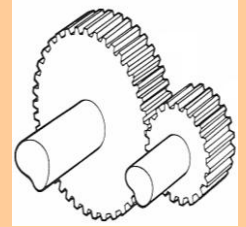
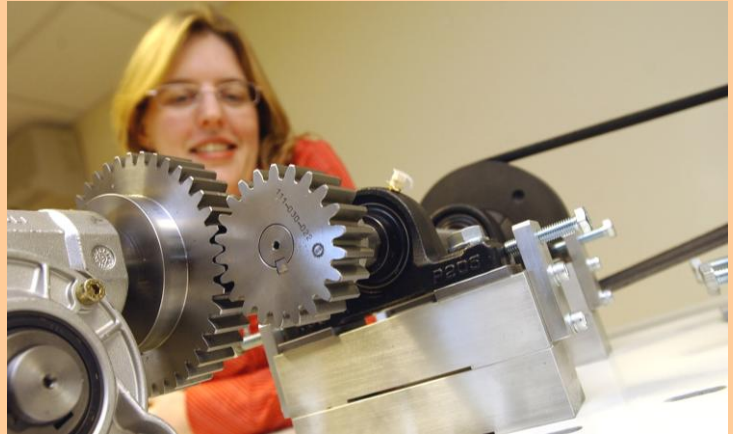


# MECHANICAL TRANSMISSIONS TRAINING SYSTEM



**Mechanical  
Transmissions**



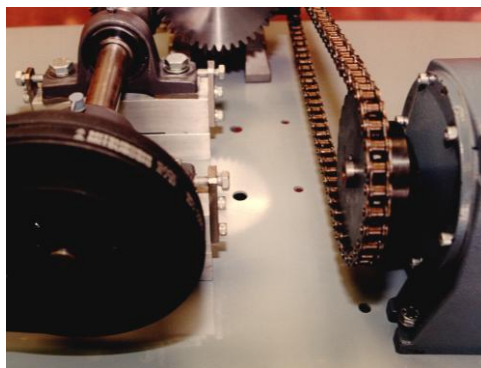
Practical 'Hands ON' training systems for those taking part in  
Multi-skilling, Cross-skilling, NVQ or Modern Apprenticeship  
Training programmes



**MECHATRONICS**

Suitable for  
**EAL**  
**BTEC/Edexcel**  
**City & Guilds**  
Curricula

The Mechanical Transmissions Training System has been developed and is built in the U.K. by **MECHATRONICS International Ltd**, the leading U.K. supplier of engineering training equipment and is a high quality but low cost mobile laboratory trolley based system.



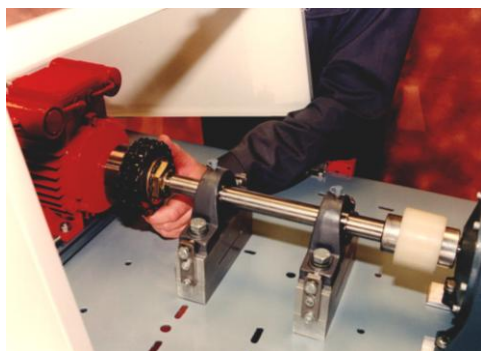
*Drive with chain and belts*

This system has been specifically designed to cover the needs of education and training centres offering training programmes for Mechanical and Maintenance NVQ's / SVQ's, Multi-skilling, Cross-skilling as well as Modern Apprenticeships. These systems provides an ideal medium for the practical 'Hands ON' requirements of industry, both for today and tomorrow.



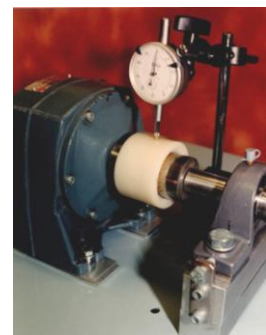
*Belt tensioning*

The systems are based upon a worktable, which can be supplied as either a complete mobile trolley, including heavy-duty, lockable, equipment storage cabinet, or as a portable unit suitable for transporting from site to site (intended for those involved in offering 'on-site' training) or for bench top mounting. Rubber faced castors are fitted to the mobile trolley version, allowing for easy (and quiet) movement from one location to another.



