

#### AUTOMATIC TRANSMISSION REMOTE STARTER

# AS-2300TW

# User Guide

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#### INDUSTRY CANADA USER NOTICE:

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication.

#### FCC USER NOTICE (U.S.A.):

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

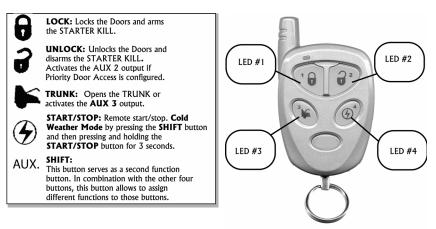
**NOTE:** The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

## Introduction

This is a state-of-the-art remote starter system. The system is packed with advanced features such as priority access to the driver's door (commodity features) and the safe start children safety feature. With many an advanced function, this product will satisfy any one your expectations from high-end commodity and security systems, without neglecting any standard feature commonly offered by entry-level starters.

# Using the Remote Control

Your remote starter is equipped with a 5-button multi-channel remote control. It can operate two independent vehicles equipped with a remote starter (see **Multi-car operation** section on page 12). The functions of the transmitter are as follows:



Picture serves as example only.

- Pressing and holding the LOCK button for more than 3 seconds will lock all doors and will send a constant pulse as long as the LOCK button is held down (maximum of 15 seconds). This constant pulse can be configured to activate certain functionalities such as rolling up the windows Please refer to your installer to see if your vehicle is compatible with this option.
- Pressing and holding the UNLOCK button for more than 3 seconds will unlock all doors and will send a constant pulse as long as the UNLOCK button is held down (maximum of 15 seconds). This constant pulse can be configured to activate certain functionalities such as rolling down the windows – Please refer to your installer to see if your vehicle is compatible with this option.

Feature	LED #1	LED #2	LED #3	LED #4	Beep(s)
Lock	3 flashes	Х	Х	Х	1
Unlock	Х	3 flashes	Х	Х	2
Trunk	Х	Х	3 flashes	Х	1
LED ON/OFF	3 flashes	3 flashes	Х	Х	1
Start	Х	Х	Х	3 flashes	1
Running	Х	Х	Х	3 flashes	3
Stop	Х	Х	Х	3 flashes	2
Entering Cold Weather Mode	х	х	х	3 flashes	2
Exiting Cold Weather Mode	х	х	х	3 flashes	1
Home Valet	3 flashes	Х	Х	3 flashes	2
Valet Mode	3 flashes	Х	Х	3 flashes	1
Exit ValetMode	Х	3 flashes	Х	3 flashes	1

# Feature Confirmation Chart

# Vehicle Status Request

The status request feature allows the user to see the status of the vehicle —i.e.: if the doors are locked or unlocked or if the vehicle is in cold weather mode, home valet mode, in valet mode or how much time is left in the run time cycle. The following charts (Tables 1, 2 and 3) indicate the confirmation sequences.

#### To retrieve the vehicle status:

Press and release the **SHIFT** button then press and release the **TRUNK** button (there will be a beep). The transmitter will then flash the corresponding sequence of LEDs depending on the vehicle's status.

- If the engine is NOT running, refer to Table 1.
- If the engine IS running under a remote start, refer to Table 2 (if the doors are locked) or refer to Table 3 (if the doors are unlocked).

The status request feature is a two-step procedure:

• The first sequence of flashes denotes if the vehicle's doors are locked or unlocked.

- The second sequence of flashes (if applicable) denotes if the vehicle is *Cold weather mode*, *Home valet mode*, or, *Valet mode*.
- If there is no second sequence transmission, that the vehicle is not in any of the three (3) mentioned features (*Cold weather mode, Home valet mode* or *Valet mode*).

