



CT-3160M

Manual transmission remote starter & keyless entry system.



INSTALLATION GUIDE

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NOTICE:

DUE TO THE POTENTIAL FOR DAMAGE TO THE VEHICLE, THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY ELECTRICAL DAMAGE TO THE VEHICLE OR TO THE UNIT THAT HAS CAUSED VEHICLE DAMAGE DUE TO IMPROPER INSTALLATION OF THE PRODUCT.

AN AUTHORIZED PROSTART TRAINED TECHNICIAN USING ALL SAFETY DEVICES SUPPLIED MUST INSTALL THIS UNIT.

Please review the installation guide carefully before any work begins.

WARNING

THIS UNIT IS FOR MANUAL TRANSMISSION ONLY, BEFORE INSTALLING THE UNIT TEST THAT THE VEHICLES OEM DOOR SWITCH CONTACTS WORK WELL, AND THAT THE PARKING BRAKE SYSTEM OPERATES PROPERLLY.

WHAT'S INCLUDED

Please review the installation guide before beginning the installation, particularly the wiring diagram and the list of programming options.

Prior to installation please be sure that all hardware components required to install the system are in the box.

The following is a list of components included in the Kit:

- 1 – Control unit
- 1 – Transmitter
- 1 - 5 Pin 14 AWG harness (Ignition harness)
- 1 - 7 Pin 18 AWG harness (Main harness)
- 1 - 4 Pin / 2 Wire 18 AWG harness (Accessories)
- 1 Antenna
- 1 Parts Bag (Hood switch, Valet switch, Connector, Wires)
- User guide, tech bulletins.

NOTICE:

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.

INSTALLATION POINTS TO REMEMBER

- When working on a vehicle always leave a window open.
- Remove courtesy light fuse if possible to prevent battery drain.
- Never Install control unit where it could interfere with normal operation or obstruct service technicians.
- Do not disconnect the battery on vehicles equipped with air bags and anti-theft radios.
- Always use a grommet when running wires into the engine compartment. Never run wires through bare or sharp metal.
- Always solder and tape all connections.
- Never ground control unit to vehicle steering column.
- Make sure that vehicles OEM door switch contacts and parking brake system works properly.

FEATURES

- Multi channel / button transmitter.
- Dual 12 volt power lines.
- 12 volt parking light output.
- Factory alarm control.
- Gasoline or Diesel engine ready.
- Negative door lock output.
- Cold weather timer.
- Negative trunk output.
- Up to 850 feet range
- Ground output. (Pulsed or constant)
- Starter kill out. (Ground when armed)
- External trigger control. (From external receiver. e.g.: *alarm*)

OPTIONS

- Remote keyless entry
- Remote Trunk release
- Starter kill
- Flashing LED
- Pager Ready
- LIMITED LIFE WARRANTY

PROGRAMMABLE OPTIONS

- Door lock pulse duration (1 sec, 4 sec, or two ¼ sec unlock pulses).
- Ignition controlled door locks.
- Constant or pulsed Groundout when running.
- Run time (4, 15, or 25 minutes).
- Maximum crank duration (6, 8, or 12 seconds).
- Gasoline or Diesel engine operation.
- Secure Door Lock.

TRANSMITTER CODE LEARNING

The transmitters do not come pre-programmed. They must be "CODE LEARNED" at the time of installation. The unit will hold up to 4 transmitter codes in memory.

To program a new transmitter:

1. Raise the Hood.
2. Turn Valet switch "OFF".
3. Turn Ignition "ON".
4. Turn Valet switch "ON". Parking lights SHOULD turn ON for 5 seconds.
5. Press CH1 on transmitter within 5 seconds of step 4. (Parking lights will flash 5 times fast, and 2 times slow)
6. Turn Ignition OFF and close the hood.

TRANSMITTER FUNCTION

Once programmed, the transmitter will be operational. (Hood must be closed)

The transmitter is equipped with 2 channels, They are as follows:

1. Button 1(CH1) – controls door locks and engine kill option.
2. Button 2(CH2) – controls remote starter and cold weather timer.

