

GROUP 54Aa

BATTERY

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ON-VEHICLE SERVICE

BATTERY CHECK

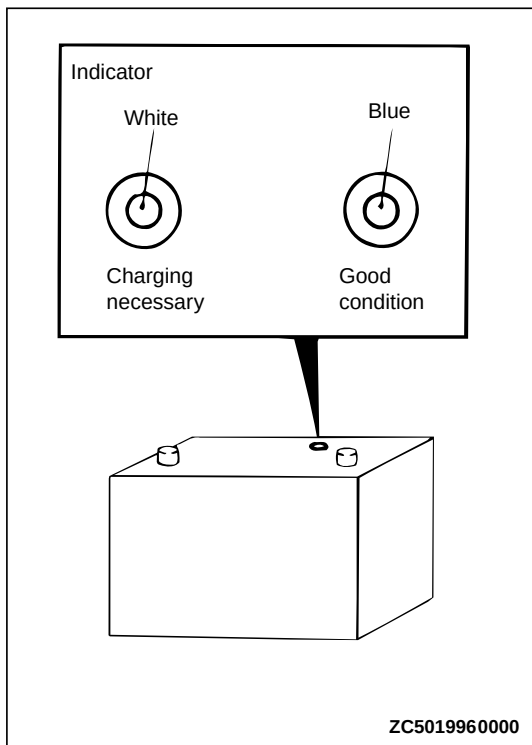
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⚠ WARNING

Battery posts, terminals and related accessories contain lead and lead compounds. WASH HANDS AFTER HANDLING.

BATTERY VISUAL INSPECTION (1)

The battery contains a visual test indicator which gives a blue signal when an adequate charge level exists, and a white signal when charging is required.

**BATTERY VISUAL INSPECTION (2)**

Make sure the ignition switch is in "LOCK" (OFF) position and all battery fed accessories are OFF.

1. Disconnect the negative cable from battery before disconnecting the positive cable.

⚠ WARNING

Care should be taken in the event battery case is cracked or leaking to protect hands from the electrolyte. A suitable pair of rubber gloves (not the household type) should be worn when removing battery by hand.

2. Remove the battery from the vehicle.

3. Inspect the battery carrier for damage caused by loss of acid from battery. If acid damage is present, it is necessary to clean area with a solution of clean warm water and baking soda. Scrub area with a stiff bristle brush. Wipe clean with a cloth moistened with ammonia or baking soda in water.
4. Clean the battery, especially the top, with the same solutions as described in step 3.
5. Inspect the battery case and cover for cracks. If cracks are present, battery must be replaced.
6. Clean the battery post with a suitable battery post cleaning tool.
7. Clean the inside surfaces of the terminal clamps with a suitable battery terminal cleaning tool. Replace damaged or frayed cables and broken terminal clamps.
8. Install the battery in the vehicle.
9. Connect the positive and negative cables to the battery in the order of mention.
10. Tighten the clamp nut securely.

BATTERY CHARGING

WARNING

When batteries are being charged, an explosive gas forms beneath the cover of each cell. Do not smoke near batteries on charge or which have recently been charged. Do not break live circuits at the terminals of the batteries on charge. A spark will occur where the live circuit is broken. Keep all open flames away from the battery.

CHARGE RATE

If the test indicator is white, the battery should be charged as outlined below. When the dot appears or

Battery electrolyte temperature may temporarily be allowed to rise to 55 °C (131 °F). Increase of electrolyte temperature above 55 °C (131 °F) is harmful to the battery, causing deformation of battery cell, decrease in life of battery, etc.

when maximum charge shown below is reached, charging should be stopped.

Charge Rate Chart

Battery	80D26L
Slow charging	5 amps 11 hours
	10 amps 6 hours
Fast charging	20 amps 3 hours
	30 amps 2 hours

BATTERY TEST

BATTERY TESTING PROCEDURE

STEP 1. Check the battery cables.

- (1) Remove the negative cable, then the positive cable.
- (2) Check for dirty or corroded connections.

Q:Are the battery cables dirty or have corroded connections?

YES: Clean the battery cables. Then go to Step 2.

NO: Go to Step 2.

STEP 2. Check the battery posts.

Check for loose battery post.

Q:Are the battery posts loose?**YES:** Replace the battery. Then go to Step 4.**NO:** Go to Step 3.**STEP 3. Check the battery case and cover.**

(1) Remove the hold-downs and shields.

(2) Check for broken/cracked case or cover.

Q:Is the battery case or cover faulty?**YES:** Replace the battery. Then go to Step 4.**NO:** Go to Step 4.**STEP 4. Check the open circuit voltage.**

(1) Turn headlights on for 15 seconds.

(2) Turn headlights off for two minutes to allow battery positive voltage to stabilize.

(3) Disconnect the battery cables.

(4) Read open circuit voltage.

Q:Is open circuit voltage 12.4 volts or more?**YES:** Charge the battery at 5 amps for 15 hours. Then re-test.**NO:** Go to Step 5.**STEP 5. Check the load test.**

(1) Connect a load tester to the battery.

