

BT DieselWorks AutoSync – Installation guide

Firmware v1.86-1.87 only!

Supported vehicles (requires I05/I06 8" radio screen):

2014-2018 Silverado/Sierra 1500

2015-2019 Silverado/Sierra 2500-3500

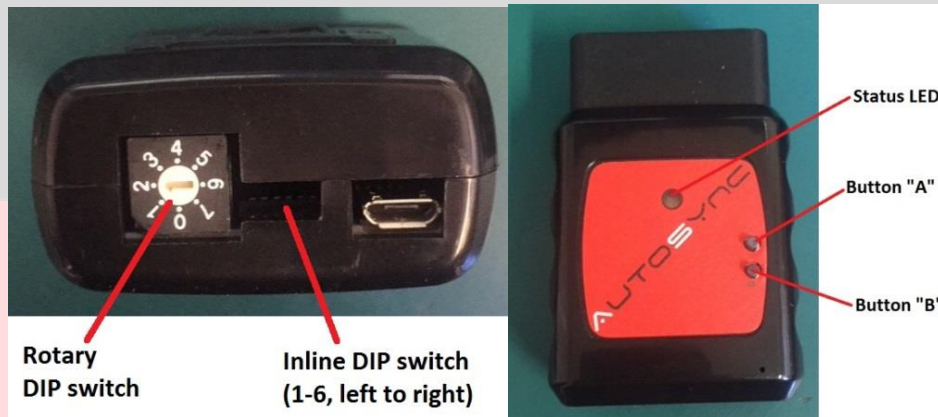
2015-2019 Tahoe/Yukon/Suburban/Escalade/Denali

Thank you for purchasing the BT DieselWorks AutoSync. The AutoSync is a patent-pending revolutionary new easy-to-install module that adds many enhanced functional and comfort features to your GM K2xx truck or SUV. Upon unpacking your AutoSync, inspect it for any broken pieces that might have been damaged in shipping.

NOTE: These instructions cover AutoSync's with firmware v1.86-1.87! To check your firmware version, access the AutoSync menu, go to page-4, and press "AutoSync info".

There are also two momentary push-buttons on the top of the module marked "A" and "B". The AutoSync must remain plugged in at all times for features to work. You can use AutoSync with an OBD port splitter (to use simultaneously with another scan tool, Edge Insight, EZ Lynk, etc) **however compatibility is NOT guaranteed unless you use the BT DieselWorks OBD splitter, available at our website.** AutoSync will not drain your battery when left plugged in with the vehicle off, and it will not cause any harm if you unplug/plug-in AutoSync while the vehicle is running.

I know these instructions are long/boring, and you probably just want to jump right in and start using the AutoSync right away, but PLEASE try to at least glance over every page first. 95% of tech support email/questions I get are simply due to misunderstanding/not reading the instructions. 😊



Inline DIP switches: ALL MUST BE SET TO "OFF"

Rotary DIP switch: MUST BE SET TO ZERO

You should NOT have to adjust any AutoSync DIP switches, they should already be correct from the factory

Installing the AutoSync is as simple as plugging it into your truck's OBD port, located under the dash. Be sure the ignition is OFF when installing the AutoSync. The AutoSync will NOT void any powertrain or bumper-to-bumper warranties, and is completely undetectable by the dealer. As soon as the AutoSync is unplugged, all traces/footprints are removed. The LED shows AutoSync system status at a glance: **RED**- AutoSync is powered up, but vehicle CAN bus activity is NOT being detected. **BLUE**- AutoSync is powered up, and vehicle CAN bus activity is being detected. **GREEN**- AutoSync is powered up, CAN bus is active, and engine is running. **If the LED does not turn on when plugged in, check the "DLC/DSM" fuse.**

NOTE: AutoSync data display is default set to US/SAE units, if you wish to see data in metric units, simply use the factory **Driver Info Center (DIC)** controls to set the vehicles units to "metric". The AutoSync will detect this change directly from the vehicles Body Control Module and automatically reconfigure itself to metric units.

NOTE: 2017+ vehicles do require one additional minor wiring change under the dash at the Serial Data Gateway module connector. Please see the additional 2017+ supplement document for instructions on how to perform this wiring change/pin swap.

To activate/display the AutoSync main menu with the key on, engine NOT running, press the cruise control **"CANCEL"** button on the steering wheel.

