

TITAN

REMOTE STARTERS

Installation Guide

TS 251A



2-Way LCD

Remote Starter

Alarm Combo

For Automatic

Transmission Only



POWERED BY

TITAN
INNOVATIONS

www.titaninnovations.ca

Toll Free Tech Support

888-852-5703

Revision 2.01

Safety

VERY IMPORTANT SAFETY NOTES!

The owner/user **MUST INSTALL** a CARBON MONOXIDE DETECTOR in the living area near to where the vehicle is being stored or parked. It is the sole responsibility of the owner/user to keep the remote transmitters away from the reach of children and handle with care so that the system does not unintentionally start. When the vehicle is parked in an enclosed /partially enclosed area (*ex: garage, car port...*), being serviced (*ex: oil change*) or if the vehicle is loaned to an operator not familiar with a remote starter, the system MUST BE placed in Service (Valet) Mode.

MANUAL TRANSMISSION STARTERS the installation of a remote starter **MUST** only be done with a specified manual transmission starter. It is the sole responsibility of the vehicles owner to insure that the vehicle is left with the transmission in neutral position when the remote starter is in use. The manual transmission starter is designed to be an added measure of safety **ONLY!** The manufacturer does not guarantee or insure against any damages or loss of life that could result in the event of a remote starter starting while the vehicle is in gear. Manual transmission models are designed only to act as a deterrent against the vehicle starting in gear, this is the vehicle's owner's and operator's responsibility.


NEVER OPERATE THE SYSTEM IN AN ENCLOSED/ PARTIALLY ENCLOSED AREA!

SERVICE (VALET) MODE

System **Service Mode** (sometimes referred to as **Valet Mode**) will disable the remote starter and alarm functions. The optional lock, unlock, and trunk release features will still be operational. When the vehicle is to have any under hood or service work done, the system must be placed into **Service Mode**. This feature may also be used if a transmitter is lost, damaged, the transmitter battery is dead, or if the system malfunctions.

ENTERING SERVICE MODE

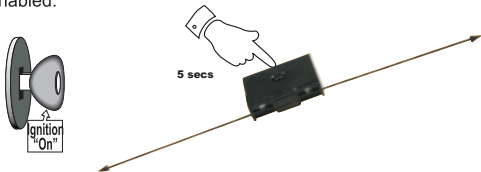
1. Turn the ignition key to the On position.
2. Press and hold the Program Button (Located on the antenna) for 5 seconds or until the horn (optional) honks five times.

NOTE: The LEDs on the antenna will turn on solid to confirm Service Mode. If the  button is pressed while the system is in Service Mode the park lights will flash 3 times slowly.

EXITING SERVICE MODE

1. Turn the ignition key to the On position.
2. Press and hold the Program Button (Located on the antenna) for 5 seconds or until the horn (optional) honks two times.

NOTE: The LEDs on the Antenna will turn off and the remote starter functions will be re-enabled.



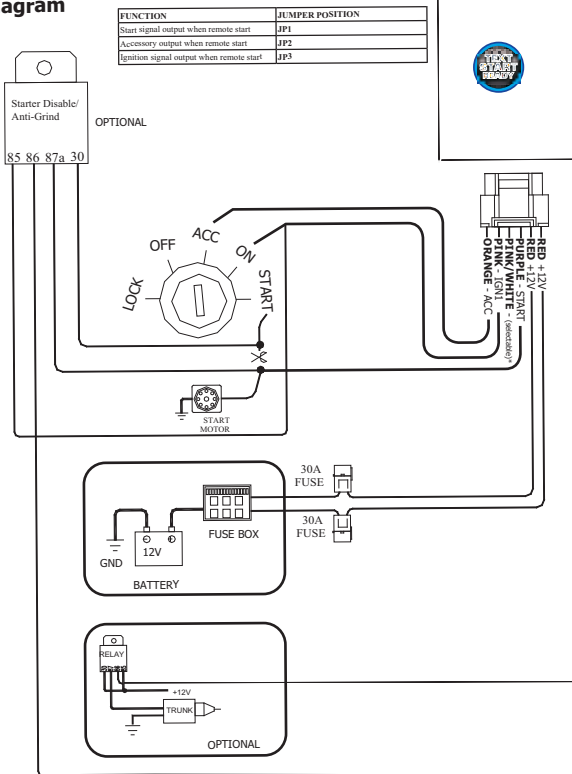
ATTENTION:

