Brought to you by:
Jim Miller & Matt Petrie

PCS

Powertrain Control Solutions.com

Engineering the future of driveline control

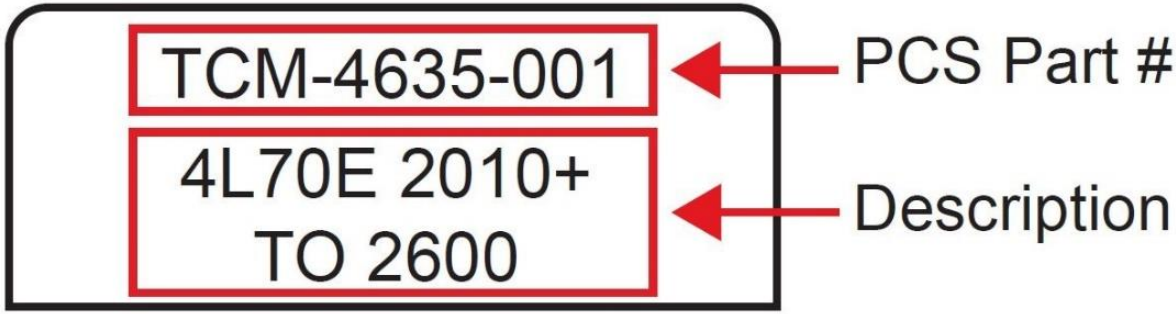
Aftermarket Datalog Tips & Tricks

Harness ID

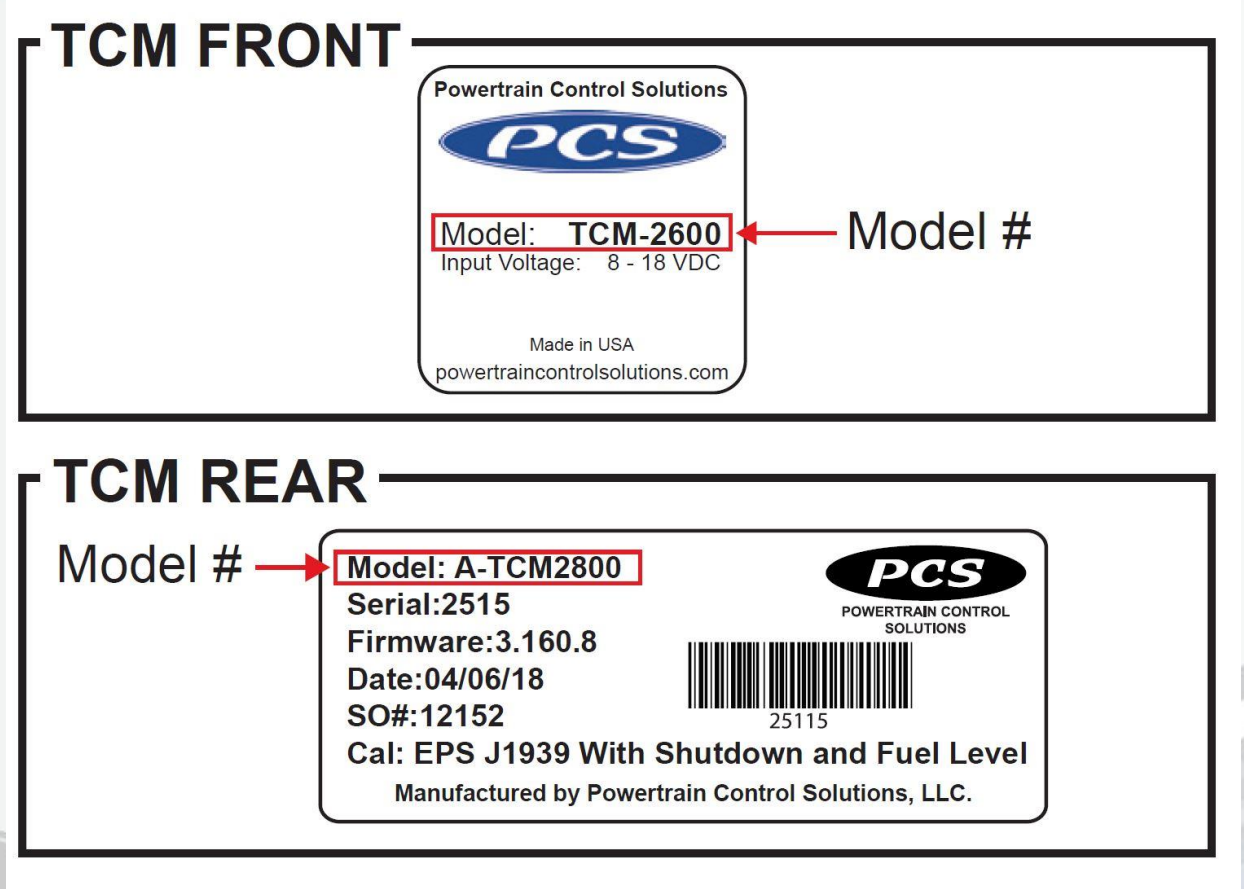
Located at the TCM breakout

Download the circuit diagram from

www.ptcs.us

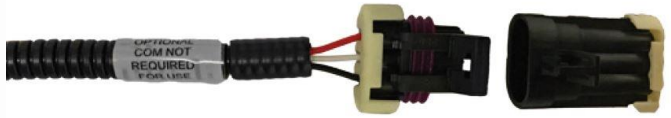


TCM ID


TCM FRONT
Powertrain Control Solutions
PCS
Model: TCM-2600
Input Voltage: 8 - 18 VDC
Made in USA
powertraincontrolsolutions.com
Model #
TCM REAR
Model #
Model: A-TCM2800
Serial:2515
Firmware:3.160.8
Date:04/06/18
SO#:12152
PCS
POWERTRAIN CONTROL SOLUTIONS
25115
Cal: EPS J1939 With Shutdown and Fuel Level
Manufactured by Powertrain Control Solutions, LLC.

TCM Communication Cable

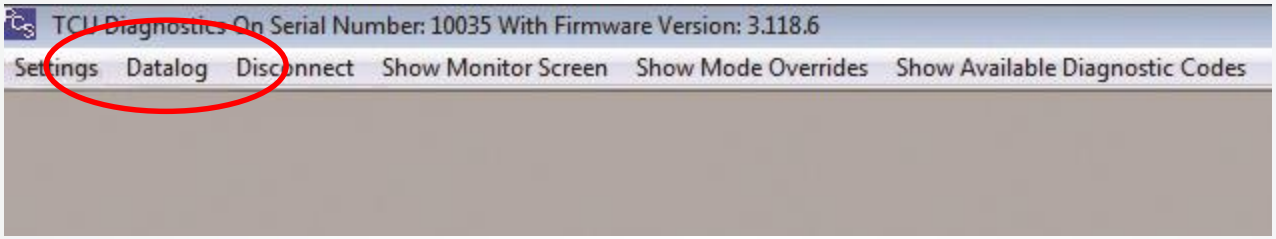
- Trans controller is accessed via a serial data interface and a Windows laptop
- The serial data interface cable kit is available from PCS. PN# TCM4180



Labeled **"OPTIONAL COM NOT REQUIRED FOR USE."**

When not in use cap is required.

Data Log



- Note the file location to find the file later for review and email.
- Default path is Documents folder.

What to Log / Save?

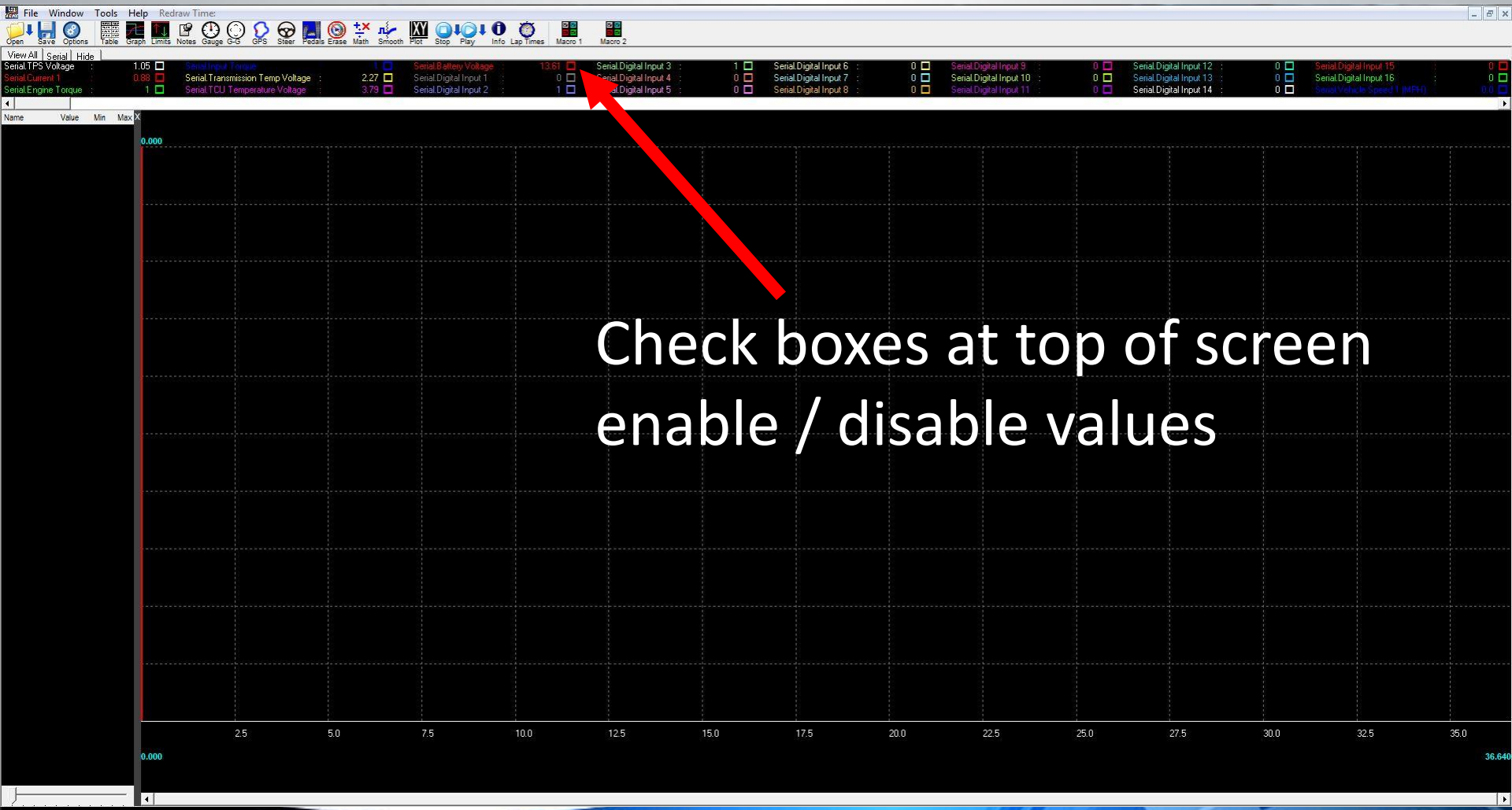
- Key the vehicle on.
- Start / Save Datalog.
- Start the engine.
- Either drive up through the gears and down to a stop, end datalog. Should be ~30-60 sec.
- Or drive the vehicle in the manner that an issue is occurring. End datalog after issue so the “time of issue” is known.

What is this Applicable to?

- **Freewheeling / Overrun style Transmissions**
- GM 4L60/65/70/75 and GM 4L80/85
- Ford AODE, 4R70/75, E4OD, 4R100
- Mod-VB Dodge 46/47/48RE
- Others may be applicable…

