

SECTION 19

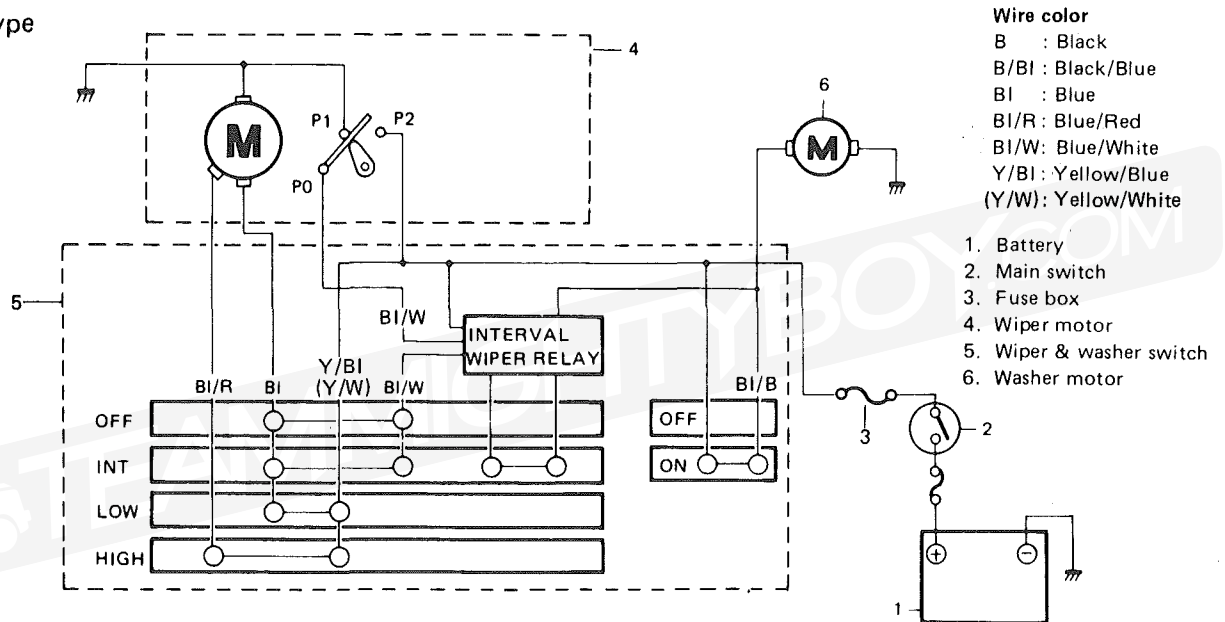
BODY ELECTRICAL EQUIPMENT

NOTICE:

For the items not found in this section, refer to the Section "19. BODY ELECTRICAL EQUIPMENT" of 99500-84000-01E SERVICE MANUAL (ALTO).

WINDSHIELD WIPER MOTOR

3-speed type



MAINTENANCE

1) Wiper trouble diagnosis

When wiper motor does not start even if Wiper Switch is turned "ON", check lead connections and coupler connections. Then, check the following.

- a) Fuse blown or mounted incorrectly.
- b) Wiper switch:

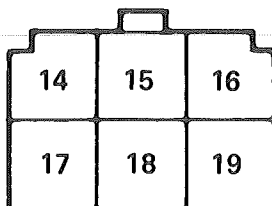
To check wiper switch, remove couplers and check continuity between following terminals by using circuit tester.

3-speed type

	Yellow white	Blue/white	Blue	To relay	Blue/red	To relay	Black
OFF		●	●	●			
Interval		●	●	●		●	●
Low speed	●		●				
High speed	●				●		

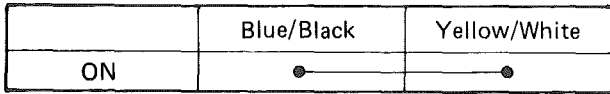
Wiper switch

Switch connector



- 14. Yellow/White
- 15. Blue
- 16. Blue/Red
- 17. Blue/Black
- 18. Black
- 19. Blue/White

Washer switch

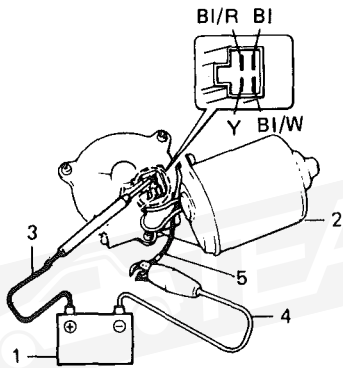


c) Break in wiper motor armature or poor commutator brush contact:

To check these, check continuity between Blue lead and ground, and Blue/Red wire and ground respectively.

2) No-load run test

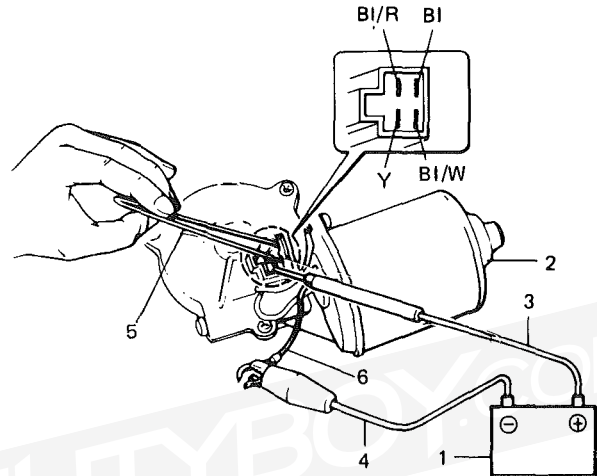
Using a 12V battery, connect positive battery terminal to Blue terminal and the negative terminal to Black lead. If motor rotates at 48 – 58 r/min, this is acceptable (for Low-speed check). For High-speed check, connect the positive terminal to Blue/Red terminal and negative terminal to Black lead. If motor rotates at 73 – 87 r/min, this is acceptable.