TO AVOID SERIOUS INJURY, this remote start system must be set into Service Mode before any under hood servicing is started. Service Mode will prevent the vehicle from starting while the vehicle is being serviced. It is the sole responsibility of the vehicle's owner to place the system into Service Mode. The manufacture accepts no responsibility for accidental starting of the vehicle while the vehicle is being serviced.

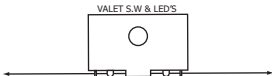
TS251A

Wiring diagram

*The output on the PINK/WHITE wire is determined by the position of the jumper



TS251A



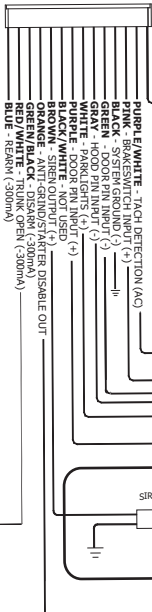
- RED 12VOLT OUTPUT
- BLACK GROUND OUTPUT
- PURPLE/WHITE GROUND WHEN RUNNING OUTPUT
- BLUE DOOR UNLOCK OUTPUT
- EMPTY
- GREEN DOOR LOCK OUTPUT

GRAY/BLACK - WAIT TO START (-) / (-) TRIGGER TO START (INSTANT START WIRE)

Note: The GRAY/BLACK wire is a dual-purpose wire. If the remote starter is inactive this wire acts as an "instant trigger to start" wire. If the remote starter is running, this wire will also work as a shutdown wire. If the ignition is on, but the engine is not yet running (no tach signal), this wire acts as a "wait to start" wire that hooks up to a glow plug or manifold heater wire. You can hook this wire up to perform dual functions provided you diode-isolate the "wait to start" and "instant start" wires. For diesel vehicles you can also just program a delay to start "wait time" as in Menu 3 programming settings (M3-1). The instant wire is active as such regardless of what diesel programming is set for in Menu M3-1. Call tech support if you need details on the function of this or any other input.



Toll Free at 1-888-852-5703



ENGINE COIL OR FUEL INJECTOR



BRAKEPEDAL



DOORPIN (-)



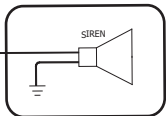
HOODPIN (-)



PARKING LIGHTS



DOORPIN (+)




6 Pin Connector	1	PURPLE	Starter Output (+)
	2	ORANGE	Heater/Accessory Output (+)
	3	RED	12volt Input (+)30amp
	4	RED	12volt Input (+)30amp
	5	PINK/WHITE*	Selectable Output (+)*
	6	PINK	Ignition Output (+)
Pin Connector Layout 14 Pin Auxiliary Connector	1	BLUE	Re-arm Output (-)250ma
	2	RED/WHITE	Trunk Release Output (-)250ma
	3	GREEN/BLACK	Dis-arm Output (-)250ma
	4	ORANGE	Anti-Grind(GWR)/Starter Disable Out
	5	BROWN	Siren Output (+)
	6	BLACK/WHITE	No Connection
	7	VIOLET	Door Pin Input (+)
	8	WHITE	Park Light Output (+)10amp
	9	GRAY	Hood Pin Switch Input (-)
	10	GREEN	Door Pin Input (-)
	11	BLACK	System Ground Input (-)
	12	PINK	Brake Light Switch Input (+)
	13	VIOLET/WHITE	Tach Detection Input (A/C)***
	14	GRAY/BLACK	Wait To Start/Instant Start Input (-)
3 Pin Keyless Red Plug	1	GREEN	Door Lock Output (-)250ma
	2	EMPTY	12v Output (+)250ma (see notes)
	3	BLUE	Door Unlock Output (-)250ma
3 pin Bypass White Plug	1	WHITE/VIOLET	(-) While Running Output (-)250ma
	2	BLACK	Ground Output (-)250ma
	3	RED	12Volt Output (+)250ma

Wiring Side Connectors

*The center pin of the keyless entry harness is **ONLY** available with plug-in devices such as the INV200US, PDLM3, or PDLMRUS.