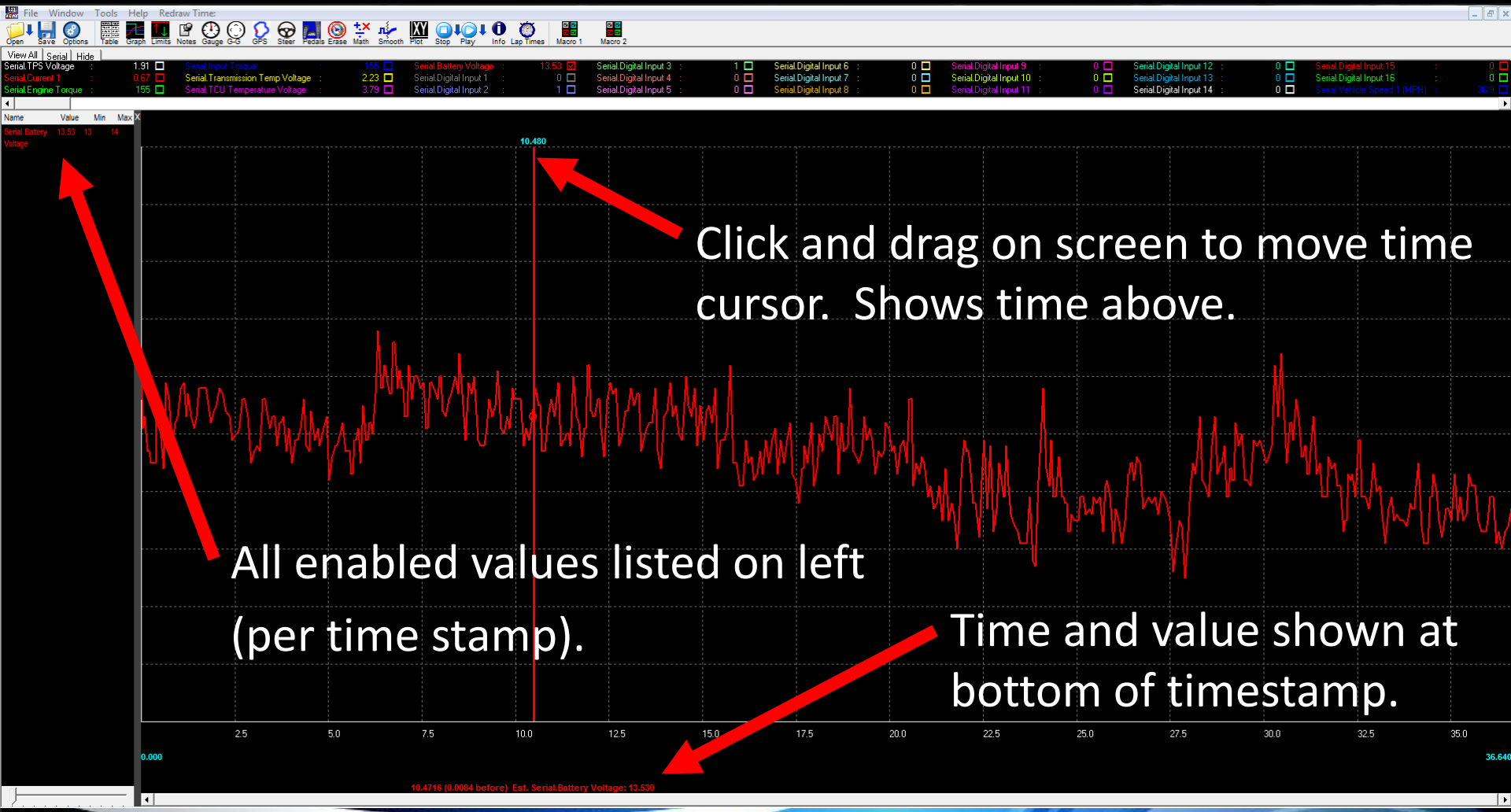
- Clutch-to-clutch requires different diagnostic systems
  - 6L, 8L, 10L, 6R, 10R, 5/6/8HP…

Enabling Values



Check boxes at top of screen enable / disable values

Reading Values

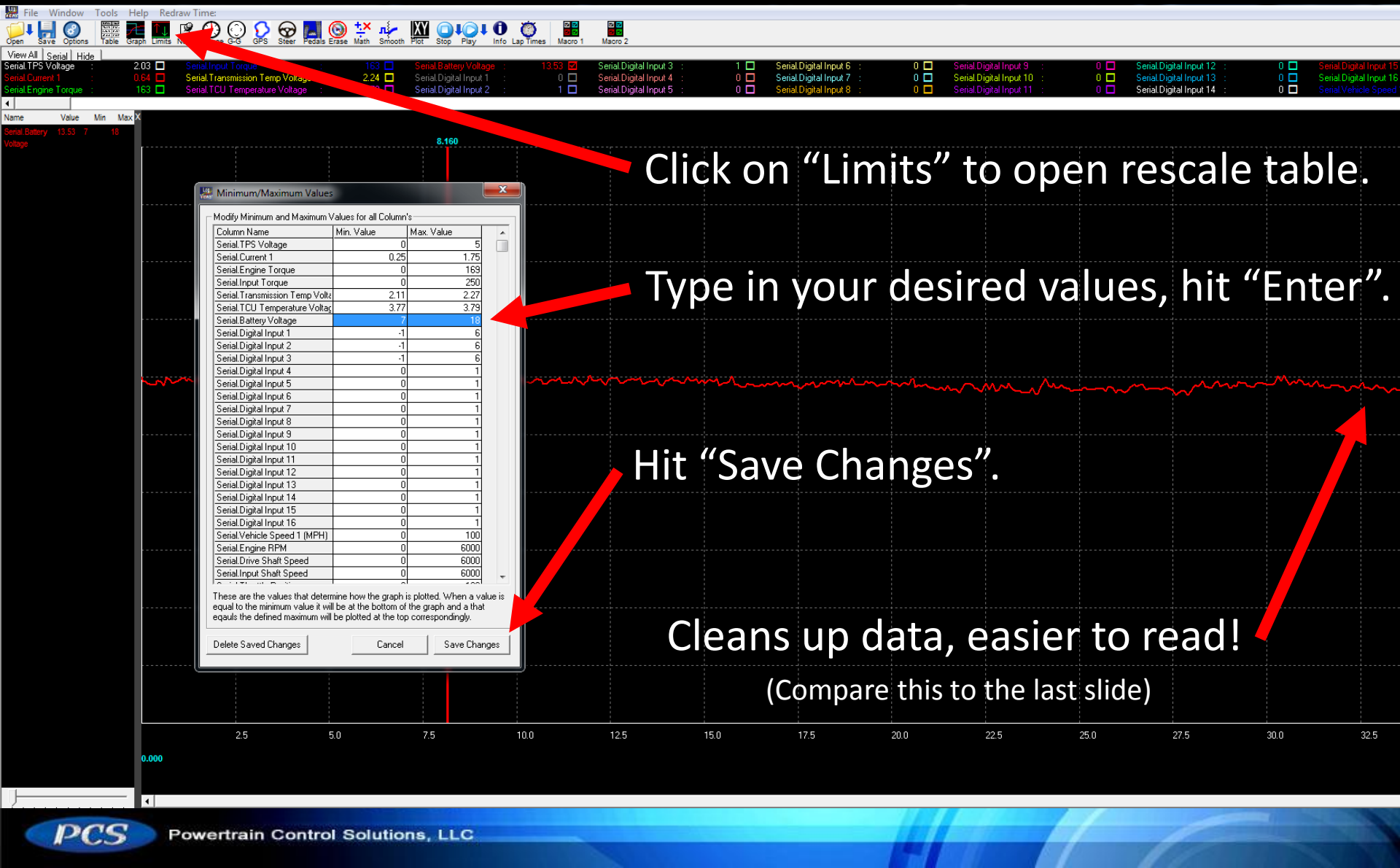


Click and drag on screen to move time cursor. Shows time above.

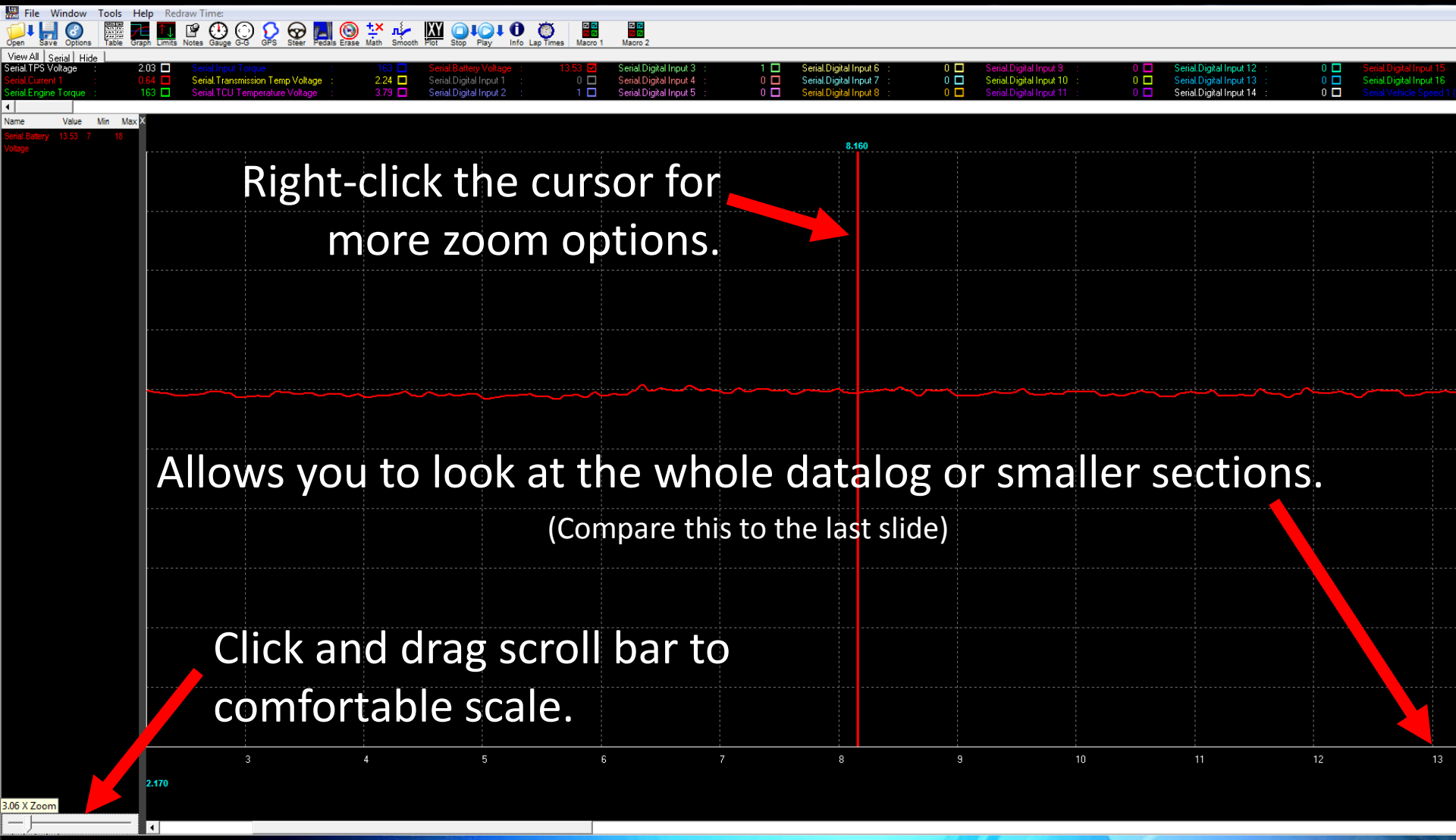
All enabled values listed on left (per time stamp).

Time and value shown at bottom of timestamp.

