



INTRODUCTION

A simple transmission takes place when it is carried out directly between two axes, one being the driving shaft and the other the driven shaft. The most common mechanical transmissions are: cables, chains, belts, gears, pulleys, friction gear, friction discs, camshafts, etc.

The Unit to Study Simple Drives Assembly, "MSDA", gives an introduction to the basics on transmissions, particularly the practical assembly of the gear mesh components.

GENERAL DESCRIPTION

The Unit to Study Simple Drives Assembly, "MSDA", allows the knowledge and learning of the fundamentals of the mechanical transmission technique, as well as the assembly, disassembly and experimentation with simple gears.

The unit allows to carry out exercises ensuring the learning of the six simple forms of transmission in different combinations. With these six simple forms of transmission, different configurations can be performed putting one's ideas into practice.

The steps to follow for an adequate learning are:

- Proposal of tasks and understanding of the drawings.
- Assembly and adjustment of the parts, gear calibration and check.
- Performance of relevant calculations.

The unit will be driven by means of a steering wheel. A great accuracy will be achieved when adjusting the gears, thanks to the anodized aluminum frame couplings.

A case is provided to facilitate transportation and to ensure the protection of components needed for the assembly and learning.

EDIBON offers three transmission assembly kits: Unit to Study Simple Drives Assembly, "MSDA"; Unit to Study Combined Drives Assembly, "MCDA"; and Unit to Study Gear Train Assembly, "MGTA".

SPECIFICATIONS

Bench-top unit with adjustable legs.

Aluminum transportation case.

Anodized aluminum frame and panels made of painted steel.

Simple belt:

Timing Belt Pulleys:

No. of teeth $z = 30, 32, 48, 60$.

Simple chain:

Chain cog wheels:

No. of teeth $z = 20, 30$.

Simple straight gears:

Module $m = 2$; No. of teeth $z = 20, 32, 40, 50$.

Module $m = 1.5$; No. of teeth $z = 32, 40, 44$.

Pair of bevel gears:

Module $m = 2$; No. of teeth $z = 25$.

Angle between shafts 90° .

Endless screw gear:

Endless screw: $z = 3$.

Helical wheel: $z = 37$.

Rack and pinion gear.

Tool set.

Manuals: This unit is supplied with the following manuals: Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manual.

EXERCISES AND PRACTICAL POSSIBILITIES

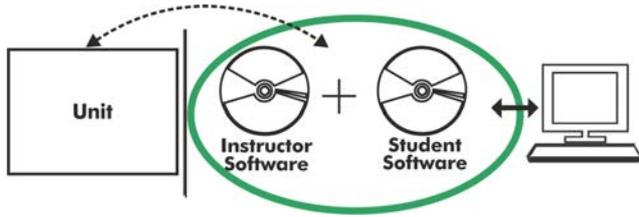
- 1.- Know the important components of the transmissions.
- 2.- Know the essential forms of transmission:
 - Single-belt transmission.
 - Simple straight gears.
 - Conical gears.
 - Rack and pinion gears.
 - Endless screw gears.
- 3.- Perform calculations in mechanical transmissions.
- 4.- Learn the practical assembly of the various possible configurations of mechanical transmissions, and learn to adjust and align.
- 5.- Understanding of technical diagrams and familiarization with them.

DIMENSIONS AND WEIGHTS

MSDA:

- Dimensions of the assembled frame: $1100 \times 550 \times 500$ mm approx. ($43.30 \times 21.65 \times 19.68$ inches approx.)
- Carrying case dimensions: $150 \times 445 \times 310$ mm approx. ($5.90 \times 17.52 \times 12.20$ inches approx.)
- Toolkit: $311 \times 168 \times 130$ mm approx. ($12.24 \times 6.61 \times 5.11$ inches approx.)
- Weight: 50 Kg approx. (110 pounds approx.)

MSDA/ICAI. Interactive Computer Aided Instruction Software System:



With no physical connection between unit and computer (PC), this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF). Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.

Instructor Software

- ECM-SOF. EDIBON Classroom Manager (Instructor Software).

ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual students, workgroups, units, etc... so the teacher can know in real time the level of understanding of any student in the classroom.