*Motor, shaft & coupling alignment*

A complete 'Collection of Exercises /Solutions with Question/Answer Papers' is supplied along with each system, these exercises support the equipment supplied and include exercises for motor, vee belts/pulleys, timing belt/pulleys, chain/sprockets, gearboxes and gear sets, clutches and couplings. These exercises start at basic level and build up in complexity as the trainees increase their experience, included are alignment, tensioning and adjustment of the various items of equipment supplied. All exercises can be function tested under running conditions.



*Coupling alignment using DTI (Dial Test indicator)*



Question and Answer Papers are supplied for each exercise so that the trainee's progress may be monitored.



*Alignment of pulleys & belts*

A licence is supplied to each original purchaser of the system/s, allowing them to photocopy the Exercises/Solutions with Question/Answer Papers, so that there are no hidden or additional costs, this we believe is a service unique to **MECHATRONICS**.

Any training programme must include an element of Safety and the importance of safety is emphasised through the use of features such as 'Powerbreaker' RCD plug on mains cable\*, lockable electrical isolator on the mains supply, lockable safety guards and two (2) interlocked guard safety switches, so that the motor can only be started once the guards are closed and the safety switches are actuated. The safety guards can easily be removed, without the use of tools, to gain access to the worktable to build the exercises but the system is electrically isolated at all times that the guards are removed.

Genuine industrial components are used throughout to achieve the best possible results. A complete kit of the required tools is also supplied as part of the training system.

\* fitted to UK version only

## Different versions available

The Mechanical Transmissions Training System was originally designed and offered as a 'mobile' trolley based version but due to customer requests a portable 'bench top' version was also developed and introduced into the range.

Bench top version comes with the same 'Set of Components' and covers the same exercises as the mobile trolley version. It is intended for transportation in the rear of an estate car (or van) and is therefore ideal for those who want to offer training at different locations, such as mobile training providers or Colleges with more than one campus. This version is lower cost - however it does lack the storage facility of the trolley version.

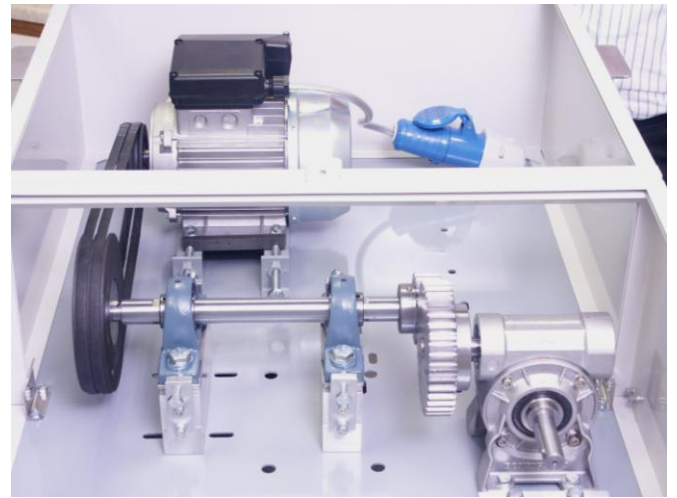
Some customers have requested the addition of an 'Inverter Drive' and '3-phase' electric motor, so that some motor control training can also be covered with the system, as **MECHATRONICS** is a company very much flexible to customer requirements this was developed and has also been added into the range.



*Inverter Drive Control*



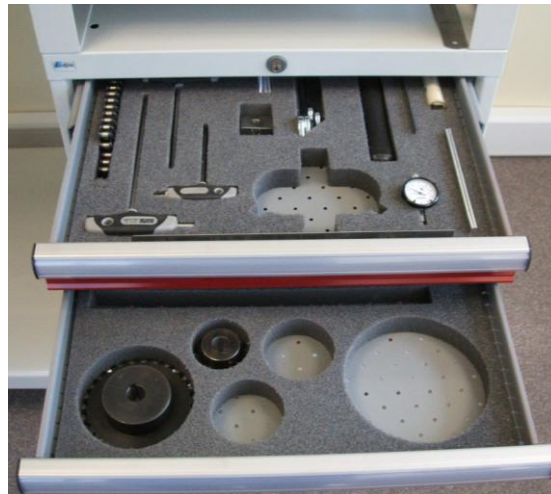
*Lockable electrical isolator for added safety*