Re-Scaling Values



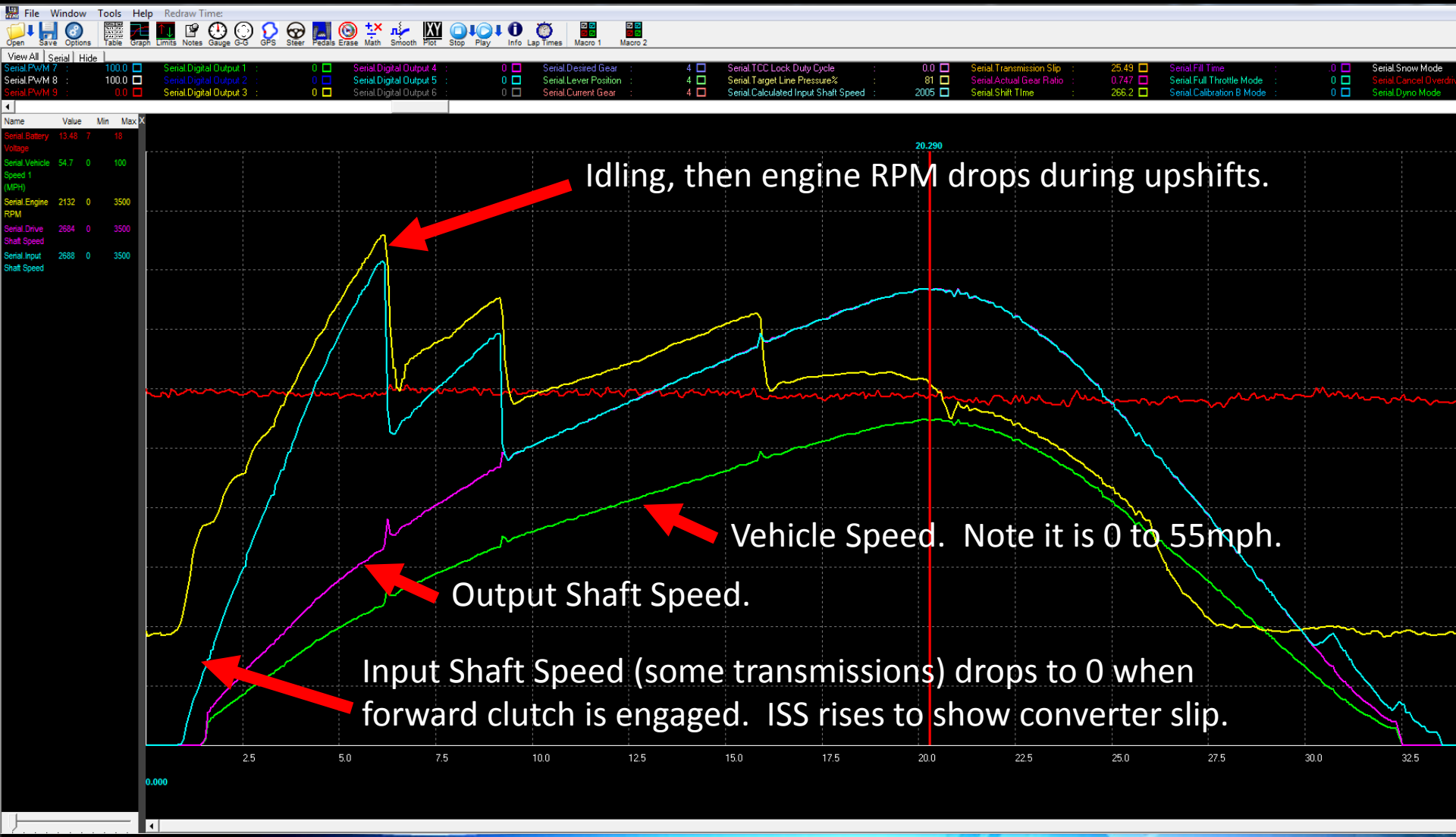
Re-Scaling Timeline



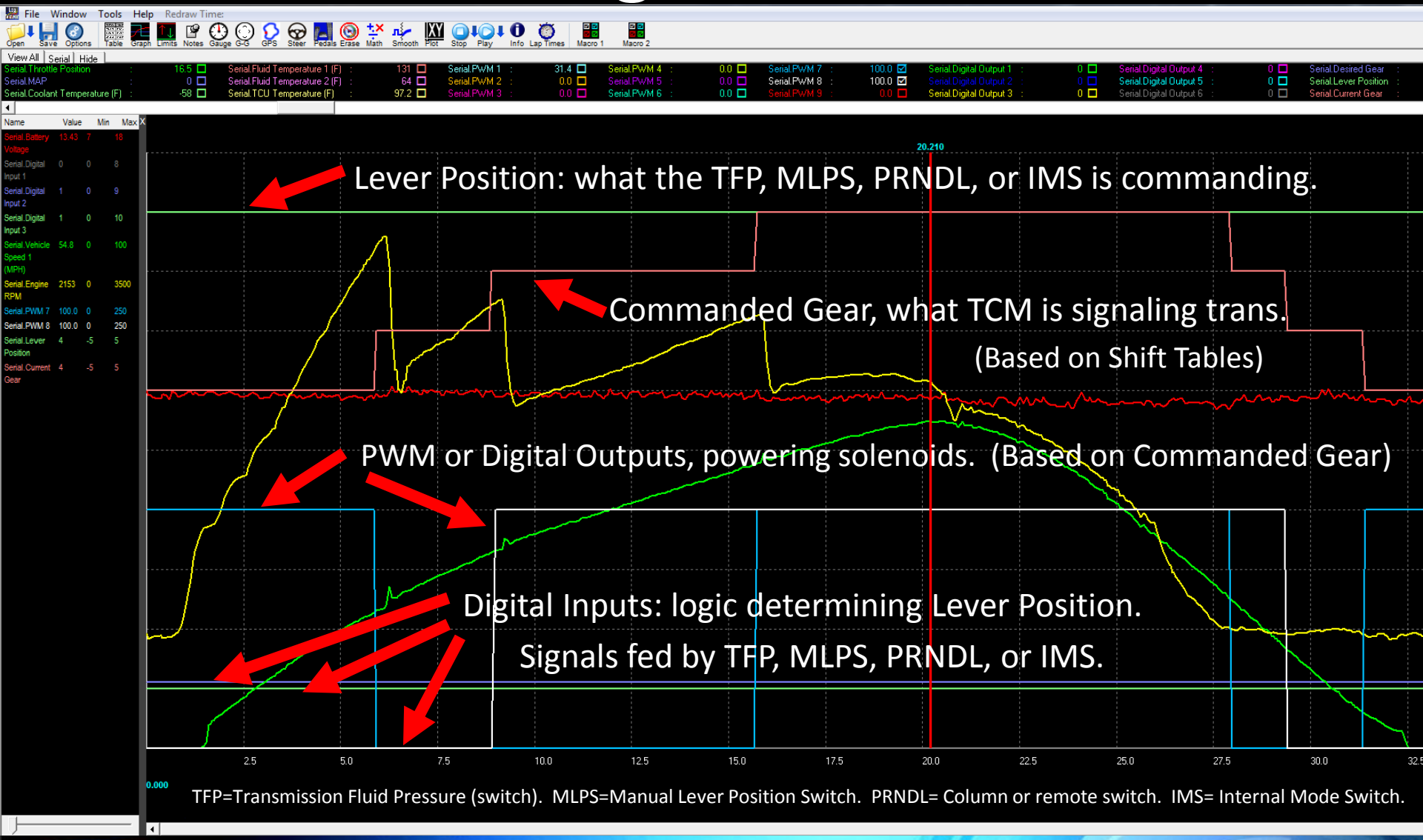
Types of Configurable I / O

- Analog Inputs
  - Is a 0-5v steady signal. For throttle position, trans temp, pressure sensors, etc…
- Analog Outputs
  - None on our system, would be 0-5v or 0-12v steady output. OEM Gauge Drivers use these.
- Digital Inputs
  - Toggle or Momentary, 12v or Ground sensing, invert-able.
  - For Lever Position, Brake Input, switches, etc…
- Digital Outputs
  - Up to 1A, providing 12v or Ground. For non-pwm-solenoids, lights, relay-control…
- Speed Inputs
  - Programmable Trigger values and 1k pull-up. Zero crossing or absolute, square or sin waves.
- Speed Outputs
  - Zero crossing output, configurable pulses-per-mile. For gauge or module outputs.
- PWM (Pulse Width Modulation) Outputs
  - Up to 1A, providing 12v or Ground. Frequency adjustable.
  - For pwm-solenoids, lights, relay control…
- CANBUS
  - Two twisted wire communication link(s). Internal resistor, set to ON or OFF. Two available on TCM's.
  - Communication Protocols are GMLAN or J1939 based on other modules.
- Serial Bus
  - Three wire communication link. Communicates with Laptop USB.