1. Battery
 2. Wiper motor
 3. ⊕ -Blue lead
 4. ⊖ -Black lead
 5. Black lead
- BI/R : Blue/Red
 BI/W : Blue/White
 BI : Blue
 Y : Yellow

3) Testing automatic stop action

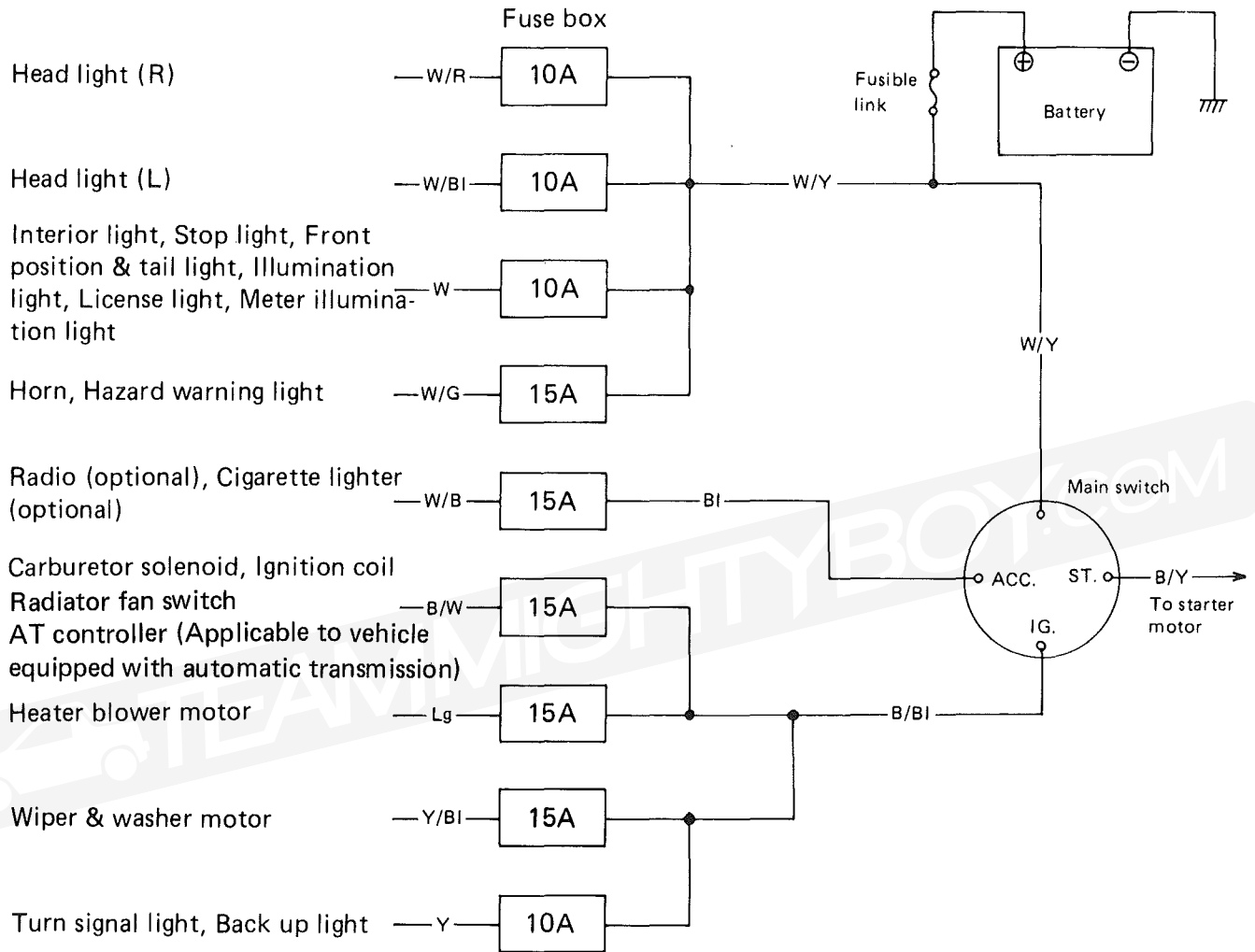
Connect positive battery terminal to motor Yellow terminal, and negative terminal to Black lead cord, respectively. Use a jumper to short Blue/White and Blue terminals to each other to check whether motor shaft stops at a given position. This position must conform to the start position. Stop the motor again and again with the jumper to confirm that it stops at the same position.



1. Battery
 2. Wiper motor
 3. ⊕ -Yellow lead
 4. ⊖ -Black lead
 5. Jumper
 6. Black lead
- BI/R : Blue/Red
 BI/W : Blue/White
 BI : Blue
 Y : Yellow

FUSE BOX

The fuses in the fuse box is wired as follows.



WIRING DIAGRAM

Wiring diagrams are attached at the end of this manual.