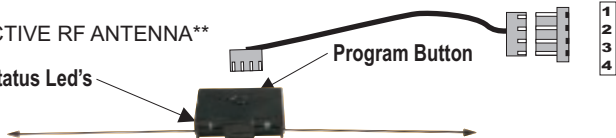
Overloading this output will damage the remote starter.

Door Lock Output (-)250ma	GREEN		1 2 3
12v Output (+)250ma (see notes)	RED*		
Door Unlock Output (-)250ma	BLUE		


ACTIVE RF ANTENNA**

Status Led's

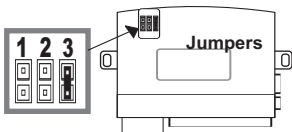
Program Button



The antenna **MUST be connected for the system to operate

Ground While Running Output (-)250ma	WHITE/VIOLET		1 2 3
Ground Output (-)250ma	BLACK		
12Volt Output (+)250ma	RED		

Output on Pink White	Jumper position
Second Starter	Position 1
Second Accessory	Position 2
Second Ignition	Position 3



NOTE: The jumpers control the output from the **PINK/WHITE** wire on the main 6- pin harness. This is an **30amp relayed output**.

*The factory default setting of the Selectable Output jumper is position #3.

Wire Description

MAIN CONNECTOR (6 pin)


Pin	Function	Description
1-PURPLE	Starter Output	<i>This wire will test 0V in OFF, ACCESSORY and in the ON key positions. 12v during START ONLY.</i>
2-ORANGE	Heater/Acc Output	<i>This wire will test 0V in the OFF and START key positions. 12-14V in the ACCESSORY and RUN key positions.</i>
3-RED	12volt Input(30amp)	<i>Supplies 12volts for the IGNITION, PARK LIGHT and SELECTABLE outputs.</i>
4-RED	12volt Input(30amp)	<i>Supplies 12 volts for ACCESSORY and STARTER outputs.</i>
5-PINK	Ignition Output	<i>This wire will test 0V in the OFF and ACCESSORY key positions.12V in the IGNITION, START and RUN positions</i>
6-PNK/WHT	Selectable Output	<i>Output for 2nd IGNITION, 2nd ACCESSORY or 2nd STARTER.</i>

AUXILIARY CONNECTOR (14 pin)

Pin	Function	Description
1-BLUE	Re-arm (-)	<i>0.75 second pulse output when ⓘ is pressed and after remote start shutdown. Used for factory alarm re-arm.</i>
2-RED/WHT	Trunk Release (-)	<i>Programmable output. Hold ⓘ or # button for 3 seconds, output will stay active (max 5 seconds) or (-)park light.</i>
3-GREEN/BLK	Dis-arm (-)	<i>0.75 second pulse when ⓘ and is pressed and before remote starter activation. Used for factory alarm dis-arm.</i>
4-ORANGE	Ground When Running (-)	<i>Output active during remote start.</i>
5-BROWN	I/Starter Kill (-)	<i>Programmable Starter Kill.</i>
6-BLK/WHT	Siren (+)	<i>Positive output to activate siren.</i>
7-VIOLET	No Connection	
8-WHITE	Door Pin Input (+)	<i>Input from positive type door pins.</i>
	Park Light(+)	<i>10amp positive output to activate park lights. Programmable output</i>

Continued on next page...

Wire Description

Pin	Function	Description
9-GRAY	Hood Pin (-)	Input to detect ground when hood is open. MUST BE CONNECTED.
10-GREEN	Door Pin Input (-)	Input from negative type door pins.
11-BLACK	Ground (-)	System chassis ground input.
12-PINK	Brake Light (+)	Positive brake light switch input. Used to detect the brake switch being applied.
13-VIOLET/ WHITE	Tach (A/C)	A/C Tach signal input. Used to detect engine speed to indicate vehicle is running. (Coil, Injector, cam/crank position sensors) MUST BE CONNECTED
14-GRAY/ BLACK	Diesel (-)	Programmable Wait to Start Input. Detects negative signals. This wire also acts as an "instant start wire" when ignition is off. 

