# **Technical Bulletin**



SERVICE BULLETIN							
Classification:	Reference:	Date:					
El10-017a	NTB10-066a	June 24, 2014					

# CAN COMMUNICATION CODES – DIAGNOSTIC TIPS & GUIDELINES

This bulletin has been amended to include information on the use of DLC Breakout Box tool J-51513. Please discard previous version.

APPLIED VEHICLES: All 2005–2015 Nissan vehicles

#### SERVICE INFORMATION

#### Related to communication codes U1000, U1001, U1002, U1010:

- Always diagnose the communication codes first.
- When a module reports a U1000 code, it is typically operating normally; however, there is a communication error external to that module on the CAN network.
- U1000 indicates an error. V-CAN diagram or CAN Diag Support Monitor provides data to determine the location of the error.

#### Step 1

Complete the CAN diagnosis with CONSULT-III plus (C-III plus).

 Ensure the correct CAN type is selected. Selecting the incorrect CAN type will lead to mis-diagnosis.

## Step 2

View the V-CAN screen (shown on page 3) or print all CAN Diag Support Monitors (shown on page 4).

#### Step 3

Read the V-CAN diagram using the key provided **OR** reference the appropriate Electronic Service Manual (ESM) to analyze the CAN Diag Support Monitor data. Determine the incident according to the display.

### Step 4

If V-CAN diagnosis is not available or inconclusive, refer to the basic CAN diagnostic guidelines shown on pages 5-12. These represent electrical values of the CAN system measured at the Data Link Connector or connectors at non-termination units.

To properly perform these basic checks:

- The battery should be disconnected for resistance checks.
- The ignition should be off.

#### Tips if a control module is the suspected root cause:

- Improper module configuration or incorrect part numbers may set CAN DTCs.
- Low battery voltage may set CAN DTCs.
- Always confirm the power, ground, and CAN resistance at a suspect
  module before replacing the module. Resistance should be close to 60
  ohms at the module (measured with the battery disconnected). The
  resistance at terminating modules should be close to 120 ohms. Examples
  of terminating modules include IPDM, ECM, or BCM. Reference the
  appropriate ESM to determine the terminating modules.

