# SERVICE BULLETIN

EC12-008

NISSA

NTB12-035

April 10, 2012

Date:

### ECM REPLACEMENT PROCEDURES WITH CONSULT III PLUS

APPLIED VEHICLES: All 2004 and later Does not apply to LEAF/EV

#### IF YOU CONFIRM:

The Electronic Control Module (ECM) needs to be replaced on a 2004 MY and later vehicle.

#### **ACTIONS:**

After installing ECM:

- Perform ECM Re-communicating Function (if supported).
- Perform the "ACCELERATOR PEDAL & THROTTLE VALVE CLOSED POSITION LEARNING" procedure (see step 3).
- Perform the "IDLE AIR VOL LEARNING" procedure (when applicable) using CONSULT-III plus (CIII plus). (See step 4)
- For 2005 and later vehicles, enter the vehicle VIN into the new ECM (see step 5).
- Check for any new updates for the new ECM you're installing (see step 6).

#### CAUTION:

- Failure to perform all the work steps in the specified order can cause poor engine running, MIL 'ON', or vehicle emission test rejection.
- Some vehicles may have **Additional Services When Replacing the ECM** not covered within this bulletin. Refer to the model specific ESM and CIII plus "Maintanance" tab for for any additional model specific services.

**IMPORTANT:** The purpose of "ACTIONS" (above) is to give you a quick idea of the work you will be performing. You MUST closely follow the <u>entire</u> Service Procedure (starting on page 3) as it contains information that is essential to successfully completing this repair.

Nissan Bulletins are intended for use by qualified technicians, not 'do-it-yourselfers'. Qualified technicians are properly trained individuals who have the equipment, tools, safety instruction, and know-how to do a job properly and safely. NOTE: If you believe that a described condition may apply to a particular vehicle, DO NOT assume that it does. See your Nissan dealer to determine if this applies to your vehicle.

#### **CLAIMS INFORMATION**

## If the ECM is replaced WITHOUT re-programming, submit a Primary Failed Part (PP) line using the following claims coding:

DESCRIPTION		OP CODE	SYM	DIAG	FRT
Replace Engine Control ModuleReprogram New ECMCombination, if required: Enter VIN into ECM. 2005- up vehicles ONLY.Perform Idle Air Volume Learning procedure (6)		DE28AA		32	(3)
		DE97AA			(3)
		DE281A	(2)		0.2
		DE96AA (6)			(3)

#### PLUS, if required

	DESCRIPTION	PFP	OP CODE	SYM	DIAG	FRT
Repro	gram NATS Immobilizer key(s)	(4)	RL49AA	(2)	32	(3)

#### PLUS, if required

DESCRIPTION	PFP	OP CODE	SYM	DIAG	FRT
As per the indicated Section "E" Diagnostic Op Code	e (4)	(5)	(2)	32	(3)

#### OR

### If the ECM is replaced and requires re-programming, submit a Primary Failed Part (PP) line using the following claims coding:

**NOTE:** You **MUST** retain the <u>final</u> CONSULT-II printout with the ECM P/N and Calibration ID number and attach it to the work order as a permanent record.

DESCRIPTION		OP CODE	SYM	DIAG	FRT
Replace Engine Control Module Reprogram New ECM		DE28AA			(3)
		DE97AA			(3)
Combination, if required: Enter VIN into ECM. 2005- up vehicles ONLY.		DE281A <sup>(2)</sup>		32	0.2
Perform Idle Air Volume Learning procedure (6)		DE96AA (6)			(3)

#### PLUS, if required

DESCRIPTION	PFP	OP CODE	SYM	DIAG	FRT
Reprogram NATS Immobilizer key(s)	(4)	RL49AA	(2)	32	(3)

#### PLUS, if required

DESCRIPTION		OP CODE	SYM	DIAG	FRT
As per the indicated Section "E" Diagnostic Op Code	(4)	(5)	(2)	32	(3)

#### NOTES:

- (1) Use the indicated ECM P/N as the PFP.
- (2) Use the customer complaint.
- (3) Reference the current Nissan Flat Rate Manual and use the indicated Flat Rate Time for the vehicle being repaired.
- (4) Reference the final CONSULT-II printout and use the indicated ECM P/N as the PFP.
- (5) As Indicated from the Main Section "E" diagnostic Op Code.
- (6) Includes adequate time to perform the "ACCELERATOR PEDAL & THROTTLE VALVE CLOSED POSITION LEARNING" procedure.