LOCK/ UNLOCK CONNECTOR (3 pin red)

Pin	Function	Description
1-GREEN	Lock (-)	Programmable LOCK output. (Menu 1)
2-EMPTY		
3-BLUE	Unlock (-)	Programmable UNLOCK output. (Menu 1)

ANTENNA CONNECTOR (4 pin blue)

RF Antenna with Program Button and LEDs

AUXILIARY CONNECTOR (3 pin white)

Pin	Function	Description
1-WHITE/ VIOLET	Ground While Running(-)	250ma ground output while remote starter is active.
2-BLACK	Ground(-)	250ma ground output.
3-RED	12volts(+)	250ma 12volt output.

Important!

Never install an AUTOMATIC TRANSMISSION module into a MANUAL TRANSMISSION vehicle!

Basic Installation- Connect All Of the Following Wires

Main Connector (6pin)

PURPLE	Starter Output - 12volts during start position only.
ORANGE	Heater/Acc Output - 12volts in the accessory position off during start and 14volts during run.
RED	12volt 30amp Input - 12volts from ignition harness or battery.
RED	12volt 30amp Input - 12volts from ignition harness or battery.
PINK	Ignition Output - 12volts in the ignition, start and run positions.
PINK/ WHITE*	Selectable Output - Selectable Output for vehicles that may require a 2nd Ignition, Accessory or Start.

Auxiliary Connector (14pin)

BLACK	System Ground Input - Connect to Chassis Ground.
WHITE	Park Light Output - Connect to Park Light system.
GRAY	Hood Pin Input - Connect to the Hood Pin Safety Switch.
VIOLET/WHT*	Tach Input - Connect to A/C Tach source. (Above 2 volts AC)
PINK	Brake Switch Input - Connect to (+) when the brake pedal is applied.

System Reset

The system reset will clear any changes made to the Program Menu's as well as the Tach setting. When the system reset is complete the system must be Tach learned before the remote starter will operate.

- 1) Turn the ignition key from "Off" to "On" 3 times, **ON-OFF-ON-OFF-ON** within three seconds. (Leave the key in the **ON** position)
- 2) Press and release the **Program Button** located on the antenna. The park lights will turn on and the horn (optional) will honk one time.
- 3) Then press and hold the **Program Button** until the park lights flash and the horn (optional) will honk 3 times slowly to confirm system reset.

System is now reset to factory defaults.

NOTE: System Reset **does not** delete the transmitter codes from memory.

* See the following pages for more detailed programming instructions.


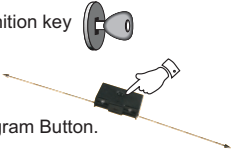
Tach Learning

NOTE: The System **MUST** be “Tach Learned” before the attempting to start the vehicle with the remote starter.

Tach Learning the remote starter is one of the most important steps in the installation process. Do not tach learn vehicle while the engine is in high idle. To ensure the best possible tach setting, ensure that the vehicle is at low idle/ normal operating RPM. Vehicles such as Toyota and Honda may idle much higher when the engine is warm compared to starting the vehicle when the engine is cold. The Tach Learn feature may be used to tach learn the vehicle again but at a normal engine RPM.

Learning Tach

Tach Learn can be done at any time but is most effective when it is performed while the vehicle is at normal idle RPM. The following steps should be followed for an accurate tach learn:

- 1) Start the vehicle and leave it running with the ignition key until the engine idles down.
- 2) Press and hold the brake pedal. 
- 3) Press and release, then press and hold the Program Button. 
- 4) The park lights will flash twice and the horn will honk twice to confirm a successful tach learn. If you get three flashes and three horn honks, it may be necessary to connect to a different tach source. It is also important that the ignition output from the remote starter is connected to a wire that does not turn off in the crank position. The remote starter will not tach learn if ignition is connected to the wrong wire.

