

ADVANCED KEYS

Smart Keyless Entry + Push Start Ignition System

USER MANUAL



Product Features:

- Smart Keyless Locking/Unlocking
- Compact Sized Smart Keys
- Dual-Antenna Setup
- Bypass Transponder RFID Cards
- Vehicle Anti-Theft Function
- Ignition Controlled Lock / Unlock
- Auto Vehicle Battery Power Saving
- Door-Not-Closed Reminder
- Locking-Delay Function
- Push-Start Ignition Operation
- OEM Toyota Push-Start Button
- One-Touch Engine Tach Ignition
- Remote Start Function
- Optional Auto Window Closing

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IMPORTANT NOTICE

1. **Do not leave the Smart Key in close proximity of electromagnetic devices such as mobile phone, network device or microwave.**
2. Do not apply any metallic cover or place Smart Key next to metallic material/surface.
3. Do not subject Smart Key to impact and bending force. If placed in a wallet or handbag ensure it does not bend easily.
4. Do not leave the smart key in high temperatures for excessive periods of time, for instance, on the dash or under direct sunlight.
5. Do not expose or submerge the Smart Key in liquid. If occurs, remove battery from Smart Key immediately and dry circuit board for a few days prior to re-insert battery.
6. This system is susceptible to interference caused by heavy rain fall, high-voltage transmission lines, cellular or broadcasting stations and other high-frequency electronic devices.
7. Do not modify, remove or disassemble the original system. If any unauthorized modifications are made, the proper operation of the system cannot be guaranteed and warranty will be void.



SMART KEY FUNCTIONS OVERVIEW



SYSTEM FUNCTIONS DESCRIPTION

1. Smart Keyless Entry Function



Smart Keyless Entry function can be disabled for car wash, service, valet purposes.

To disable/enable this function: with door **closed**, switch Ignition to **ACC**, depress and hold brake pedal then press and hold the **TRUNK RELEASE**  and **LOCK**  together for 2 seconds until horn honks. Vehicle will honk once if function is enabled or twice if disabled. While the Smart Entry function is disabled; the security indicator will flash Blue when armed.

Attention if the Smart Keyless Entry function is disabled:

- A valid Smart Key is still required and sensed within the proximity to disarm/start the vehicle. Entering or starting vehicle without the Smart Key will set off the alarm function.
- Doors will not be locked or unlocked automatically when departing or approaching the vehicle. Make sure to lock the door manually when departing from the vehicle.

2. Security / Alarm Function (Valet Mode)

The Security / Alarm function monitors the shock sensor, door switch, brake and ignition while system is in armed state. If vehicle is violated system will sound horn (or siren if installed) and flash parking lights for 30 seconds. However, ignition and starter function will be disabled until disarmed by a valid Smart Key or a Bypass Transponder Card. Security indicator will flash Red rapidly upon disarm to remind driver that the alarm function was triggered while driver was away. Alarm function can be disabled if it is not required. To disable/enable this function: with door **closed**, switch Ignition to **ACC** and press and hold the brake pedal then press and hold the **TRUNK RELEASE**  and **UNLOCK**  together for 2 seconds until horn honks. Vehicle will honk once if function is enabled or twice if disabled. After alarm function is disabled; the security indicator will flash purple when armed.



Attention if the Security / Alarm function is disabled:

- Alarm will not sound when the shock sensor, door, ignition triggered.
- The Starter Kill Relay (if installed) or the Push-Start system will continue to function; therefore, engine cannot be started without sensing a valid Smart Key.


3. Door Lock Delay Function

The Door Lock Delay function prevents unwanted automatic locking and unlocking of the door while user frequently enter and exit the sensing range with Smart Keys. (i.e. unloading luggage, helping passenger out or temporarily leaving the vehicle etc.) This function will disable the automatic locking function for 5 minutes if any door opened during the first minute of the activation, or it will time out in the first minute if all doors remain closed. The Door Lock Delay Function will delay system response to the Door-Not-Closed-Reminder function, please ensure all doors are closed before leaving the vehicle.






Ways to Activate the Door Lock Delay function

- **Press UNLOCK**  to unlock the doors and activate the Door Lock Delay. Parking lights will flash to indicate Smart Key Function is inactive. Press the **UNLOCK**  to extend the delay time.
- **Before Starting the vehicle:** Approach the vehicle with the Smart Key, once the vehicle disarmed and unlocked, enter the vehicle and apply brake pedal 2x quickly.
- **After turning the vehicle off:** Turn ignition OFF and apply brake pedal 2x quickly.