STATUS	SEQUENCE	LED #1	LED #2	LED #3	LED #4	Beep(s)
Lock		3 flashes	Х	Х	Х	1
Unlock		Х	3 flashes	Х	Х	2
Cold	1st sequence if locked	3 flashes	Х	х	х	2
Weather	1st sequence if unlocked	Х	3 flashes	х	x	2
	2 <sup>nd</sup> sequence	Х	Х	Х	1 second	Х
Users	1st sequence if locked	3 flashes	Х	Х	Х	2
Home Valet	1st sequence if unlocked	Х	3 flashes	Х	х	2
	2 <sup>nd</sup> sequence	1 second	Х	Х	1 second	Х
Valat	1st sequence if locked	3 flashes	Х	Х	Х	1
Valet Mode	1st sequence if unlocked	Х	3 flashes	Х	Х	1
	2 <sup>nd</sup> sequence	1 second	Х	Х	1 second	Х

## Status Request When the Engine IS NOT Running

Table 1

# Status Request When the Engine is Running

When the v	When the vehicle's doors are locked:								
RUN TIME	SEQUENCE	LED #1	LED #2	LED #3	LED #4	Beep(s)			
If there is more than	1st sequence	3 flashes	Х	Х	Х	3			
3/4 of run time cycle	2 <sup>nd</sup> sequence	ON for 1-sec	ON for 1-sec	ON for 1-sec	ON for 1-sec	Х			
If there is more than	1st sequence	3 flashes	Х	х	Х	3			
half of run time cycle	2 <sup>nd</sup> sequence	ON for 1-sec	ON for 1-sec	ON for 1-sec	Х	Х			
If there is more than	1st sequence	3 flashes	Х	Х	Х	3			
1/4 of run time cycle	2 <sup>nd</sup> sequence	ON for 1-sec	ON for 1-sec	Х	Х	Х			
If there is less than 1/4 of	1st sequence	3 flashes	Х	Х	Х	3			
run time cycle	2 <sup>nd</sup> sequence	ON for 1-sec	Х	Х	Х	Х			

## When the vehicle's doors are unlocked:

RUN TIME	SEQUENCE	LED #1	LED #2	LED #3	LED #4	Beep(s)
If there is more than	1 <sup>st</sup> sequence	Х	3 flashes	Х	Х	3
3/4 of run time cycle	2 <sup>nd</sup> sequence	ON for 1-sec	ON for 1-sec	ON for 1-sec	ON for 1-sec	Х
If there is more than	1 <sup>st</sup> sequence	Х	3 flashes	Х	Х	3
half of run time cycle	2 <sup>nd</sup> sequence	ON for 1-sec	ON for 1-sec	ON for 1-sec	х	х
If there is more than	1 <sup>st</sup> sequence	Х	3 flashes	Х	Х	3
1/4 of run time cycle	2 <sup>nd</sup> sequence	ON for 1-sec	ON for 1-sec	Х	Х	Х
If there is	1 <sup>st</sup> sequence	Х	3 flashes	Х	Х	3
less than 1/4 of run time cycle	2 <sup>nd</sup> sequence	ON for 1-sec	Х	Х	Х	Х

Table 3

# How Run Time Cycles Work

RUN TIME CYCLE	LED #1 will turn itself off when	LED #2 will turn itself off	LED #3 will turn itself off	LED #4 will turn itself off
4-minute run time cycle	the cycle will have ended.	3 minutes into the cycle.	2 minutes into the cycle.	1 minute into the cycle.
9-minute run time cycle	the cycle will have ended.	7 minutes into the cycle.	5 minutes into the cycle.	3 minutes into the cycle.
15-minute run time cycle	the cycle will have ended.	11 minutes into the cycle.	7 minutes into the cycle.	3 minutes into the cycle.
20-minute run time cycle	the cycle will have ended.	15 minutes into the cycle.	10 minutes into the cycle.	5 minutes into the cycle.
25-minute run time cycle	the cycle will have ended.	19 minutes into the cycle.	13 minutes into the cycle.	7 minutes into the cycle.
30-minute run time cycle	the cycle will have ended.	23 minutes into the cycle.	16 minutes into the cycle.	9 minutes into the cycle.

Example: If the vehicle was programmed with a run time cycle of 15 minutes and the engine was running (under a remote start) for 5 minutes (meaning there is 10 minutes left in the run time cycle), LEDs #1 #2 and #3 would light up. LED #3 will turn itself off when there will be 8 minutes or less left in the run time cycle.

## Multi-Level Features (default state)

<b>Basic Features</b>	(press the SHIFT button	1X)
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SHIFT	$\triangleright$	LOCK:	aux 2
SHIFT	$\succ$	TRUNK:	status request
SHIFT	$\triangleright$	START/STOP	cold weather

#### Multi-Car Operation (press the SHIFT button 2X)

SHIFT	$\succ$	SHIFT	$\succ$	LOCK:
SHIFT	$\succ$	SHIFT	$\succ$	UNLOCK:
SHIFT	$\succ$	SHIFT	$\succ$	START/STOP: 2 <sup>nd</sup> car start/stop
SHIFT	$\succ$	SHIFT	$\succ$	TRUNK: 2 <sup>nd</sup> car trunk

#### Customized Features (press the SHIFT button 3X)

(May not be applicable for certain vehicles)

Your installer can add customized features such as turning on the radio, opening sliding doors, etc.

