

## NATEF TASK SHEET --- SECTION A.6 C.1,4 (P-1)

### **SC9: REMOVE & INSTALL STARTER**

***WHEN THE STARTER NEEDS TO BE REPLACED!***

Student: \_\_\_\_\_ Date: \_\_\_\_\_ Period \_\_\_\_\_

VIN: \_\_\_\_\_ Year: \_\_\_\_\_ Make: \_\_\_\_\_ Model: \_\_\_\_\_

Engine: \_\_\_\_\_ Transmission: \_\_\_\_\_ Production Date: \_\_\_\_\_

**OBJECTIVE:** Student will remove and install starter motor and bench test operation.

- MATERIALS:**
1. **EYE PROTECTION**
  2. Hand tools and wheel chocks
  3. Floor jack with jack stands or hoist
  4. Vehicle (see instructor)

**PROCEDURE:** ***WEAR EYE PROTECTION!*** Use fender cover, seat covers, and floor mats. Test and determine if starter replacement is necessary. Print out procedure from All-Data or Mitchell-on-Demand. Attach procedure to back of this task sheet. **SAFELY** raise vehicle and secure. Chock wheels still on ground, downhill side. Disconnect battery negative ground cable. Remove wires from starter. Remove starter mounting bolts. Remove starter. **Note:** if shims are used, keep track of number and location found.

**Bench test old starter.** Compare with new starter.

***INSTRUCTOR APPROVAL BEFORE INSTALLING! X*** \_\_\_\_\_

Install starter motor (with shims in original location, if used) and start all bolts by hand. Tighten starter bolts. Connect wiring to starter. Be sure wires are routed correctly and not near exhaust or moving parts. Reconnect battery negative cable. Check starter operation. Remove chocks and lower vehicle to ground. Put away all tools and equipment.

**ARE SHIMS USED?** \_\_\_\_\_ **WHERE ARE THEY FOUND?** \_\_\_\_\_

**YOUR RECOMMENDATIONS:** \_\_\_\_\_

**BENCH TEST RESULTS:**      CIRCLE ONE      **PASS**      **FAIL**

**NOTES / PROBLEMS:** \_\_\_\_\_

#### INSTRUCTORS EVALUATION

LEVEL OF SKILL ATTAINED	Initial	OVERALL SKILL EVALUATION	Points
DEMONSTRATES MASTERY (5)		DOCUMENTATION COMPLETENESS (1)	
PERFORMS SATISFACTORILY (4)		SAFETY COMPLIANCE (1)	
CAPABLE, NEEDS PRACTICE (3)		WORK PROFESSIONALISM (3)	
ASSISTED IN PERFORMING (2)		<b>LEVEL OF SKILL ATTAINED (1-5)</b>	
EXPOSURE, OBSERVATION (1)		<b>TOTAL SCORE</b>	

**INSTRUCTOR'S SIGNATURE:** \_\_\_\_\_

SC9/STARTERR&I/07-12-07/vdb