

The First World Vocational College Skills Competition
Test Project for Automobile Technology
Automobile Engine Disassembly, Assembly and
Maintenance Module

Competitor No.	Workstation No.	Signature by judge	Signature by jury president

Module A-Competitor Report on Automobile Engine
Disassembly, Assembly and Maintenance

I. TASK DESCRIPTION

Module A: Automobile engine disassembly, assembly and maintenance

Engine model: xxx

Duration: 60 minutes

TASK DESCRIPTION:

- Disassemble the engine based on the measurement items required on the report.
- Remove and install the specified piston connecting rod set (do not disassemble the piston connecting rod).
- Remove and install the piston ring and check the side and end clearances of the first ring.
- Record the measurement and inspection results.
- Complete the measurement required on the report and

evaluate the availability of each part.

- Assemble the engine and restore it to the original state.
- All bolt torques and rotation angles should be reported to the judge. For the tightening torque of greater than 40Nm, tighten the bolts with 1/2 of the torque and 1/3 of the angle during the installation.
- If the installation torque and angle are involved in the measurement, the torque should be the standard value, and the angle should be halved.
- Clean and tidy up the site as necessary.

II. REPORT

- i. Automobile engine disassembly, assembly and maintenance project

Note: The column of "Result judgment and handling" in the following table should be filled in according to the check results; If the result is normal, tick "√", if not, describe the features, and provide the maintenance plan (maintenance, replacement, adjustment)

1. Cylinder diameter: designated cylinder No. _____ (fill in according to the cylinder No. designated by the judge)

Measurement position	Horizontal measurements	Vertical measurements	Standard values	Result judgment and handling
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At a position <u>0.5 points</u> away from the top plane of the cylinder	0.5 points	0.5 points	0.5 points	0.5 points Content: Whether it conforms to the specified value in the manual, determine the maintenance method based on the measurement results. Note: "Judge the result based on the average cylinder diameter value of six positions" as specified in the manual. Provide the maintenance plan (maintenance, replacement, adjustment)
At a position <u>0.5 points</u> away from the top plane of the cylinder	0.5 points	0.5 points		
At a position <u>0.5 points</u> away from the top plane of the cylinder	0.5 points	0.5 points		

2. Diameter of piston skirt: reading before micrometer calibration 0.5 points (the micrometer should be calibrated, but not set to zero, and the error should be included)

Measurement position	Measurements	Standard values	Result judgment and handling
At a position <u>0.5 points</u> away from the skirt bottom	0.5 points	0.5 points	0.5 points Content: Whether it conforms to the specified value in the manual, determine the maintenance method based on the measurement results.

3. Piston to cylinder clearance

Minimum inner diameter of cylinder	Calculated value of piston to cylinder clearance	Standard value of piston to cylinder clearance	Result judgment and handling
0.5 points	0.5 points	0.5 points	0.5 points Content: Whether it conforms to the specified value in the manual, determine the maintenance method based on the measurement results.

4. Piston ring end and side clearances

The first piston ring	Measurements	Standard values	Result judgment and handling
Piston ring end clearance	0.5 points	0.5 points	0.5 points
Piston ring side clearance	0.5 points	0.5 points	0.5 points

ii. Engine mechanical fault summary record

(Note: There are 5 points for the fault summary. Corresponding points will be deducted if one of the blanks is wrong. 5 points will be deducted if all blanks are not filled in.)

No.	Name of faulty part	Fault phenomenon	Maintenance method
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		(features)	
1	1 point	1 point	0.5 points
2	1 point	1 point	0.5 points
3			
4			
5			
6			
7			
8			

Note: The content marked in red in the table is used for reference only and will not be displayed in the operation list during the competition.