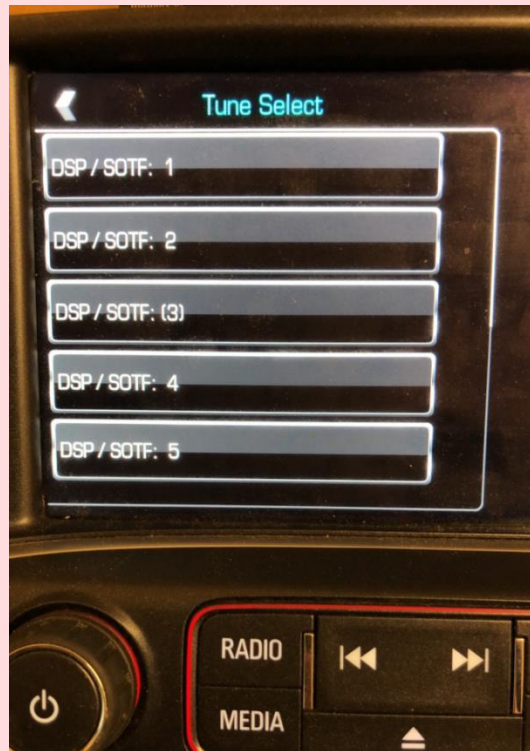
To activate/display the AutoSync main menu with the engine running, press the **rear defrost** button 4 times in a row (4 times within ~4 seconds). To step "back" a menu page at any time, press the **"< BACK"** button on the radio controls, OR press the **"←"** icon at the top left of the screen. To exit the AutoSync menu at any time, press the **"home"** button on the radio controls, OR press the **"Exit"** icon at the top right of the screen.

The AutoSync main menu will appear, as shown below, with the back/exit/home buttons circled:



The AutoSync main menu “page 1” shows the following menu items:

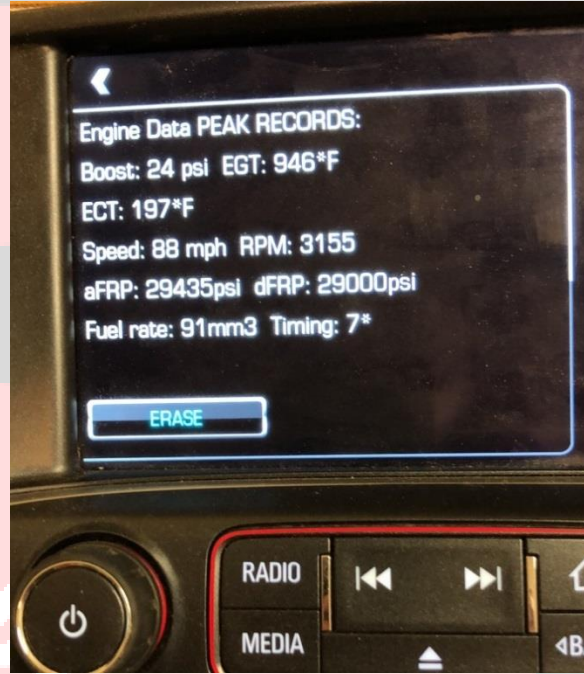
ECM Tune Switching – allows you to control EFILive DSP or EZ Lynk SOTF tune level. Simply tap whichever tune you want to switch to, and the DSP/SOTF mode will immediately be changed. The currently selected tune will be highlighted with a “()” around the number, as shown in the picture below. **NOTE: requires additional AutoSync DSP/SOTF tune control wiring kit, sold separately. See page 17 of this instruction manual for the AutoSync DSP/SOTF wire kit installation guide.**



Strobe Lights – activates exterior strobe light mode. This will rapidly flash all exterior lighting (headlights, front turn signals, rear turn signals, CHMSL, reverse lights, fog lights) in an alternating pattern. CHECK LOCAL LAWS regarding use of this feature! In most areas, using vehicle lighting in this manner on public roadways is considered ‘impersonating a police officer’ and carries hefty fines. **Menu icon/button will show “ON” or “OFF” depending on current strobe light mode.**

Work Lights – activates exterior work light mode. Work light mode manually turns on all cargo/bed lighting, as well as reverse lights. This feature is useful for illuminating the rear of the vehicle at night, hooking up trailers at night, checking on cargo, etc. This feature will also work while driving, unlike the factory cargo light button that will only work when in park! An additional enhanced feature is the AutoSync will automatically turn on the tow-mirror-mounted LED’s (if equipped) whenever the truck is shifted into reverse, for extra side illumination while backing up.

Powertrain Data – Displays live engine/transmission data, as shown below. PIDs include boost, EGT, coolant temp (ECT), oil pressure, current gear, torque converter clutch (TCC) locked/unlocked, DSP/SOTF tune, turbocharger vane position, actual fuel rail pressure (aFRP), desired fuel rail pressure (dFRP), main injection fuel rate, main injection timing.



NOTE: the “EGT” reading is derived from the factory “EGT-1” sensor, located in the factory downpipe at the outlet of the turbocharger (LML) or “EGR-1” in the manifold (L5P). **If this sensor is unplugged or removed due to an aftermarket downpipe, EGT will not display correctly and will default to “1832°F”.** If your truck is ‘deleted’, you can extend the factory sensor wiring and re-locate the factory EGT-1 sensor to the exhaust manifold for a more accurate “pre-turbo” reading.

Within the “engine data” display page, there are two additional icons/buttons on the bottom of the screen.

The “**RECORDS**” icon will display a page that shows the peak recorded values for each PID. These PID peak records are stored permanently even if the AutoSync is unplugged. To clear/reset the PID peak records, press the “**ERASE**” icon on the bottom of the “engine data records” page.

The “**Minimize**” icon will shrink the live engine data display to a small bar along the bottom of the screen. This is helpful for keeping essential data at a glance, while still being able to view the navigation map, radio controls, etc.



Due to the smaller size of the “minimized” view, only two PIDs are able to be displayed at once in this mode. **To cycle through the pages of minimized data display, press the drivers door lock button.** The four pages are **Boost/EGT, aFRP/dFRP, fuel rate/timing, and current gear/engine torque.** To switch back to the engine data full page, press the **“Show Maneuver”** icon.

Another great feature of the “minimized” mode, is that this minimized data is also mirrored on the **Driver Info Center (DIC)** display in the instrument cluster, for easy/quick viewing without having to look over at the radio/navigation screen. To view the engine data in the DIC, use the steering wheel DIC controls to switch to the **“NAVIGATION”** page in the DIC, as shown below. **NOTE: DIC data display is only available when the “minimized” engine data view is active.** To fully hide the minimized data view on the radio/nav screen, while still keeping the DIC data display active, press the **“Dismiss”** icon on the radio/nav screen, shown above. Press **“Show Maneuver”** to return to the full engine data page (this will simultaneously cancel the DIC engine data display, as explained above).

If the minimized view on the radio/nav screen has been “dismissed” or accidentally cleared, simply press the rear defrost button 4 times to re-enter the AutoSync main menu.





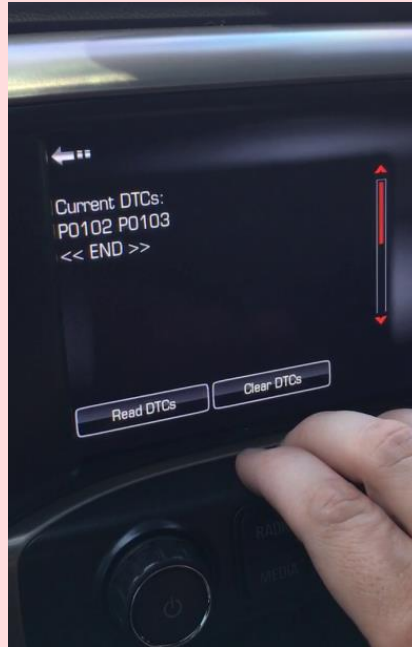
The AutoSync main menu “Page 2” shows the following menu items:



Rear Camera ON – Press this icon to momentarily switch to the backup camera display. The backup camera will display for roughly 5 seconds, and then automatically return back to the AutoSync menu.

High Idle – Activates the ~1200rpm manual high idle mode. Excellent for warming up the engine in the cold, improving air conditioning performance while parked in extreme hot weather, or jump starting other vehicles. Vehicle must be stopped, transmission in park, and foot off brake pedal. High idle icon shows “ON/OFF” depending on whether manual high idle is active/inactive. If brake pedal is applied while high idle is active, high idle will automatically turn off. **NOTE: high idle may take ~15 seconds to fully “kick in” and reach 1200rpm, this is normal.**

Current DTCs – Display any current or pending powertrain Diagnostic Trouble Codes. NOTE: DTC reading is automatically initiated as soon as you press the “Current DTCs” menu icon. **Do NOT immediately press the “read DTCs” button.** WAIT several seconds for DTCs to show up, and the screen to show “<<END>>”. If the DTCs or “<<END>>” does not show up within ~5 seconds, press the “Read DTCs” icon to re-initialize the DTC request process. To clear all current DTCs, press the “Clear DTCs” button.

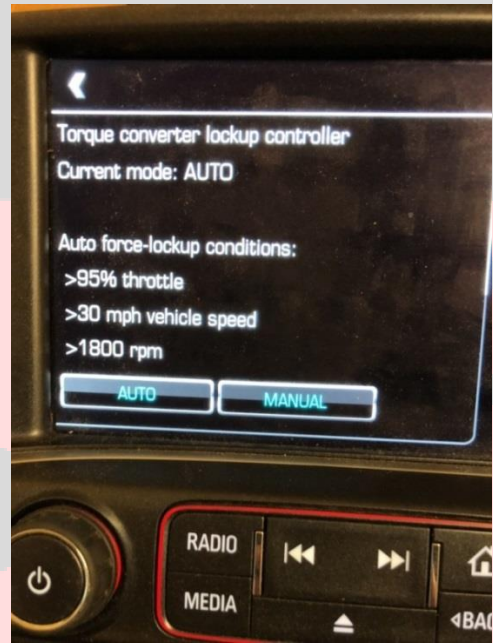
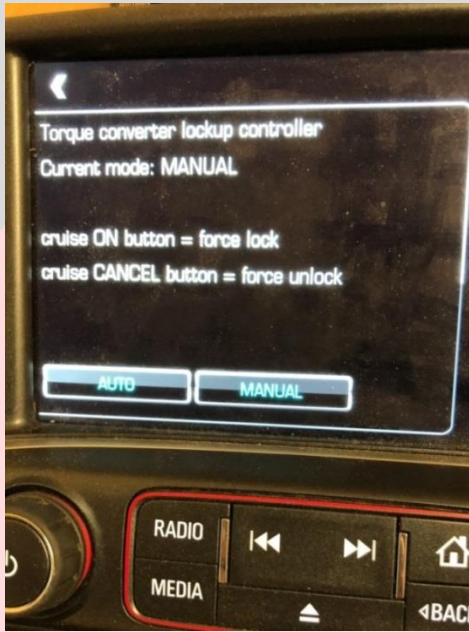