Ways to Exit the Door Lock Delay function

- The Door Lock Delay function will time-out after 5 minutes if any door was opened during the first minute of the activation, or it will time out in the first minute if all doors remain closed.
- Press **LOCK**  to exit Door Lock Delay Function.
- Apply and hold the brake pedal for more than 1 second.

Attention:



- If an extended period of time is needed to be in the close proximity to the vehicle for activities like car wash / service / valet, it is suggested to disable the Smart Keyless Entry function temporarily.
- To disable/enable this function: with door **closed**, switch Ignition to **ACC**, apply the brake and press **LOCK**  1x then press and hold **TRUNK RELEASE**  and **UNLOCK**  together for 2 seconds until horn honks. Vehicle will honk once if function is enabled or twice if disabled.
- Not recommended to disable the Door Lock Delay Function. Once **UNLOCK**  is triggered, the Smart Key Function will be suspended and vehicle will not auto lock/unlock doors until **LOCK**  is triggered. In addition, parking lights will NOT flash to indicate Smart Key Function is inactive.

3. Ignition Controlled Door Lock/Unlock Function

Ignition lock function will automatically lock the doors when the brake is applied 10 seconds after vehicle started. Doors will automatically unlock when the ignition is turned OFF. For security reason the vehicle will not unlock if ignition is turned OFF in less than 2 minutes after turned ON. Follow the Programmable Features instruction under the Smart Key Installation manual to disable/enable this function.



4. Door-Not-Closed Reminder Function

Leaving Smart Key sensing range with the doors open or ajar will trigger the Door Not Closed Reminder Function. Vehicle will double-chirp horn and flash parking lights 3 times to warn driver that one or more doors are not closed. If doors remain open after the warning, system will lock the doors regardless. Parking lights will continue to flash for additional two (2) minutes however, vehicle will be armed and the engine start will be disabled.



To disable/enable this function: with door **open**, switch Ignition to **ACC**, depress and hold brake pedal then press and hold the **TRUNK RELEASE**  and **UNLOCK**  together for 2 seconds until horn honks. Vehicle will honk once if function is enabled or twice if disabled.

5. Key-Not-Found Reminder Function

If vehicle door is open-then-closed while it's running it will trigger system to search for the Smart Key 6 seconds after the brake is applied. Vehicle will do nothing if Smart Key is found. If Smart Key is not located, vehicle will double-chirp the horn and flash the parking lights 3 times. This to remind the current driver that the Smart Key is no longer detected and it needs to be present in the vehicle before it is driven to another location. Without the Smart Key, once the vehicle is turned off it will not be able to start again. However the bypass transponder could be used for START in this case.




To disable/enable this function: with door **open**, switch Ignition to **ACC**, depress and hold brake pedal then press and hold the **TRUNK RELEASE**  and **LOCK**  together for 2 seconds until horn honks. Vehicle will honk once if function is enabled or twice if disabled.

6. Shock Sensor or Manual Unlock Trigger Function

Any impacts, jostles to your car while armed will trigger the shock sensor to respond. Depending on the severity of the shock, the system can react to a full shock by trigger the alarm function or it responds to a lighter shock (30% of the strength of a full shock) and giving a warn-away alarm by honk and flash parking lights 5 times. To acknowledge and stop a shock triggered alarm, approach the vehicle with a Smart Key or press **LOCK**  or **UNLOCK** .




Optionally the shock sensor can be set to trigger the Unlock function instead of alarm function. In this mode the Smart Key will NOT unlock doors automatically when Smart Key is in range and depending on the shock sensor position and sensitivity, a light impact or tap on the vehicle will trigger the shock sensor to unlock the doors while Smart Key is in the sensing range.

Note: By default the Shock Sensor will used for the alarm function and it's disabled when vehicle is remote started.


To enable/disable this function: with door **closed**, switch Ignition to **ACC**, apply the brake and press **LOCK**  **2x** then press and hold **TRUNK RELEASE**  and **UNLOCK**  together for 2 seconds until horn honks. Vehicle will honk once if function is enabled or twice if disabled.

7. Auxiliary Function

If applicable the **Remote Start Function** can be programmed to trigger an external function instead. Press and hold the **TRUNK RELEASE**  and **LOCK**  for 3 seconds to activate the AUX Function.

To disable/enable this function: with door **closed**, switch Ignition to **ACC**, apply the brake and press **LOCK**  **3x** then press and hold **TRUNK RELEASE**  and **UNLOCK**  together for 2 seconds until horn honks. Vehicle will honk once if function is enabled or twice if disabled.

