

Practice for Maintenance:Part2

Automobile Syllabus Number

1K309

Special Subjects
Elective 3 credit

INOUE HIDEAKI

1. Course Description

The following contents are learned regarding the electronically controlled gasoline engine for automobiles.

- (1) Function and structure of reciprocating engine.
- (2) Function and structure of each sensor and actuator for electronic control of the engine.
- (3) Engine disassembly process and assembly process.

In this lesson, knowledge, techniques, and attitudes regarding DP2 and DP3 and DP4 and DP5 will be acquired.

Lessons are primarily practice style.

2. Course Objectives

Students can apply specific cases to concerning structures, functions and operations of each part of electronically controlled gasoline engines for automobiles. The engine disassembly process and assembly process can be applied to concrete cases.

3. Grading Policy

The grade evaluation is based on 50% of the reports and 50% of the exam results, but it will be evaluated by deducting the attitude in the lessons. The lessons attitude is to be able to observe the "safety instructions in the first lessons, and the instructions on clothes and other matters in the practical training". The report will be submitted in the specified date. The exam will be held in the 15th lessons and will be explained after the exam.

4. Textbook and Reference

Textbook

Textbook editorial committee of the Japan Automobile maintenance colleges association(Recommended by the Ministry of Land, Infrastructure, Transport and Tourism Road Transport Bureau) Tools & Equipments for Maintenance of Automobile Japan Automobile Service Promotion Association (JASPA)

Textbook editorial committee of the Japan Automobile Service Promotion Association

(Supervised by the Ministry of Land, Infrastructure, Transport and Tourism Road Transport Bureau)

Grade 3 Chassis of Automobile Japan Automobile Service Promotion Association (JASPA)

Textbook editorial committee of the Japan Automobile Service Promotion Association

(Supervised by the Ministry of Land, Infrastructure, Transport and Tourism Road Transport Bureau)

Grade 2 Chassis for Gasoline and Diesel Automobiles Japan Automobile Service Promotion Association (JASPA)

5. Requirements(Assignments)

- (1)As preparations for next lesson, please check the meaning of the proper noun and the contents of the relationship shown in the contents of the lesson, and come to the class. (90 minutes)
- (2)As a review, please prepare a report on the items instructed during the lesson, so that you can explain them in the next lesson. (90 minutes)

6. Note

- (1)This is the last course for students who wish to continue the AT course and need to retake the course.
 - (2)All the lessons must be attended. Late arrivals, early leavings, and absences are strictly checked.
 - (3)In this practical lesson, uniforms, working caps, safety shoes, and tools of the same specification are used for everyone who purchased in advance.
 - (4)Report paper for report submission will be prepared by yourself.
- This course will be taught in Japanese.

7. Schedule

- [1] Safety instructions , and the instructions on clothes and other matters in the practical training. Presentation of Gasoline Engine, Disassembling of Fuel and Cooling System from Engine.
- [2] Disassembling of Electric Devices, Converter Housing and Torque Converter from Engine, Setting of Engine to Engine Stand.
- [3] Disassembling of Auxiliary Components and Timing Chain from Engine.
- [4] Disassembling of Cylinder Head, Cam Shaft, Intake & Exhaust Valves from Engine.
- [5] Disassembling of Pistons, Main Bearings and Crank Shaft from Engine.
- [6] Washing of each parts and components and confirmation of name of them.
- [7] Inspection and checking of the structure and operation of each parts and components.
- [8] Good or Bad Judgment of the parts and components, by inspection and measurement of the operation of them .
- [9] Good or Bad Judgment of the parts and components, by inspection and measurement of the operation of them.
- [10] Assembling of Main Bearings, Pistons, Crank Shaft to Engine.
- [11] Assembling of Cylinder Head, Intake and Exhaust Valves, Cam Shaft and Timing Chain to Engine.

- [12] Assembling of Auxiliary Components, Torque Converter and Converter Housing to Engine, Setting of Engine to Engine Stand.
- [13] Assembling of Electric devices, Fuel and Cooling System to Engine.
- [14] Operation and Work for Adjustment and Diagnosis.
- [15] Final exam and summary.