



Installation Manual

TCM930 - NTPS Transmission Controller

Designed to be used on **Dodge RAM®** electronic control transmissions
Models 46RE, 47RE and 48RE **RWD or 4WD Diesel or Gas vehicles**

WARNING!

Components inside are STATIC sensitive.

Before making the connections we recommend you discharge any static from your body by touching a earth grounded piece of metal such as a metal water pipe or any metal that is in contact with moist soil. Use caution when touching any of the terminals, connectors or wires going to the controller.

Choosing a good location for the controller is important. It was not designed for under hood, motor compartment or wet location installation. It should be installed in the passenger compartment of the vehicle. Recommended locations are under the dash or in a console. It is also good to be out of direct sun light. If under dash installation is chosen be sure it is not in direct contact to the fire wall that is exposed to the engine or exhaust system heat. Electronics last much longer when kept in a cooler location. Keep in mind you have wires that go to the transmission and the fuse box. The transmission harness may need splicing in order to reach the connectors. Any splicing should be done in a professional manner with the appropriate size wire, all connections soldered and wrapped properly with tape or heat shrink and then covered with tape or wire loom. Shorts or faulty connections can cause radical behavior and may damage the controller or transmission. **Damage caused by shorts are not covered by the warranty.**

1: Connect the ground and power cable first.

The 12V- Negative (**BLACK**) must have a good connection to the vehicle chassis or Negative wire from the factory wiring harness a minimum wire size of #18 is recommended. Without a good ground the controller will not function properly.

The **12V + Positive (PINK)** should be connected to the fuse block on the ignition switch side so that the power is switched OFF and ON with the Ignition. Should only be connected to a 10 AMP fuse DO NOT use with a fuse larger then 10 amps.

2: Wiring the transmission connector can be done next.

If you have a vehicle that came with a computer controlled transmission and you are keeping the same model of transmission then we suggest not cutting the entire wiring harness. You will only need to locate the correct wires for each solenoid and cut it so it can then be spliced to the control harness. That will save you from having to reconnect the power wires and ground wires. There are 3 to 5 major connections to be made. See the included wiring diagram for your model of transmission.

3: Making the connection to the VSS (vehicle speed sensor).

The controller has 2 wires that are used to connect a VSS sensor. The wires coming from the controller are color coded to match a 96 Up Dodge Ram sensor. **(LT/BLUE and GREEN wire)**

This signal is the primary signal to regulate the Governor Pressure Solenoid and is critical for controller and transmission operation.

4: Torque Converter Clutch Engagement over-ride switch. (BLUE wire)

The Torque Converter Clutch (TCC) can be locked or unlocked with this switch.

This must be a **momentary** (pushbutton or toggle) type switch. It should be connected to chassis ground on the other side of the switch so when applied it momentarily grounds the wire to the controller. The TCC will disengage under a set MPH or when the transmission down shifts from OD (4th to 3rd). The speed for which it disengages is adjustable in the setup menu on the controller.

5: OD (overdrive) Disable switch. (WHITE wire)

The 4th gear (OD) can be turned OFF and ON as needed with this switch. This must be a **momentary** (pushbutton or toggle) type switch. It should be connected to chassis ground on the other side of the switch so when applied it momentarily grounds the wire to the controller.

Initial Setup:

The controller must be setup to function correctly. To set the primary configuration;

1: Hold down the small "MODE" (LEFT) button on the controller while turning on the ignition switch. You should see the first setting appear on the LCD (release the button).

2: Use the UP (Top) or DOWN (Bottom) buttons to make the settings.

The < **BACK** button will take you to the previous setting.

Press **Mode** button for setup menu

"Set MPH Reading"

" **Divider =** " followed by 3 digit reading

Adjustment made in increments of plus **5** or minus **1**

High setting: = **100** Lowest setting: = **2** (default is 11 which works for most average drive-trains)

This setting is critical to the correct function of the controller and the other settings below.

It should be calibrated with an outside reliable source such as a GPS or a smartphone GPS application. Either should be accurate enough to make the controller function satisfactory. We suggest setting this to match the GPS at 35 to 40mph . This should be done with a second person making notes and comparing the readings for safety reasons.

Press **Mode** button for the next setting or **Back** to return the previous setting

"Set Gov Pres"

" **Pres Adder** " followed by 3 digit reading

Adjustment made in increments of plus **5** or minus **1**

High setting: = **50** Lowest setting: = **1** (default is 1)

This adds to the Governor Pressure which will make the transmission shift sooner or at lower speeds for 1st to 2nd and 2nd to 3rd shifts. The controller receives it's primary input signal from the VSS (vehicle speed sensor) and this number adds to that signal for the pressure solenoid control.

