

# A6/U6/L3 STARTER SYSTEMS

## JOB SHEET A6C6: Starting System Diagnosis

Name: \_\_\_\_\_ Start Date: \_\_\_\_\_  
Make: \_\_\_\_\_ Model: \_\_\_\_\_ Year: \_\_\_\_\_  
VIN: \_\_\_\_\_ Mileage: \_\_\_\_\_

### LEARNING OBJECTIVE/NATEF TASK



- Differentiate between electrical and engine mechanical problems that cause a slow-crank or no-crank condition. **NATEF TASK A6/C6, P2. ICS160, 166**

### MATERIALS

Classroom Vehicle, OEM service manual, Scan Tool, DMM, Hand Tools

### PROCEDURE

- Wear Safety Glasses for this entire procedure.
- Using the OEM service information, find the cold and hot cranking rpm specifications for the vehicle you are using along with the cranking time in seconds and the engine turning torque in foot-pounds. Develop a plan for diagnosis and submit it 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. Record the specs from the OEM service information in Table 1 below:

Engine Turning Torque \_\_\_\_\_  
Cold Engine Cranking RPM \_\_\_\_\_  
Hot Engine Cranking RPM \_\_\_\_\_  
Cranking Time in Seconds \_\_\_\_\_

Table 1

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- **Using a Scan Tool go through the following diagnostic steps:**
  1. Using a Torque Wrench rotate the engine at the crankshaft and note the engine turning torque: \_\_\_\_\_
  2. Disable the engine fuel system and crank the engine for the specified time recorded in table 1 and record the results for both a hot and cold engine.

**COLD ENGINE RPM RESULTS:**

**HOT ENGINE RPM RESULTS:**

## **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.

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- 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** \_\_\_\_\_