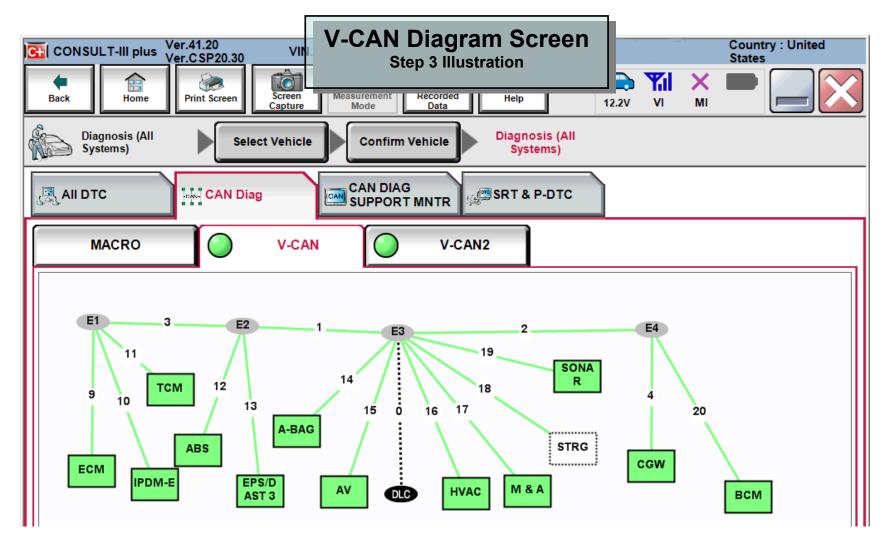
# **DEFINITION OF CAN CODES**

**U1000** is related to missing CAN communications on the network.

**U1001** is for Engine Control Module (ECM) and is related to missing CAN communications on the network.

**U1002** is related to missing CAN communications on the network but has a tighter spec than U1000.

**U1010** - Module has internal errors.



Red = Current Communication Error

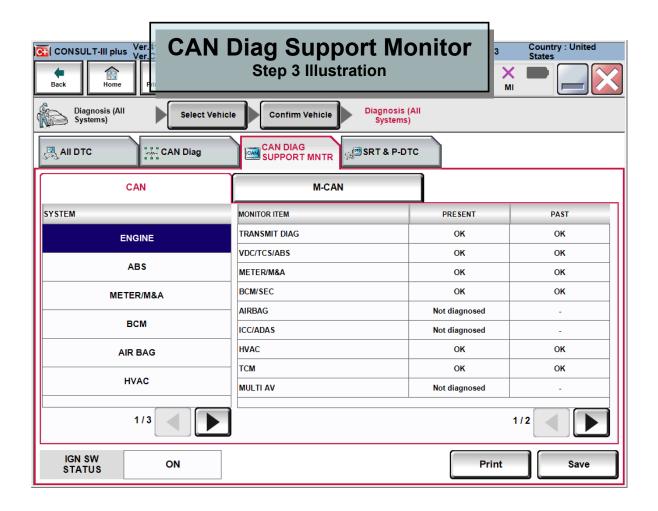
Orange = Past or Intermittent Communication Error

Black = Not diagnosed

**Green = Normal Operation** 

Pink = Module error

Note: If module is highlighted in pink when other modules or segments are highlighted in red or orange, perform diagnosis on other modules, erase DTCs, and run Auto CAN diagnosis with CONSULT-III again. If module is still highlighted in pink, replace module.



# NOTE:

These prints are needed for ESM CAN Diagnosis or if the V-CAN diagram diagnosis is not available.

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Market	; NAM	Model Year	2008
Area	: North Am	erica	
Country	:USA		

Customer:	
Print Date	2009/06/17 09:50:04
Worker	

#### CAN DIAG SUPPORT MNTR

CAN1	0	AN2			
ANH max=4.4V	-			4VVD	
ANH mir=2.2V				PRSNT	200
					PAST
ANL meo:=3.8V			TRANSMIT DIAG	OK	/OK
ANL min=0.8V			ECM	;OK	XX
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BS, 4MO, LIKEY, IPOM-E, A	AV, HVAC, TCM, M	B.A. ECM			
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ECU list

AVSNAVI CU, AUDIO

TRANSMIT DIAG

VDC/TCS/ABS METER/M8/A

UNIONN

#### **DLC Breakout Box J-51513**

When performing any pin testing of the CAN systems at the DLC (Data Link Connector), "DLC Breakout Box" J-51513 should be used.

- Plug the DLC Breakout Box into the vehicle DLC connector and perform all voltage, resistance and continuity testing directly from the provided "pin-outs" shows in Figure 1 below.
- <u>Do Not</u> connect the C-III plus to this tool. Although it does have a port to do so, the tool currently does not support this function.
- Do Not jumper the "Battery Power" pinout to either of the ground pin-outs.

# Damage will occur.

- All pin-out locations are marked in accordance with their associated DLC connections and will allow convenient pin testing of the DLC connector.
- Figure 2 shows the back of the DLC Breakout Box, and has a legend of the DLC pins.

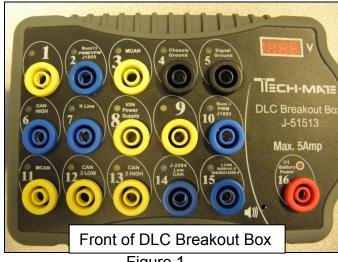


Figure 1

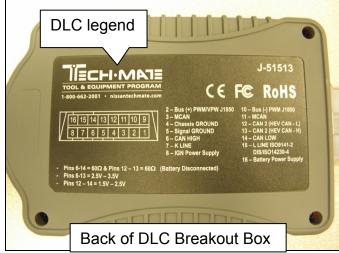


Figure 2

Figure 3 show Banana leads that are supplied with the DLC Breakout Box and are used to connect to a DVOM.

> NOTE: 48" Banana Leads (J-35616-20W) are available and are sold separately.

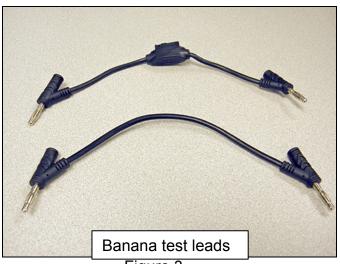


Figure 3