TC Lockup Controller (optional feature) – Activates the Allison torque converter lockup controller feature. The lockup controller has two modes: automatic and manual. Automatic mode will automatically immediately force lock the torque converter whenever the accelerator pedal is greater than 95%, vehicle speed is above 30mph, and engine speed is over 1900rpm. Manual mode allows the user to have full manual control of the torque converter lockup, as long as the vehicle speed is above 25mph and the brake pedal is NOT applied. When in manual mode, press the cruise control ON/OFF button to force-lock the converter. Press the cruise control CANCEL button to force-unlock the converter. **If the brake pedal is applied (or AutoSync menu is exited), the torque converter lockup controller is immediately disabled and the torque converter control returns to factory state.**

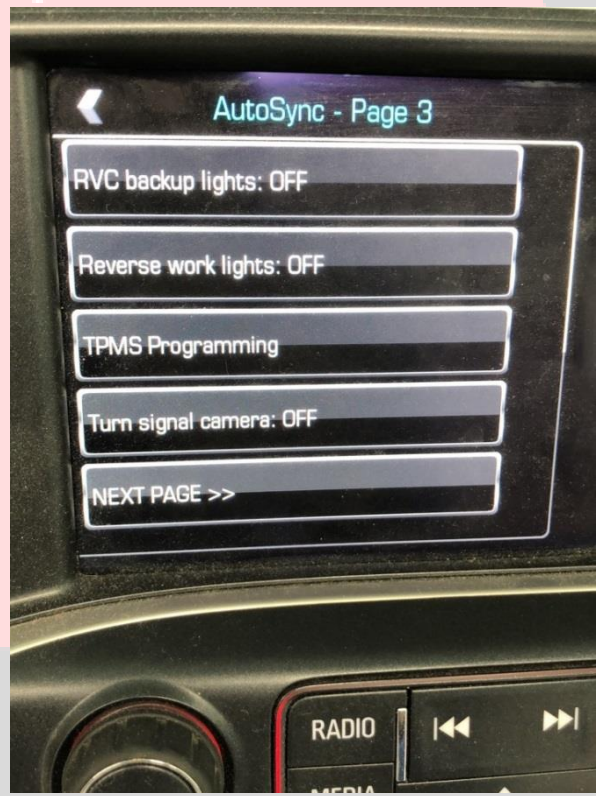
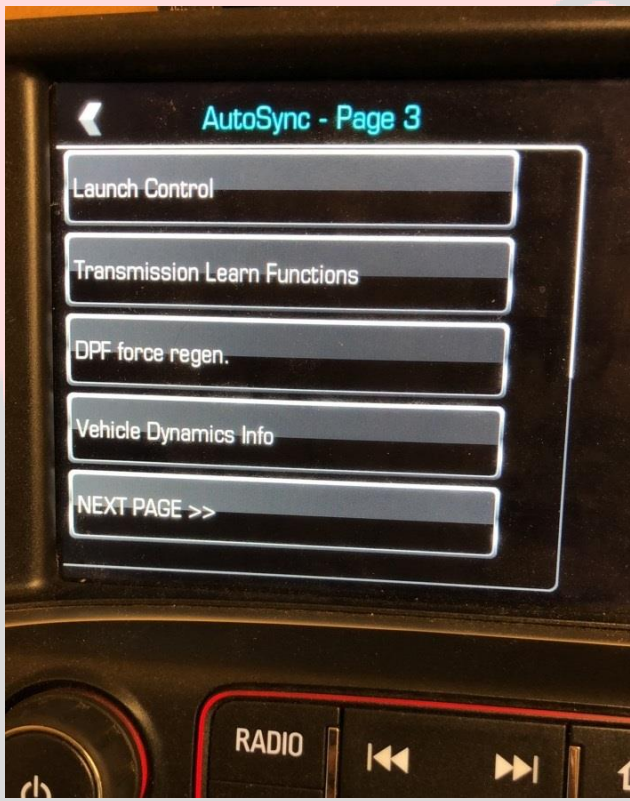
To select auto or manual mode, simply press the “AUTO” or “MANUAL” icon buttons on the bottom of the screen.

NOTE: generally the only acceptable time to use the **manual** torque converter lockup mode is during sled-pulling where true complete force lock/unlock capability is required, it is not recommended to be used constantly during daily driving...this isn't an old Cummins 4-speed!

The automatic lockup controller mode can be used any time, on the street or track.