NOTE: Either button can be used to get into Ready-Mode.

TACH ADJUSTMENTS

Prostart systems have two methods of fine-tuning the Tach signal that is generated from the vehicle, the first method is manual Tach searching and setting, and the second is automatic Tach searching and setting. Either method can be used, however an automatic search is recommended. **Tach adjustment procedures should be done every time a new unit is installed.** This is because the Tach signal from some ignition systems can sometimes be too high or too low, thus causing failed starts under different temperatures. The procedures for Tach adjustment are as follows:

1. Hold Hood switch down for 6 seconds.
2. Release pin switch (Hood switch). (Parking lights should turn ON)
3. With Parking lights ON, immediately press and release pin switch again.
4. Parking lights will stay ON for up to 20 seconds. (If not repeat from step 1)

5. With Parking lights ON press CH3 (TRUNK) of remote transmitter at the same time Parking lights will flash 1 to 7 times.
6. Start the vehicle using the key.
7. If Parking lights stays ON, then you have selected an incorrect Tach wire. (*Relocate Tach wire and start from step 1*) If Parking lights go OFF then proceed to the next step.
8. Allow vehicle to reach regular engine idle speed, then press and release brakes. (Parking lights will flash appropriate setting, from 1 to 7 flashes)
9. Press CH3 of remote transmitter, to save setting. (Parking lights will flash one long flash)

MANUAL TACH SEARCHING AND SETTING

NOTE: A manual adjustment should only be done if the auto setting is not completing the crank cycle properly in cold weather.

1. Hold Hood switch down for 6 seconds.
2. Release pin switch (Hood switch). (Parking lights should turn ON)
3. With Parking lights ON, immediately press and release pin switch again.
4. Parking lights will stay ON for 20 sec. (If not repeat from step 1)
5. Press CH3 (TRUNK) of remote transmitter at the same time. (Parking lights will flash 1 to 7 times)
6. Now you can increase or decrease the Tach setting, depending on your needs.
7. Button 1 (CH1) will decrease the setting, and Button 2 (CH2) will increase the setting.
8. After proper setting has been reached, press CH3 to save setting. (Parking lights should flash once long)

CUSTOM PROGRAMMING OPTIONS

Prostart systems are equipped with 2 custom programming menus that allow the user to custom fit the system according to the installation requirements.

These options are designed to help make interfacing with all vehicles possible.

To get into custom programming mode you must do the following:

1. Hold pin switch (Hood switch) down for 6 sec.
2. Release pin switch. Parking lights will turn ON.
3. Immediately press and release pin switch once again. (Parking lights will stay ON for 20 sec.)
4. Press and hold brakes, and press CH1 or CH2 on remote transmitter. (**CH1 for mode one, and CH2 for mode two**) Parking lights will flash once for mode 1 and twice for mode 2.

After you have entered into one of the two programming menus you can release the brake pedal. The unit will stay in programming mode until the Hood pin switch is pressed or the Valet switch has been turned OFF. (*So take your time to make the proper selection*)

The menu will automatically start you at function one, once you choose from one of the three Options; you will automatically jump to the next function.

To select one of the three options press the appropriate transmitter button. (See below)

1. Button 1 (CH1)= Option 1
2. Button 2 (CH2)= Option 2
3. Button 1 & 2 (CH3=TRUNK) = Option 3

Once an option has been selected the Parking lights will flash 1,2 or 3 times. (*Depending on option selected*)

MODE 1

*INDICATES DEFAULT SETTING

FUNCTION 1

OPTION 1* Ignition Lock ON.
OPTION 2 Ignition Lock OFF.
OPTION 3 Ignition Lock ON and Locks
In **TOGGLE MODE***

*DOOR LOCK TOGGLE MODE

Prostart has a built-in starter kill feature and even if the starter kill is not installed, the logic for it still dominates the operation of the system.