SHIFT	$\succ$	SHIFT	$\triangleright$	SHIFT	► LOCK:	customized feature 1
SHIFT	$\succ$	SHIFT	$\succ$	SHIFT	➤ UNLOCK:	customized feature 2
SHIFT	$\succ$	SHIFT	$\triangleright$	SHIFT	➤ TRUNK:	customized feature 3
SHIFT	۶	SHIFT	۶	SHIFT	> START/STOP:	customized feature 4

Setting Transmitter Features (press the SHIFT button 4X)

#### SHIFT > SHIFT > SHIFT > SHIFT:

LOCK:	full beep	(LED #1 flashes)
	half beep	
	disable beep	
	save modifications	

By default, the multi-level features are programmed as follows:

- Level 1 (Basic Features)
- Level 2 (Multi car operation)
- Level 3 (Customized Features)
- To access a feature that is programmed as level 1, press the SHIFT button once followed by the desired function.
- To access a feature that is programmed as level 2, press the SHIFT button twice followed by the desired function.
- To access a feature that is programmed as level 3, press the SHIFT button three times followed by the desired function.

Your installer can customize the system as to personalize these multi-level features in an order that best suits you. Your options are:

	Option 1:	
Level 1 (requires pressing the SHIFT button 1X)	$\rightarrow$	Multi car operation
Level 2 (requires pressing the SHIFT button 2X)	$\rightarrow$	Basic features
Level 3 (requires pressing the SHIFT button 3X)	$\rightarrow$	Customized features
Option 2:		
Level 1 (requires pressing the SHIFT button 1X)	$\rightarrow$	Basic features
Level 2 (requires pressing the SHIFT button 2X)	$\rightarrow$	Multi car operation
Level 2 (requires pressing the SHIFT button 2X)	$\rightarrow$	Multi car operation

Level 3 (requires pressing the SHIFT button 3X)  $\rightarrow$ 

Customized features

						Option 3	:
Level 1	(re	equires	pressing	the SHIFT	button 1X)	$\rightarrow$	(

÷

Level 2 (requires pressing the SHIFT button 2X)  $\rightarrow$ 

Level 3 (requires pressing the SHIFT button 3X)  $\rightarrow$ 

Customized features Multi car operation

Basic features

# Option 4:

Level 1 (requires pressing the SHIFT button 1X)  $\rightarrow$ Level 2 (requires pressing the SHIFT button 2X)  $\rightarrow$ 

Level 3 (requires pressing the SHIFT button 3X)  $\rightarrow$ 

Basic features Customized features

Multi car operation

Example: If the multi-level features were set to option 3, the setup would be as follows:

- Level 1 → Customized feature
- Level 2  $\rightarrow$  Multi car operation
- Level 3  $\rightarrow$  Basic features

The "Basic features" are now programmed as level 3 and therefore:

- To access the aux.2 feature, the user needs to press on the SHIFT button three (3) times followed by the LOCK button.
- To access the status request feature, the user needs to press on the SHIFT button three (3) times followed by the TRUNK button.
- To access cold weather mode, the user needs to press on the SHIFT button three (3) times followed by the START/STOP button.

# **Remote-Starting Your Vehicle**

Press the start/stop button for approx. 1 second. The parking lights will come on to inform you that the remote starter has received your signal. Approximately 5 seconds later, the engine will start. The parking lights will remain on during the pre-programmed run time of the engine.

If the vehicle does not start at the first attempt, the system will shut down, wait a few seconds and try to start the engine again. There will be 3 start attempts before the system gives up.

Vehicle Presets

## Heater & Heated Seat

When leaving the vehicle it is recommended to preset the accessory controls in preparation for the next remote start. Settings for the blower motor (fan), front and rear, as well as heated seats (if equipped) should not be left on HIGH. It is recommended to leave the settings on LOW or MEDIUM instead.

