

Technical Bulletin: Idle Air Volume Relearn Procedure.

Models affected:
Nissan X-Trail T30
Nissan Tiida



Background:

With progressive carbon build up around the throttle valve and throttle bore area, the engine control unit will adapt to these long term changes by adjusting the base idle speed, base injector pulse width and ignition timing.

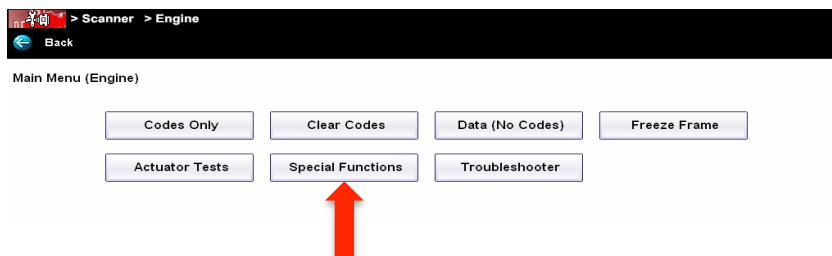
When the throttle body is cleaned, or the battery is removed these vehicles “**May**” require an idle air volume relearn.

Symptom: After a Prostream intake service has been completed, the engine “**May**” have a tendency to idle erratically from 1500 -2000 rpm.

Cause: The engine control unit is unsure of the current throttle valve position and air mass quantity after carbon removal. The control unit must be put through an “Idle Air Volume Relearn” procedure with a dedicated scan tool. **Please read this procedure in FULL prior to carrying out!**

Procedure:

1. Connect the Snap On scan tool to the 16 pin OBD 2 connector located at the lower dash trim drivers side.
2. Check and clear any current engine fault codes (codes only)
3. Select correct vehicle in vehicle selection (model, year etc.)
4. Select engine section.
5. Select “Special functions” (or Work Support mode on other scan tools).



6. Select "**Self Learning Cont.**", click on start, this will reset engine control units Adaptives to "0"



Select Test:



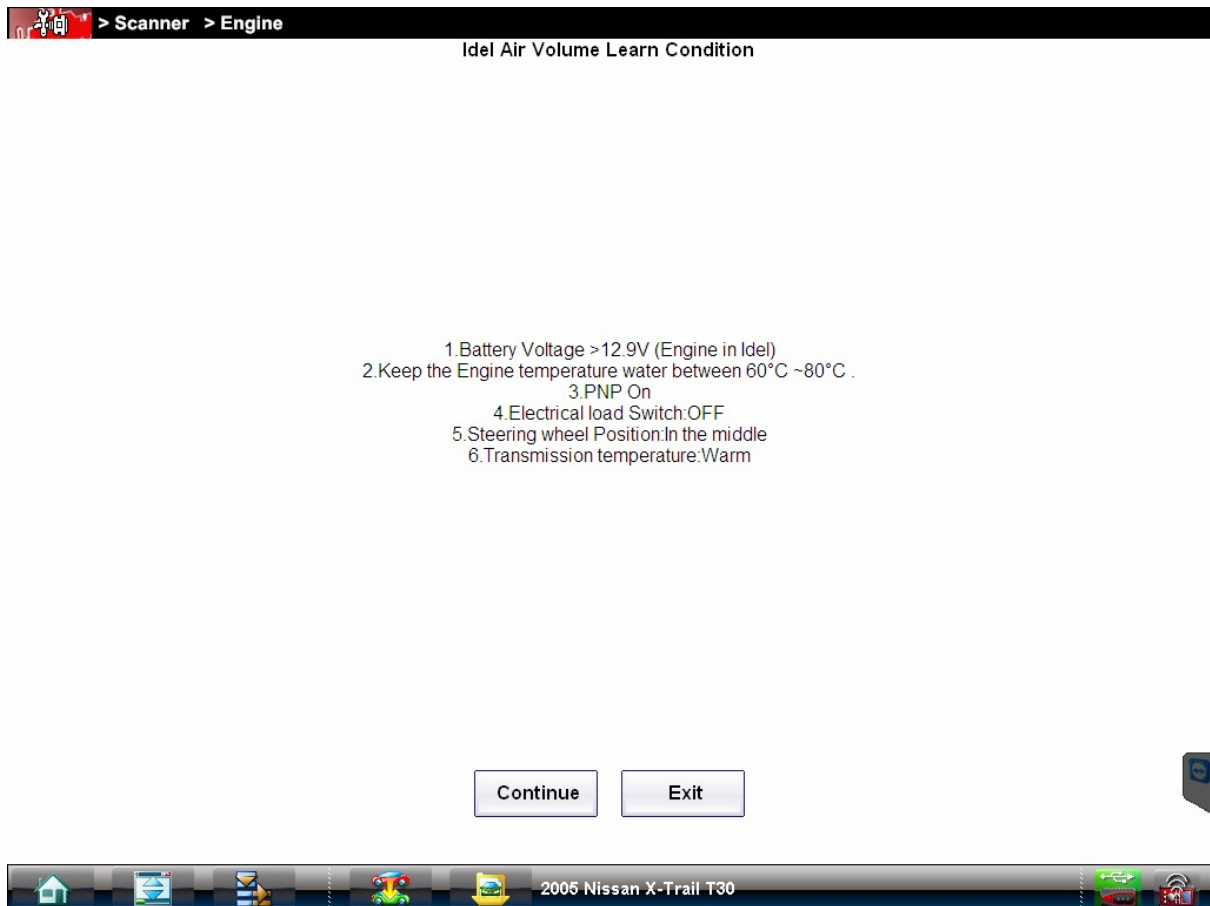
7. Select **Idle Air Volume Relearn** "make sure you follow the prerequisites listed on the screen before you begin, engine temperature between 50-80 C, transmission temperature, no loads, transmission in P/N, A/C, idle speed at 650 rpm, ignition timing etc. You can check these on the data list."



