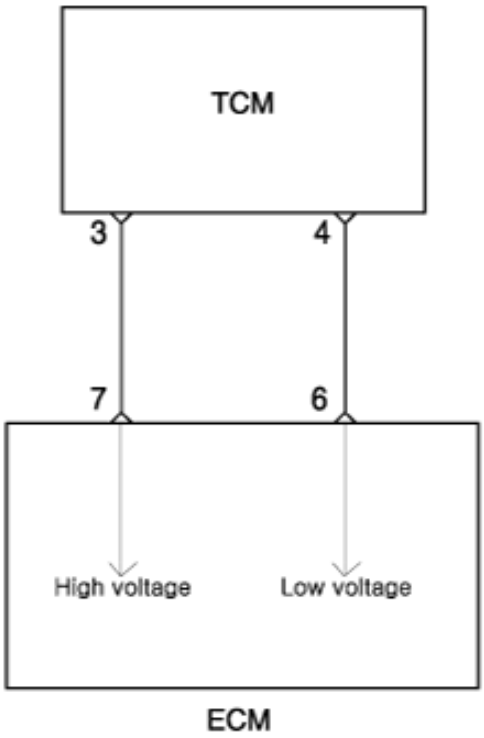
## p

| DTC | P1602 | Serial Communication Problem with TCM (Time out) |
|---|---|---|

**DTC DETECTING CONDITION**

| DTC No | Detecting Condition & Limp Home | Suspected area |
|---|---|---|
| P1602 | **Detecting Condition**<br>No message is received from TCM, after activation of the CAN-diagnosis.<br>Enable Condition<br>- Battery voltage > 10V<br>- Engine speed > 32rpm<br>**Limp Home**<br>None | - Open or short in serial communication circuit<br>- TCM<br>- ECM |

## SCHEMATIC DIAGRAM




## INSPECTION PROCEDURES

**1. CHECK ECM AND TCM CONNECTORS**

1. Thoroughly check the connectors for looseness, poor connection, bending, corrosion, contamination, deterioration, or damage.

**Are all connectors good?**

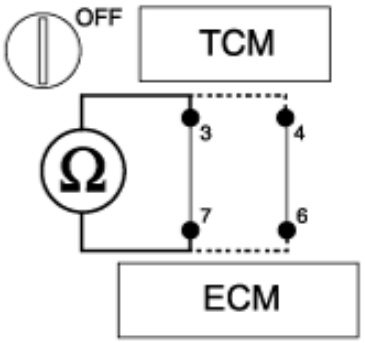
| Yes | No | Repair or replace it. |
|---|---|---|

## 2. CHECK FOR OPEN IN HARNESS

1. Turn ignition switch to OFF position and disconnect the ECM and TCM connectors.
2. Measure the resistance between terminal 7 of the ECM harness connector and 3 of the TCM harness connector.
3. Measure the resistance between terminal 6 of the ECM harness connector and 4 of the TCM harness connector.

**• Specification: below 1Ω**

**Does each resistance indicate continuity?**



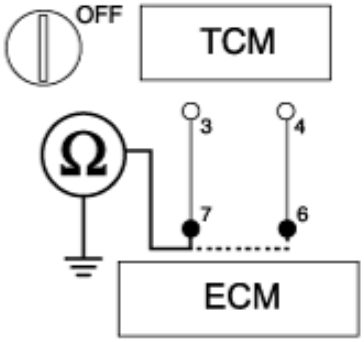

| Yes | No | Repair open in harness. |
|---|---|---|

## 3. CHECK FOR SHORT TO GROUND IN HARNESS

1. Keep the ECM and TCM connectors disconnected.
2. Measure the resistance between terminal 7 of the ECM harness connector and chassis ground.
3. Measure the resistance between terminal 6 of the ECM harness connector and chassis ground.

**• Specification: infinite**

**Does each resistance indicate open?**



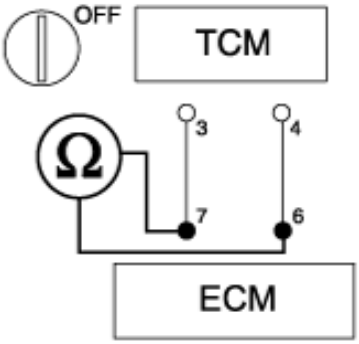

| Yes | No | Repair short to chassis ground in harness. |
|---|---|---|

## 4. CHECK FOR SHORT IN HARNESS

1. Keep the ECM and TCM connectors disconnected.
2. Measure the resistance between terminals 6 and 7 of the ECM harness connector.

**• Specification: infinite**

**Does resistance indicate open circuit?**



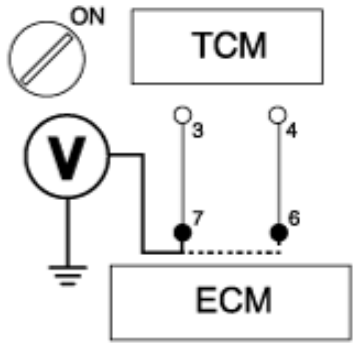
| Yes | No | Repair short in harness. |
|---|---|---|

**5. CHECK FOR SHORT TO POWER IN HARNESS**

1. Keep the ECM and TCM connectors disconnected.
2. Turn ignition switch to ON position.
3. Measure the voltage between terminal 7 of the ECM harness connector and chassis ground.
4. Measure the voltage between terminal 6 of the ECM harness connector and chassis ground.

**• Specification: below 0.5V**

**Is voltage within specifications?**




| Yes | No | Repair short to power in harness. |
|---|---|---|

Check the fault code related to the TCM and proceed with the ECM problem procedure.