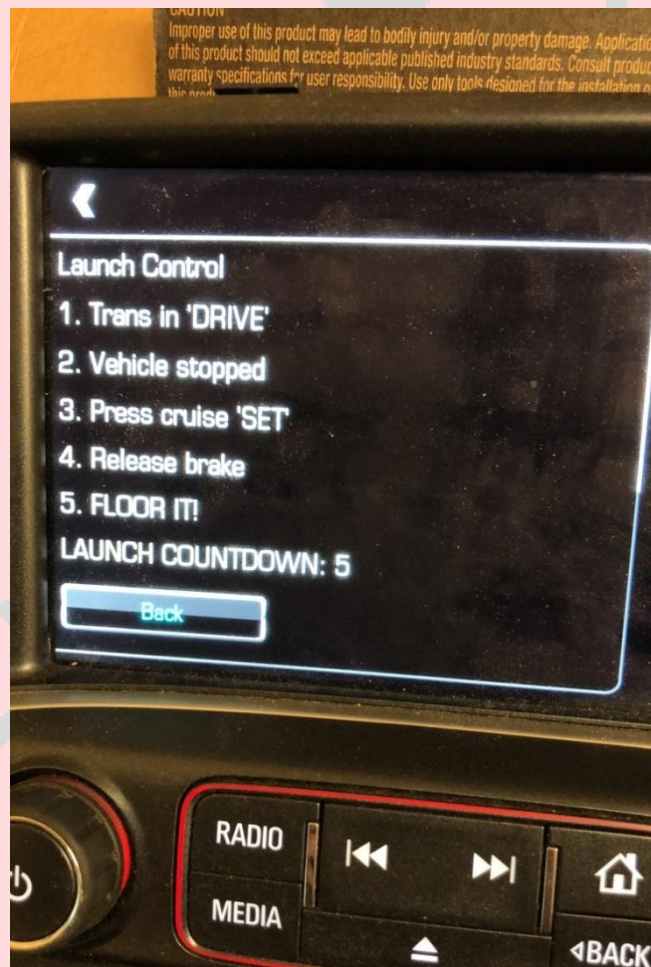


**AutoSync main menu “Page 3” with engine ON (left) and engine OFF (right).
Page 3 menu items are different depending on engine run status!**



Launch control (optional feature) – This exclusive feature uses the ABS module to act as a ‘smart’ line-lock/automatic launch control feature. The vehicle should be in 4-wheel-drive, and have the brake pedal firmly applied before activating. Follow the on-screen instructions, and when you are ready to activate it, press the cruise control “SET” button. The ABS module will then close the wheel circuit outlet valves, close the TCS isolation-cut valve, and run the pump motor for several seconds to apply and hold the brakes. You will hear the ABS motor run for ~2 seconds and feel some vibration in the brake pedal; this is normal. When the ABS motor stops running, the launch control braking is fully charged. An on-screen countdown (5, 4, 3, 2, 1) will display, and you can release the brake pedal and bring the engine RPM’s up to ~2200rpm. When the countdown hits 0, the ABS module will immediately open the wheel circuit outlet valves and TCS isolation-cut valve to immediately dump brake pressure and launch the truck.

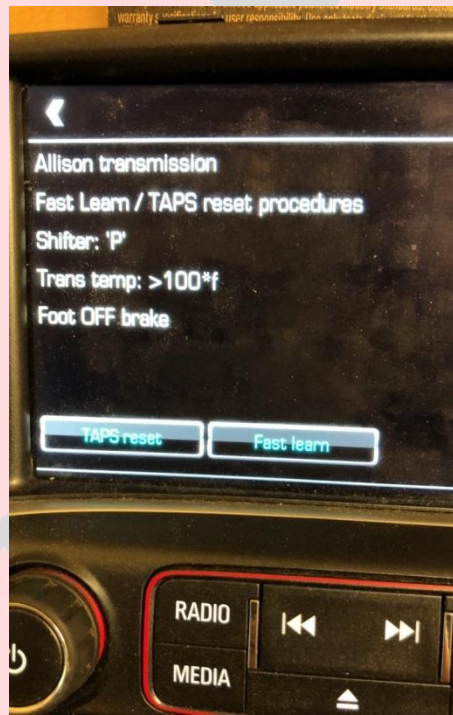
You can also manually release brake pressure and force-launch the truck at any time during the countdown by pressing the cruise control “RESUME” button.



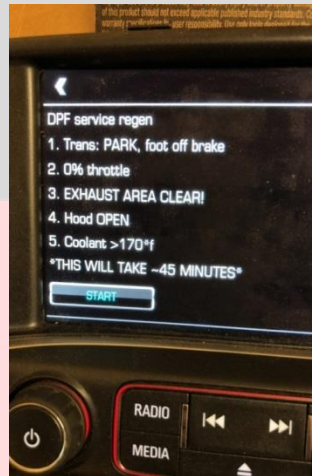
NOTE: It is strongly advisable to **NOT** use launch control repeatedly, and you should allow several minutes’ cool-down time for the ABS pump motor and ABS solenoids between launch control events. Repeatedly/continuously using launch control MAY cause premature wear on the ABS pump motor and solenoid valves.

