

A6/U4/L2 BATTERY DIAGNOSIS & SERVICE

JOB SHEET A6B1 Battery State of Charge

Name: _____ Start Date: _____
Make: _____ Model: _____ Year: _____
VIN: _____ Mileage: _____

LEARNING OBJECTIVE/NATEF TASK



- Perform battery state-of-charge tests; determine needed service. **NATEF TASK A6/B1, P1. ICS160**

MATERIALS

Classroom Vehicle (s), OEM service information, Battery Hydrometer, NON-SLA battery, SLA Battery and DMM

PROCEDURE

- Wear Safety Glasses for this entire procedure.
- Locate in the OEM service information the procedure for battery state of charge for the vehicle you are using. Submit this procedure to your instructor or mentor for approval.

Your Instructor **MUST** stamp or initial the box to the right before you can proceed with this job sheet.



1. On NON-SLA (Sealed Lead Acid [Maintenance-Free]) batteries perform a Hydrometer State of Charge test:

CELL 1	CELL 2	CELL 3	CELL 4	CELL 5	CELL 6

2. If the test results are as follows:
 - If all cells have a specific gravity of at least 1.265, continue do a Capacity Test
 - If all cells have a specific gravity of less than 1.265, charge and retest the battery.

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- If all cells have a specific gravity that has a point variation of .050 between the highest and the lowest reading, stop and replace the battery after conferring with your instructor or mentor.

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OPEN CIRCUIT VOLTAGE TEST (SLA BATTERIES)

1. Remove the surface charge
2. Perform the Open Circuit Voltage Test as listed in this shop manual.
3. Between what temperatures should the battery be at when performing the open circuit voltage test? _____
4. On batteries that have just been recharged, what must be done to remove the surface charge?

5. Measure the open circuit voltage of this battery. What is the voltage?

6. Using the chart, what is the state of charge of this battery?

Open Circuit Voltage	STATE-OF-CHARGE	SPECIFIC GRAVITY
12.6 Volts or higher	100%	1.260-1.280
12.4-12.6	75%-100%	1.230-1.250
12.2-12.4	50%-75%	1.200-1.220
12.0-12.2	25%-50%	1.170-1.190
11.7-12.0	0-25%	1.140-1.160
11.7 or Less	Discharged	1.110-1.130

Answer:

7. If the charge is below 75%, what should be done?

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TASK SUMMARY

- Now that you have completed this NATEF task, can you think of anything (tools, information, knowledge etc.) that would have made this task easier.

- List a customer complaint together with the cause determined by this diagnostic/inspection task that might appear on a work order, and then list the NATEF Task CORRECTION you would use to resolve the complaint.

COMPLAINT: _____

1. Perform Checks/Inspect: _____
2. Referencing Bulletin: _____

CAUSE: _____

1. Diagnosis: **USED THIS NATEF DIAGNOSIS TASK**
2. Operating as designed: _____
3. Cause identified as: _____

CORRECTION: _____

1. Other Correction: _____
2. Correction Verified By: _____

Use this Rubric to RATE the completion of Job Sheet

- 1 = Demonstrated exposure/observation of the competency
- 2 = Applies the competency but only mastered a few essential attributes of the competency
- 3 = Capable of the competency but needs further practice
- 4 = Performs the competency satisfactorily
- 5 = MASTERED the competency

Instructor _____ **Mentor** _____