#### SERVICE PROCEDURE

#### **ECM Re-communication Function**

- 1. Re-communicate the ECM with the BCM or Intelligent key.
  - Performing the following procedure can automatically perform a re-communication of a new ECM with a BCM or Intelligent Key unit (not all models supported) so that the NATS keys do not need to be registered.
    - This Function will **only** work when the ECM has been replaced with a new one which has <u>never</u> been energized onboard.
    - If this function is not supported all of the keys may need to be individually registered.
    - a. Install new ECM.
    - b. Use a registered key (\*) to turn ignition switch to "ON".

\* To perform this step, use a key that is registered to the original ECM that was replaced.

- c. Maintain ignition switch in the "ON" position for at least 5 seconds.
- d. Turn ignition switch to "OFF".
- e. Start engine.
  - If engine can be started continue to step 3.
- 2. If engine will NOT start, after you perform the ECM Re-Communication Function, all ignition keys will need to be individually registered, including spare keys with CIII plus and then proceed with step 3.
  - Refer to the Immobilizer tab on the CIII plus home page to register keys.

#### NOTE:

- When registering new Key IDs or replacing the ECM with other than brand new unit, refer to the Immobilizer tab on the CIII plus home page.
- If multiple keys are attached to the key holder, separate them before work.
- Distinguish keys with unregistered key ID from those with registered ID.

#### Accelerator Pedal & Throttle Valve Closed Position Learning

- 3. Perform the Accelerator Pedal & Throttle Valve Closed Position Learning as follows:
  - a. Make sure the accelerator pedal is fully released.
  - b. Turn the ignition switch "ON" for 2 seconds.
  - c. Turn the ignition switch "OFF" for 10 seconds.
  - d. Turn the ignition switch "ON" for 2 seconds, then
  - e. Turn the ignition switch "OFF" again for 10 seconds (see Figure 1).
  - f. Proceed with step 4 (next page).



#### Perform Idle Air Volume Learning (IAVL)

**NOTE:** Make sure <u>all</u> electrical loads are turned OFF, including A/C, defroster, radio, lights, etc. while performing the following procedures. Also, make sure the engine cooling fans are NOT operating during the following procedures.

- 4. Perform the Idle Air Volume Learning procedure as follows:
  - a. Connect CIII plus to the vehicle.
  - b. Warm up engine and transmission to operating temperature.

**NOTE:** Vehicle may have to be driven to warm transmission enough to allow IAVL to complete.

c. In the CIII plus "Maintenance mode", select "IDLE AIR VOL LEARN" and then "Confirm". See Figure 2.