Transmission Learn Functions – Allison transmission TAPS reset and Allison transmission fast learn procedure functions. TAPS reset clears the adaptive shifting values, and fast learn performs a complete clutch fill and release timing/volume learn procedure. TAPS reset can be used if the transmission is shifting harshly after drastically changing ECM tuning, or otherwise increasing the engine power level. Fast learn should ONLY be used once upon initial installation of a new or rebuilt transmission. Fast learn is a three-stage dynamic process that will take several minutes and require the driver to shift the transmission between forward/reverse while the TCM applies clutches and measures fill/apply times. **When fast learn is initiated, the radio screen will show further instructions on how to complete the Fast Learn process (shift to drive, shift to reverse, etc).**

Do NOT use TAPS reset or Fast Learn without first consulting your tuner or transmission builder!



DPF force regen. – Manual/service Diesel Particulate Filter regeneration-cleaning procedure. Use this if your truck is stuck in limp mode due to a clogged DPF, or the truck is otherwise refusing to complete a normal DPF regen on its own. Follow the on-screen instructions, and press start. **NOTE: be sure the truck has at least ½ tank of fuel, the hood is open, the truck is outside, and the exhaust area is COMPLETELY CLEAR. During the DPF service regen, the exhaust exiting the tailpipe will be extremely hot! DPF service regen can sometimes take up to 45 minutes to complete, so plan accordingly before initiating a DPF service regen!**



Vehicle Dynamics Info – Displays live chassis-dynamics data from the stability control and traction control systems. Vehicle dynamics PIDs include: **Longitudinal acceleration** (forward/backward Y-axis G-force), **Lateral acceleration** (side-to-side X-axis G-force). **Oversteer/understeer** (if the vehicle is steady on its driver-intended path, if there is adverse yaw creating an oversteer-fishtailing event, or an understeer-‘plowing’ event). **Yaw rate** (yaw/Z-axis rotation rate). **TCS torque request** (engine torque as requested by the traction control system, during wheel-slip, you will see this PID showing that TCS is requesting torque reduction). **Brake apply pressure** (how much brake fluid pressure is being applied to the brake calipers, whether it be by the driver pressing the brake pedal, or the ABS module applying brake pressure during a TCS/ESC event).

In similar fashion to the engine data display page, the vehicle dynamics page also records peak records that can be recalled by pressing the **“RECORDS”** icon, and cleared by pressing the **“RESET”** icon on the vehicle dynamics records page.



RVC Backup Lights – This setting is to configure how the Rear Vision Camera is powered. From the factory, the backup camera is spliced into the reverse lights circuit, so it is only turned “on” when the reverse lights are on. As a consequence of this, the only way for the AutoSync to manually turn on the backup camera, is for the AutoSync to also command the reverse lights on for a half second (to power on the camera).

If you find this “quirk” objectionable, you can re-wire the backup camera to just be powered on all the time, instead of only when the reverse lights are on. This involves switching some wires in the underhood fuse box. Rewiring the camera to be “on” all the time will have zero adverse effects (the Tahoe/Suburban SUVs actually have their backup cameras wired permanently “on” from the factory, I’m not sure why GM decided to wire the camera to the reverse lights circuit only on the pickup trucks) besides having to take the extra time to splice/move some wires.

If you do not want to do any rewiring and do not mind the fact that the reverse lights will flash for half a second if you manually turn the camera on while driving, set the “RVC Backup Lights” button to ON. If you want to do the camera re-wire and eliminate the reverse light flash, set the “RVC Backup Lights” to OFF.

NOTE: If you have the “RVC Backup Lights” set to OFF without having done the wiring modification, the radio screen will be blank and say “service rear vision system” if you use the AutoSync to manually turn the backup camera on while driving. CHECK THIS SETTING FIRST BEFORE EMAILING ME SAYING “HEY, THE BACKUP CAMERA OR TURN SIGNAL CAMERA FUNCTION DOESN’T WORK!”

Reverse Work Lights – This setting is to enable/disable the automatic work light function when the vehicle is shifted into reverse. If set to “ON”, the pickup truck bed lighting, and mirror spot lamps (tow mirrors) will automatically be triggered on when the vehicle is shifted into reverse. This can be helpful for more effectively illuminating the sides of the vehicle and areas where the factory reverse lights will not reach. If you do not want this feature, set it to “OFF”.

NOTE: when set to “ON”, there may be a half-second delay after shifting into reverse before the reverse work lights are triggered on. This is intentional, to prevent an annoying “quick strobe” of the lights when you’re shifting directly from park to drive and the shifter passes through reverse.

TPMS programming – This page is for resetting the TPMS warning threshold pressure, or to disable the TPMS completely and suppress all warning messages/error lights. Follow the on-screen instructions to program the TPMS. To disable TPMS, scroll “up” with the ‘+’ button on the transmission shift lever until the screen shows “TPMS setting: DISABLED”. Press “PROGRAM” to save the selected setting. Once you have programmed the desired setting, turn ignition OFF for 1 minute to save settings. NOTE: TPMS

menu can only be accessed once per ignition cycle. If you accidentally exit the TPMS menu and want to re-enter it, cycle the ignition OFF, wait 30 seconds, then cycle ignition ON again.



