
How to use this manual

- This Service Manual is divided into four volumes by section so that it can be used with ease at work. Refer to the Table of Contents, select and use the necessary section.

- GENERAL INFORMATION SECTION
- REPAIR SECTION
- TROUBLESHOOTING SECTION
- WIRING DIAGRAM SECTION

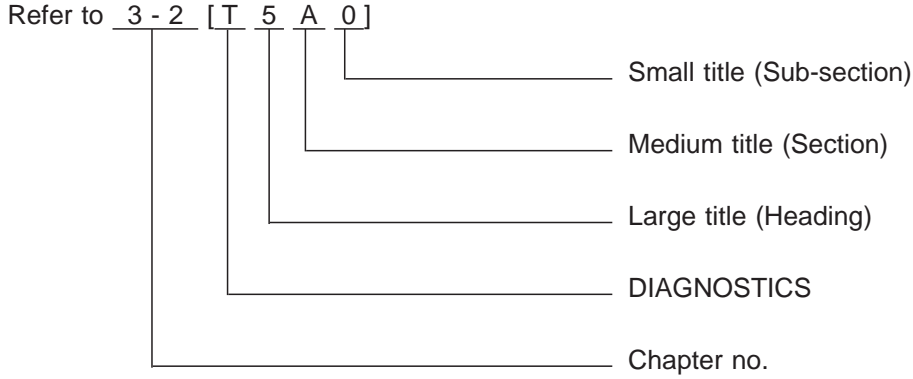
- The description of each area is provided with four types of titles different in size as shown below. The Title No. or Symbol prefixes each title in order that the construction of the article and the flow of explanation can be easily understood.

[Example of each title]

- Area title: T. DIAGNOSTICS
- Large title (Heading): 1. Diagnostics Chart with Select Monitor
(to denote the main item of explanation)
- Medium title (Section): A: BASIC DIAGNOSTICS CHART
(to denote the type of work in principle)
- Small title (Sub-section): 1. CHECK INPUT SIGNAL FOR ECM
(to denote a derivative item of explanation)

- The Title Index No. is indicated on the top left (or right) side of the page as the book is opened. This is useful for retrieving the necessary portion.

(Example of usage)



Example of title placement

Title index No. 7

AUTOMATIC TRANSMISSION AND DIFFERENTIAL [T5A1] 3-2
 5. Diagnostic Chart with Trouble Code

5. Diagnostic Chart with Trouble Code

A: TROUBLE CODE 11
— DUTY SOLENOID A —

DIAGNOSIS:
 Output signal circuit of duty solenoid A or resistor is open or shorted.

TROUBLE SYMPTOM:
 Excessive shift shock

1 Measure signal voltage output emitted from TCM. Not OK → Repair TCM terminal poor contact. (Replace TCM.)
 OK →

2 Check harnesses and connectors between TCM and duty solenoid A and TCM and resistor. Not OK → Repair or replace harness/connector.
 OK →

Repair TCM terminal poor contact. (Replace TCM.)

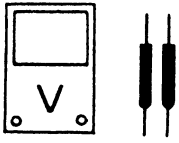
1. MEASURE SIGNAL VOLTAGE OUTPUT EMITTED FROM TCM.

1) Warm-up the engine and transmission.
 2) Ignition switch ON (Engine OFF).
 3) Move shift lever to "N".
 4) While opening and closing throttle valve, measure voltage between TCM connector and body.

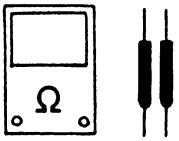
Connector & terminal / Specified resistance:
 (B52) No. 11 — No. 13 /
 1.5 — 4.0 V (Throttle is fully closed.)
 0.5 V, max. (Throttle is fully open.)

Medium title
 Large title
 Small title

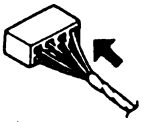
- In this manual, the following symbols are used.



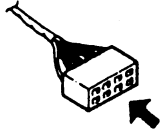
Circuit tester
Voltage measurement



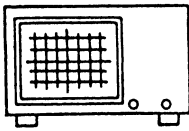
Circuit tester
Resistance measurement



The arrow indicates that insertion of the probe or numbering of the connector pins is made from the side.



The arrow indicates that insertion of the probe or numbering of the connector pins is made from the side.



Oscilloscope



Oscilloscope positive probe



Oscilloscope earth head

- WARNING, CAUTION, NOTE

- **WARNING:** Indicates the item which must be observed precisely during performance of maintenance services in order to avoid injury to the mechanics and other persons.
- **CAUTION:** Indicates that item which must be followed precisely during performance of maintenance services so as to avoid damage and breakage to the vehicle and its parts and components.
- **NOTE:** Indicates the hints, knacks, etc. which make the maintenance job easier.