

Automobile Vehicle Structure:Part3

Syllabus Number

1K304

Special Subjects

Elective 2 credit

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1. Course Description

Students learn the following contents:

- (1) Transmission structure, function and performance.
- (2) Wheel alignment function.
- (3) Structure and function of the steering device.
- (4) Structure and function of brake device.

Although this lesson is mainly lecture type, exercises are carried out in pairs and everyone will discuss about the answers as a whole.

In this lesson, you will acquire knowledge, techniques and attitudes on the degree awards policy DP2.

2. Course Objectives

Students understand the fundamental knowledge of the structure by understanding the basic functions, objectives, and functions of the power transmission mechanism such as the transmission of the automobile and the chassis, for example, the steering wheel and the brake. The automobile engineer will explain the basic contents of the power transmission mechanism and the chassis.

3. Grading Policy

Students are evaluated by using the results of the 15th test (80%) and quiz (20%).

The answers will be explained after the test and quiz. An example of the answer is shown in LMS.

4. Textbook and Reference

Textbook

Supervised by the Ministry of Land, Infrastructure, Transport and Tourism Second grade automobile chassis edition second grade gasoline car second grade diesel car chassis Japan Automobile Development Promotion Federation Federation ISBN codes not stated

Supervised by the Ministry of Land, Infrastructure, Transport and Tourism Third grade automobile chassis Japan Automobile Development Promotion Federation Federation ISBN codes not stated

Reference

Automobile Technology Handbook Society of Automotive Engineers of Japan ISBN 978-4-904056-59-2

5. Requirements(Assignments)

Read the class content posted on the LMS as preparation. Please read through the applicable range in the textbook and reference book, and understand the contents. In addition, since some homework such as assignment will be shown almost every time, please finish it by next lesson. Approximately 1 hour for preparation, 2 hours for assignment and review.

6. Note

Students are required to attend all lessons. Late arrival, leave early and absence are monitored.

Automobile Vehicle Structure 3 is a ◆ mark of compulsory subjects of the Automobile Technology Course [AT course].

We will conduct a small test at the 7th meeting and confirm the understanding level towards the middle of the course. In addition to using LMS as an independent learning support, we will implement the Mobile-MARS test and questionnaire function as an interactive class as appropriate.

7. Schedule

- [1] Outline of power transmission device and structure, function and performance of clutch
Preliminary study: Read through secondary textbooks P17 to 19, and tertiary textbooks P15 to 24, and understand the power transmission device
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [2] Structure, function, performance of manual transmission
Preliminary examination: Third level textbooks P 25 - 34 should be read through and understanding of the power transmission device
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [3] Structure, function, performance of torque converter
Preliminary study: Read through secondary textbooks P 20 ~ 22 and tertiary textbook P 35 and understand about torque converter
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework

- [4] Structure and function of automatic transmission
Preliminary study: Read through second-class textbooks P23 to 30 and third-grade textbooks P34 to 37 and understand the structure and functions of AT
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [5] Performance of automatic transmission
Preliminary study: Read through second-level textbooks P31-53 and understand the performance of AT
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [6] Transfer structure / function
Preliminary examination: Third level textbooks P 38 ~ 41 should be read through and understanding of the power transmission device
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [7] Structure, function, performance of propeller shaft and drive shaft
Preliminary examination: Third level textbooks P41 - 44 should be read through, understanding of propeller shaft and drive shaft
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [8] Structure, function, performance, and quiz of the final gear and differential
Preliminary examination: Third level textbook P 45 - 49 through through, understanding of final gears and differentials
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [9] Automatic Differential Device, Inter / Axle Differential Structure / Function / Performance
Preliminary study: Read through Secondary Textbooks P 53 - 59 and understand about automatic differential device, Inter / axle differential
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [10] Wheel alignment function
Preliminary study: Read through secondary textbooks P119 to 128 and understand the structure and functions of wheel alignment
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [11] Structure and function of steering device
Preliminary study: Read through secondary textbooks P 89 ~ 105 and understand about steering device
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [12] Structure and function of brake device
Preliminary study: Read through second-class textbooks P129 to 163 and understand brake equipment
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [13] Structure, function, performance of tires and wheels
Preliminary study: Read through second-class textbooks P107-117 and understand tires and wheels
Review: to understand the content of the lecture range again based on the LMS teaching materials, or to solve if the assignment is given as homework
- [14] Presentation on the subject and general discussion
Preliminary study: Learn about tasks given in advance and prepare presentation materials or reports
Review: Study and consider issues again based on the contents announced on the lecture day
- [15] Test, summary