What this means is that the starter kill will arm automatically 45 seconds after the vehicle's Ignition is turned "OFF". The vehicle's starter wire is then interrupted until the starter kill is disarmed by pressing Button 1 (Unlock) on the remote. If the doors were not locked within the initial 45 seconds of the Ignition being turned "OFF" the first press of Button 1 will disarm the starter kill, unlocking the already unlocked doors before they can be locked again, arming the starter kill.

Enabling Toggle Mode will circumvent this logic and allow the doors to lock on the first press of the button regardless of how much time has elapsed since the Ignition was turned "OFF".

FUNCTION 2

OPTION 1* Constant "GROUND-OUT".
OPTION 2 Pulsed "GROUND-OUT"
(1 sec.)

FUNCTION 3

OPTION 1* .75 second door lock / unlock pulses.
OPTION 2 4 second door lock / unlock pulses.
OPTION 3 One 1 second lock pulse and two ¼ second unlock pulses.

FUNCTION 4

OPTION 1* External trigger disabled.
OPTION 2 External trigger enabled.

FUNCTION 5

OPTION 1* Secure Lock disable.
OPTION 2 Secure Lock enable.

MODE 2

* INDICATES DEFAULT SETTING

FUNCTION 1

OPTION 1 4 minute run time
OPTION 2* 15 minute run time
OPTION 3 25 minute run time

FUNCTION 2

OPTION 1	2 start attempts
OPTION 2*	3 start attempts
OPTION 3	4 start attempts

FUNCTION 3

OPTION 1	6-second crank time
OPTION 2*	8 second crank time
OPTION 3	12-second crank time

FUNCTION 4

OPTION 1	Gasoline engines
OPTION 2*	Gasoline engines
OPTION 3	Diesel engines

OPTIONS PLAYBACK

This feature helps to double check the options that are selected. To do the playback you must perform as follows:

1. Raised the Hood. (Parking lights turns ON)
2. As soon as the Parking lights turns ON press the pin-switch (Hood switch) three times. The Parking lights flashes according to the options that you have selected:

Option 1: one flash

Option 2: two flashes

Option 3: three flashes

TACH WATCH LOCKOUT

Tach Watch lockout is a safety feature built into the remote starter to protect the vehicle's starter motor. If, during remote start, the vehicle's engine ever cranks the entire programmed crank time without detecting any Tach pulses during the first crank cycle, the unit will go into Tach watch lockout. The diagnostics for this is 3 quick Parking light flashes when trying to remote start the vehicle.

If your module is in Tach Watch Lockout it is indicating that a problem exists with the Tach signal it is receiving. Verify that the Tach wire from the remote starter is properly connected to a good Tach signal in the vehicle.

To remove the unit from Tach Watch Lockout you must do the following:

1. Close the Hood.
2. Disable starter kill (if installed)
3. Start the engine using the key.
4. Let it run for at least 25 seconds, then shut it OFF.

5. The module should now be out of Tach Watch Lockout.

If module is still in Tach Watch Lockout move Tach wire to a better Tach source and perform an Automatic Tach Setting. Repeat steps 1 to 5.

DIESEL ENGINES

All systems are equipped with a dedicated "GLOW PLUG" input (Pin #4).

This input must be wired to the "Wait to Start" light in the vehicle and must receive 12 volts for as long as the light is ON. When this input is used a protection diode must be installed on the brake input.

Note: Diesel mode must be programmed for this to work.

SETTING THE UNIT INTO READY MODE

The unit does not come with CH2 (START) operational from the box.

What this means is that to remote start the vehicle you must first get the unit into **Ready Mode**.

To get into ready you must do the following:

1. Close Hood and doors.
2. Make sure shifter is in neutral.
3. Get in and start vehicle with the key.
4. Apply the Parking brake.
5. Within 20 sec. press Button 1 (CH1) or Button 2 (CH2) on transmitter. (Parking lights will flash 3 times quickly, and stay ON)
6. Remove the key vehicle will stay running.
7. Exit the vehicle and close the door.
8. Press and hold either Buttons until the vehicle shut down.