Innovative features:

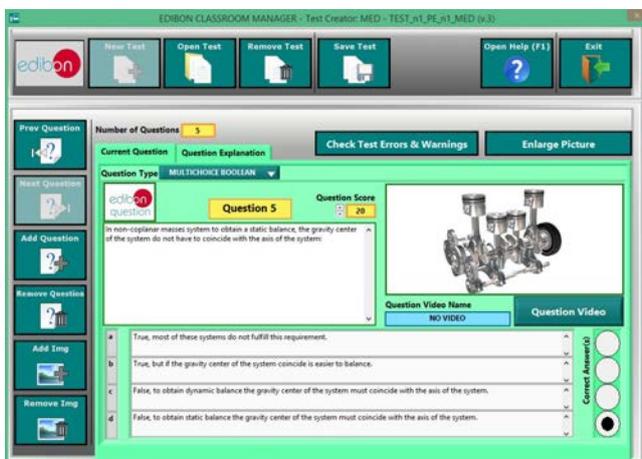
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.
- Updatable Contents.
- Report generation, User Progression Monitoring and Statistics.



ECM-SOF. EDIBON Classroom Manager (Instructor Software) Application Main Screen



ECAL. EDIBON Calculations Program Package - Formula Editor Screen



ETTE. EDIBON Training Test & Exam Program Package - Main Screen with Numeric Result Question



ERS. EDIBON Results & Statistics Program Package - Student Scores Histogram

Optional
Student Software

- ESL-SOF. EDIBON Student Labsoft (Student Software).

ESL-SOF is the application addressed to the Students that helps them to understand theoretical concepts by means of practical exercises and to prove their knowledge and progression by performing tests and calculations in addition to Multimedia Resources. Default planned tasks and an Open workgroup are provided by EDIBON to allow the students start working from the first session. Reports and statistics are available to know their progression at any time, as well as explanations for every exercise to reinforce the theoretically acquired technical knowledge.

Innovative features:

- Student Log-In & Self-Registration.
- Existing Tasks checking & Monitoring.
- Default contents & scheduled tasks available to be used from the first session.
- Practical Exercises accomplishment by following the Manual provided by EDIBON.
- Evaluation Methods to prove your knowledge and progression.
- Test self-correction.
- Calculations computing and plotting.
- Equation System Solver Engine.
- User Monitoring Learning & Printable Reports.
- Multimedia-Supported auxiliary resources.

For more information see ICAI catalogue. Click on the following link:

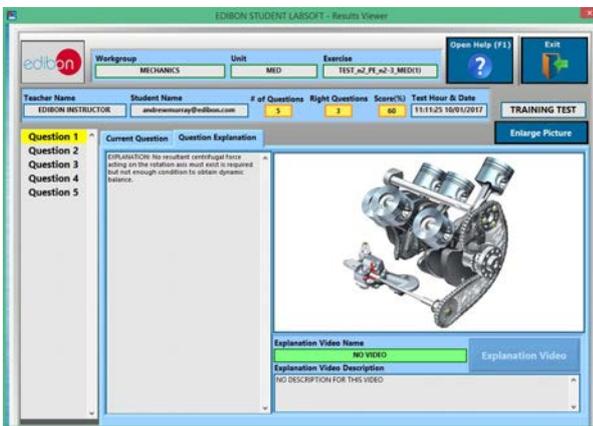
www.edibon.com/en/files/expansion/ICAI/catalog



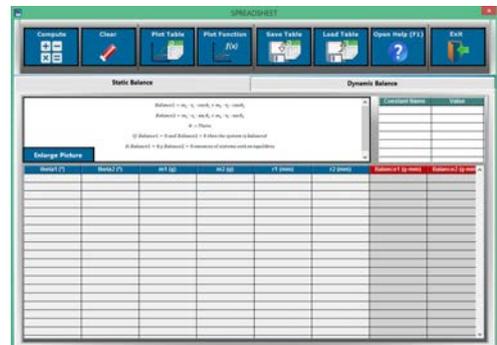
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



EPE. EDIBON Practical Exercise Program Package Main Screen



ERS. EDIBON Results & Statistics Program Package - Question Explanation



ECAL. EDIBON Calculations Program Package Main Screen

* Specifications subject to change without previous notice, due to the convenience of improvement of the product.



C/ Del Agua, 14. Polígono Industrial San José de Valderas.
28918 LEGANÉS. (Madrid). ESPAÑA - SPAIN.
Tel.: 34-91-6199363 Fax: 34-91-6198647
E-mail: edibon@edibon.com Web: www.edibon.com

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REPRESENTATIVE:

