

DTC P0705 PARK/NEUTRAL POSITION (PNP) SWITCH

[EURO-OBD]

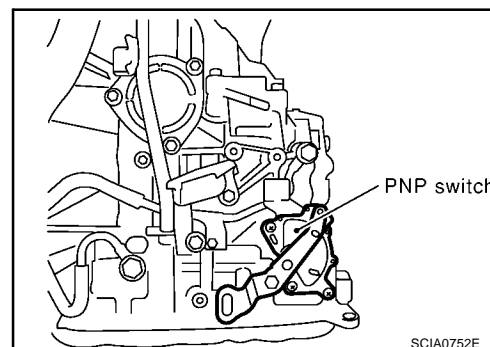
DTC P0705 PARK/NEUTRAL POSITION (PNP) SWITCH

PFP:32006

Description

ECS004QW

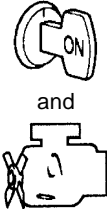
- The PNP switch assembly includes a transmission range switch.
- The transmission range switch detects the selector lever position and sends a signal to the TCM.



TCM TERMINALS AND REFERENCE VALUE

Remarks: Specification data are reference values.

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| Terminal No. | Wire color | Item | Condition | | Judgement standard (Approx.) |
|--------------|------------|--------------------------------|--|---|------------------------------|
| 26 | BR/Y | PNP switch "1" position |  <p>and</p> | When setting selector lever to "1" position. | Battery voltage |
| | | | | When setting selector lever to other positions. | 0V |
| 27 | L | PNP switch "2" position | | When setting selector lever to "2" position. | Battery voltage |
| | | | | When setting selector lever to other positions. | 0V |
| 34 | W/G | PNP switch "D" position | | When setting selector lever to "D" position. | Battery voltage |
| | | | | When setting selector lever to other positions. | 0V |
| 35 | L/W | PNP switch "R" position | | When setting selector lever to "R" position. | Battery voltage |
| | | | | When setting selector lever to other positions. | 0V |
| 36 | G | PNP switch "N" or "P" position | | When setting selector lever to "N" or "P" position. | Battery voltage |
| | | | | When setting selector lever to other positions. | 0V |

ON BOARD DIAGNOSIS LOGIC

| Diagnostic trouble code | Malfunction is detected when... | Check items (Possible cause) |
|--------------------------|---|--|
| : PNP SW/CIRC : P0705 | TCM does not receive the correct voltage signal from the switch based on the gear position. | <ul style="list-style-type: none"> • Harness or connectors (The PNP switch circuit is open or shorted.) • PNP switch |

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DIAGNOSTIC TROUBLE CODE (DTC) CONFIRMATION PROCEDURE

CAUTION:

Always drive vehicle at a safe speed.

NOTE:

If "DIAGNOSTIC TROUBLE CODE CONFIRMATION PROCEDURE" has been previously conducted, always turn ignition switch "OFF" and wait at least 5 seconds before conducting the next test.

After the repair, perform the following procedure to confirm the malfunction is eliminated.

| |
|---------------|
| SELECT SYSTEM |
| A/T |
| ENGINE |
| |
| |
| |
| |
| |

SAT014K

With CONSULT-II

1. Turn ignition switch "ON".
2. Select "DATA MONITOR" mode for "ENGINE" with CONSULT-II.
3. Start engine and maintain the following conditions for at least 5 consecutive seconds.

VHCL SPEED SE: 10 km/h (6 MPH) or more

THRTL POS SEN: More than 1.3V

Selector lever: D position (OD "ON" or "OFF")

With GST

Follow the procedure "With CONSULT-II".

| |
|------------------------|
| SELECT DIAG MODE |
| WORK SUPPORT |
| SELF-DIAG RESULTS |
| DATA MONITOR |
| ACTIVE TEST |
| DTC & SRT CONFIRMATION |
| ECM PART NUMBER |
| |

SAT020K

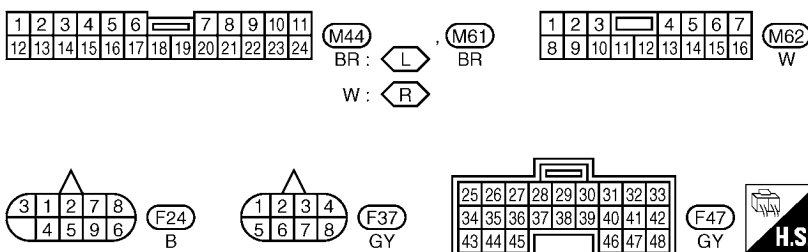
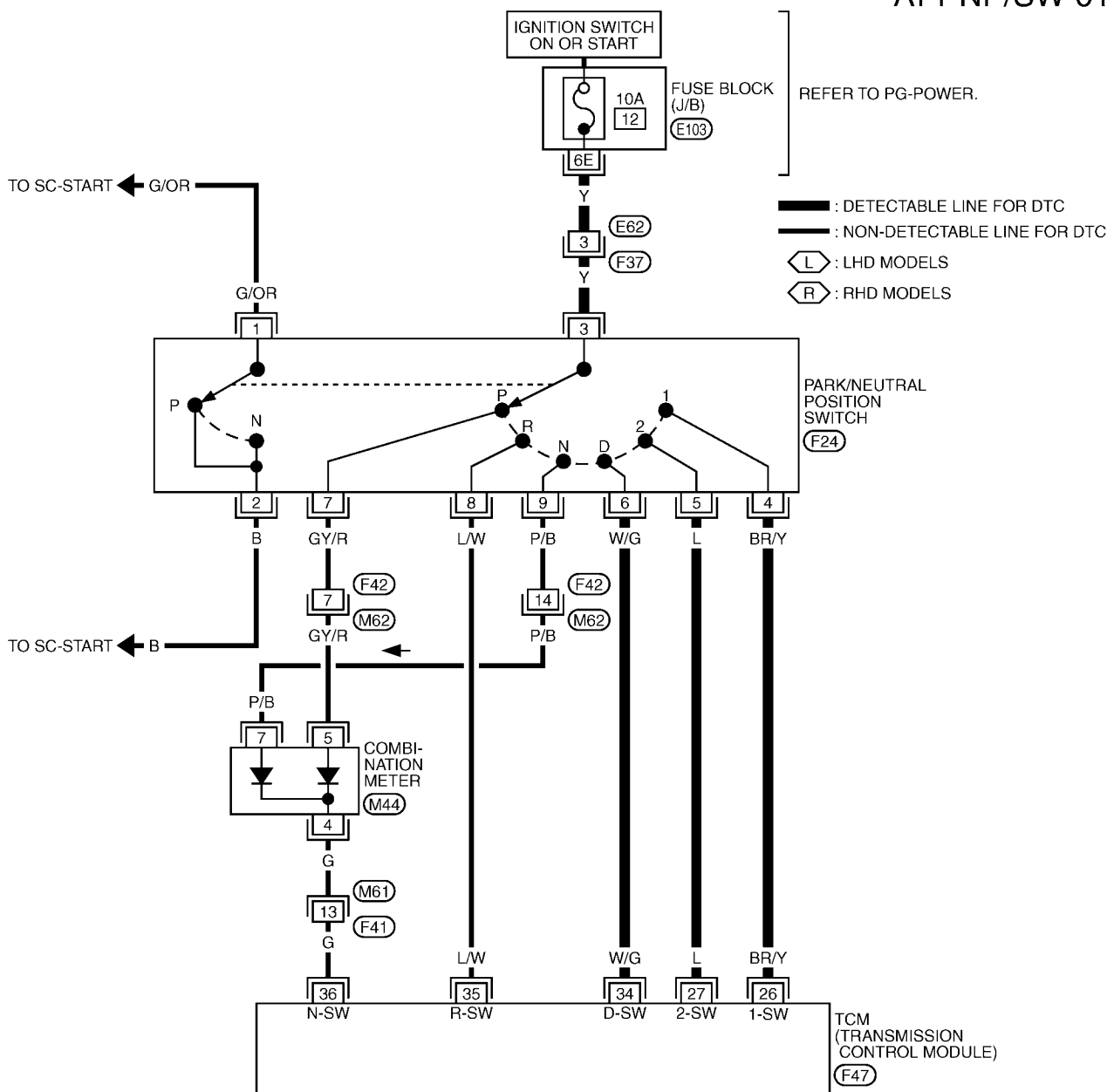
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Wiring Diagram — AT — PNP/SW

ECS0040X

AT-PNP/SW-01



REFER TO THE FOLLOWING.
(E103) - FUSE BLOCK-JUNCTION
BOX (J/B)

TCWA0047E

DTC P0705 PARK/NEUTRAL POSITION (PNP) SWITCH

[EURO-OBD]

Diagnostic Procedure

ECS004QY

1. INSPECTION START

Do you have CONSULT-II?

Yes or No

- Yes >> GO TO 2.
No >> GO TO 3.

2. CHECK PNP SWITCH CIRCUIT (WITH CONSULT-II)

With CONSULT-II

1. Turn ignition switch to "ON" position.
(Do not start engine.)
2. Select "TCM INPUT SIGNALS" in "DATA MONITOR" mode for "A/T" with CONSULT-II.
3. Read out "P/N", "R", "D", "2" and "1" position switches moving selector lever to each position.

| SELECT SYSTEM | |
|---------------|--|
| A/T | |
| ENGINE | |
| | |
| | |
| | |
| | |
| | |
| | |

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Check the signal of the selector lever position is indicated properly.

OK or NG

- OK >> GO TO 4.
NG >> Check the following items. If any items are damaged, repair or replace damaged parts.
- PNP switch
Refer to [AT-115, "Component Inspection"](#) .
 - Harness for short or open between ignition switch and PNP switch
 - Harness for short or open between PNP switch and TCM
 - Ignition switch and fuse
Refer to [PG-2, "POWER SUPPLY ROUTING"](#) .
 - Diode (P, N positions)

| DATA MONITOR | |
|---------------|-----|
| MONITORING | |
| PN POSI SW | OFF |
| R POSITION SW | OFF |
| D POSITION SW | OFF |
| 2 POSITION SW | ON |
| 1 POSITION SW | OFF |

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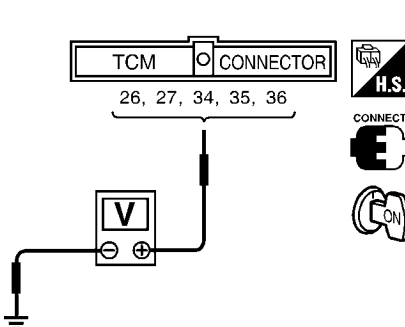
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3. CHECK PNP SWITCH CIRCUIT (WITHOUT CONSULT-II)

⊗ Without CONSULT-II

1. Turn ignition switch to "ON" position.
(Do not start engine.)
2. Check voltage between TCM terminals 26, 27, 34, 35, 36 and ground while moving selector lever through each position.



Voltage:
B: Battery voltage
0: 0V

| Lever position | Terminal No. | | | | |
|----------------|--------------|----------|----------|----------|----------|
| | 36 | 35 | 34 | 27 | 26 |
| P, N | B | 0 | 0 | 0 | 0 |
| R | 0 | B | 0 | 0 | 0 |
| D | 0 | 0 | B | 0 | 0 |
| 2 | 0 | 0 | 0 | B | 0 |
| 1 | 0 | 0 | 0 | 0 | B |

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OK or NG

OK >> GO TO 4.

NG >> Check the following items. If any items are damaged, repair or replace damaged parts.

- PNP switch
Refer to [AT-115, "Component Inspection"](#) .
- Harness for short or open between ignition switch and PNP switch
- Harness for short or open between PNP switch and TCM
- Ignition switch and fuse
Refer to [PG-2, "POWER SUPPLY ROUTING"](#) .
- Diode (P, N positions)

4. CHECK DTC

Perform Diagnostic Trouble Code (DTC) confirmation procedure. Refer to [AT-111, "DIAGNOSTIC TROUBLE CODE \(DTC\) CONFIRMATION PROCEDURE"](#) .

OK or NG

OK >> **INSPECTION END**

NG >> 1. Perform TCM input/output signal inspection.

2. If NG, recheck TCM pin terminals for damage or loose connection with harness connector.

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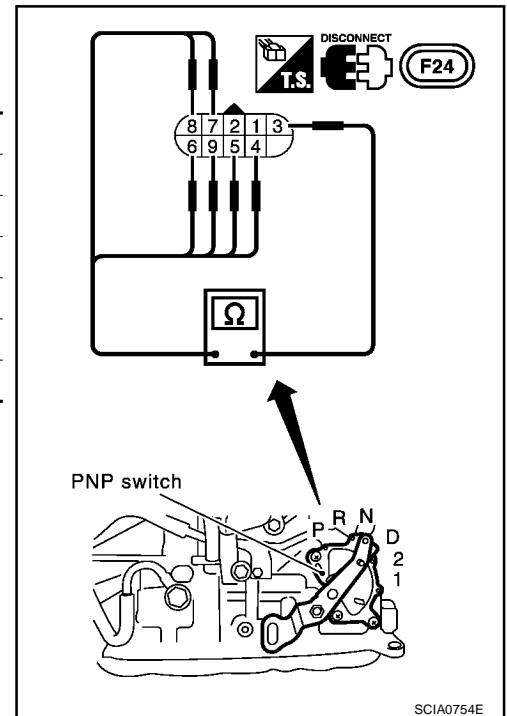
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ECS004QZ

Component Inspection PARK/NEUTRAL POSITION SWITCH

1. Check continuity between terminals 1 and 3 and between terminals 2 and 4, 5, 6, 7, 8, 9 while moving manual shaft through each position.

| Lever position | Terminal No. | |
|----------------|--------------|-------|
| P | 3 - 7 | 1 - 2 |
| R | 3 - 8 | |
| N | 3 - 9 | 1 - 2 |
| D | 3 - 6 | |
| 2 | 3 - 5 | |
| 1 | 3 - 4 | |



2. If NG, check again with control cable disconnected from manual shaft of A/T assembly. Refer to step 1.
3. If OK on step 2, adjust control cable. Refer to [AT-51, "TCM SELF-DIAGNOSTIC PROCEDURE \(NO TOOLS\)"](#).
4. If NG on step 2, remove PNP switch from A/T and check continuity of PNP switch terminals. Refer to step 1.
5. If OK on step 4, adjust PNP switch. Refer to [AT-414, "Control Valve Assembly and Accumulators"](#).
6. If NG on step 4, replace PNP switch.

