



Sniper Transmission Controller for Sniper 2 Quick Start Manual 551-103

NOTE: This manual is a “quick start” manual. For a comprehensive manual go to www.Holley.com and download the full manual for part number 551-103. This manual is intended to complete installation and load a base calibration.

OVERVIEW

The Sniper Transmission Controller (STC) allows the use of common GM and Ford electronic four speed transmissions. It connects to your Sniper EFI system via CAN bus and is programmed through the existing Sniper 3.5” touch screen. No programming is available with PC computer software, however the transmission functions can be data-logged and reviewed with Sniper 2 PC software. This kit is intended to work with Sniper throttle body injection systems only.

KIT CONTENTS/ADDITIONAL PARTS REQUIRED

This kit contains the Sniper Transmission Control Module as well as the Power/CAN bus harness.

The user must purchase a transmission harness separately that fits their specific transmission. These harnesses are as follows (note that these are the same harnesses used for Holley Dominator and Terminator X Max ECUs):

558-405 – GM 4L60/70/80E

558-455 – 2009+ GM 4L60E*

558-470 – 1998+ Ford 4R70W/4R75W

558-471 – 1992-1997 Ford AODE/4R70W

* The “2009+” 4L60E specifically applies to OEM/factory original applications. When dealing with a GM Performance Parts, reman, or unknown year transmission the transmission connector should be checked per the image below. If pin “F” (Circled in **Figure 1** below) IS PRESENT, you need the 558-455 harness. If it is NOT present you need the 558-405 harness. Go by THIS PIN ONLY as the other pins may vary transmission to transmission. Be sure you compare your connector to the image below by “clocking” the pins based on the connector slot.



Figure 1

REQUIRED SOFTWARE AND FIRMWARE VERSIONS

Sniper 2 units are shipped from Holley with firmware that is compatible with the STC. The ECU and 3.5 Touch Screen LCD should not need any firmware updates performed for the STC to function. Once the STC is connected to the Sniper 2 CANbus wiring and powered up, the STC should be recognized and all the STC tuning functions shown in the handheld.

GENERAL OPERATION

GM and Ford four Speed electronic overdrive transmissions are simple in operation. They have four speeds with the top gear being an overdrive and all have a lockup torque converter that eliminates any slippage when the lockup is applied. With a stock torque converter the lockup should only be applied under light throttle conditions or excessive wear will occur.

Upshifts, downshifts, and torque converter lockup are based on vehicle speed and throttle position (or optionally the MAP sensor) and are adjustable with the 3.5" touch screen.

WIRING

Install the (purchased separately) transmission harness. Connected it into the 26 pin (smaller) connector on the STC. Instructions for the specific transmission harness can be found at Holley.com under the transmission harness part number.

The 34 Pin connector has the following loose wire connections:

Red (16 Gauge) – Connect to battery power

Black (16 Gauge) – Connect to battery ground

Red/White (20 Gauge) – Connect to +12v switched ignition power

Grey/Red (20 gauge) – Fan Output 1- Optional – Turns on/off based on transmission temperature. This is a GROUND output and should ALWAYS be used to trigger a relay.

Grey/Yellow (20 gauge) – Fan Output 2- Optional – Turns on/off based on transmission temperature. This is a GROUND output and should ALWAYS be used to trigger a relay.