Operation	Explanation of Operation					
ST ANGLE SENSOR ADJUSTMENT	After replacing the ABS actuator and electric unit (control unit) After removal and installation of steering or suspension parts.					
DECEL G SEN CALIBRATION	After replacing the ABS actuator and electric unit (control unit) After removal and installation of steering or suspension parts.					
ID REGIST	After replacing the TPMS transmitter, BCM, or rotation of wheels.					
IDLE AIR VOL LEARN	After replacing ETC, ECM or WEL ECU/actuator sub assy. In case idle speed or ignition timing is out of specification	_				
INJ ADJ V REGIST	When ECM or fuel injector is replaced Confirm					
ZFC VA	When ECM or fuel injector is replaced When ECM is reprogrammed					
	EARN eed and reprogrammed, perform it before regrammed.	rm				
	1/2					
	Figure 2					
	Select Next,					
CONSULT-III plus Ver.16.12 Ver.CSP17.10	vin: then Start Country: U.S.	A.				
Back Home Print Screen	nn Messreret Recorded Nep VI MI	$\mathbf{X}$				
Maintenance Select Ful	Inction					
Work support : IDLE AIR VOL LEARN						
THIS FUNCTION ALLOWS THE ECM TO PROPER ENGINE SPEED AT IDLE. ALWAYS PERFORM THIS MODE AFTER WHEN IDLE SPEED OR IGNITION TIMIN SEE SERVICE MANUAL FOR DETAILS.	LEARN THE POSITION OF THE IACV-AAC WHICH MAINTAINS REPLACEMENT OF IACV-AAC VALVE, THROTTLE BODY, ECM OR IG IS OUT OF SPECIFICATION.	t				
Current status	Waiting for your operation					
Monitor Item						
LOAD SIGNAL						
AIR COND SIG						
PW/ST SIGNAL						
P/N POSI SW						
P/N POSI SW HEATER FAN SW						
P/N POSI SW HEATER FAN SW CLOSED LOOP						
P/N POSI SW HEATER FAN SW CLOSED LOOP COOLAN TEMP/S	rc	_				
P/N POSI SW HEATER FAN SW CLOSED LOOP COOLAN TEMP/S VHCL SPEED SE	rc Enri	1				

OHelp

13.3V VI MI

Select Function

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Figure 3

- d. Press "Next" then "Start" on the IDLE AIR VOL LEARN screen. See Figure 3.
  - START cannot be selected until all operating conditions have been met.

- The IAVL procedure will take several minutes to complete.
- CIII plus will display "EXECUTING" in the "Current status" box while the IAVL procedure is in process. See Figure 4.

CONSULT-III plus Ver.16.12	17.10 VIN:-	Vehicle : -		Country : U.S.A.
Back Home Print Se	reen Screen Mossurerry Capture Mode	rt Recorded Data	14.1V VI M	: 💻 🥅 🚺
Diagnosis (One System)	System Selection 🕨	ENGINE		
Vork support : IDLE AIR VOL	EARN			
PROPER ENGINE SPEED AT ALWAYS PERFORM THIS MO WHEN IDLE SPEED OR IGNI SEE SERVICE MANUAL FOR	IDLE. IDE AFTER REPLACEMENTION TIMING IS OUT OF S DETAILS.	IT OF IACY-AAC VALVE, THROT PECIFICATION.	1/2	R Stop
Current status			EXECUTIN	IG
Monitor Item			-	_
LOAD SIGNAL		of	r	
AIR COND SIG			T	
PW/ST SIGNAL			т	
PWIST SIGNAL PIN POSI SW			T	
PWIST SIGNAL PIN POSI SW HEATER FAN SW	EXEC	OTING or or	T T	
PWIST SIGNAL PIN POSI SW HEATER FAN SW CLOSED LOOP	EXEC	OTING or or cmpli	т 1 Т	
PWIST SIGNAL P/N POSI SW HEATER FAN SW CLOSED LOOP COOLAN TEMP/S	EXEC	OTING or or CMPLT 98	r r r s °C	
PW/ST SIGNAL P/N POSI SW HEATER FAN SW CLOSED LOOP COOLAN TEMP/S VHCL SPEED SE	EXEC	CONTING OF OF COMPLI- SEC	r r r 6 °C	End

Figure 4

- CIII plus will display "COMPLETE" in the Current status box when the IAVL procedure is finished. See Figure 5.
- f. Once the IAVL procedure is finished, proceed with step 5 (next page).

