

2nd / 3rd Generation Travato Pure3/Volta Auto-Start Instructions

by Graham Smith 7/24/2020

This document is a companion to “Understanding the 2nd Generation Travato Pure3/Volta System” and also applies to the 3rd Generation. Please read that document for information on the whole Pure3/Volta system. The 2nd Generation are the second half of 2020 (nicknamed the 2020.5) and the 2020 National Park Edition (NPE) both of which can be quickly distinguished outside by a wider running board with "W" stamped on it and tie loops on the ends, and inside by the addition of baskets and Ram tracks under the cabinets. The 3rd Generation are the 2021 and late 2020 models that come with the Volta Bluetooth module pre-installed (i.e. not user added). These models have a new, higher density, power pack with about a 10% greater capacity. This includes some of the 2020 NPE models with the 4 module pack. See Notes for the differences in some parameters.

High-Idle Recharge (Auto-Start)

The Pure3/Volta system is equipped with a High-Idle recharge capability. This can be activated either manually or automatically - both methods do the same thing, initiate a 1 hour cycle, and charge exactly the same way. To use this, you must first “arm” the system by putting it into Monitor Mode (my term for this). This can be done using the ignition key or via the key fob. The Silver Auto-Start button is on the dash below and to the left of the steering wheel.

Ignition Key (Stealth) Monitor Mode Engage

1. Ensure parking brake is engaged and hood closed
2. Turn key in ignition to run position and press Silver Auto-Start button 2-3 seconds to engage
 - No horn or lights flash
 - Silver Auto-Start button will turn Red
3. Turn the ignition off and remove the key – the dash will stay illuminated for 20-30 seconds then go off

Key-Fob Monitor Mode Engage

1. Ensure parking brake is engaged and hood closed
2. Press (middle) Lock button 3 times to engage
 - Horn will sound and headlights will flash
 - Silver Auto-Start button will turn Red

At this point, regardless of which method chosen to arm the system, you may exit the vehicle and lock it if desired. The system will remain in monitor mode.

Monitor Mode Disengage

1. Key Fob - Press (top) Unlock button 3 times to disengage
2. Cab - Press Silver Auto-Start for 2 seconds (light goes out) to disengage
3. Monitor mode will not disengage if you start the engine.

Manual Start to Recharge

1. To begin a recharge cycle manually, put the system in Recharge Monitor Mode then press the Silver auto-start button 3 times.
2. While in recharge mode, all electrical systems (including the Inverter) will continue to operate. However, the higher the load the longer it will take to fully charge.
3. Recharge mode will continue until one of the following occurs:
 - a. 60 min has elapsed (approximately 1.3 gal/hr gasoline)
 - b. Battery charge reaches 90%
 - c. Engine coolant reaches 219F
 - d. Gas tank falls below 25%

4. Press the Silver auto-start button 3 times to stop charging sooner if you want. High-Idle recharge and monitoring MUST be stopped before attempting to start the vehicle. Stepping on the brake while a recharge is running will shut the engine off for 5 minutes to prevent a driveaway.

Manual Start and Lock to Recharge

If you want to start a manual recharge then lock the vehicle so you can leave, follow a modified version of the above procedure. Be certain that all doors are closed then from the driver seat, press the lock button on the center console to lock all doors (the red light should come on). Place the system in Recharge Monitor Mode as above. Get out of the cab on the driver side and leave the driver door open. Reach in and press the Silver auto-start button 3 times to start the charge cycle. Immediately close the driver door and quickly press the key-fob lock button 2-3 times. If it doesn't lock, you didn't do it quickly enough.

Auto-Start to Recharge

1. In Monitor Mode, if the battery charge gets down to 10%, the engine will start in high-idle to recharge the battery. The exact percent can vary depending on the load on the system.
2. Recharge will operate the same as it does with a manual start.
3. As long as Monitor Mode remains on and there is at least ¼ tank of gas, the system will continue to auto-start to recharge if the charge drops to 10%.

Using Auto-Start to Recharge a “Dead” System

If the power pack is so low that the system has shut down and you don't have shore power available, you may be able to use auto-start to bring the system back up.

1. Make sure that the power button next to the SoC dial is not depressed (you can tell by feel)
2. Make sure that all switches are off, including the A/C.
3. Use one of the two methods outlined above to arm the auto-start system and put it in monitor mode.
4. Press the System On button. The SoC and the button should light and the auto-start should immediately engage and run a one-hour recharge.
5. This method will not work if the power pack is too cold to charge.

Notes:

1. The length of charge and percent increase can vary depending on circumstances. The Auto-Start will typically engage at 10% but here isn't an exact point because the system is also monitoring rate of discharge. If the power pack is discharging rapidly, Auto-Start may engage sooner while a slow discharge may result in a delayed start.
2. Those with a 2nd / 3rd Generation model or NPE may find that a charge cycle stops before 1hr is up. The same components that decide when to Auto-Start are involved with the decision as to when to stop. The 2nd / 3rd Generation models have a larger alternator than the 1st Generation which has a higher output which results in a much faster recharge rate. Because of the speed of charge, it's not uncommon to see the charge shut off after 45 min, possibly sooner if you are close to 80% capacity. That variation also makes a greater variation in recharge percent. Typically, you can expect to see a 30%-40% increase in charge in a 2020.5 and slightly lower in the NPE (10% isn't the same thing).
3. If, at the end of a recharge, you feel you need an additional charge and are still below 80%, then you can manually start another cycle. It is advisable to wait at least 30 min between cycles to give the power pack a chance to “settle down” as the temperature does go up during a charge. It's also possible for the SoC to continue to rise during this “settle down” period so take that into consideration. This second charge may not last very long if the first charge cut off prior to 1hr.
4. The Auto-Start module is tied into the Promaster circuitry and is aware of the chassis battery level. If the charge drops below 12V, the auto-start may come on when you try and set it to monitor. It may also start if it is in monitor mode and you do something (like open a door) that causes the Promaster to “wake up”.