The vehicle will now be in ready mode, to start press Button 2 on the transmitter.

REMAINING IN READY MODE

Once the vehicle is in Ready Mode you can start and stop the vehicle at will.

However, should any of the following occur the vehicle would come out of Ready Mode thus eliminating the remote start option until Ready Mode is restored.

1. Doors opened.
2. Hood opened.
3. Brakes pressed.
4. Parking brake disengaged.

5. Key turned to the ON position.
Should any of the above occur, ready mode will be cancelled.

***NOTE: The unit will notify the user that it has exited Ready Mode by giving three slow flashes of the vehicles parking light**

CLUTCH BYPASSING

Most manual transmission vehicles will require the clutch to be pressed in order for the vehicle to crank. This being true under remote start as well, so a clutch bypass must be performed.

A simple thing to look for when performing a bypass, is the maker of the vehicle you are working on, typically most domestic vehicles have a direct feed wire at the clutch switch, this means that the starter wire in the vehicle becomes continuous with +12volts when the clutch is pressed.

While import cars typically have a relay that is controlled with the clutch pedal. This means that when the clutch is pressed it will send a signal to a relay, allowing the vehicle to start. **Always test first.**

PARKING BRAKE WIRE

The system has a Parking brake input; this input is used as part of the Ready Mode sequence and must be connected. This input is supposed to be a ground. All vehicles are equipped with a Parking brake, and all use a negative signal.

The easiest location to find this wire is at the Parking brake housing. **Always test first.**

TRUNK OUTPUT

The unit is equipped with an AUX negative output; refer to this output as CH3 (TRUNK). This output can be used as a remote trunk release by connecting it to a relay that would activate the vehicle's trunk or hatch release, whenever CH3 on the remote transmitter is activated.

NOTE: The output from the module is a 250ma signal that has been designed to activate a relay, **DO NOT**, under any circumstance drive the OEM trunk wire with the direct output from the module, a high current relay must be used.

RESETTING THE MODULE

All Prostart's are equipped with a reset function that allows the installer to erase all transmitter codes and return all programmed options to factory default.

To reset the module:

1. Turn the Valet switch "OFF".
2. Apply ground to Pin # 12 (External Trigger).
3. Turn the Ignition "ON".
4. Raise Hood.
5. Press and hold brakes ON.
6. Turn Valet switch "ON"
7. Parking lights should flash 8 times quickly.
8. Press either Button on transmitter within 5 seconds to program transmitter.

- **See Custom Programming options for default settings.**

SECURE LOCK

Secure lock is for cars that arm and disarm off the lock and unlock wires. (I.e.... New VW's) When secure lock is activated it will unlock the doors prior to remote start the car. Once the car is started it will relock the doors. (Usually not rearming the factory security). After remote shutdown or run time it will relock the doors again. (Rearming factory security)

SOME COMMON QUESTIONS AND ANSWERS

The following are some commonly asked questions about our product, followed by possible answers.

Q: Does the Parking brake wire have to be connected?

A: Yes the Parking brake wire must absolutely be connected.

Q: Do both door trigger wires on the 9-pin harness have to be connected?

A: No, only one of the 2 trigger wires must be connected, or the unit will not enter ready mode. (Refer to wire guide for proper polarity)

Q: Unit gives me one long flash when getting into ready mode instead of three, and shuts OFF when key is removed.

A: The long flash indicates that there is a problem with the Tach signal you are using. Locate another Tach wire or perform an automatic Tach learn.

Q: Can the vehicle start in gear?

A: No. Because the unit see the vehicle shut down by remote once the user has exited the vehicle. Knowing that the vehicle was running when it was exited indicates that the vehicle is in neutral.

