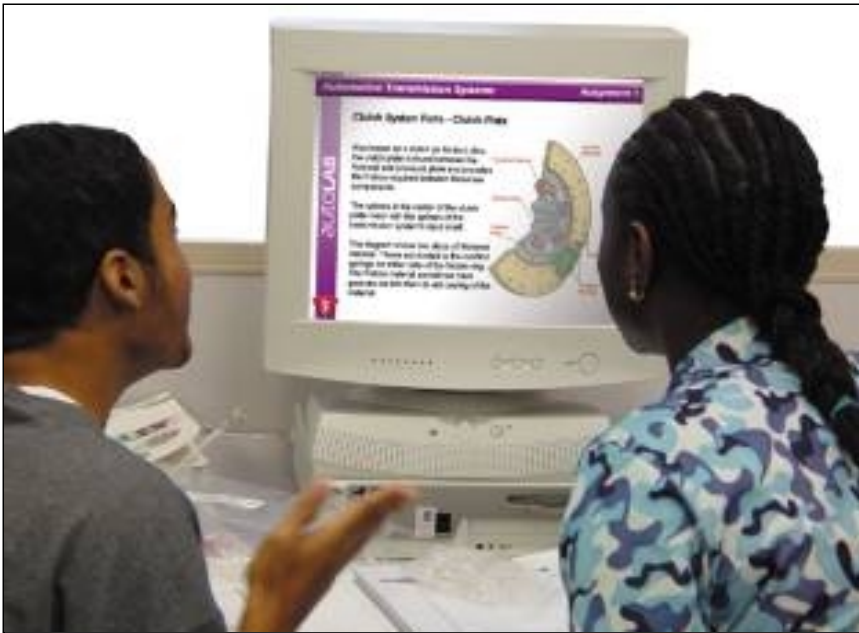


TS1 Automotive Transmission Systems



This is an integrated instructional module designed specifically to operate within an "Instructional Pod" environment. It provides a 15-assignment study program that has been designed for use within the AutoLAB program for core learning. The module package includes hardware, software, and curriculum materials sufficient to complete the learning activities.

The curriculum incorporates continuous assessment through questions. When used in conjunction with a ClassAct networked management system, this provides instant feedback of student performance.

Each assignment is split into at least two tasks and they start with a series of questions designed to track inventory, and ensure that any missing pieces can be located. The tasks are designed to teach automotive transmission systems, with the research activities based upon on screen material and published textbooks.

Assessment questions are incorporated into each task and a series of job sheets that are printed out by the student are used to guide them through the related shop activities on real vehicle systems.

This module consists of a comprehensive series of computer aided instruction assignments that enable students to learn about transmission systems. The dynamic computer aided instruction provides interactive animations and high-resolution graphics that help the student understand the topics being delivered.

In addition to providing the underpinning knowledge on transmission systems, the module also provides a series of practical activities.

These are presented to the student as a series of workshop job sheets, which will require access to a vehicle in a fully equipped automotive workshop.

Typical topic areas include:

- Clutches.
- Clutch diagnosis and repair techniques.
- Manual gearboxes.
- Manual transmission diagnosis and repair techniques.
- Automatic transmission.
- Automatic transmission diagnosis and repair techniques.
- Transmission fluids.
- Drive shafts.
- Final drives and rear axles.
- Automatic transaxles.
- Four wheel drive systems.
- Transmission problem solving.

The module guides the student through task-oriented instruction. The tasks include hands-on practical activities. Each task has a theoretical summary that explains the concepts and automotive applications involved.

The computer presented training material is compatible with the ClassAct classroom management system that can track student progress during these tasks and will report back immediately to instructional staff if a student falls below a predetermined standard or takes too long to perform a task.

Each assignment is designed around a list of performance objectives. These lists include academic, technical, and occupational objectives. The assignments are written in such a way as to enable a student to attain the performance objectives, with the assessment questions linked to these in order to provide a measure of true competency.

The performance objectives are used by the ClassAct management system to generate a comprehensive portfolio of student competency reports. The module includes a default competence report addressing the latest NATEF standards.

Typical activities include:

- Identify the construction and operation of clutches.
- Identify clutch diagnosis and repair techniques.
- Identify the construction and operation of manual gearboxes.
- Identify manual transmission diagnosis and repair techniques.
- Identify the construction and operation of automatic transmission.
- Identify automatic transmission diagnosis and repair techniques.
- Diagnose unusual fluid usage, level, and condition.
- Perform pressure tests.
- Inspect, service, and replace shafts, yokes, boots, and CV joints.
- Measure and adjust drive pinion bearing preload.
- Check ring and pinion tooth contact patterns.
- Identify transaxle diagnosis and repair techniques
- Identify construction and operation of four wheel drive systems.

TS1 Automotive Transmission Systems

The items supplied with this instructional module include:

- TS1 Instructor’s Guide
- TS1 On-Screen Multimedia Manual CD-ROM
- TS1 Video Materials_1 CD-ROM
- TS1 Video Materials_2 CD-ROM
- TS1 Voice-Overs CD-ROM
- NATEF Instructor’s Resources CD-ROM
- Book – Modern Automotive Technology by James E. Duffy
- Book – Automotive Technology-A Systems Approach by Jack Erjavec.
- Health and Safety Sheet

Additional items required:

- Computer
- Access to printer
- Brake Fluid (Consumable Item)
- CV Boot Kit (Consumable Item)
- Final Drive Fluid (Consumable Item)
- Flashlight.
- Personal protective equipment (PPE)
- Tachometer
- Transmission Fluid (Consumable Item)
- Vacuum Gauge and Pump
- Vehicle Hoist - 2 or 4 Post Ramp
- Vehicle Lifting / Jacking Equipment
- Vehicle Service Manual.
- Wheel Chocks
- Various Hand Tools

NATEF task list areas addressed:

- II-A1 P-1
- II-A2 P-1
- II-A4 P-1
- II-A5 P-1
- II-B1 P-1
- II-B2 P-1
- II-C4 P-3
- II-D1-7 P-1
- III-A1 P-1
- III-A2 P-1
- III-A5 P-2
- III-B1 P-1
- III-B2 P-1
- III-B3 P-1
- III-B4 P-1
- III-B5 P-1
- III-B6 P-1
- III-B7 P-1
- III-B8 P-1
- III-C1 P-1
- III-C2 P-2
- III-C4 P-2
- III-C5 P-2
- III-C7 P-2
- III-C14 P-2
- III-D1 P-1
- III-D2 P-1
- III-D4 P-1
- III-E1-1 P-1
- III-E1-2 P-2
- III-E1-4 P-2
- III-E1-6 P-2
- III-E1-7 P-1
- III-E1-8 P-2
- III-E1-9 P-1
- III-F4 P-3

Module Facts

TS1 Automotive Transmission Systems

	No.	Average time
Assignments	15	90 minutes
Extension Activities	17	60 minutes
Total		40 hours



LJ Technical Systems
Web site: www.ljgroup.com