TIP: “Manual Low Idle Learn”. While in “Tach Learn” mode, firmly apply the park brake and press the brake pedal. Place the transmission into reverse gear this will lower the Engine Idle.

Note - If the original Tach source is changed, tach must be re-learned before attempting to start the vehicle with the remote starter.

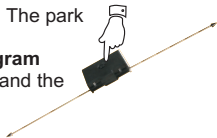
Remote Transmitter Learn

Important! The remote starter will hold 4 transmitter codes. It is recommended that when programming in transmitters, you fill up all four transmitter codes, even if only using one or two transmitters. This will clear all other transmitter coding from the unit and prevent stray coding or possible interference from other remote transmitters.


STEP 1 - Within 3 seconds turn the ignition key to the “ON” position three times leaving “ON” the third time.





STEP 2 - Press and hold the Program Button. The park lights will turn “ON” and the siren will chirp once. Continue to hold the Program Button, the park lights will turn “OFF” and the siren will chirp 5 times quickly.




NOTE: If the parking lights do not turn “ON”, release the Program Button and turn the ignition to the “OFF” position, wait 5sec and repeat steps 1 & 2.

STEP 3a (Default) - While holding the Program Button, press and release the  button on each of the remote transmitters to be programmed. If using two transmitters, code in each transmitter twice.

STEP 3b (2nd Car) - While holding the Program Button, press and hold the  button on the second car remote until the blue light and Shift indicator on the remote come on solid and within 3 seconds, push the  button.

2nd Car function allows the operation of two remote starter systems (in two separate vehicles) with one remote transmitter.

Example: Press and hold the  button until the blue light and Shift indicator stay on and then within 3 seconds press whichever function you wish to perform.

NOTE: Some features not available with 2nd car mode.

Entering Program Mode

Ignition On	Press & Release	For Menu 1,	For Menu 2,	For Menu 3,
Off-On-Off	the Program	press the	press the	press the
On	Button 3 Times.	ⓘ button	Ⓛ button	* button



- 1) With the ignition in the OFF position, turn the ignition key from “Off” to “On” 3 times, ON-OFF-ON-OFF-ON within three seconds.

NOTE: Leave the key in the ON position

- 2) Press and release the Program Button. The park lights will flash and the siren will chirp to confirm entering program mode.
- 3) Select desired Program Menu (See below). The park lights will flash and siren will chirp to confirm the selected menu.
- 4) Select Programmable Setting:
 - a) *Press and release* the Program Button the correct number of times to select the desired Program Setting. The park lights and LEDs will flash and the siren will chirp to indicate the Program Setting that has been selected. *For example:* 1 flash/chirp = Program Setting 1; 2 flashes/chirps = Program Setting 2; etc...
 - b) *Press and Hold* the Program Button until the park lights flash and the siren chirps to confirm the desired setting. *For example:* 1 flash/chirp = Setting 1; 2 flashes/chirps = Setting 2; 3 flashes/chirps = Setting 3.
 - c) Turning the ignition key to the “Off” position or 30 seconds of no activity will exit Program Mode. This will be confirmed with a light flash and a long siren chirp. The Program Menu may be changed at any time by pressing the transmitter button (below), this will allow the installer to jump from one menu, then quickly jump to another menu and change another setting without re-entering Program Mode.

Program Menus

Menu 1: User Settings (ⓘ Button)

This program menu is for the adjustments for the user and door lock options.

Menu 2: Additional Settings (Ⓛ Button)

This program menu is for additional settings.

Menu 3: Starter Settings (* Button)

This program menu is for various remote car starter applications.