Vehicle Speed & RPM Values

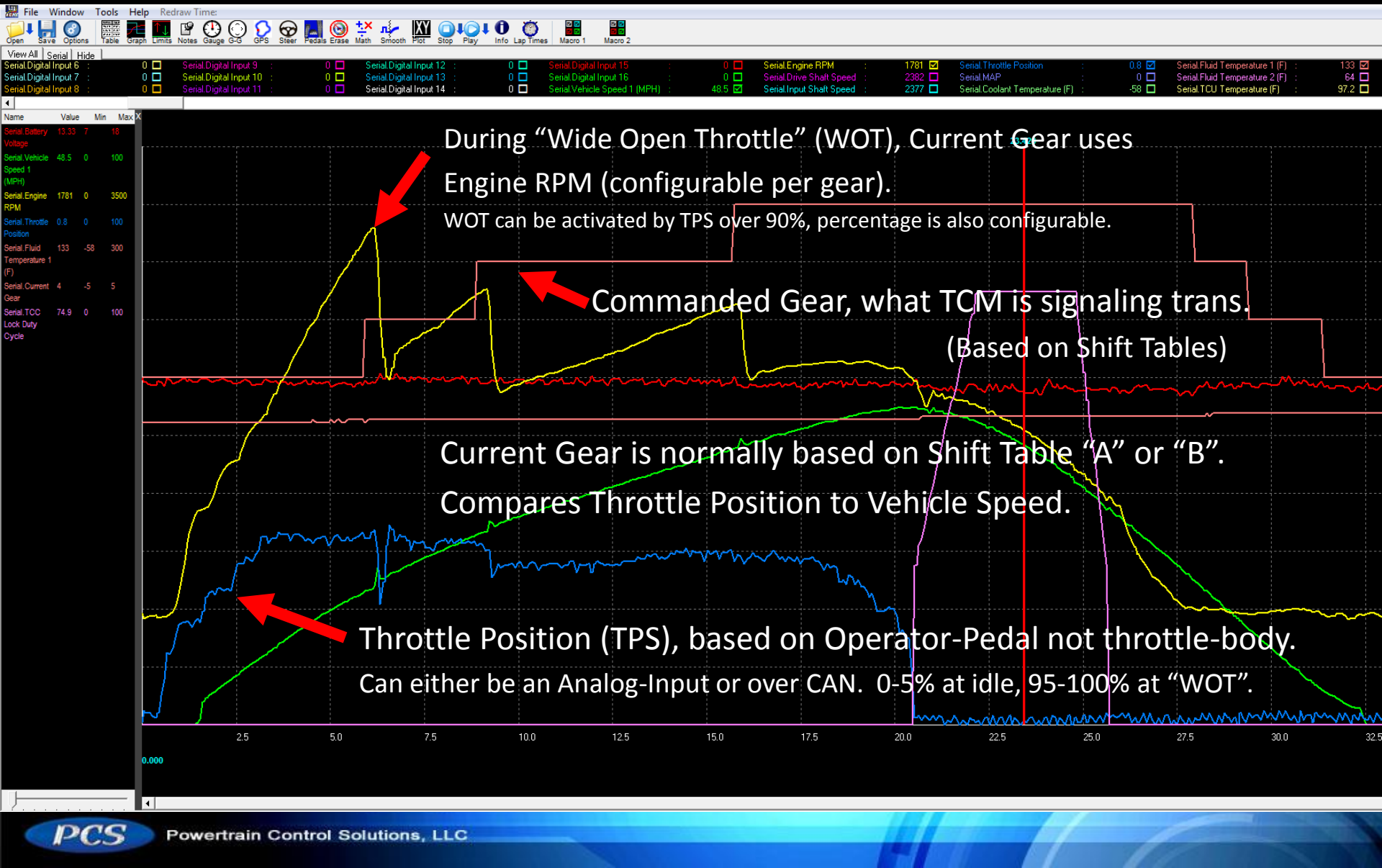


Range Values

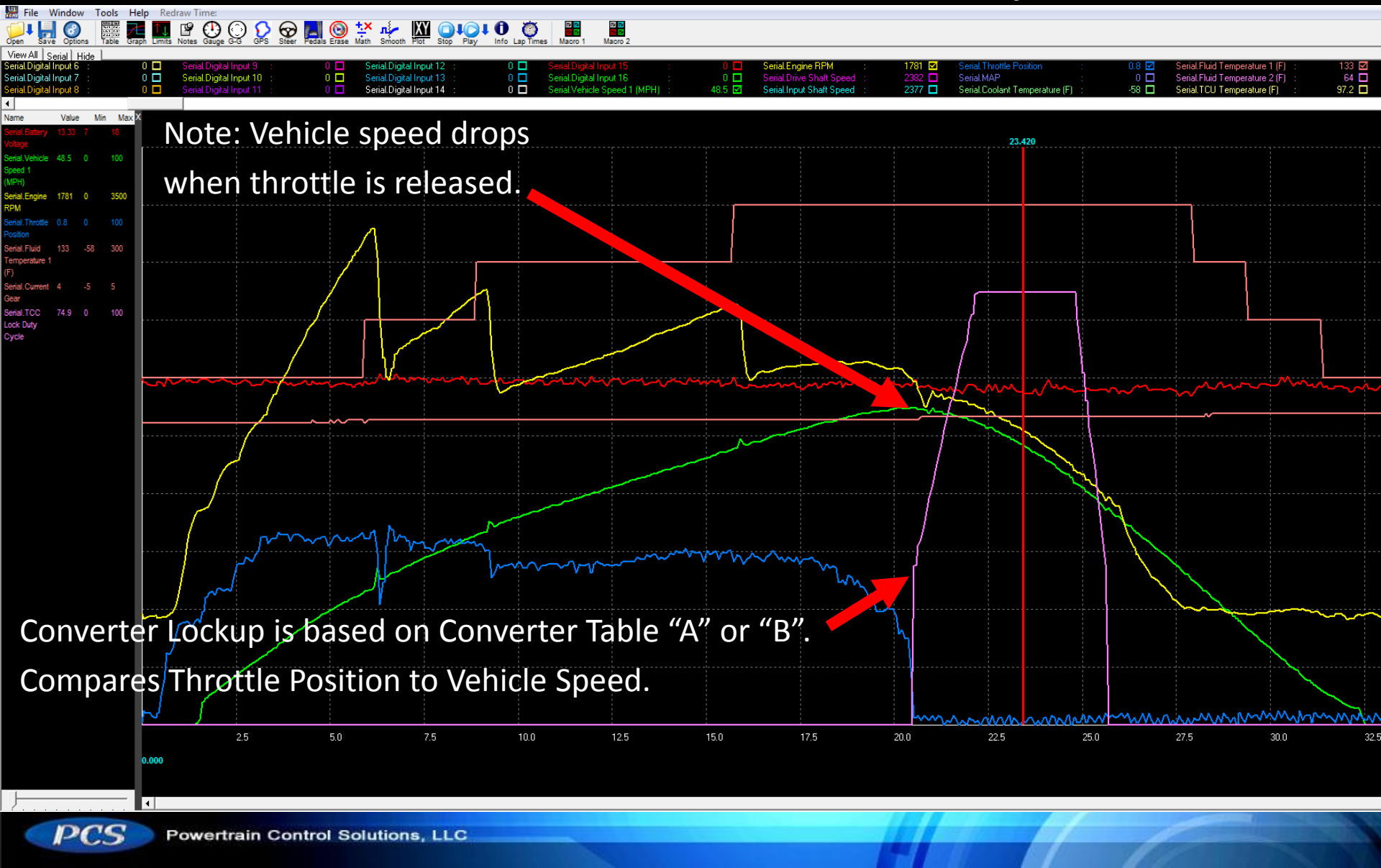


TFP=Transmission Fluid Pressure (switch). MLPS=Manual Lever Position Switch. PRNDL= Column or remote switch. IMS= Internal Mode Switch.

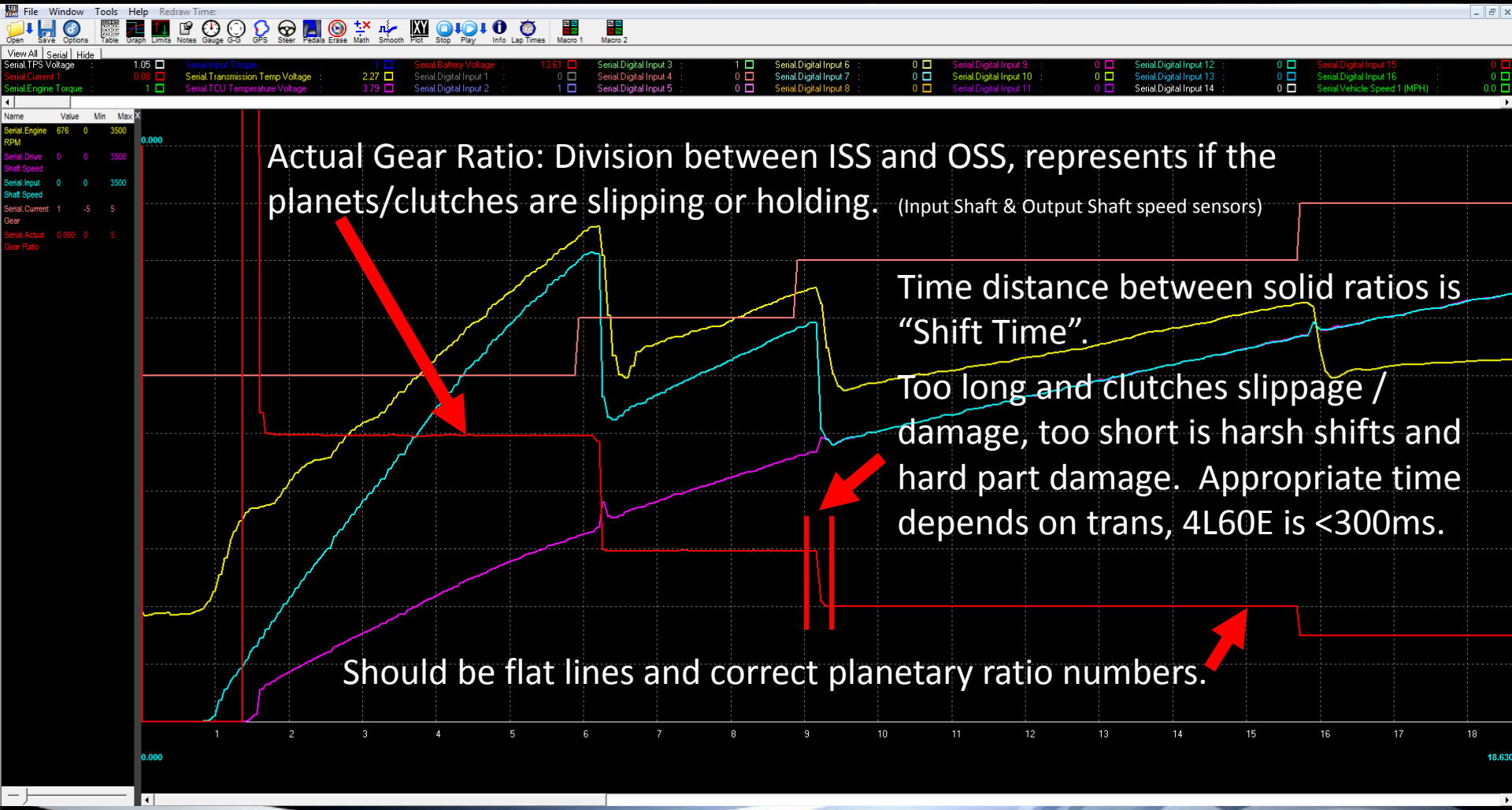
Shift & Converter Tables



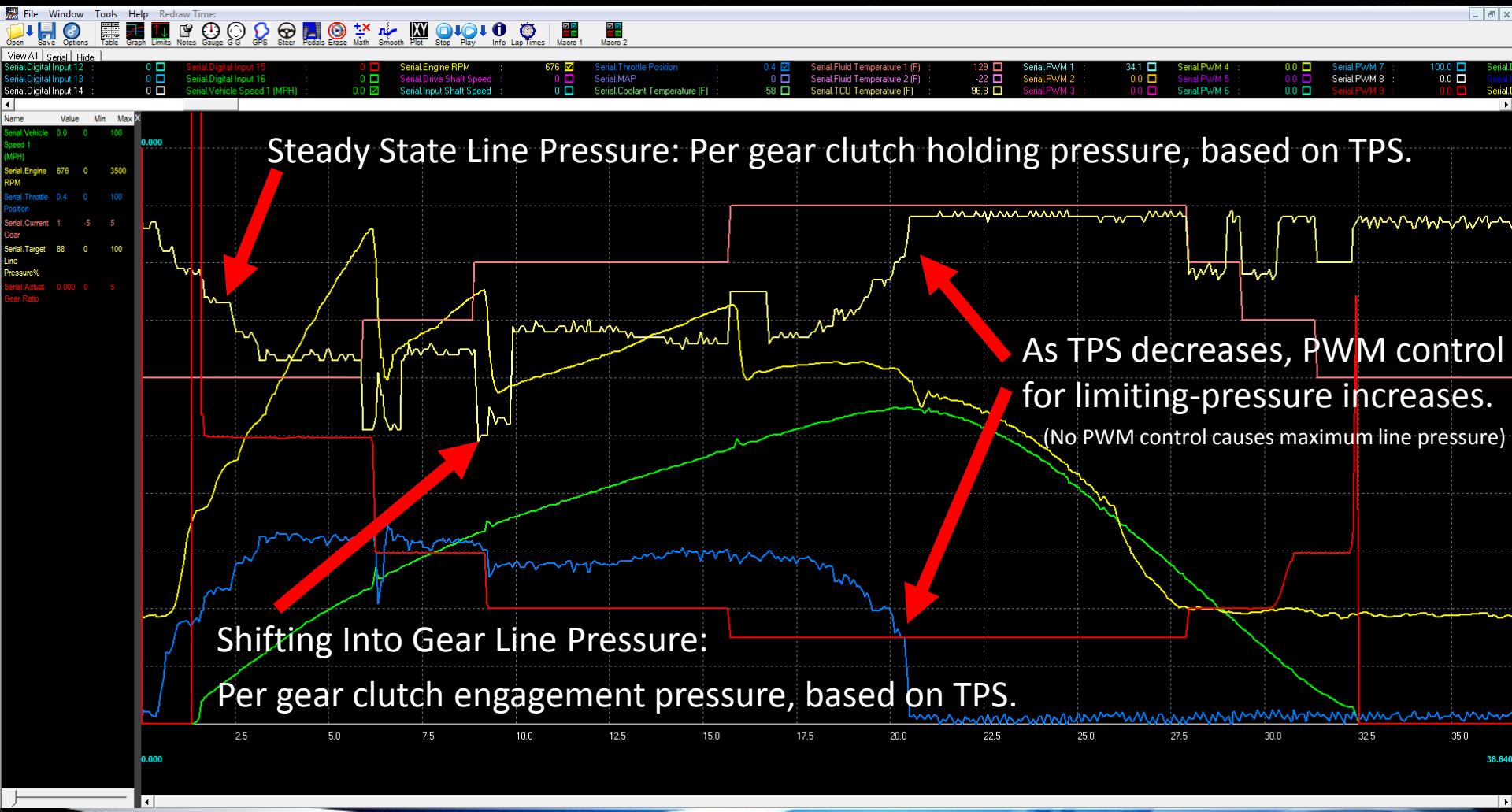
