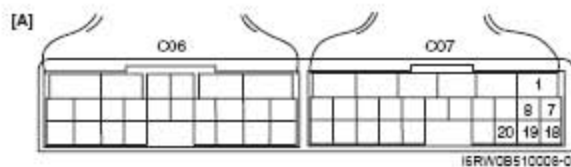
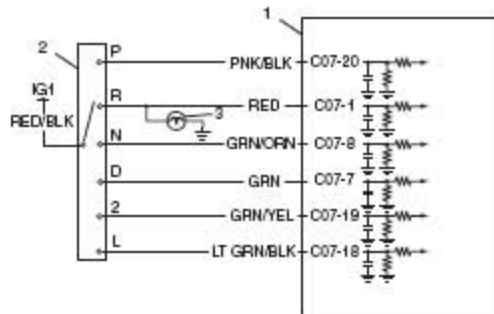


# P0705: Transmission Range Sensor Circuit Malfunction (PRNDL Input)

## Wiring Diagram



1. TCM	3. Backup lamp
2. Transmission range sensor	[A]: Terminal arrangement of TCM connector (viewed from harness side)

## DTC Detecting Condition and Trouble Area

DTC detecting condition	Trouble area
Multiple or more signals are inputted simultaneously for 10 seconds.	<ul style="list-style-type: none"> <li>• Select cable maladjusted</li> <li>• Transmission range sensor maladjusted</li> <li>• Transmission range sensor or its circuit malfunction</li> <li>• TCM</li> </ul>

## DTC Confirmation Procedure

- 1) Connect scan tool to DLC with ignition switch OFF.
- 2) Clear DTCs in TCM memory by using scan tool.
- 3) Start engine and shift select lever to "D" range.
- 4) Keep engine running at idle speed for 25 seconds or more.
- 5) Stop vehicle and check DTC.

## DTC Troubleshooting

Step	Action	Yes	No
1	Was "A/T System Check" performed?	Go to Step 2.	Go to "A/T System Check".
2	Do you have SUZUKI scan tool?	Go to Step 3.	Go to Step 4.
3	<p><b>Check transmission range sensor circuit for operation</b> Check by using SUZUKI scan tool:</p> <p>1) Connect SUZUKI scan tool to DLC with ignition switch OFF.</p> <p>2) Turn ignition switch ON and check transmission range signal ("P", "R", "N", "D", "2" or "L") on display when shifting select lever to each range. Is applicable range indicated?</p>	Intermittent trouble. Check for intermittent referring to "Intermittent and Poor Connection Inspection in Section 00".	Go to Step 5.
4	<p><b>Check transmission range sensor circuit for operation</b> Check by not using SUZUKI scan tool:</p> <p>1) Turn ignition switch ON.</p> <p>2) Check voltage at terminals "C07-1", "C07-7", "C07-8", "C07-18", "C07-19" and "C07-20" respectively with select lever shifted to each range. Taking terminal "C07-19" as an example, is battery voltage indicated only when select lever is shifted to "2" range and 0 V for other ranges as shown in the following table. Check voltage at other terminals likewise, referring to the following table. Are check results satisfactory?</p>	Intermittent trouble. Check for intermittent referring to "Intermittent and Poor Connection Inspection in Section 00".	Go to Step 5.

Step	Action	Yes	No
5	1) Check select cable for adjustment referring to "Select Cable Adjustment". Is it adjusted correctly?	Go to Step 6.	Adjust.
6	<b>Check transmission range sensor for installation position</b> 1) Shift select lever to "N" range. 2) Check that "N" reference line on sensor and needle direction shaped on lock washer are aligned. Are they aligned?	Go to Step 7.	Adjust.
7	1) Check transmission range sensor referring to "Transmission Range Sensor Inspection and Adjustment". Are check results satisfactory?	"RED/BLK", "PNK/BLK", "RED", "GRN/ORN", "GRN", "GRN/YEL" or "LT GRN/BLK" circuit shorted to power circuit or shorted each other. If wires and connections are OK, substitute a know-good TCM and recheck.	Replace transmission range sensor.

Table for Step 4

		Terminal					
		C07-20	C07-1	C07-8	C07-7	C07-19	C07-18
Select lever position	P	8 – 14 V	0 V	0 V	0 V	0 V	0 V
	R	0 V	8 – 14 V	0 V	0 V	0 V	0 V
	N	0 V	0 V	8 – 14 V	0 V	0 V	0 V
	D or 3	0 V	0 V	0 V	8 – 14 V	0 V	0 V
	2	0 V	0 V	0 V	0 V	8 – 14 V	0 V
	L	0 V	0 V	0 V	0 V	0 V	8 – 14 V

LAUNCH