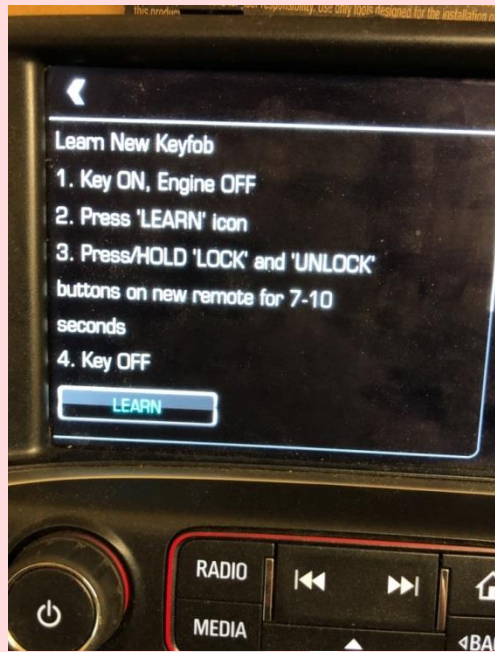
NOTE: when the AutoSync is set to disable TPMS, the truck will still chime and display a temporary “TPMS DISABLED” message on the radio/navigation screen after startup. This is simply to warn the driver that TPMS has been disabled by AutoSync. **Do NOT press “Show Maneuver” or “Dismiss”, this on-screen TPMS warning message will self-clear within 5 seconds.**

Turn signal camera – This setting is to enable/disable the AutoSync feature that automatically activates the backup camera for several seconds whenever a turn signal is activated (helpful for checking blind spots). NOTE: Be sure to read the detail about the backup camera wiring and “RVC backup lights on/off” setting at the top of this page, as the turn signal camera function is also associated with how the backup camera is powered!

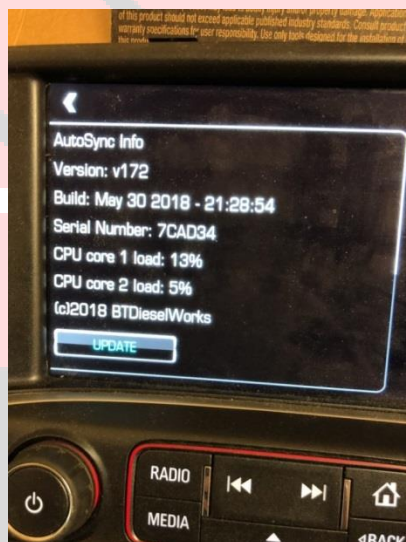
AutoSync main menu “Page 4” shows the following menu items:



Remote Keyfob Learn – Function used for learning additional remote keyfobs to the vehicle. New keyfobs can be easily purchased online, and then learned using the AutoSync. No need to visit the dealer! Each vehicle can learn a total of 8 keyfobs. Press the “LEARN” icon and follow the on-screen instructions. **NOTE: this procedure will NOT invalidate/clear/unlearn previous existing keyfobs, it will simply add the new remote to the existing list of programmed remotes.**



AutoSync Info – Displays current AutoSync internal system hardware/software/ID info. “UPDATE” icon is to initiate the “Over The Air” software update function. AutoSync has the ability to wirelessly connect to the internet via WiFi and automatically download/install software updates. **NOTE: Do NOT press this icon. The OTA update feature is currently inactive, but will be enabled in the near future.**



Performance Timer – This feature allows the user to measure the vehicles 0-60mph time. Follow the on-screen instructions to use the feature. If the vehicle is moving, the status will show **“NOT READY”**. When the vehicle is completely stopped and the timer is ready to begin, the status will show **“READY”**. As soon as the vehicle starts moving, the timer will begin counting and the status will show **“RUNNING”**. When the vehicle hits 60mph, the status will show **“COMPLETE”**, and the 0-60mph time will be displayed on the screen. The AutoSync will automatically store the fastest time, and this time will be saved even if the AutoSync is unplugged. If a faster 0-60mph time is accomplished, the AutoSync will automatically update the saved “Best time”. To clear the “best time” records and reset the value to the default max time (65.54 seconds, computer nerds will get this, ha), press the **“Clear Records”** icon.

NOTE: This test will only be accurate if your tire size is set correctly! If you have larger-than-stock tires and your ECM tune/speedometer has not been corrected for the larger size tires, this 0-60mph time will be inaccurate. Using GPS, verify that your speedometer is correct to ensure accurate results.

DRL setting – This feature allows you to modify the Daytime Running Light settings/configuration on your truck. There are 5 options to scroll through. Stock, Fog lights, fog lights w/LED, disabled, disabled w/LED. The “w/LED” descriptor denotes whether your truck has factory separate LED DRL’s, or just uses the low beam headlights as DRL’s.