Select Test:



8. Make sure all of the **Prerequisites** are met, **Tip:** you can check this in live data first.



9. Please Note!

Before you begin the idle air volume relearn (IAVL) procedure, shut the engine **off**, loosen the clamp for the plastic induction tube at the throttle body end.

Start and run the engine, slowly remove the induction tubing to bleed in un-metered air into the engine.

This procedure will allow the engine to idle low enough to perform the (IAVL), if the engine is idling higher than 650 rpm or hunting the relearn will not work! Once the rpm has stabilized, press continue on the scan tool to perform the IAVL

While doing this try to maintain idle speed to 650 rpm or below, prevent the engine from stalling (you may need a staff member to assist).

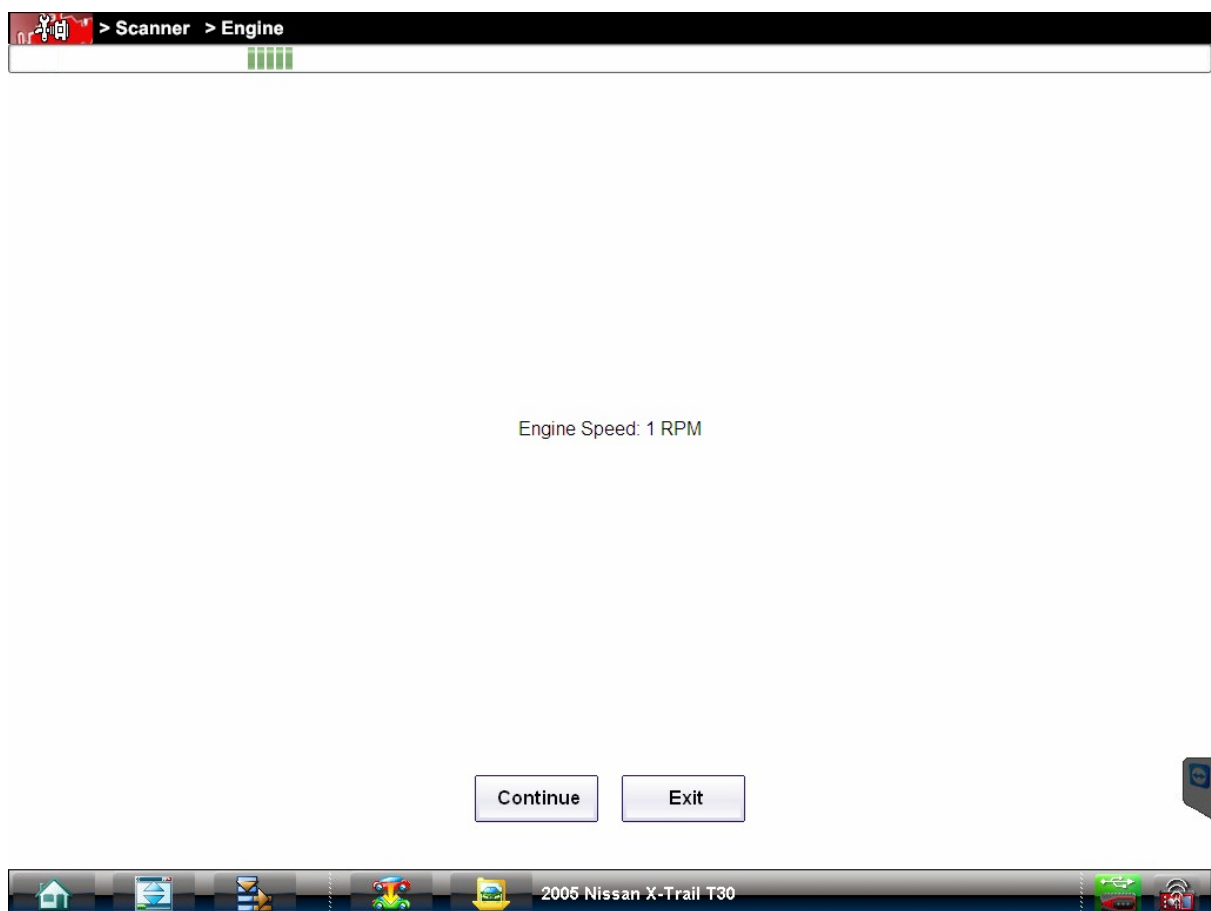
Press Continue:



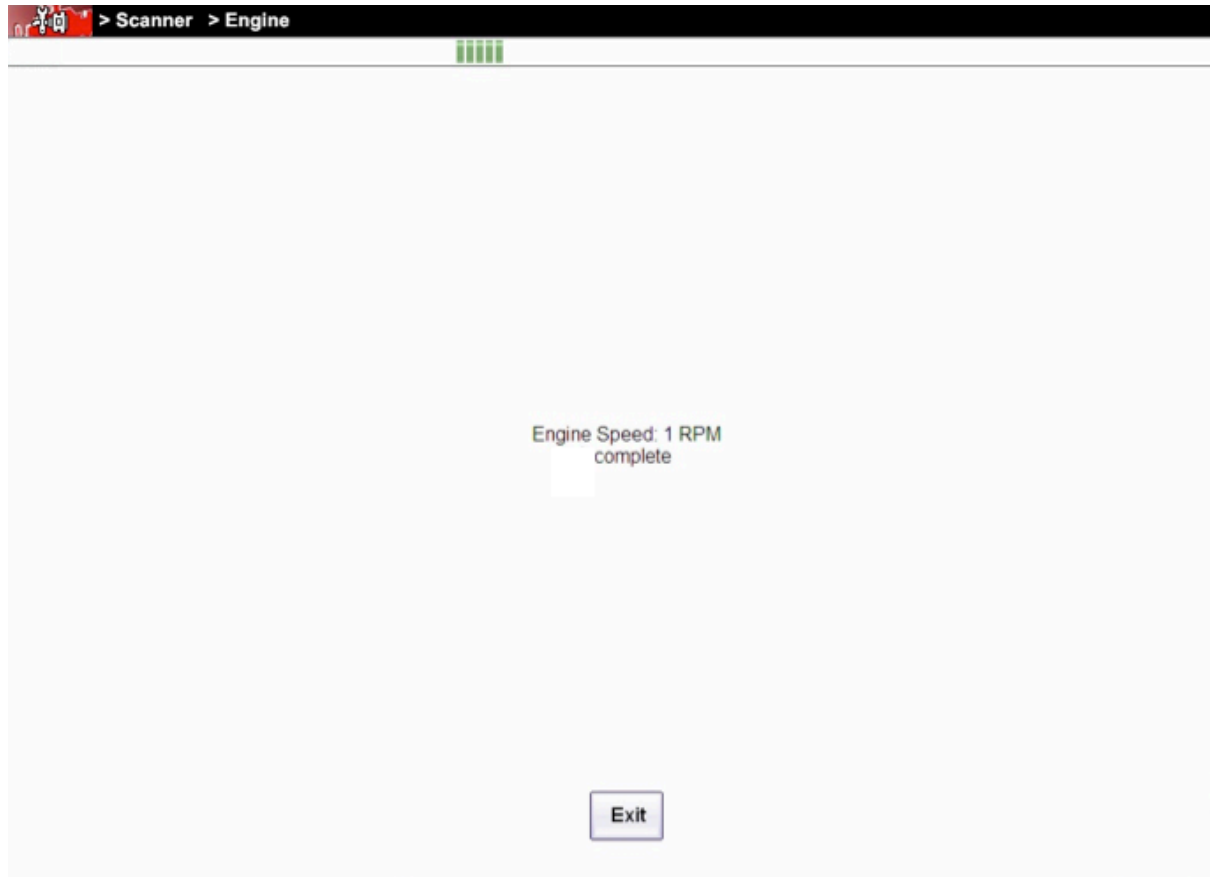
This function allows the ECM to learn the position of the IACV-AAC which maintains proper engine speed at idle. always proper this mode after replacement of IACV-AAC, throttle body, ECM or when idle speed or ignition timing is out of specification
*Two Test Procedures need to be executed before running idel air Volume learn



10. **Start** the IAVL relearn by pressing **Continue**



11. If successful the screen will display **Complete**: The engine should now idle at the specified idle speed (700 ± 50 rpm) the process is now complete. It is not uncommon to require several attempts for this procedure to work.



12. Shut the engine **off**.

13. Refit the induction tube.

14. **Start** and run the engine, the engine should now idle to specification.

15. Check for any **diagnostic trouble codes** and record, clear any code's.

16. **Road test** the vehicle, make sure A/C is turned on, run vehicle through all gears, drive through complete drive cycle, up hill, down hill, idle, around corners etc. make sure malfunction indicator lamp does not illuminate during road test.

17. Reconnect scan tool, **recheck for diagnostic trouble codes**, confirm system pass, make sure intake tubing and air box is secure, vehicle is ready for customer hand over.