(2) Load the battery at the recommended discharge rate (See LOAD TEST RATE CHART) for 15 seconds.

(3) Read voltage after 15 seconds, then remove load.

(4) Compare the measured value with the minimum voltage. (See LOAD TEST CHART.)

Q:Is the voltage higher than minimum voltage?**YES:** The battery is normal.**NO:** Replace the battery. Then go to Step 4.**LOAD TEST CHART**

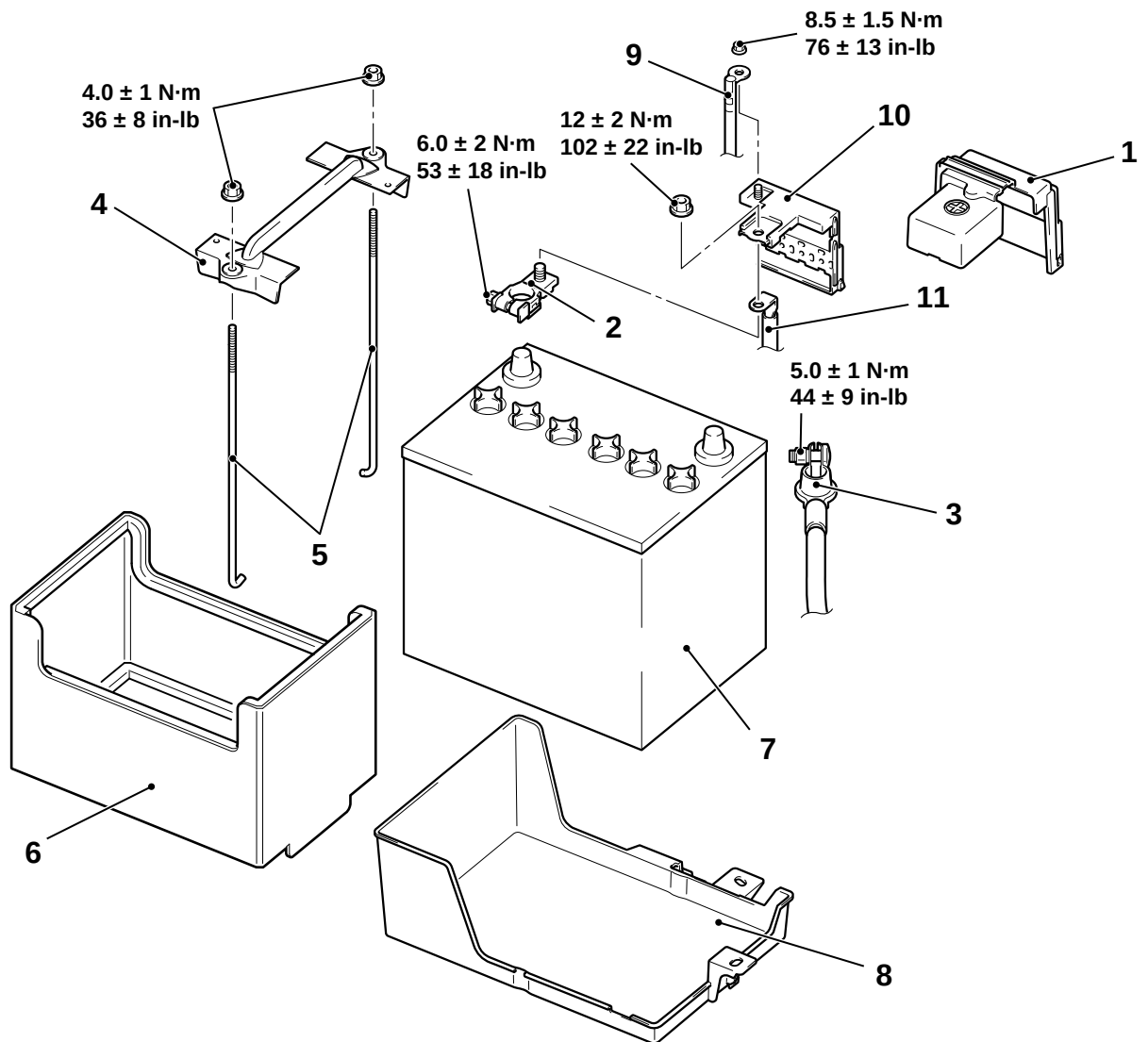
Temperature °C (°F)	21 (70) AND ABOVE	16 (60)	10 (50)	4 (40)	-1 (30)	-7 (20)	-12 (10)	-18 (0)
Minimum voltage	9.6	9.5	9.4	9.3	9.1	8.9	8.7	8.5

LOAD TEST RATE CHART

Load test	290 amps
Cranking ratio -18°C (0°F)	582 amps
Reserve capacity	133 minutes
Application	80D26L

REMOVAL AND INSTALLATION

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Removal steps

1. Fusible link cover
2. Battery terminal assembly
3. Battery (-) terminal connection harness
4. Battery holder
5. Battery bolt
6. Battery cover
7. Battery

Removal steps

8. Battery tray
9. Battery (+) terminal connection harness
10. Fusible link box
11. Battery (+) terminal connection harness

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