Press **Mode** button for the next setting or **Back** to return the previous setting

"Set OD Engage"

" **Speed =** " followed by 2 digit reading

Adjustment made in increments of plus **5** or minus **1**

High setting: = **80** Lowest setting: = **20** (default is 40)

This is the speed in MPH that the shift from 3rd to 4th will happen when the OD is turned on. It is based on the MPH input to the controller. We suggest setting this around 40 for starters. If it is set to low and the transmission is in 4th under heavy load or high torque it could burn the clutches in the OD clutch pack.

Press **Mode** button for the next setting or **Back** to return the previous setting

"Set OD Timer"

" **OD Delay =** " followed by 2 digit reading

Adjustment made in increments of plus **5** or minus **1**

High setting: = **100** Lowest setting: = **5**

This setting adds a .5 to 5 second delay to the shift from 3rd to 4th after the MPH setting above has been achieved.

Press **Mode** button for the next setting or **Back** to return the previous setting

"Set TCC Engage"

" **MPH =** " followed by 2 digit reading

Adjustment made in increments of plus **5** or minus **1**

High setting: = **80** Lowest setting: = **30** (default is 45)

This is the speed in MPH that the Torque Converter will automatically engage. It is based on the MPH input to the controller. We suggest setting this around 45 for starters. If it is set low and the transmission is in 3rd under heavy load or high torque it could slip and burn the clutch in the Torque Converter.

Press **Mode** button for the next setting or **Back** to return the previous setting

"Set TCC Release"

" **MPH =** " followed by 2 digit reading

Adjustment made in increments of plus **5** or minus **1**

High setting: = **70** Lowest setting: = **10** (default is 20)

This is the low speed at which the TCC (Torque Converter Clutch) will automatically release or disengage. The TCC is engaged at the set speed above or with the manual switch or button. This should be set **lower** than the above Engage MPH otherwise you will create a OFF/ON cycle loop.

Press **Mode** button for the next setting or **Back** to return the previous setting

" TCC 3rd to 4th stay engaged"
" ON or OFF "

Change with the UP and DOWN buttons

This adjustment allows the Torque converter clutch (TCC) to stay engaged during 3rd to 4th gear shifts.

Press **Mode** button for the next setting or **Back** to return the previous setting

"LCD Backlight Adjustment"

Adjustable from 128 to 250

Adjust the LCD screen backlight brightness. 250 = brightest setting.

After you have made all the primary settings push the **Mode** button again and the controller will save the setting. You are only required to do this once when the controller is new - these setting are saved in **nonvolatile memory**. The settings can be changed by pushing the **Mode** button while the power is ON.

Testing the Controller

After all connections are made and all bare wiring connections are properly taped and/or heat shrink is applied then its time to test the controller. (You must first do the **Initial Setup noted above**)

With the transmission in "PARK" turn the ignition switch to "ON" as it boots up it will indicate the setup configuration first and then goes to run mode. You can now road test the controller.

If all is well then try a road test. Preferably on a road with little or no traffic.

Notes:

This is a standalone micro-controller unit and is not designed to be used in conjunction with a factory or after market ECM/TCM unit to control the transmission. This controller provides a fully automatic mode shifting capability.

On these transmissions the Positive feed is shared in the transmission for the Governor, Overdrive and Torque Converter solenoids. The solenoids are then switched OFF and ON or a PWM signal by the Negative side through the TCM to select the correct gear or Governor pressure.

This controller functions similar to the factory TCM in controlling the solenoids. The switching is on the Negative terminals of the solenoids and the Positive terminals are all common to each other.

This controller is pretested but you must make all the settings relative to your vehicle and set the input for MPH in the initial setup programming.

Warning and Terms of Use:

This product is intended for performance applications only. User accepts all responsibility for its use and application. E-Transcontrol will not be liable for any damages to your transmission, engine, drive-train or any damages to any property or people by use of this product. By connecting this product to your vehicle you fully and unconditionally agree to these terms. Use this product at your own risk.

Warranty Returns:

All E-Transcontrol products come with a limited 1 year product warranty. You can return the product directly to us for repair or replacement while under warranty. If the product is found to be defective then it will either be repaired or replaced with the current model at no cost. See the warranty document for full warranty details.

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