For example: All GMC pickups (except base models) have the separate LED DRL’s, 2016-2018 half ton Chevrolet pickups have LED DRL’s, and all fully loaded Tahoe/Suburban/Yukon/Escalade SUV’s have LED DRL’s. All 2014-2015 Chevrolet pickup trucks do not have LED DRL’s, and 2015-2019 Chevrolet HD pickups do not have LED DRL’s. Select “w/LED” if your truck has factory LED DRL’s.

However there may be some exceptions where you would want to use a different setting than described above. For example if you have a GMC with factory LED DRL’s and you want to have the fog lights AND the factory LED’s both be on during DRL operation, select the “fog lights” option, NOT the “fog lights w/LED” option.

If there is a problem with the truck’s factory **Ambient Light Sensor** (the little bubble on the center dash near the windshield that senses how light/dark it is), the menu button will say “ALS Invalid!”. When there is a problem with the truck’s ALS, the AutoSync will disable its DRL features as a safety precaution. Double-check that the ALS on the dash is not damaged or unplugged. **VERY IMPORTANT: your truck’s ALS wiring and all other BCM wiring MUST BE STOCK!!!! DO NOT WIRE IN ANY RESISTORS OR DIODES OR CUT ANY WIRES GOING TO THE ALS! DO NOT HAVE ANY “all 6 on high” DIODES OR ANYTHING LIKE THAT INSTALLED!**

Window control / mirror fold control – With the AutoSync, it is easy to open and close windows, and fold/unfold mirrors (if equipped) with the remote keyfob lock/unlock buttons while the vehicle is off and

within range of the keyfob. **First, be sure that the “remote window operation” is set to “ON” in the factory radio/nav settings.** From the factory radio home screen, press the settings icon, then “vehicle”, then “remote lock, unlock, start”, then “remote window operation”, set to ON.

-To unfold the power-fold mirrors (if equipped) and open all of the windows while the truck is off, hold the “UNLOCK” button on the remote keyfob.

-To fold the power-fold mirrors (if equipped) and close all of the windows while the truck is off, hold the “LOCK” button on the remote keyfob.

NOTE: sunroof open/close and rear sliding window open/close is NOT supported by remote control

Fog lights with high beams – AutoSync will automatically command your fog lights on when you have high beams selected. Otherwise known as “all 6 on high”...without the need to install diodes/wires!

Auto headlights override (CANADIAN TRUCKS ONLY) – From the factory, Canadian trucks have the BCM programmed to make it impossible to manually shut off the headlights at night. This is due to Canadian vehicle lighting regulations. If you have a Canadian truck and wish to completely shut off the headlights at night: Truck must be first stopped and in PARK. Turn the headlight knob to the “manual parking lights” position (one click to the right of ‘auto’). Pull back the turn signal lever/high-low beam switch to the “flash to pass” position and hold it for several seconds. You will hear a chime and then all of the vehicles exterior lights will turn off, then you can release the turn signal lever. To turn the lights back on, turn the headlight switch back to “auto” or “headlights on”. For safety, the AutoSync will always automatically turn the lights back on if the vehicle goes above approximately 30km/h (18mph),

Video override – AutoSync can disable the factory video lockout features that prevent use while the vehicle is not in Park. To activate this, be sure the vehicle is in Drive, and press-hold the cruise control ON/OFF button for approximately 4 seconds. You will hear a chime and a “Video In motion active!” message will pop up on the screen for several seconds and then self-clear. The video lockout will then be disabled. You must re-initiate this override function every time the vehicle is restarted or shifted back into park. Unfortunately, navigation destination entry function is not able to be overridden by AutoSync. **THIS FUNCTION IS ILLEGAL TO USE ON PUBLIC ROADWAYS. DISTRACTED DRIVING CAN BE DEADLY TO YOURSELF AND INNOCENT BYSTANDERS!!!! DON'T BE A RECKLESS IDIOT!**

EFILive DSP-5 / EZ Lynk SOTF switching – AutoSync enables an alternative to engine tune switching that is much cleaner and more attractive than the traditional rotary “knob”. The “DSP/SOTF signal” wire is a required additional accessory (sold separately) in order for the AutoSync to utilize this feature.

-Unbolt the OBD port from the dash bracket, and remove the top row blue plastic retainer clip using a small screwdriver or pick. Insert the AutoSync DSP/SOTF wire into pin position 8 (top row, furthest right...confirm with the small pin location numbers printed on the OBD port connector itself).

-Cut the "SIGNAL" wire going to your existing rotary DSP/SOTF knob switch. Usually this wire color is purple or yellow, and goes to Pin 11 on the gray ECM "C3" connector. Splice the AutoSync DSP/SOTF wire to the DSP/SOTF signal wire that you just cut. The ground (usually black) wire going to the old rotary switch can be cut/taped off/removed. **BE SURE TO TRIPLE CHECK WHICH WIRES YOU ARE WORKING WITH. SPLICING THE AUTOSYNC DSP/SOTF WIRE TO THE "GROUND" WIRE OF THE OLD ROTARY KNOB SWITCH OR OTHERWISE INSTALLING INCORRECTLY WILL DESTROY THE AUTOSYNC AND VOID ALL WARRANTIES!**