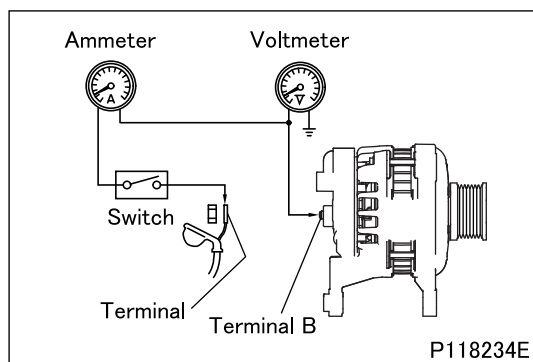

**GROUP 54-13
ON-VEHICLE INSPECTION AND
ADJUSTMENT**

#950 INSPECTION OF ALTERNATOR



Performance test

- The on-vehicle inspection is only a simplified check. Use a test bench for accurate checking.
- Connect the meters to the alternator as shown.

WARNING

- To prevent possible injury, be sure to disconnect the negative battery cable and insulate the cable and the negative battery terminal with tape before working on the wiring. With the negative (-) battery cable connected, battery voltage is always applied to terminal B.
- To connect to switch, use a lead wire with the same or larger diameter than that of the chassis harness connected to terminal B.

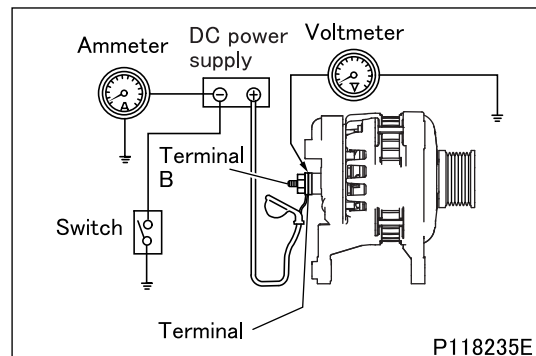
- Turn on switch and make sure that voltmeter indicates battery voltage.
- Start the engine.
- Immediately turn on the switches for all lamps on the vehicle.
- Immediately accelerate the engine to the speed indicated below and measure the alternator's output current.
Approx. 2200 rpm
- The alternator is considered to be good if the measured value is 70% or more of the nominal output current.

Alternator nominal output

Alternator	Voltage	Output current
110 A	12 V	110 A

Service standards

Location	Maintenance item	Standard value	Limit	Remedy
-	Adjusting voltage	14.5 ± 0.2 V	-	Replace



- Connect the meters to the alternator as shown.

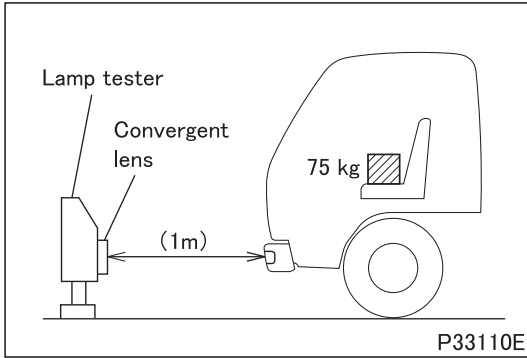
WARNING

- To prevent possible injury, be sure to disconnect the negative battery cable and insulate the cable and the negative battery terminal with tape before working on the wiring. With the negative (-) battery cable connected, battery voltage is always applied to terminal B.
- To connect to switch, use a lead wire with the same or larger diameter than that of the chassis harness connected to terminal B.

