



**WARNING:** ANSISO activation does not activate output function GPO S (NEUTRAL INDICATOR FOR PTO OUTPUT).

#### B.4.10.6. NORMAL OPERATION

When *Parking Brake Switch* indicates 01b (parking brake set) and both transmission output shaft speed and throttle input are below calibrated limits, the function will activate and command the transmission to Neutral regardless of shift selector position.

When active, the requested range digit on the shift selector display is flashed and/or the Range Inhibit Indicator is activated. To resume driving, the operator must re-select a drive range on the shift selector. This may be done after *Parking Brake Switch* = 00b (parking brake not set), or as an override while *Parking Brake Switch* = 01b (parking brake set).

If the input is overridden, *Parking Brake Switch* must be toggled to 00b (parking brake not set) for at least one message broadcast before the function can be enabled again by setting it to 01b (parking brake set).

Function activation is limited to three times within a given stop cycle. After the vehicle has moved, the function may be activated again.

#### B.4.10.7. TCM FAILURE MODES & RESPONSES

If *Parking Brake Switch* reception is lost or indicates 10b (error) or 11b (not available) while the function is already active (the transmission is in Neutral), there is no impact to the function operation. The operator must re-select a range to exit the function, as normal. However, *Parking Brake Switch* must indicate 01b (parking brake set) before the function can activate again. No DTCs are set.

#### B.4.10.8. INSTALLATION CHECKLIST: ANSISO

Allison Customer Integration Engineering will review new implementations for the following minimum functionality. While vehicle OEMs may use this list to assist implementation development, it is not a substitute for requirements described previously.

Acceptable implementations will answer “yes” to all questions in the following test sequence:

- ☐ Is the TCM calibration configured properly?
- ☐ Clear any Allison DTCs. Start the engine, release the parking brake, and select Drive. Set the parking brake. Does the transmission shift to Neutral?
- ☐ Release the parking brake and re-select Drive. Does the transmission shift into range?

### B.4.11.

## AUXILIARY BOX TRANSITION



**WARNING:** The following sections describe the intended use of a specific function which has been validated in the configuration(s) described. Implementations or use of this feature which differ from that described could result in damage to equipment or property, serious personal injury, or loss of life.

**Allison Transmission is not liable for consequences associated with incorrect implementation or unintended use of this feature.**

#### B.4.11.1. OVERVIEW

The Auxiliary Box Transition Input is used to assist in the transition of the transfer case by momentarily stopping the rotation of the output shaft.

This function can also be accomplished via GPI BY (See the Allison 6th Generation Controls Installation Manual).

#### B.4.11.2. AVAILABILITY

The J1939-based implementation is optional in 3000 – 4000 Series applications.

#### B.4.11.3. CONFIGURATION (VEPS / ACCT)

**[18010] ON-VEHICLE PROTOCOL: CAN1**

**[18020] ON-VEHICLE PROTOCOL: CAN2**

Parameters must be provided to the CAN port set to SAE J1939 FULL FUNCTIONALITY.

#### [25080] AUX BOX TRANSITION INPUT

Set answer to J1939 TC2 TRANS OUTPUT SHAFT BRAKE REQUEST or J1939 TC2 TRANS OUTPUT SHAFT BRAKE REQUEST & CCVS1 PARKING BRAKE SWITCH to enable TCM parameter reception.

#### B.4.11.4. J1939 PARAMETER AND SA USE

Items marked (V) can be modified via VEPS. Parameters may be enabled or disabled and SAs may be set to an OEM-specified value. See [AUTO-DETECTION](#) for SA selection details.

#### B.4.11.4.1. Required Support

The J1939 network is required to provide [TC2 Transmission Output Shaft Brake Request](#) from SA 49 (Cab Controller)<sup>(V)</sup> to DA 03 (Transmission #1).

#### B.4.11.4.2. Optional Support

If AUXILIARY BOX TRANSITION is set to J1939 TC2 TRANS OUTPUT SHAFT BRAKE REQUEST & CCVS1 PARKING BRAKE SWITCH then the J1939 network is required to provide [CCVS1 Parking Brake Switch](#) from one of the following SAs, in order of TCM preference:

1. SA 17 (Cruise Control)<sup>(V)</sup>
2. SA 49 (Cab Controller)
3. SA 39 (Management Computer #1)
4. SA 23 (Instrument Cluster #1)
5. SA 33 (Body Controller)
6. SA 00 (Engine #1)

#### B.4.11.5. NORMAL OPERATION

When Auxiliary Box Transition is set to J1939 TC2 TRANS OUTPUT SHAFT BRAKE REQUEST, the function will only activate when:

- Transmission is in Neutral
- Output speed is low
- Throttle position is low
- J1939 TC2 *Transmission Output Shaft Brake Request* indicates 01b (Transmission output shaft braking is requested)

When Auxiliary Box Transition is set to J1939 TC2 TRANS OUTPUT SHAFT BRAKE REQUEST & CCVS1 PARKING BRAKE SWITCH, the function will only activate when:

- J1939 CCVS1 *Parking Brake Switch* indicates 01b (Parking brake set)
- Transmission is in Neutral
- Output speed is low
- Throttle position is low
- J1939 TC2 *Transmission Output Shaft Brake Request* indicates 01b (Transmission output shaft braking is requested)

When the Auxiliary Box Transition Function is active, the transmission periodically attempts to stop the output shaft for a short period of time. This function helps facilitate the meshing of gear teeth in an external transfer case.

#### B.4.11.6. TCM FAILURE MODES & RESPONSES

When J1939 TC2 *Transmission Output Shaft Brake Request* reception is lost or indicates 10b (Error) or 11b (Not available), the TCM will treat it the same as receiving *Transmission Output Shaft Brake Request* as 00b (Transmission output shaft braking is not requested).

When Auxiliary Box Transition is set to J1939 TC2 TRANS OUTPUT SHAFT BRAKE REQUEST & CCVS1 PARKING BRAKE SWITCH and J1939 CCVS1 *Parking Brake Switch* reception is lost or indicates 10b (Error) or 11b (Not available), the TCM will treat it the same as receiving *Parking Brake Switch* as 00b (Parking brake not set).