

CDX Tasksheet Number: MHT1B002

Student/Intern Information

Name _____ Date _____ Class _____

Vehicle, Customer, and Service Information

Vehicle used for this activity:

Year _____ Make _____ Model _____

Odometer _____ VIN _____

Materials Required

- Vehicle with possible engine concern
- Engine manufacturer's workshop materials
- Manufacturer-specific tools depending on the concern/procedure(s)
- Vehicle/component lifting equipment, if applicable

Task-Specific Safety Considerations

- Activities may require test-driving the vehicle on the school grounds or on a hoist, both of which carry severe risks. Attempt this task only with full permission from your supervisor/instructor, and follow all the guidelines exactly.
- Lifting equipment and machines such as vehicle jacks and stands, vehicle hoists, and engine hoists are important tools that increase productivity and make the job easier. However, they can also cause severe injury or death if used improperly. Make sure you follow the manufacturer's operation procedures. Also make sure you have your supervisor's/instructor's permission to use any particular type of lifting equipment.
- Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with federal, state, and local regulations.
- Always wear the correct protective eyewear and clothing and use the appropriate safety equipment, as well as wheel chocks, fender covers, seat protectors, and floor mat protectors.
- Make sure you understand and observe all legislative and personal safety procedures when carrying out practical assignments. If you are unsure of what these are, ask your supervisor/instructor.

► TASK Inspect cylinder head for cracks/damage; check mating surfaces for warpage; check condition of passages; inspect core/expansion and gallery plugs; determine needed action.

MTST
I.B.2; P2

Student Instructions: Read through the entire procedure prior to starting. Prepare your workspace and any tools or parts that may be needed to complete the task. When directed by your supervisor/instructor, begin the procedure to complete the task and check the box as each step is finished.

Time off _____

Time on _____

Total time _____

Note: This tasksheet will require the student to check the condition of miscellaneous vehicle fluids, some of which may be flammable and could damage the environment or cause health problems if not handled properly. Observe all safety precautions and follow local regulations for the proper disposal of fluids.

Procedure:	Step Completed
1. Reference the appropriate manufacturer's workshop materials.	<input type="checkbox"/>
2. Determine the type of crack detection process(es) that your workshop utilizes:	
a. Magnetic particle inspection: Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
b. Penetrating dyes: Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
c. Pressure testing: Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
d. Vacuum testing: Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
e. Ultrasonic testing: Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
f. If none of the above describes the method that your workshop uses, explain the method that is used:	<input type="checkbox"/>
g. Outsource testing and repairs: Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
If Yes, describe the procedure used:	
3. Referencing the manufacturer's workshop materials, list the procedure and all safety precautions that must be observed when carrying out an inspection of a cylinder head for cracks/damage:	<input type="checkbox"/>

4. Determine what safety precautions must be observed when inspecting a cylinder head for cracks/damage:	<input type="checkbox"/>
5. Discuss these procedures and safety precautions with your supervisor/instructor. Determine what method of testing will be carried out:	<input type="checkbox"/>
6. If directed by your supervisor/instructor, commence crack testing of the cylinder head. Follow the procedures listed previously and reference the manufacturer's workshop materials:	
a. Meets the manufacturer's specifications: Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
b. If No, list the areas of cracking and your recommendations for any rectifications:	<input type="checkbox"/>
7. Referencing the manufacturer's workshop materials, list the procedure for checking for warpage of the cylinder head mating surfaces:	
a. List the steps involved in checking the cylinder head for warpage:	<input type="checkbox"/>
b. Determine what safety precautions must be observed when checking the cylinder head for warpage:	<input type="checkbox"/>
8. Following the procedures listed previously, and while referencing the manufacturer's workshop materials, check for any warpage of the cylinder head mating surfaces:	
a. Meets the manufacturer's specifications: Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
b. If No, list your recommendations for any rectifications:	<input type="checkbox"/>

9. Referring to the manufacturer's workshop materials, check the condition of passages and inspect the core/expansion and gallery plugs:	
a. Meets the manufacturer's specifications: Yes: <input type="checkbox"/> No: <input type="checkbox"/>	<input type="checkbox"/>
b. If No, list the areas of concerns and your recommendations for any rectifications:	<input type="checkbox"/>
10. Reinstall all removed components undamaged and in working order unless teardown is to continue.	<input type="checkbox"/>
11. Discuss your findings with your supervisor/instructor.	<input type="checkbox"/>

Non-Task-Specific Evaluations:	Step Completed
1. Tools and equipment were used as directed and returned in good working order.	<input type="checkbox"/>
2. Complied with all general and task-specific safety standards, including proper use of any personal protection equipment.	<input type="checkbox"/>
3. Completed the task in an appropriate time frame (recommendation: 1.5 or 2 times the flat rate).	<input type="checkbox"/>
4. Left the workspace clean and orderly.	<input type="checkbox"/>
5. Cared for customer property and returned it undamaged.	<input type="checkbox"/>

Student signature _____ Date _____

Comments:

Have your supervisor/instructor verify satisfactory completion of this procedure, any observations made, and any necessary action(s) recommended.

Evaluation Instructions: The scoring box below is intended to act as a guide for both student and supervisor/instructor. Each criterion listed will help students to understand what is expected of them and help supervisors/instructors articulate the level of success at a particular task. The scoring is set up to allow a second attempt at each task (see the Test and Retest columns). Scoring is also designed to award students points only for task criteria that were completed correctly. Points are lost for failure to complete the employability requirements (see Non-Task-Specific Evaluation criteria). When all criteria are evaluated, tally the points for a total at the bottom of each column.

Tasksheet Scoring

	Test		Retest	
Evaluation Items	Pass	Fail	Pass	Fail
Task-Specific Evaluation	(1 pt)	(0 pts)	(1 pt)	(0 pts)
Student determined the type of crack detention process(es) that the workshop utilizes.				
Referencing the manufacturer's workshop materials, student listed the procedure and all safety precautions that must be observed when carrying out each check/inspection.				
Using the manufacturer's workshop materials, student performed each check/test using the workshop's method(s).				
Student reinstalled all removed components undamaged and in working order, unless tear-down is to continue.				
Non-Task-Specific Evaluation	(0 pts)	(-1 pt)	(0 pts)	(-1 pt)
Student successfully completed at least three of the non-task-specific steps.				
Student successfully completed all five of the non-task-specific steps.				
Total Score: <total # of points/4 = %>				

Supervisor/Instructor:

Supervisor/instructor signature _____ Date _____

Comments:

Retest supervisor/instructor signature _____ Date _____

Comments:

