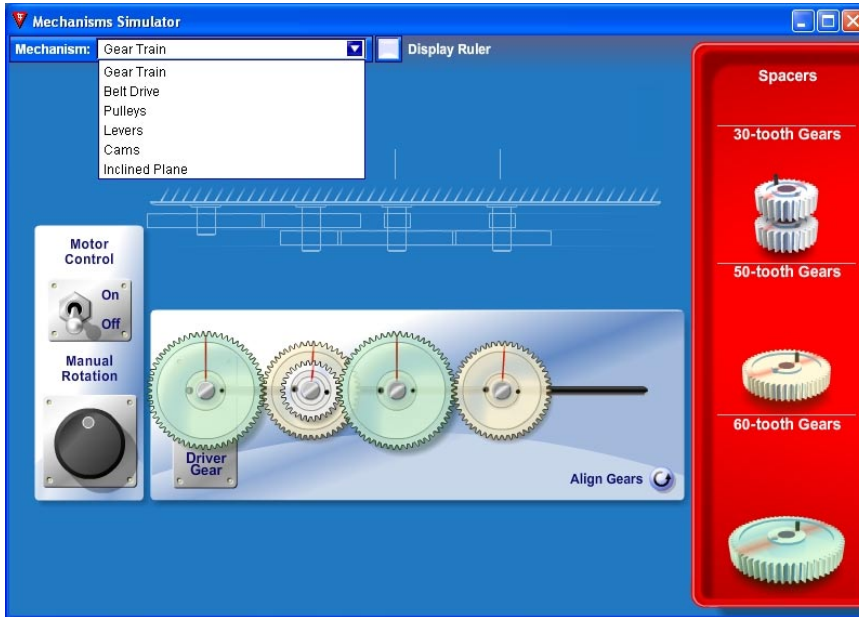


Mechanisms (Engineering Unit)



Activities include:

- Identify the different types of motion found in mechanical systems.
- Demonstrate the effect of using an idler gear in a simple gear train.
- Determine compound gear train ratios and speed.
- Identify the purpose of belt drives.
- Demonstrate the relationship between distance and effort for a pulley system.
- Measure effort and movement for 1st, 2nd and 3rd class levers.
- Demonstrate how the profile of a cam affects the output of the cam follower.
- Calculate the mechanical advantage provided by an inclined plane.
- Identify how lubricants, bushes and bearings are used to reduce friction.

Each lesson is designed to meet a number of performance objectives. These include academic, technical and occupational objectives. The lessons are written in such a way as to enable a student to attain the performance objectives, with continuous assessment activity questions and assessment test questions linked to these in order to provide a measure of true competency.

The performance objectives are used by the ClassAct or ClassCampus management systems to generate a comprehensive portfolio of student reports.

The items supplied with this instructional unit include:

- On-screen Student Curriculum CD
- Instructor's Guide

Additional items required:

- ST260/40 Mechanisms
- Computer

This is one of a series of instructional curriculum units designed specifically to operate within a lockstep environment where all students carry out assignments simultaneously within the same topic area. It can be run independently, or as an ideal addition to our ScanTEK Technology Program.

This unit makes use of hardware supplied with the ScanTEK technology module. It includes 10 lessons of on-screen curriculum materials in an html format. These can be delivered via a LAN using our ClassAct classroom management system or via the Internet using our ClassCampus management system.

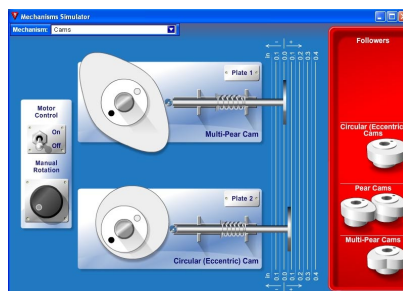
The curriculum includes continuous assessment, assessment tests and a workbook journal to create a portfolio of work during the lessons. Typical activities include hands-on investigations, problem-solving, and group projects.

Each lesson contains between one and two hours of study. A lesson typically begins with a PowerPoint presentation that provides students with background information required to complete the rest of the lesson. If used with our ClassAct SRS system, questions integrated into the PowerPoint can be tracked as each student responds on their handheld keypad.

Demonstration activities are carried out by the instructor using purpose built hardware. Students carry out hands-on activities using a software simulation of the hardware. The students also have an opportunity to verify their solutions using the hardware.

Where appropriate, research activities that include the use of multimedia explorers are also incorporated.

This instructional unit uses a unique software simulation of mechanical systems. This enables a whole class to carry out activities in the same topic areas at the same time.



The simulator allows the student to construct, operate and evaluate common mechanical systems. Where required it includes a spring scale, ruler and protractor for realistic measurement.

A variety of mechanical systems are provided in the simulator. These systems are:

- Simple and Compound Gears
- Belt Drives
- Cams
- Moveable Pulleys
- Levers
- Inclined Planes

Topic areas include:

- Mechanical Systems and Motion
- Gear Trains
- Changing Axis of Rotation with Gears
- Belt Drives
- Pulleys
- Levers
- Cams and Cranks
- Inclined Planes
- Friction
- Problem Solving

Module Facts

Order as:
ST260/LS/10 Mechanisms (Engineering)

	No.	Average time
Lessons	10	75 mins
Total		12.5 hours



ClassAct, ClassAct SRS & ClassCampus enabled



LJ Technical Systems
Web site: www.ljgroup.com