Quick View Programming **** Bold text indicates default settings ****

MENU 1 (Button1)		1 flash	2 flash	3 flash
M1-1	Acc on/off control Lock/unlock	Enabled	Lock only	Disable*
M1-2	Lock/unlock optional	Double unlock	3 seconds	3/4 second*
M1-3	Unlock/disarm	125ms	750ms*	
M1-4	Lock/unlock type	Type 1	Type 2	Normal*
M1-5	Siren Chirp	Type 1	Type 2	All Chirps*
M1-6	Siren duration	Horn output	60s	30s*
MENU 2 (Button 2)				
M2-1	Safety start mode	Press button3 twice	Press button3 once*	
M2-2	Parking light output	Output 30 seconds	(-) Parking light	(+) Parking light*
M2-3	Button 4(#)	Trunk release	Car finder*	
M2-4	Rearm output	Type 1	Type 2	Rearm*
M2-5	Start disable/GWR	Passive	Passive re-arm	Active *
M2-6	Secure valet mode	15seconds	5 seconds*	
MENU 3 (Button 3)				
M3-1	Gas/diesel	15seconds	Gas /Negative*	
M3-2	Run time	4MIN	45MIN	15MIN*
M3-3	Crank time	10 seconds	3 seconds	5 seconds*
M3-4	Crank time mode	4 cycle tach sensing	Smart tach sensing	2 cycle tach sensing*
M3-5	Shock sensor	OFF	ON*	

Menu 1- User Settings ******Bold text indicates default settings******

M1-1 Ignition Auto Lock

1. Enable – Doors Lock/Unlock with ignition key on/off
2. Ignition Lock – Doors Lock when ignition is turned on
3. **Disable – Lock/Unlock with remote transmitter ONLY**

M1-2 Door Lock Options

1. Double Unlock Pulse - .75 second lock & 2 – unlock pulses
2. 3 Second Lock & Unlock – 3 second lock and unlock pulses
3. **.75 Second Lock & Unlock - .75 second lock and unlock pulses**

M1-3 Unlock/Disarm Pulse Duration

1. Short Pulses - .125 second pulses on Unlock & Disarm outputs
2. **Normal Pulses - .75 second pulses on Unlock and Disarm outputs**

M1-4 Lock/Unlock Type (Special Door Lock/Unlock Operations)

1. Type 1 – Unlock before start. Lock pulse after start and after shutdown
2. Type 2 – Lock pulse after remote start shutdown
3. **Default Lock/Unlock Pulses**

M1-5 Siren Chirp Settings

1. Type 1 – Lock/Unlock Chirps Disable – Chirps for Panic & Car Finder only
2. Type 2 – Lock/Unlock Chirps Enable – All chirps EXCEPT for START
3. **All Chirps Enable – Chirps for all features**

M1-6 Siren Output Duration

1. 30 Second Horn Output (Pulsing) When Alarm Triggered
2. 60 Second Siren Output When Alarm Triggered
3. **30 Second Siren Output When Alarm Triggered**

Menu 2- Additional Settings ****Bold text indicates default settings****

M2-1 Safety Start

1. Safety On – Press the start button twice with 3 seconds to remote start
2. **Safety Off – Press the start button once to remote start vehicle**

M2-2 Parking Light/Trunk Output

1. 30 Seconds – Parking lights stay on for 30 seconds when doors unlocked
2. Negative Parking Lights – Switches the Park Light/Trunk outputs
3. **Default On All Outputs**

M2-3 Trunk Release on (#) Button

1. (#) Button activates Trunk Release (Hold down for 3 seconds)
2. **(#) Button activates Car Finder Mode**

M2-4 Re-Arm Output

1. Type 1 – Pulse after start and with lock
2. Type 2 – Pulse after start only
3. **Factory Alarm Re-Arm – Pulse with lock and after remote starter shutdown**

M2-5 Starter Disable/GWR

1. Passive – (-) System arms automatically after 30 seconds when ACC off and door is opened and closed. LED will flash rapidly during countdown time.
2. Passive Re-Arm – (-) System will only re-arm after 30 seconds if the unit is disarmed and no zone was opened.
3. **Active/GWR – (-) Output during remote start only – System arms only with the transmitter**

M2-6 Secure Valet Mode (time required to set VALET mode)