CONSI	ULT-III plus Ver	.16.12 .CSP17.10	VIN:-			/ehicle : -			Cour	try : U.S.A.
Back	former	Print Screen	Screen Capture	Measurement Mode	Recorded Data	() Help	(13.9V		< <b>100</b>	
Di Si	iagnosis (One ystem)	Syste	m Selection	ENG	INE					
ork supp	port : IDLE AIR	VOL LEAR	N							
PROPER ALWAYS WHEN ID SEE SER	PERFORM TH DLE SPEED OR RVICE MANUAL	D AT IDLE IS MODE A IGNITION FOR DET	FTER REPL TIMING IS ( AILS.	ACEMENT O	FIACV-AAC VI	LVE, THROT	TLE BOD	AINS Y, ECM 0	R	Retry
urrent s	status						/	COMPL	ETE.	
onitor Ite	m.					//	-			
OAD SI	GNAL					0	۲		_	
IR CON	DSIG			~		01	۲			
WIST S	IGNAL			JMP	LEIE	01	т			
	ISW					Or	r			
IN POS						0	T			
N POSI	FAN SW					-				
N POSI	FAN SW					CMPL	r			
NN POSI HEATER CLOSED	FAN SW LOOP					CMPL' 91	r B°C		_	
HEATER	FAN SW LOOP I TEMP/S PEED SE					CMPL 91	r 3 °C ) km/h		_	End

Figure 5

#### For 2005 and Later MY Vehicles ONLY: Enter VIN into New Service Replacement ECM

5. Enter the VIN into the new service replacement ECM as follows:

a. Select "Diagnosis (One System)", "ENGINE", "Work support" and "VIN REGISTRATION". See Figure 6.



Figure 6

Start 12.6V VI 0 6 Diagnosis (One System) ENGIN Vork support : VIN REGISTRATION CONFIRM IGNITION SWITCH ON AND ENGINE STOPPED. HOLD THESE CONDITIONS DURING THIS PROCEDURE b. Enter the vehicle VIN in both the VIN (1<sup>ST</sup> TIME) and VIN (2<sup>ND</sup> TIME) boxes, 251-123456 then select Start. See Figure 7. ..... ----VIN VIN (1ST TIME) VIN (2ND TIME) End Figure 7 Enter VIN into both boxes

- c. Once completed (COMAND SUCCEDED; See Figure 8) turn the ignition off for 10 seconds, then back on and check for any DTCs.
- d. Select "READ VIN" and confirm that the VIN is correct.
  - If VIN does not display it can also be checked through the "RE/programming, Configuration" tab.

	Country : U.S.A.
Diagnosis (One System ENGINE	
fork support : VIN REGISTRA	
COMMAND SUCCEDED.TURN IGN SW OFF FOR 10 SEC THEN IGN SW ON TO CONFIRM NO DTC.	Retry
	READ VIN
VIN	
	Fed
	End



#### **Check for ECM Updates**

- 6. Check and confirm that ECM is updated to most recent part number and perform reprogram procedure if not most current.
  - Select and use the reprogramming option that <u>does not</u> have the message "Caution! Use ONLY with NTBXX-XXX".
  - If you are not familiar with checking for an ECM update or with the reprogramming procedure, <u>click here</u>. This will link you to the C-III plus "ECM Reprogramming general procedure".
  - If an update is not listed and a blank screen is displayed (see figure 9), a reprogram is not available for the ECM.

CONSULT-III plus Ver.16	6.12 SP17.10 VIN:'	1N4BL2EP4CC100189	Vehicle : ALTIM	Country : U.S.A.	
Back Prin	mt Screen Capture	Measurement Mode Recorde	d Pelp	13.3V VI MI	-
Re/programming, Configuration	Pr	recaution	ect Program Data	Confirm Vehicle Condition	9/11
Select Program Data					
Touch and select the rep In case no reprog/program reprog/programming data	prog/programming mming data is liste in CONSULT.	data listed below. d below, confirm the v	ehicle selection, VIN	and	
System	ENGIN	IE			
Current Part Number	Part N	umber After Repro/program	nming O	ther Information	
				0/0	Next

Figure 9