**Test Cell Start-Up Procedure**

1. Turn air handler to TEST
2. Reset Kistler charge amps (4 boxes in cabinet)
   1. Hit **RESET**, then **OPERATE** (Box #1)
3. Turn ON the battery box switch
4. Check engine oil level (use 5w-30)
5. Check coolant level
6. Check fuel level and type
7. Verify fuel valves are on
8. Ensure chilled water valves are on
9. Check coolant level in radiator tower and intercooler reservoir
10. Inspect driveshaft, engine mounts and exhaust system. Verify everything is tight and connected.
11. ECM 4800 enable sensors and measure

**Scan Tool Hook-Up Procedure to Clear DTCs**

1. Test cell is shut down
2. iTest select OBD mode
3. Scan tool open toolbox, self-test, all CMDT
4. Clear all DTCs
5. iTest OBD mode off

**RPECS Start-Up Procedure**

1. Login
2. RPECS – Escape CX9
3. M - monitor

**iTest and Vehicle Start-Up Procedure**

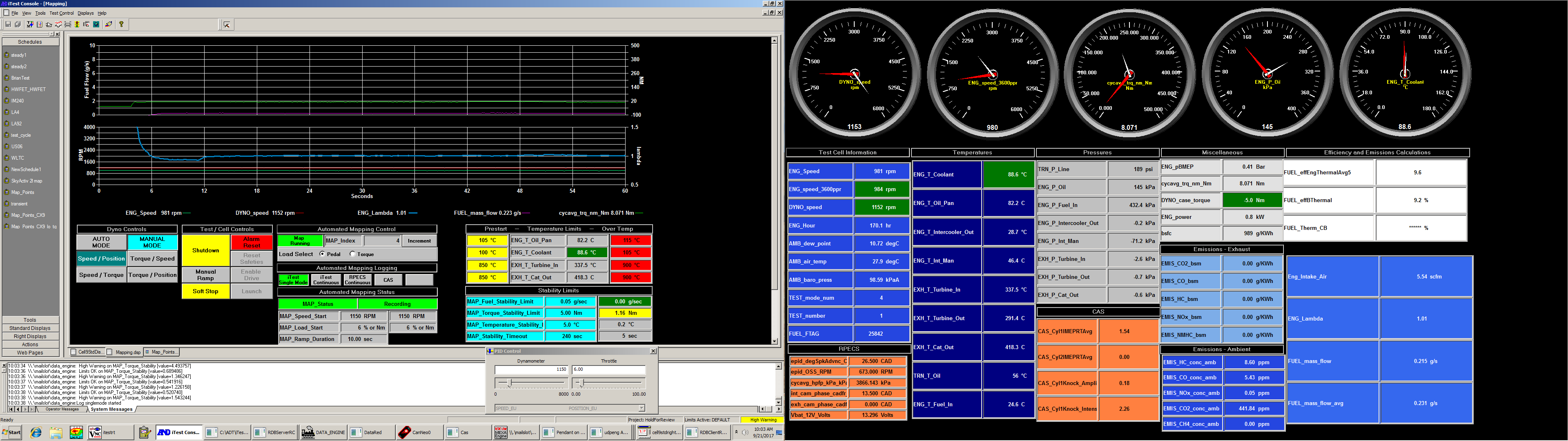
1. Put vehicle PRNDL lever in P position
2. Mazda trans module in park
3. When testing with the transmission, the Silverado transmission shifter in neutral (shifter has two positions. down is neutral, up is drive)
4. Launch iTest
5. When testing with the transmission:
   1. Select starter and automatic
      1. Engine should start and idle; dyno spin to 300 rpm
      2. Allow the engine to idle for 2 minutes
   2. Ramp dyno speed = 1000 rpm, pedal = 0
   3. Shift Silverado trans to drive (pull shifter up)
6. When testing without the transmission:
   1. Select dyno and motoring
      1. engine will spin to 1000 rpm
      2. ramp dyno speed to 1500 rpm
   2. Select turn engine on, click twice
      1. Engine should turn on
7. Trans module in drive
8. When testing with the transmission, RPECS d (locks torque converter). Verify RPECS displays Lock
9. Ramp dyno and engine: dyno = 2000 rpm in 10 sec

pedal = 15 in 10 seconds

1. Vehicle PRNDL to M3
2. Dash button TCS off
3. Verify engine is running properly (oil pressure, ECM lambda = 1.0, cyc avg torque is smooth)
4. Verify no check engine, ABS, etc DTC’s on dash. Clear codes if DTC’s are present.
5. Run for 5 minutes
6. Ramp pedal to 20.
7. Warm up until eng\_Tcoolant = 80C and oil temp = 70C
8. Ramp dyno speed = 2000 rpm, pedal = 25

**Pre-Run Checks**

1. Verify engine is running
2. Verify oil pressure > 200 kpa
3. Verify fuel pressure ~ 60psi (490 kPa)
4. Set coolant temperature setpoint = 90 C
5. Set oil temperature setpoint = 90 C
6. Set intercooler temperature setpoint = 35 C
7. Get ambient HC/CO in iTest
   1. Unselect Heated Probe
   2. Select Ambient Probe
   3. Select Sample
   4. Wait until ambHC and ambCO stabilize
   5. Select Standby
   6. Unselect Ambient Probe
   7. Select Heated Probe
   8. Select Sample
8. Verify CAS screen is active & matching numbers on the iTest screen
9. iTest mapping display - verify temperature & stability criteria are correct.



**Begin New Test**

1. Select **New Test**
   1. Change test info, date, etc.
   2. Continue
   3. Increment (new Test Number; run number reset to 0) or Continue (continue with previous Test and next run number)
2. Start each new test with a Common Mode Daily Check
   1. 1500 rpm 15% pedal until oil is 65 C minimum
   2. **Common mode is 2000 RPM & 25% throttle**
   3. Wait until Oil Temp is 80C & Water Temp is 90C
   4. Single mode log
   5. Ensure consistency with previous Common Mode runs
3. Begin mapping

**Engine Shut-Down Procedure**

1. Manual ramp down to dyno RPM = 1000, pedal = 0
2. When testing with the transmission:
   1. Vehicle PRNDL to Park
   2. RPECS TCC unlock, enter d
   3. Shift Silverado trans to neutral (down)
   4. Trans module to Park
3. When testing without the transmission:
   1. Vehicle PRNDL to Drive
   2. Trans module to Park
   3. Select iTest turn engine on. (also turns engine off)
      1. Engine will turn off
4. Wait 60 seconds if engine is hot
5. Select iTest shutdown
6. Turn air handler to OFF
7. Turn both battery switches to OFF
8. Turn off ECM sensors: sys, disable sensors