8. Vehicle Battery Power Saver Function

System will reduce Smart Keys search frequency after 7 days of inactivity to conserve vehicle battery. In this state, the Smart Key sensitivity will be reduced and it takes longer (8–10 seconds) to identify the Smart Key or the Bypass Transponder Card. Press the **UNLOCK**  button once will also exit the Power Saver mode.

9. Auto Windows Closing (Optional Module)

If window closer module is installed, windows and sunroof left open will be closed in sequenced when vehicle is armed / locked.

REMOTE FUNCTIONS DESCRIPTION


1. Proximity Unlock / Disarm

Approach the vehicle and when Smart Key enters the sensing range, system will disarm and unlock the doors immediately. Parking lights and horn/siren (if enabled) will flash and sound 2x. The status indicator light will flash BLUE to indicate system is disarmed.


2. Proximity Lock / Arm


Walk away from the vehicle and after Smart Key exits the sensing range, system will arm and lock the doors immediately. Parking lights and horn/siren (if enabled) will flash 3x and sound 1x. The status indicator light will flash BLUE and RED alternatingly to indicate system is armed.

3. Remote Unlock / Disarm

Press and hold the **UNLOCK**  for 1 second to manually disarm and unlock the doors. Parking lights will begin to flash, indicating the lock delay function is active. See Door Lock Delay Function under the System Functions description for more info.

4. Remote Lock / Arm

While Smart Key is outside the proximity sensing range: Press and hold the **LOCK**  for 1 second to manually lock the doors and arm the vehicle.

While Smart Key is inside the proximity sensing range: Press and hold the **LOCK**  for 3 seconds to overwrite Smart Key function and manually lock the doors. **Caution: Doors will not be opened until Smart Key exit and re-enter the sensing range, do not leave smart keys inside vehicle when closing doors.**

5. Bypass Transponder Card Unlock / Disarm




Bypass Transponder Cards (or bypass cards) provide an alternative method to gain access and starting the vehicle. It's useful in the event when Smart Key became lost, damaged, battery depleted, submerged in liquid, interfered by strong electromagnetic or any other instance that the system failed to identify the Smart Key.

Place one of the bypass card next to the bypass antenna for 5 seconds to disarm, unlock doors and enable the Push-Start Ignition system (if installed). Once the bypass card is removed from the bypass antenna, system will lock and arm after 10 seconds. User must enter and start the vehicle within this 10-second window to avoid trip alarm function. If longer disarm time is required; leave the bypass card over the bypass antenna to disarm continuously.



6. Remote Trunk Release

To release trunk, press and hold the **UNLOCK**  for 3 seconds. Please note the system will unlock and disarm the vehicle before release the trunk. Make sure to arm and close the trunk when done.

7. Panic Function

While the Smart Key is outside the proximity sensing range; press and hold the **LOCK**  for 3 seconds to activate Panic Function. Parking lights will flash and horn/siren (if function enabled) will sound for 30 seconds. If the vehicle was remotely started, the engine will shutdown immediately. Press **LOCK**  or **UNLOCK**  to exit the Panic Function.

8. Remote Start (Optional AK-PSBXX series Push-Start Ignition Module Installed)

With the Smart Key outside the proximity sensing range; press and hold the **TRUNK RELEASE**  and **LOCK**  for 3 seconds. The parking lights will flash once to indicate remote start signal received. After 5 seconds delay, the Push-Start Ignition system will attempt to start the engine. If vehicle does not start at the first attempt (i.e. Cold engine start) it will attempt to start the engine up to three times. Remote start session will last 15-minutes and parking lights and will remain ON during this period.

Note: Press and hold the TRUNK RELEASE and LOCK button for 3 seconds to shutdown the remote start. For diesel vehicle there will be a delay if the vehicle's Wait-to-Start Light is ON. After 18 seconds expires, system will proceed to start the engine regardless.

9. Remote Start Ignition Take Over

After vehicle is remote started, use the follow steps to takeover ignition without restarting the engine:

1. Approach the running vehicle with a valid Smart Key to disarm and unlock doors.
2. Enter the vehicle and without stepping on the brake, press the Push-Start button **once**.
3. Step on the brake to exit Remote Start mode. (Push Start Button's status LED turns OFF and backlight stays ON) Vehicle is now safe to take out of the Park to drive.