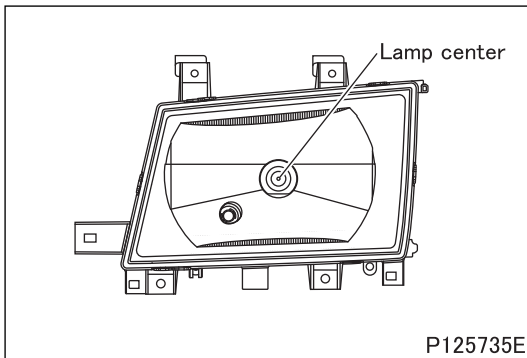
- Turn off the switches for lamps, heater, etc. so that electric loads may not be applied during the inspection.
- Turn on switch and then start the engine.
- If the output current is 5 amperes or less when the engine speed is raised to the appropriate speed indicated below, then measure the voltage at terminal B.
Approx. 2200 rpm
- If the output current is not less than 5 amperes, the measured value (regulated voltage) will be slightly lower.
- If the output current is 5 amperes or more, do one of the following:
 - Run the engine for a while to charge the battery.
 - Replace the battery with a fully-charged one.
- If the measured value deviates from the standard value, conduct checking again on the test bench.

#960 HEADLAMP AIMING

1. Preparation before Adjustment



- Park the vehicle on a level flat place and apply chocks to the wheels.
- Empty the vehicle.
- Adjust the tire inflation pressure to the specified value.
- Place a mass of 75 kg (corresponding to a mean weight of one man) on the driver's seat.
- On vehicles with headlamp leveling device, set the headlamp leveling switch to 0.
- Start the engine to charge the battery.
- Locate a lamp tester at a place opposite to the vehicle front end face as illustrated.

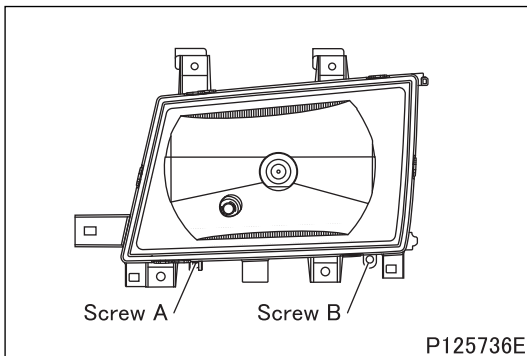


- Turn on the headlamps and aim the headlamps such that the passing beam lamp center is aligned with the beam convergent lens center of the lamp tester. (Shown here is the left-hand headlamp.)
- Mask other lamps than that next subjected to adjustment in such a way that no light may leak.

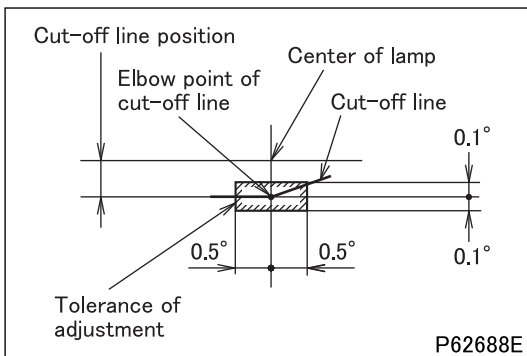
CAUTION

- **Headlamp lenses are made of plastic. Do not keep the masked headlamps illuminated for longer than 2 minutes. Sustained illumination of these lamps can cause heat generation, possibly resulting in deformed headlamp lens.**

2. Adjustment



- Turn on the passing beam.
- Perform the following procedure to adjust the passing beam such that the elbow point of the cut-off line between the lighted and shaded areas is positioned as shown in the figure:
- Adjustment in vertical direction: Turn screws A and B the same amount in this order.
- Adjustment in horizontal direction: Turn screw B.



- The position of the cut-off line between the lighted and shaded areas must correspond to the adjustment value.

Cut-off line position	Adjustment value
	0.57°

	Beam adjustment direction							
	Right-hand headlamp				Left-hand headlamp			
	Up	Down	Left	Right	Up	Down	Left	Right
Screw A	CCW	CW	–	–	CCW	CW	–	–
Screw B	CCW	CW	CCW	CW	CCW	CW	CW	CCW

CW: Clockwise

CCW: Counter-clockwise

