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2017 NISSAN X-Trail (T32) OEM Service and Repair Workshop Manual

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1. PERFORM TROUBLE DIAGNOSIS FOR CAN COMMUNICATION SYSTEM

Perform trouble diagnosis for CAN communication system. Refer to [Trouble Diagnosis Flow Chart](#).

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INSPECTION END

Sample

CAN COMMUNICATION

- CAN communication is a multiplex communication system that shares many communication signals and enables high-speed communication by connecting multiple control units with two communication lines (CAN-H line, CAN-L line).
- Each control unit on CAN network transmits signals through CAN communication control circuit in the control unit, receives only necessary signals from other control units, and performs various controls. Refer to [CAN Communication Signal Chart](#).

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detection condition	
U2152	87	CAN comm err (ADAS control unit)	Diagnosis condition	When vehicle is READY
			Signal (terminal)	CAN communication signal
			Threshold	Power network separate relay cannot receive/transmit CAN communication signal
			Diagnosis delay time	2 seconds or more



NOTE:

When DTC “U2152-87” is detected, perform first diagnosis for CAN communication system.

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

The following systems are canceled.

- Vehicle speed/vehicle-to-vehicle distance control mode function
- Lane keeping function *1
- Lane keeping function *2
- Lane change support function
- Overtaking support function
- Route driving support function

*1: ProPILOT Assist 2.0 display is green

*2: ProPILOT Assist 2.0 display is blue



NOTE:

- When “U2152-87” is detected, there are two types of systems, one that works fail-safe and the other that does not work fail-safe.
- The system controls based on the signal from control unit. However, if communication between control unit and the power network separate relay is blackout, the system leads to fail-safe.

1. DTC CONFIRMATION PROCEDURE

1. Set vehicle to READY and wait 2 seconds or more.
2. Perform "All DTC Reading" with CONSULT.
3. Check if "U2152-87 " is detected as current malfunction in self-diagnosis result of "PNS Relay".

Is DTC "U2152-87" detected as current malfunction?

YES>>

Refer to [DTC Diagnosis Procedure](#).

NO-1>>

To check malfunction symptom before repair: Refer to [Intermittent Incident](#).

NO-2>>

Confirmation after repair: INSPECTION END

Sample

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Perform trouble diagnosis for CAN communication system. Refer to [Trouble Diagnosis Flow Chart](#).

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INSPECTION END

Sample

CAN COMMUNICATION

- CAN communication is a multiplex communication system that shares many communication signals and enables high-speed communication by connecting multiple control units with two communication lines (CAN-H line, CAN-L line).
- Each control unit on CAN network transmits signals through CAN communication control circuit in the control unit, receives only necessary signals from other control units, and performs various controls. Refer to [CAN Communication Signal Chart](#).

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detection condition	
U215B	87	CAN comm err (IPDM E/R)	Diagnosis condition	When vehicle is READY
			Signal (terminal)	CAN communication signal
			Threshold	Power network separate relay cannot receive/transmit CAN communication signal
			Diagnosis delay time	2 seconds or more



NOTE:

When DTC "U215B-87" is detected, perform first diagnosis for CAN communication system.

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

The following systems are canceled.

- Vehicle speed/vehicle-to-vehicle distance control mode function
- Lane keeping function *1
- Lane keeping function *2
- Lane change support function
- Overtaking support function
- Route driving support function

*1: ProPILOT Assist 2.0 display is green

*2: ProPILOT Assist 2.0 display is blue



NOTE:

- When "U215B-87" is detected, there are two types of systems, one that works fail-safe and the other that does not work fail-safe.
- The system controls based on the signal from control unit. However, if communication between control unit and the power network separate relay is blackout, the system leads to fail-safe.

1. DTC CONFIRMATION PROCEDURE

1. Set vehicle to READY and wait 2 seconds or more.
2. Perform "All DTC Reading" with CONSULT.
3. Check if "U215B-87" is detected as current malfunction in self-diagnosis result of "PNS Relay".

Is DTC "U215B-87" detected as current malfunction?

YES>>

Refer to [DTC Diagnosis Procedure](#).

NO-1>>

To check malfunction symptom before repair: Refer to [Intermittent Incident](#).

NO-2>>

Confirmation after repair: INSPECTION END

Sample

1. PERFORM TROUBLE DIAGNOSIS FOR CAN COMMUNICATION SYSTEM

Perform trouble diagnosis for CAN communication system. Refer to [Trouble Diagnosis Flow Chart](#).

>>

INSPECTION END

Sample

CAN COMMUNICATION

- CAN communication is a multiplex communication system that shares many communication signals and enables high-speed communication by connecting multiple control units with two communication lines (CAN-H line, CAN-L line).
- Each control unit on CAN network transmits signals through CAN communication control circuit in the control unit, receives only necessary signals from other control units, and performs various controls. Refer to [CAN Communication Signal Chart](#).

DTC DETECTION LOGIC

DTC		CONSULT screen terms	DTC detection condition	
U2176	87	CAN comm err (CCM/ST angle sensor)	Diagnosis condition	When vehicle is READY
			Signal (terminal)	CAN communication signal
			Threshold	Power network separate relay cannot receive/transmit CAN communication signal
			Diagnosis delay time	2 seconds or more



NOTE:

When DTC "U2176-87" is detected, perform first diagnosis for CAN communication system.

POSSIBLE CAUSE

CAN communication system

FAIL-SAFE

The following systems are canceled.

- Vehicle speed/vehicle-to-vehicle distance control mode function
- Lane keeping function *1
- Lane keeping function *2
- Lane change support function
- Overtaking support function
- Route driving support function

*1: ProPILOT Assist 2.0 display is green

*2: ProPILOT Assist 2.0 display is blue



NOTE:

- When "U2176-87" is detected, there are two types of systems, one that works fail-safe and the other that does not work fail-safe.
- The system controls based on the signal from control unit. However, if communication between control unit and the power network separate relay is blackout, the system leads to fail-safe.

1. DTC CONFIRMATION PROCEDURE

1. Set vehicle to READY and wait 2 seconds or more.
2. Perform "All DTC Reading" with CONSULT.
3. Check if "U215B-87" is detected as current malfunction in self-diagnosis result of "PNS Relay".

Is DTC "U2176-87" detected as current malfunction?

YES>>

Refer to [DTC Diagnosis Procedure](#) .

NO-1>>

To check malfunction symptom before repair: Refer to [Intermittent Incident](#).

NO-2>>

Confirmation after repair: INSPECTION END

Sample