PROGRAMMABLE FUNCTIONS SUMMARY

Brake must be applied when program:

Function	Default	Door	Function Select	Enable / Disable
Security Alarm Function	Enabled	Closed	-	Press UNLOCK + TR
Smart Key Entry Function	Enabled	Closed	-	Press LOCK + TR
Door-Not-Closed Reminder	Enabled	Open	-	Press UNLOCK + TR
Key-Not-Found Reminder	Enabled	Open	-	Press LOCK + TR
Door Lock Delay Function	Enabled	Closed	Press LOCK x1	Press UNLOCK + TR
External Unlock Trigger	Disabled	Closed	Press LOCK x2	Press UNLOCK + TR
Remote Start as AUX Trigger	Disabled	Closed	Press LOCK x3	Press UNLOCK + TR

SECURITY LED LIGHT DESCRIPTION

In Armed State (Smart Key Not Detected):

LED Color and Sequence	Description
Blue – Red – Blue	Smart Keyless Entry Function Enabled
Blue – Blue	Smart Keyless Entry Function Disabled
Red – Red (Slow)	Alarm Activated Record
Red – Red (Fast)	Alarming
Purple	Alarm Function Disabled
All OFF	Smart Keyless Entry and Alarm Functions Disabled

In Disarmed State (Smart Key Detected):

LED Color and Sequence	Description
Blue – Red (Slow)	Door Lock Delay Mode Active
Blue – Blue (Slow)	Valid Smart Key Detected
Blue – Blue (Fast)	Smart Key Sense Delay After Ignition OFF
Red – Red (Fast)	Alarm Activated Record

SMART KEY BATTERY

Saving Key's Battery Power

Communication is constant between the control unit and Smart Key while in sensing range. We suggest the following methods to conserve and prolong the Smart Key's battery power:

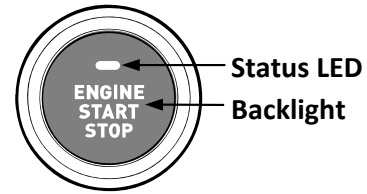
- Do not leave the Smart Key inside the vehicle when vehicle is OFF.
- Switch to ACC/ON when staying in vehicle for extended periods of time.

Replacing the Battery

- Require one CR2032 lithium-ion battery
- Make sure the battery is inserted with the correct polarity.
- Use dry hands and ensure there is no debris in the battery compartment.
- Do not curve and avoid touching the PCB board when inserting the battery.
- Test the Smart Key after the battery replacement. No additional programming required.

PUSH-START IGNITION (OPTIONAL)

If installed, the Push-Start Ignition system will be enabled when a valid Smart Key is detected. The "ENGINE START STOP" button backlight will be illuminated and Status LED showing a solid amber light indicating vehicle is ready for ignition.



Following shows the operations of the Push-Start system:

	<h3>Switching Ignition States</h3> <p>When system is in Ready mode (Status LED is Amber) and without apply brake:</p> <ul style="list-style-type: none"> Press button 1st time: ACC (Status LED: Green) Press button 2nd time: ON (Status LED: Flashing Green) Press button 3rd time: Ready (Status LED: Amber)
	<h3>To Start the Engine</h3> <p>Apply brake and when the Status LED starts to flash Red:</p> <ul style="list-style-type: none"> Tach: Tap button once to start engine automatically. Tachless: Press and hold the button until engine started. <p>Note: You may start the engine from any ignition state. Emergency Ignition: (Without Brake) Press and hold Start Button for 1.5 seconds to start the engine.</p>
	<h3>To Stop the Engine</h3> <p>Make sure the vehicle is stopped and in Parked (P) position Apply brake and press and hold the button for 0.5 seconds until the engine stops.</p> <p>Emergency Stop: (Without Brake) Press and hold Start Button for 3 seconds to stop the engine.</p>



WARNING

- **DO NOT PRESS THE PUSH-START BUTTON WHILE VEHICLE IS IN MOTION.**
- **To stop ignition in an emergency situation always change gear to Neutral first then press and hold the Push-Start button for 3 seconds.**
- **When exposed to direct sunlight the Push-Start button maybe hot to touch.**

PUSH-START (BUTTON) LED DESCRIPTION

Status LED	Backlight	Description
OFF	OFF	Push-Start Ignition Disabled / Engine Starting
Amber	ON	Push-Start Ignition Enabled
Red (flashing)	ON	Ready to Start Engine
Green	ON	Accessory (ACC) State
Green (flashing)	ON	Ignition (ON) State
OFF	ON	Ignition (RUN) State
Green – Red (flashing)	ON	System Initializing / Tach Programming Mode