

# NATEF TASK SHEET - Engine A.1 D. 7 P-1

## CS1A : CHECK CONDITION AND CONCENTRATION OF COOLANT

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

Vehicle 1: VIN: \_\_\_\_\_ Year: \_\_\_\_\_ Make: \_\_\_\_\_ Model: \_\_\_\_\_

Vehicle 2: VIN: \_\_\_\_\_ Year: \_\_\_\_\_ Make: \_\_\_\_\_ Model: \_\_\_\_\_

**OBJECTIVE:** Student will check engine coolant and determine concentration, condition, boiling and freezing points, and make recommendations needed to bring coolant up to factory specifications.

- MATERIALS:**
1. EYE PROTECTION
  2. Coolant Tester
  3. Two Vehicles



Video



**PROCEDURE:** WATCH POWER POINT & VIDEO CS1A: WEAR EYE PROTECTION!

With engine cool, locate and slowly remove radiator cap. Using coolant tester, draw out enough coolant to fill tester to top fill line. While holding vertically, check readings on both sides of tester and note boiling point and freezing point and record below. Look up the Boiling Point and Freezing Point of a 50/50 mix of antifreeze and water. **COMPARE WITH YOUR READINGS.** Look inside of radiator neck and at coolant in tester and observe appearance.



**COOLANT 50 / 50 Mix: BOILING POINT \_\_\_\_\_ F FREEZING POINT \_\_\_\_\_ F**  
**VEHICLE 1 COOLANT: BOILING POINT \_\_\_\_\_ F FREEZING POINT \_\_\_\_\_ F**  
**VEHICLE 2 COOLANT: BOILING POINT \_\_\_\_\_ F FREEZING POINT \_\_\_\_\_ F**  
**COOLANT APPEARANCE: VEHICLE 1 \_\_\_\_\_ VEHICLE 2 \_\_\_\_\_**


Coolant Chart

**(Color? Clean? Dirty? Contaminated? All water? etc...)**


Recommendation: VEHICLE 1: Flush System \_\_\_\_\_ No Service Required \_\_\_\_\_

Recommendation: VEHICLE 2: Flush System \_\_\_\_\_ No Service Required \_\_\_\_\_

*(Hint: Compare boiling and freezing points to the 50/50 mix)*

 Capacity Catalog	EXPLAIN HOW A COOLANT TESTER WORKS: _____
	WHAT SCIENTIFIC PRINCIPLE IS UTILIZED BY THE TESTER? _____
	LOOK UP COOLING SYSTEM CAPACITY: VEHICLE 1 _____ QTS. VEHICLE 2 _____ QTS.
	HOW MANY QUARTS OF PURE COOLANT DO YOU NEED TO MAKE A 50% COOLANT/50% WATER MIXTURE FOR EACH VEHICLE? VEHICLE 1 _____ QTS. VEHICLE 2 _____ QTS.

### INSTRUCTORS EVALUATION

	Task Sheet	LEVEL OF SKILL ATTAINED	Initial	OVERALL SKILL EVALUATION	Points
		Student can evaluate results and determine necessary action (5)		DOCUMENTATION COMPLETENESS (1)	
		Student can interpret outcomes (4)		SAFETY COMPLIANCE (1)	
		Student can recall/recite procedure (2)		WORK PROFESSIONALISM (3)	
		Student has observed procedure (1)		LEVEL OF SKILL ATTAINED (1-5)	
				TOTAL SCORE	
	INSTRUCTOR'S SIGNATURE:				

**CS1A COOLANT CHECK 2020 / 10-18-20 / VDB**