## Windshield Wipers & Radio & Headlights

Certain vehicles require the radio and / or windshield wiper and / or headlight circuits to become energized while running under remote start. When leaving the vehicle you must ensure that the windshield wiper and headlight switches are OFF. Leaving the headlight switch on on certain types of vehicles could cause them to remain on even after remote starter shut down, resulting in a dead battery.

## Driving Off

With the vehicle running under remote control, press the UNLOCK button to disarm and unlock the doors. Enter the vehicle and do the following:

Turn the ignition key to the IGNITION ON (RUN) position. (Do not turn the key to the CRANK position while the engine is running. This would cause the starter motor to re-engage.)

Press the brake pedal to disengage the remote starter unit.

You are now ready to drive off.

# Using the Remote Starter

#### Arming the Starter Kill

The starter kill (if installed) can be configured by the installer so as to arm automatically (passive mode) or not to arm automatically (active mode). See section **passive or active arming** on p. 11 for more details on passive mode and active mode.

- To disarm the starter kill, press the UNLOCK button on the transmitter. The parking lights will flash twice. If remote door locks are installed, this will also unlock the doors.
- To arm the Starter Kill, press the LOCK button on the transmitter. The parking lights will flash once. If remote door locks are installed, this will also lock the doors.
- In **passive mode**, the starter kill will automatically arm if the ignition key is not inserted Into the ignition switch within 1 or 3 minutes after unlocking (the key sense feature must be installed).

#### Idle Mode

**Convenience feature:** Idle mode allows you to keep the engine running and the doors locked while you stop, for example, at a convenience store or for a short delivery.

This feature allows you to let the remote starter take over control of the vehicle (i.e. no key in the ignition switch) while the engine is running. For example, if you stop for a delivery or at a convenience store, lock your vehicle and leave it running for the length of a run cycle while you are away.

#### To leave the vehicle in idle mode:

- 1. With the engine running, press the LOCK or UNLOCK button (to unlock the doors) or the START/STOP button on the remote control until the parking lights come on.
- 2. Remove the key and exit the vehicle. The engine will go on running.
- 3. Lock the doors if needed.

The engine will go on running until the user re-enters the vehicle or until the expiration of the engine run time .

Caution!!! Do not leave children or pets unattended in a vehicle standing in Idle Mode.

#### Turbo Mode

If turbo mode is configured at installation, it will allow a turbocharger to idle down after the user leaves the vehicle: the unit will take over the vehicle and keep it running for 60 seconds (or until it is shut down by remote control), then shut down the engine.

#### Proceed as follows to set the system to Turbo Mode:

- 1. With the engine already running, press the LOCK button on the transmitter until the parking lights come on.
- 2. Remove the ignition key from the ignition switch. The engine will go on running.
- 3. Exit the vehicle and close the door.
- 4. Press the TRUNK button to lock the doors; the engine will shut down after 60 seconds of Turbo Mode.

## Valet Mode

Valet Mode Using the Valet Switch (if installed)

When your vehicle is in valet mode, the remote starter functionalities are disabled. If the vehicle needs to be serviced, or if you park it indoors, the valet mode will prevent the engine from being remote-started accidentally.

#### To put the system into valet mode:

- 1. Turn the ignition key to the IGNITION ON (RUN) position.
- 2. Within 3 sec., press the valet button (the L.E.D. will come on solid).
- 3. The parking lights will flash three times to indicate that the vehicle is now in valet mode. The L.E.D. will come on solid.

#### To take the system o u t o f valet mode:

- 1. Turn the ignition key to the IGNITION ON (RUN) position.
- 2. Within 3 sec., press and release the valet button (the L.E.D. will come our).
- 3. The parking lights will flash twice to indicate that the vehicle is now in valet mode.

#### The L.E.D. will go out.

Note: Once valet mode is activated, the remote starter and alarm functions will be disabled.

#### Ignition Valet

This feature will allow you to remotely put your system into valet mode by using the ignition key instead of the valet button as above. Ignition valet can be used without a valet button installed.

#### To put the system into valet mode:

Insert the ignition key into the ignition switch. Within 10 sec., turn the key 5 times successively into the IGNITION ON / RUN and OFF positions.

The parking lights will flash three times to indicate that the vehicle is now in valet mode. The L.E.D. will come on solid.

#### To take the system o u t o f valet mode:

Insert the ignition key into the ignition switch. Within 10 sec., turn the key 5 times successively into the IGNITION ON / RUN and OFF positions.

The parking lights will flash twice to indicate that the vehicle is now in valet mode. The L.E.D. will go out.

Note: With the remote valet activated, the remote starter and alarm functions will be disabled.

#### Remote Valet Mode

This feature will allow you to remotely put your system into valet mode by using the transmitter instead of the valet button as above.

#### Getting into valet mode

- Hold the UNLOCK and START/STOP buttons simultaneously for 3 second.
- The parking lights will flash 3 times.

The LED will remain on solid.

#### Getting out of valet mode

- Hold the UNLOCK and START/STOP buttons simultaneously for 3 second.
- The parking lights will flash 2 times.

The LED will turn off.

#### "Home Valet ${}^{\mathsf{TM}}$ " Mode

If configured at installation, this feature will remotely set the vehicle to a no-remote-start mode: if the vehicle is parked indoors there is no danger of it starting accidentally by remote control.

Note: Once the home valet mode is activated, the vehicle will not start by remote.

#### To take the system into home valet mode:

- Press the LOCK or UNLOCK button.
- Within 3 seconds, press the LOCK and START/STOP buttons simultaneously until the parking lights go out

To take the system o u t o f home valet mode:

• Turn the ignition key to the IGNITION ON (RUN) position.

The system will warn you if someone attempts to start your vehicle while it stands in home valet mode. The parking lights will:

- 1- Turn on then off; then
- 2- Flash twice, pause; then
- 3- Flash twice again.

#### Panic Mode

Note: Panic mode can only be activated if the horn has been adequately configured by your installer.

In an emergency situation, you can activate panic mode by pressing and holding the SHIFT button for 3 seconds. If the vehicle is under a remote start, you can shutdown the engine, stop the horn and lock your doors by pressing the LOCK button:

If the car is not running, you can stop the horn by pressing the LOCK or UNLOCK buttons but it will not lock or unlock the doors.

Furthermore, the panic mode can be stop by activating one of the following three (3) features:

- a) Remote valet (pressing UNLOCK and START/STOP for 3 seconds)
- b) Ignition valet (turning the key inside the ignition switch from OFF to ON 5 times in a row)
- c) By pressing the valet switch (if included).

Panic Mode will automatically shut down after 30 sec.

#### Quick Lockout<sup>™</sup>

(Also called **secure panic**.) For fast protection in emergency situations, the system will LOCK all doors when you **press the brake pedal while you hear the sound signal**. (**Quick lockout** is only available when **panic mode** has been set off.)

#### Cold Weather Mode

When cold weather mode is active, the engine starts every 2 hours and runs for 4 minutes (or for 9 or 20 minutes with diesel engines). Cold weather mode automatically ends after 24 hours.

#### To enter Cold Weather Mode:

- Press the SHIFT button and then the START/STOP for 3 seconds.
- There will be two (2) beeps and the parking lights will flash three (3) times.

#### To exit Cold Weather Mode, do any one of the following actions:

- Open the hood.
- Start the engine by remote.
- Turn the ignition key to the IGNITION ON (RUN) position.
- Press the SHIFT button and then the START/STOP button for three seconds.
- There will be one (1) beep and the parking lights will flash once.

#### To verify whether the system is in cold weather mode:

Press and release the brake pedal:

If the vehicle is in cold weather mode, the parking lights will stay on while the pedal is pressed.

## Advanced Features: Installation-programmable Options

The remote starter was designed with flexibility and OEM integration in mind. With its programmable options, this unit can single-handedly control nearly any electrical system in your vehicle.

**Caution:** The programming of your system should be left to a professional. Changing any one of the settings may affect the operation of your remote starter.

#### The installation-programmable options are as follows:

Remote Door Locks	Ignition Re-lock
Priority Door Access	Secure Lock

Passive or Active Arming Starter Kill / Anti-grind feature Horn Chirp Timing Safe Start Home Valet ™ Ignition-controlled Door Locks Turbo Mode Remote Trunk Release Engine Run Time Extended run time Multi-car Operation

#### Remote Door Locks

If your remote starter was installed with the remote door locks option, you will have the convenience of remote keyless entry. See section **Arming and Disarming the Remote Starter**, on page 8, for further instructions on remote door locking and unlocking.