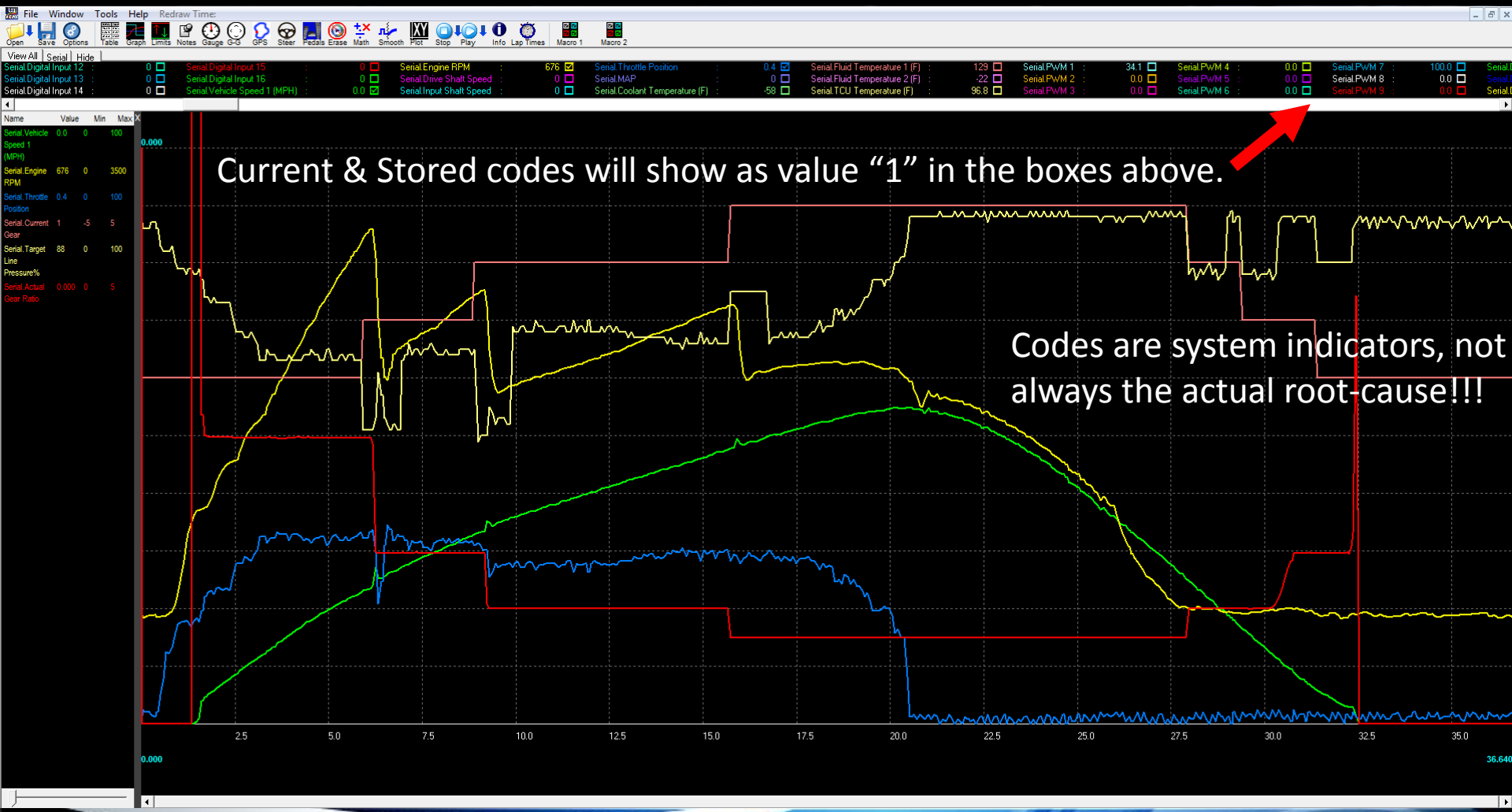
Shift & Converter Tables, Pt-2



Actual Gear Ratio



Line Pressure Control



Current & Stored Codes