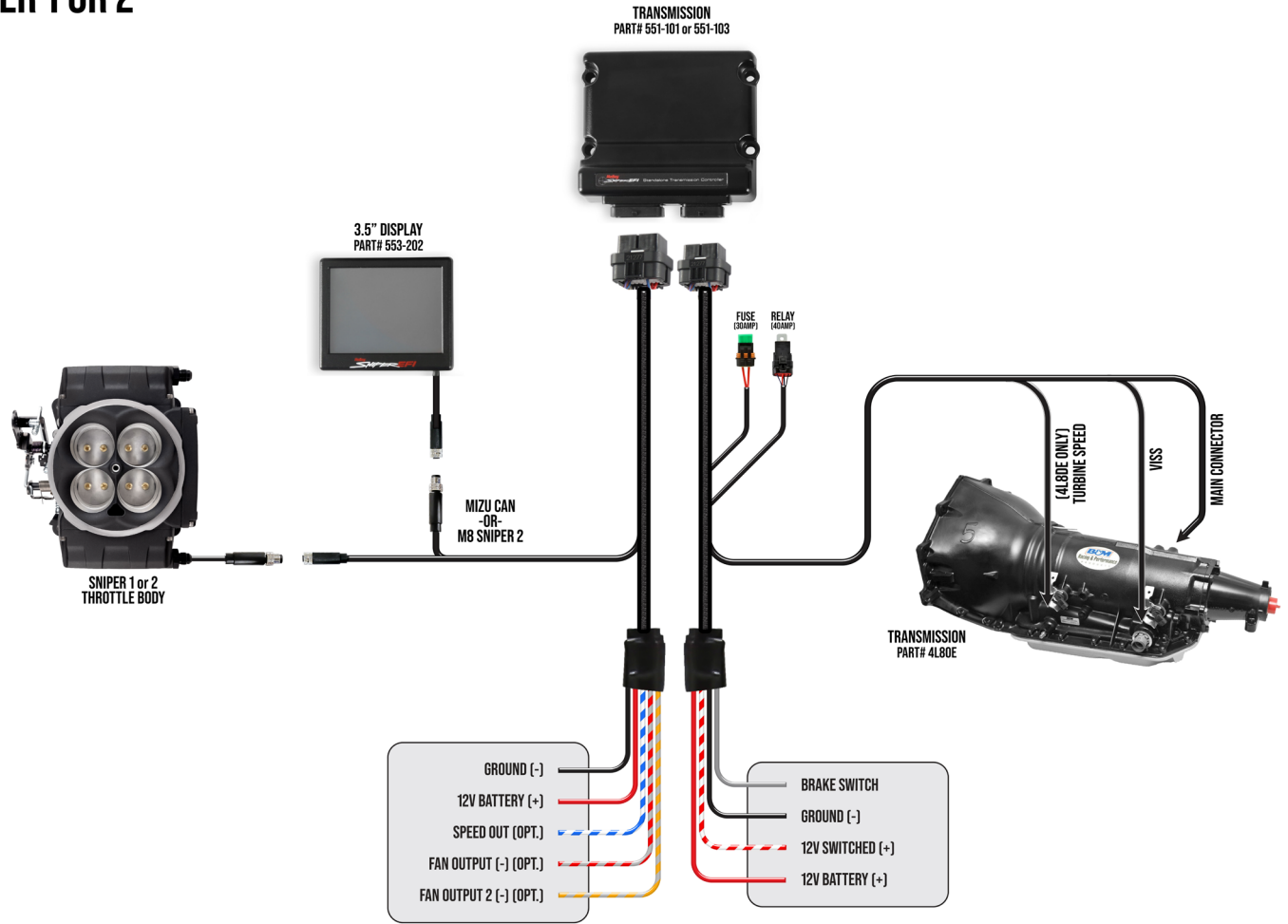
Blue/White (20 gauge) – Speedometer Output – Optional – Used to send signal to an electronic speedometer. (configure PPM setting in 3.5 handheld).

The 4 pin male and female CAN bus connectors must be installed between the Sniper ECU and 3.5" touch screen LCD.

STC 34 Pin Connector Pinout:

Description	Color	Pin
Battery Power (A2/3/4 tied together)	Red	A2
Battery Power (A2/3/4 tied together)	Red	A3
Battery Power (A2/3/4 tied together)	Red	A4
Ground (A6/7/8 tied together)	Black	A6
Ground (A6/7/8 tied together)	Black	A7
Ground (A6/7/8 tied together)	Black	A8
Fan Output	Grey/Red	A9
Fan Output 2	Grey/Yellow	A17
CAN Low	Orange	A24
CAN Power	White	A25
Speedometer Out	Blue/White	A28
CAN Hi	Tan	A32
CAN Ground	Black	A33

SNIPER 1 OR 2



INITIAL USE

Make sure the Sniper unit and 3.5" touch screen firmware are both updated. When powered up you'll see the main screen (**Figure 2**). The Sniper EFI as well as the Transmission controller functions (tuning, gauges, wizards, logging) will all be performed through the same icons in **Figure 2**.

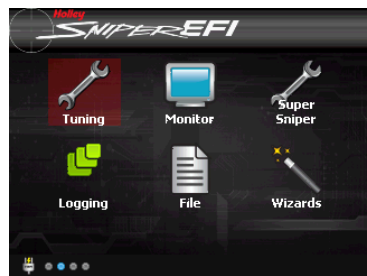


Figure 2

PERFORM WIZARD

The STC wizard must be performed. This will prompt the user to select the proper transmission, tire size, etc. This is required for the transmission controller to function.