#### Priority Door Access

If the remote door locks option is installed on your vehicle, this safety feature allows you unlock solely the driver's door with a single press of the UNLOCK button on the transmitter; upon a second press of the UNLOCK button, all the other doors will unlock.

#### Active or Passive Arming

The starter kill can be configured either to passive mode (so as to arm automatically) or active mode (so as to require user intervention for arming). By default, your remote starter is configured to **passive mode**. In passive mode, the starter kill will automatically arm **60 seconds** after the last door is closed. The remote starter will not arm if a door is left open, or if you re-open a door within the 60-second delay.

**Important note:** When the remote starter re-arms automatically, you can disarm the When the remote starter by simply pressing the UNLOCK button.

#### The Starter Kill and the Anti-grind Feature

With this added security feature, the system will prevent your vehicle from starting with the ignition key when the starter kill is armed. If your remote starter was installed with the starter kill option, one will not be able to start your vehicle with the key unless the system has been unlocked and disarmed first, or put into valet mode.

**Note:** If the starter kill is installed, your vehicle will benefit from a protection against starter motor damage that could occur after remote-starting the engine should the user, by force of habit, turn the ignition key to the CRANK position.

#### Flashing LED

The user may decide to turn on or off LED flashing at any moment. To do so, simultaneously press and hold the LOCK and UNLOCK buttons on the transmitter. There will be an initial beep. Keep holding the buttons pressed until you hear another beep. At that point release the buttons. The LED will toggle to its next state –i.e.: ON/OFF:

There are three programmable options regarding the flashing LED:

- i. The LED flashes once the starter kill is activated (passive or active arming) and will turn itself off once the user turns the key to the IGNITION ON position.
- ii. The LED is totally disabled and will not flash –it will turn on solid, however, when in valet mode.
- iii. The LED will flash once the starter kill is activated but requires pressing the UNLOCK button to turn itself off. Failure to press the UNLOCK button will make the LED flash even if the key is in the IGNITION ON position.

#### Safe Start

If this feature is enabled, the user must press the **START/STOP** button 2 times within 3 seconds to remote-start the vehicle. This will eliminate accidental remote starts, e.g. when children are playing with the transmitter.

If swap start mode is selected, to remote-start your vehicle, press the SHIFT button and then the LOCK button. The AUX 2 output can be activated by pressing the START/STOP button.

#### Home Valet ™

If this feature is installed, the user will have the possibility to remotely set the vehicle to a noremote-start mode. See home valet section, on page 9, for full instructions.

#### Ignition-Controlled Door Locks

This is an added security feature. If your remote starter was installed with the ignition-controlled door locks option, the doors will automatically be locked as soon as the ignition key is turned to the IGNITION ON (RUN) position while the brakes are pressed. When the key is turned to the OFF position, the doors will automatically be unlocked.

#### Ignition Re-lock

On remote starters of this series, when ignition-controlled door locks are enabled and the ignition key is in the IGNITION ON (RUN) position, should any door be unlocked and opened, all doors will be relocked next time the brake pedal is pressed.

#### Secure Lock

Before it can remote-start your vehicle, the remote starter must first disarm the factory security system. The secure lock feature may be required on certain vehicle models with factory security systems that automatically unlock the doors when the security system is disarmed.

To keep your vehicle protected when the factory security system is disarmed for a remote start, secure lock will relock your doors as soon as the vehicle has started. Once the engine run cycle ends, secure lock will rearm your factory security system.

#### Turbo Mode

When left in turbo mode, the remote starter will keep the engine running for 60 seconds before shutting it down. This is to allow a turbocharger to idle down after the user leaves the vehicle. See **Turbo Mode** section on page 8.

#### Remote Trunk Release

If your system was installed with the remote trunk release option, you can open your trunk by pressing the TRUNK button. There will be one beep and LED #4 will flash 3 times.

#### Engine Run Time

If you have a gas engine, your remote starter can be programmed to run the engine for 4, 15, or 25 minutes (15 minutes by default). If you have a diesel engine, the remote starter can be programmed to run the engine for 9, 20, or 30 minutes (20 minutes default).

#### Extended Run Time

While the vehicle is running under a remote start, **pressing and holding the START/STOP button** for more than 3 seconds will reset the run time counter to zero and restart the run time cycle from the beginning. There will be one beep —a pause— three more beeps; the parking lights will flash three times and the horn (if configured) will honk once. The extended run time procedure can only be carried out once per remote start.