1. Secure Valet – Hold the VALET button for 15 seconds
2. **Normal Valet – Hold the VALET button for 5 seconds**

Menu 3- Starter Settings ******Bold text indicates default settings******

M3-1 Gas/Diesel Mode

1. Time Delay – Waits for approximately 15 seconds before cranking
2. (-) **Glow Plug input – Waits max. 30 seconds to crank (2 sec. if no signal detected)**

M3-2 Run Time

1. 4 Minutes – Runs for approx. 4 minutes when activated
2. 45 Minutes – Runs for approx. 45 minutes when activated
3. **15 Minutes – Runs for approx. 15 minutes when activated**

M3-3 Maximum Crank Time

1. 10 seconds – 10 seconds maximum that the starter will stay engaged
2. 3 seconds - 3 seconds maximum that the starter will stay engaged
3. **5 seconds - 5 seconds maximum that the starter will stay engaged**

M3-4 Crank Time Mode

1. 4 Cycle Sensing (not cylinder) Tach Learn – Call Tech Support
2. Smart Tach Learning – Call Tech Support
3. **2 Cycle Sensing (not cylinder) Tach Learn – Call Tech Support**

M3-5 Shock Sensor

1. Shock Sensor Off
2. **Shock Sensor On**

SHOCK SENSOR ADJUSTMENT

- A. Make sure your system is disarmed. Press buttons 1 & 2 together and hold for 2 seconds. The siren will chirp and the park lights will flash 3 times and the park lights will stay ON.
- B. While the park lights are on, strike the vehicle with the same amount of force wanted to trigger the alarm*. The vehicle will record the sensitivity for the next 3 seconds. It is best to use both hands curled into fists and perform a "drum roll" for 3 seconds with the force you desire.
- C. Press and release buttons 1 & 2 together momentarily to exit shock sensor programming.

Note: If you enter into shock sensor programming and no impact is detected within 30 seconds, the unit will exit shock sensor learning mode and the original sensitivity will remain unchanged. A system power down (dead battery) does not affect shock sensor sensitivity.

* When striking the vehicle, be careful not to strike it in an area that may cause damage. The most common location for testing and setting the shock sensor is the A-pillar. The A-pillar is the metal support that runs from the roof of the vehicle to the hood area. Avoid hitting the windshield when programming. Slight cracks can easily spread with even the smallest of impacts, especially if the windshield is cold.

Titan will not be responsible for any damage done to the vehicle due to careless shock sensor setup.

TEMPORARY SHOCK SENSOR BYPASS

- A. Press buttons 1 & 3 together.
- B. System will chirp once to arm and bypass the shock sensor temporarily.

DUAL-STAGE SHOCK SENSOR

The TS251A has a built in dual-stage shock sensor that automatically sets up the same time the main shock sensor sets up. There is no separate adjustment. If the car receives a light impact, the siren will chirp 3 times and the park lights will flash to warn away any would-be intruders. If the car receives a heavy impact, the siren will sound and the parking lights will flash for a full 30 seconds (This is adjustable to 60 seconds at time of install).

Your Install Is Complete!

NOTES:

- 1) If the vehicle does not start when the remote starter is activated, the park lights will flash a diagnostic code. (See Diagnostic Chart below).
- 2) If the vehicle still does not start, check all connections and check for factory Anti-Theft system.

Flashes	Problem	Solution
3 slow flashes	System is in valet mode	Cancel Valet Mode (see owner's guide)
4 slow flashes	Door Open	Manual trans. models only
5 slow flashes	Ignition ON	Verify Ignition input
5 flashes	Brakeswitch	Test Brakeswitch input
6 flashes	Hoodswitch	Test Hoodswitch input
7 flashes	Tach lock-out	Repeat Tach programming procedure

TITAN

REMOTE STARTERS

**TEXT
START
READY**

This TS251A unit is **TEXT READY**. This unit is fully compatible with one of Titan's new SMS Text Messaging Systems. This new advanced technology allows you to control and monitor your vehicle from anywhere you have **GSM/GPRS** cellular phone coverage. Ask your Titan dealer for details about this exciting new product.

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TS251A

www.titaninnovations.ca

Install Guide

Revision 2.01