Numeric entries can be entered using the “slider bar” or clicking on the numeric value and using the keypad. Select “Next” after making a selection or “Back” to a previous entry.

Select the “Wizards” icon.

Select the “STC Wizard” icon (**Figure 3**).

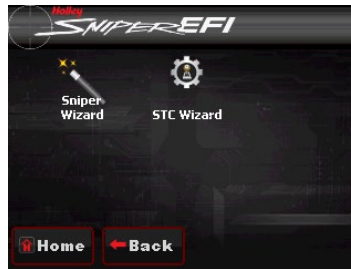


Figure 3

- 1) Select Transmission Type (**Figure 4**) - Note: The 1.63 ratio is by far the most common 4L60E version.



Figure 4

- 2) Enter Tire Diameter (**Figure 5**) – Enter Height/Diameter for rear tire in inches.



Figure 5

- 3) Enter Rear Gear Ratio (**Figure 6**).



Figure 6

- 4) The next entry is “Automatically Scale Shift Tables” (**Figure 7**). It is advised to select “Yes” to this. This will rescale all of the up/down shift tables for the user’s specific tire diameter and rear gear ratio (compared to the base calibration values of a 4.10 gear and 27.7” tire). If this is not done, up/downshifts may occur early or late and a lot of manual adjustment may be required.



Figure 7

- 5) At this point a base calibration will be created and you’ll see a file name of “AT” or “FAT” (**Figure 8**). Select “Start” and you will be prompted to cycle the ignition power. Select “Finish” (**Figure 9**).



Figure 8



Figure 9

At this point, the transmission controller programmed with a base calibration and is in a drivable condition. Use the Tuning Parameters to adjust transmission shifting, torque converter, and other operations. Refer to the comprehensive manual for information. It is highly advised to read all of these instructions and perform any adjustments before driving the car.

MONITORS/GAUGES

You can view the transmission parameters by selecting the “Monitor” icon and then either the “Monitors” or “Mulit-Gauge” icons. Monitors has two transmission specific screens (Trans #1 and #2) (**Figures 10-12**) and Multi-gauge has a “Trans/Engine” screen (**Figures 13-14**). You can set up a custom screen using the “Dash #1/2/3” screens.



Figure 10

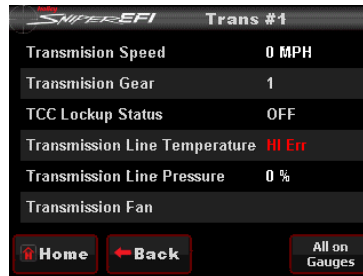


Figure 11

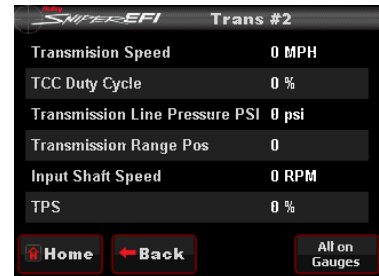


Figure 12



Figure 13

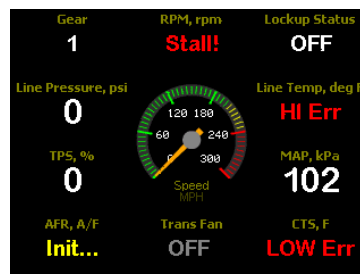


Figure 14

LED Definition

The unit has 8 LEDs. Three of them are used as follows:

LED #1 – Blinks green to indicate the unit is powered and basic operation is being properly performed.

LED #2 – This LED will light up blue when an ECU (such as a Sniper EFI unit) is connected and the STC is properly receiving CANbus information. If an ECU is connected and powered and this LED is not lit up, there is a CANbus issue (wiring connection, etc.). Note: Having the 3.5" handheld display connected by itself will not cause this LED to light up.

LED #3 – This will light up red when the unit does not have a proper calibration loaded. When it is operating properly it should not be lit.

LEDs #4-8 – None of these will be active.

Holley Performance Products
Toll Free Technical Service: 1-866-464-6553
Technical Service: 1-270-781-9741

For online help, please refer to the Technical Information section of our website: www.holley.com

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