To stop the vehicle, at any moment, simply press the **START/STOP** button.

Example: If your remote car starter is programmed for a run time of 4 minutes and your vehicle has been running for 3 minutes already, pressing the START/STOP button will reset the counter to zero and allow the engine to run for another cycle (in this case, 4 minutes).

#### Multi-car Operation

This option allows the owner of two vehicles, both equipped with the same remote starter model, to control both systems with a single remote control. To control the second vehicle, simultaneously press the TRUNK button and the button of the function you wish to use.

Note: Your remote control must be configured for second car operation by the installer.

Press SHIFT > SHIFT >+ LOCK button simultaneously:	LOCK
Press Shift > Shift > + UNLOCK:	UNLOCK
Press Shift > Shift > + Start/Stop:	START
Press Shift > Shift > + Start/Stop:	STOP
Press Shift > Shift > + Trunk:	TRUNK

# Troubleshooting Transmitting Range

Many factors may affect the operating range of the transmitter. Some of these are:

- The condition of the battery in the transmitter.
- The operating environment (for example: downtown radio-frequency noise, airports, cellular phone towers...)
- Metal: any type of metal will affect operating range. This includes the metal in the car.
- The shape of the vehicle can affect range as well; vans in general have an especially poor range.
- The shape of the roof and A-pillars brings about considerable radio-frequency deflection (in this case the signal from the remote control). As a result, the direction in which the vehicle is facing in relation to the remote control can affect the range. Straight on standing in front of the vehicle generally gives you the greatest range; the second best performance is from the back. Using the remote control from either side of the vehicle will usually give the lowest range.
- The range will be significantly lower in a crowded parking lot than in open space.
- Always hold the transmitter high, approximately at shoulder height. Holding the transmitter against your chin will also increase your range: your head acts as an antenna.
- The operating range will be somewhat lower on vehicles equipped with an aftermarket or factory alarm.

# Diagnostics – Parking Light Flash Table

Flashes	Description
1	<ul> <li>Doors locked, starter kill armed.</li> <li>End of run time.</li> <li>TRUNK button pressed</li> <li>Start signal received by the module.</li> <li>Cold weather mode cancelled.</li> <li>Cannot start after maximum number of attempts is reached.</li> </ul>
2	<ul> <li>Doors unlocked, starter kill disarmed.</li> <li>Run time cancelled.</li> <li>Remote start attempt cancelled by remote.</li> <li>Exiting remote valet</li> <li>Exiting ignition valet</li> </ul>
3	<ul> <li>Entering cold weather mode.</li> <li>Entering extended run time.</li> <li>Entering remote valet</li> <li>Entering ignition valet</li> </ul>
4	<ul> <li>+12 V where detected on the brake line and cranking was cancelled.</li> <li>Entering tach-programming mode</li> </ul>
5	<ul><li>New transmitter programmed.</li><li>Tach programmed.</li></ul>
6	A remote start was attempted while a tach or a vacuum signal was detected before cranking.
8	Unit reset: occurs when the unit is reset to the factory defaults.
10	The hood switch line went to ground during cranking or run time.
1 – pause – 2	<ul> <li>There was an attempt to start the vehicle while the module was in valet mode.</li> </ul>
ON solid	<ul> <li>Cold weather mode: the brake pedal is being held down.</li> </ul>
2 – pause – 2	<ul> <li>There was an attempt to start the vehicle while the module was in home valet mode.</li> </ul>
ON 2 sec.	<ul> <li>The hood is up and the hood switch line went to ground. This is step one of the programming centre procedure.</li> </ul>
ON 3 sec.	First press of the START button under safe start.
ON 4 sec.	<ul> <li>Locking or unlocking a door (with door pulses configured to 4 sec.)</li> </ul>
ON 25 sec.	<ul> <li>The hood pin-switch has been pressed twice: the unit went into step 1 of the programming centre procedure, and no transmitter activity was detected for 20 seconds.</li> <li>Or the unit went into step 1 of the transmitter programming procedure and no activity was detected for a few seconds. The unit has exited the transmitter programming procedure.</li> </ul>
Irregular	<ul> <li>If the unit gives irregular signals (1 to 10 flashes followed by a pause, followed by further flashes), the system is playing back start failure codes. This occurs when the hood pin-switch is pressed three times</li> </ul>
Constant flashes up to 30 sec.	Panic mode is triggered.