attempt.
- Remote Control Programming: Locks and unlocks the user's ability to enter the remote control/Reset Menu, and manually change any functions using the VControl Button.
- Feature Programming: Locks and unlocks the user's ability to enter the Feature Menus and manually change the main unit programming using the Control Button.

### **Basic Remote Functions**

Level Button	Basic Commands	Description
	Lock	Pressing for one second locks the system (if the door locks are connected).
<b>\$</b>	Unlock	Pressing for one second unlocks the doors (if connected).
AUX	Trunk release	Silent Mode works by pressing this button for less than one second before locking or unlock- ing. This button can also be used for an optional auxiliary function such as trunk release.
*	Remote start	Press to remotely start and run the vehicle for a programmable period of time or press to turn off if vehicle is already remote started.

Note: See Owner's Guide for more details.

### Reset And Deletion

If a feature/Virtual Tach needs to be reset or the remote controls need to be deleted, use the following procedure.

- 1. **Turn** the vehicle ignition to the ON position.
- 2. Within five seconds **press** and **release** the Control Button: two times to delete remote controls, three times to reset the features to default or four times to reset Virtual Tach.
- Once you have selected the function step, press the Control Button once more and hold it. The LED will flash and the horn (if connected) will honk to confirm the functional step chosen. DO NOT release the Control Button.
- 4. **Press** the **△** button of a programmed remote control. The horn (if connected) will honk confirming the feature has been reset/deleted.
- 5. **Release** the Control Button and turn OFF the the ignition. The horn (if connected) honks to confirm exiting.
- 2 Presses: Delete remotes: This feature erases all remote controls from the memory of the security system. This is useful in cases when a customer's remote is lost or stolen.
  Note: This does not reset the programmed features of the security system or reset the Virtual Tach setting.
- **3 Presses:** Reset Features: This resets features all of the security system to the factory default setting. **Note:** This feature does not delete the remote controls from the security system or reset the Virtual Tach setting.
- 4 Presses: Virtual Tach Reset: Deletes all previously learned values for Virtual Tach, and on the next remote start sequence the unit begins Virtual Tach initialization.
  Note: The "Zap" feature on the Bitwriter does not reset the Virtual Tach setting.

#### Reset/Delete will exit if:

- The ignition is turned OFF.
- There is no activity for 30 seconds.
- The Control Button is pressed too many times.

### Pairing a Remote Control

- 1. Turn key to the ON position
- 2. Within five seconds, **press** and **release** Control Button one time.
- 3. Within five seconds, **press** and **hold** the Control Button. The LED will flash one time and the horn honks (if connected) to confirm entry into remote programming.
- 4. **Press** the  $\square$  button (or the single button) on the remote control.
- 5. The horn (if connected) honks to confirm the remote has been programmed.
- 6. Release the Control Button, and turn the key to the OFF position.
- 7. The horn (if connected) sounds one long honk to confirm that remote programming has been exited.

#### The programming routine exits if any of the following occurs:

- The ignition is turned OFF.
- There is no activity for 30 seconds.
- The Control Button is pressed too many times.

### Troubleshooting: Keyless Entry

Door locks operate backwards.

• This unit has easily-reversed lock/unlock outputs. Recheck wire connections to see if you have reversed these.

### Troubleshooting: Remote Start

The remote will not activate the remote start.

- 1. Does the Parking Brake input have a ground? if the wire is not grounded the remote start will not activate.
- 2. Have you performed the remote start shutdown diagnostics? Sometimes an active shutdown input will report in the diagnostics.
- 3. Is the remote programmed to the system?
- 4. Can the remote start be activated manually by applying a ground pulse to the White/Blue wire (Main Harness pin 4)?
- 5. Check the harnesses and their connections. Make sure that the harnesses are completely plugged into the remote start module. Make sure there are good connections to the vehicle wiring.
- 6. Check voltage and fuses on the system.

The remote start will activate, but the starter never engages.

- 1. Check for voltage on the purple starter wire two seconds after the remote start becomes active. If there is voltage present, skip to Step 7. If there is no voltage present, advance to Step 2.
- 2. Check the 30A fuses.
- 3. If the wait-to-start timer is turned on, the starter will not crank.
- 4. Is the tach wire connected? If so disconnect it and remote start the vehicle to see if the purple wire sends out voltage. If you get voltage, go to an alternate tach source. The tach wire you are currently on has a voltage spike when the ignition is powered up, which can cause the remote start to not send out the crank voltage.
- 5. Is the vehicle a Chrysler or GM with a multiplexed starter wire? The vehicle will not crank if the resistance is incorrect on the multiplexed accessory/starter wire.
- 6. Is the vehicle a GM? If so the Brown 2nd accessory needs to be powered up on some of the vehicles for the vehicle to crank.
- 7. Make sure the violet starter wire is connected on the starter side of the optional anti-grind relay.

- 8. Does the vehicle have an immobilizer? Some immobilizer systems will not allow the vehicle to crank if active.
- 9. Check connections. The heavy gauge remote start input wires on the heavy gauge 6-pin connector should have a solid connection.

The vehicle starts, but immediately dies.

- 1. Does the vehicle have an immobilizer? The vehicle's immobilizer can cut the fuel and/or spark during unauthorized starting attempts.
- 2. Is the remote start programmed for virtual tach or voltage sense? If so, the crank time may not be set high enough. Voltage sense will not work on some vehicles.
- 3. Is the remote start in tach mode? If so has the tach been programmed to the system?
- 4. Check diagnostics. Sometimes a shutdown will become active during cranking or just after cranking.

The vehicle starts, but the starter keeps running.

- 1. Is the system programmed for engine checking OFF or Virtual Tach voltage sense? When programmed for either of these features, the engine cranks for the pre programmed crank time regardless of how long it takes for the vehicle to actually start. Adjust to a lower cranking time.
- 2. Was the Tach Learn successful? The LED must light solid and bright to indicate a successful learn.
- 3. Make sure that there is a tach signal at the purple/white tach input wire of the remote start. If there is not a tach signal, recheck the connection to the vehicle's tach wire and make sure the wire is not broken or shorted to ground leading to the remote start.
- 4. Is an ignition or accessory output wire connected to the starter wire of the vehicle? Verify the color of the starter wire in the vehicle and confirm that an ignition or an accessory output is not connected to that wire.

The vehicle starts, but will only run for 10 seconds.

- 1. Is the remote start programmed for voltage sense? If this does not work, a tach wire should be used.
- 2. Check shutdown diagnostics.

The climate control system does not work while the unit is operating the vehicle.

- 1. Either the wrong accessory wire is being energized or more than one ignition or accessory wire must be energized in order to operate the climate control system.
- 2. If the vehicle has an electronic climate control system some will reset when the key is turned OFF and then back on, unfortunately this is a function of the vehicle and cannot be bypassed.

The company behind this system is Directed

Since its inception, Directed has had one purpose, to provide consumers with the finest vehicle security and accessories available. The recipient of nearly 100 patents and Innovation Awards in the field of advanced electronic technology.

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