HARNESS DESCRIPTION

7-PIN HARNESS

PIN #	COLOR	FUNCTION	DESCRIPTION (connect to...)
1	BLACK	CHASSIS GROUND	Ground (to chassis)
2	VIOLET	COIL (-) Tach	Vehicle's Tach wire (coil -)
3	GRAY	HOOD PIN SWITCH (-)	Hood switch - grounded when Hood open.
4	N / A	GLOW-PLUG (+)	Positive "Wait to Start" on Diesels.
5	ORANGE	BRAKE SWITCH INPUT	Brake switch - 12 volt when brake pedal pressed.
6	RED	VALET (+)	One side of toggle switch - other side of toggle switch to constant 12 volts.
7	YELLOW	PARKING LIGHTS	12 volt Parking lights output.

9 PIN HARNESS

PIN #	COLOR	FUNCTION	DESCRIPTION (Connect to...)
8	ORANGE	DOMELIGHT IN (+)	Connect to vehicles dome light wire that has +12 volts with the doors open. NOTE Only one of the door trigger input must be used per application.
9	GREY	DOMELIGHT IN (-)	Connect to vehicles dome light wire that has GROUND with the doors open. NOTE Only one of the door trigger input must be used per application.
10	EMPTY	GROUND-OUT	Negative output when running. (Pulsed or Constant) Used for clutch bypass or aux relay.
11	WHITE/YELLOW	STARTER KILL OUT (-)	Armed output for starter kill option - *see installation diagram
12	EMPTY	REARM	Gives a 1 second pulse 4 seconds after remote starter shut down.
13	EMPTY	EXTERNAL TRIGGER (-)	Used to trigger remote starter from an external receiver's output (Option must be programmed).
14	BLUE	PARKING BRAKE IN (-)	Connect to wire at PARKING brake switch that has ground with Parking brake engaged.
15	BROWN	LOCK (-)	Gives a negative pulse when locking. For pulse duration see MODE 1 FUNCTION 3
16	GREEN	UNLOCK (-)	Gives a negative pulse when unlocking For pulse duration see MODE 1 FUNCTION 3
17	BLUE	TRUNK out(-)	1 sec pulse output on Pin #15, when CH3 is remotely activated.

MAIN 5 PIN HARNESS (14awg)

PIN #	COLOR	POLARITY	DESCRIPTION (Connect to...)
A	RED	+12V BATTERY	Constant 12 volts *.
B	YELLOW	IGNITION OUT	Ignition - 12 volts during "RUN" and "START".
C	VIOLET	STARTER OUT	Starter - 12 volts during crank only.
D	ORANGE	ACCESSORIES OUT	Accessories - 12 volts during "RUN" only.
E	RED	+12V BATTERY	Constant 12 volts *.

- NOTE: Constant 12 volts wires must be connected to heaviest gauge 12 volt wires at ignition switch. When there are two constant 12 volt wires at ignition switch wires A and E must be separated (each to their own 12 volts source). When there is only one 12 volt source at ignition switch then and only then can they be connected together.

LIGHT FLASH RATE

FLASHES	RATE	DESCRIPTION
2	Slow	System has reset. Should occur when Valet switch is turned ON. No Tach pulse detected during crank. Should not occur if no pulse is detected with in 2 seconds of cranking 'the unit will force a reset.
3	Slow	If Parking lights stayed ON for 5 seconds then flashed 3 times slowly when Valet switch was turned ON, the unit detected the Ignition line was ON, The Hood switch line was grounded and no transmitter was learned.
1	Quick	Button confirmation or end of run time or time canceled or door locks.
3	Quick	Remote start is locked out. See Tach watch lockout.
4	Quick	Indicates that the unit has detected the brakes and cancelled the cranking or running cycle.
5	Quick	New remote learned.
10	Quick	Hood was open unit cancelled cranking or running cycle.
8	Quick	Memory being reset: Occurs when resetting unit on power-up.
On	4 seconds	If Parking lights go ON for 4 seconds, the Hood was opened and the Hood switch line was grounded.
Erratic		If the unit flashes erratically (1to3 flashes, followed by a pause, then more flashes), it might be in Playback mode. This occurs when the Hood switch was press 3 times.