*Clear plexiglass in guards so that students can easily observe the system working*



*Removable guards for ease of practical exercise construction with safety interlock*



*Routed drawer inserts keep everything orderly and in its place, making it easy to see if any item is missing*



*Fully interlocked guards for ultimate safety*

In addition to the UK systems have been supplied to numerous countries including Argentina, Australia, Brazil, Canada, India, Ireland, Jordan, Kuwait, Lebanon, Malaysia, Mexico, Netherlands, New Zealand, Nigeria, Pakistan, Philippines, Portugal, Qatar, Trinidad and Tobago, United Arab Emirates, United States of America.

## OTHER PRODUCTS

**MECHATRONICS International Ltd** are specialist manufacturers of an extensive range of training equipment which includes the following:-

### Training Hardware:-

In addition to the Mechanical Transmissions Training System we are also manufacturers of training systems in all of the following subject areas:-

***Pneumatics***  
***Electro-pneumatics***  
***Hydraulics***  
***Electro-hydraulics***  
***Proportional hydraulics***  
***Programmable Logic Controls (P.L.C.'s)***  
***Industrial Automation & Control***  
***CIM / FMS***

These systems are modular and available in a wide variety of formats. All the required hardware from a single component through to complete, very extensive 'Turnkey Systems' can be supplied.

### Teachware & Courseware:-

To support the training systems hardware we have developed a full range of Teachware suitable for use by Instructors, Lecturers, Tutors and Teachers. Courseware suitable for use by students is available in the form of 'Industry Related' practical exercises, supported by question and answer papers, relevant to the exercises, thereby offering a complete structured assessment system. This material is covered by copyright but is supplied with a licence, which allows copying, by the purchaser for training and educational purposes.



## **MECHATRONICS International Ltd**

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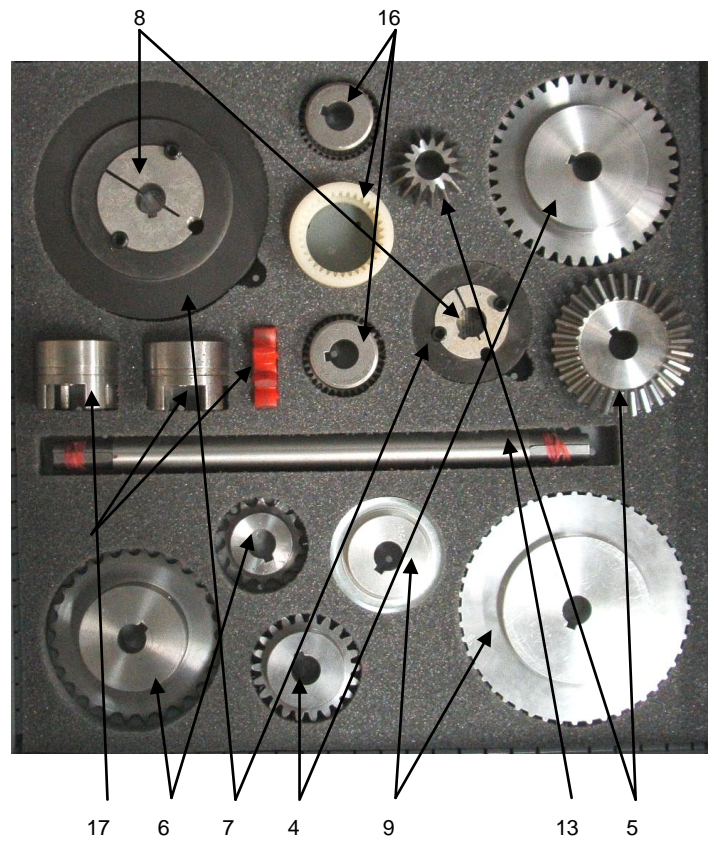
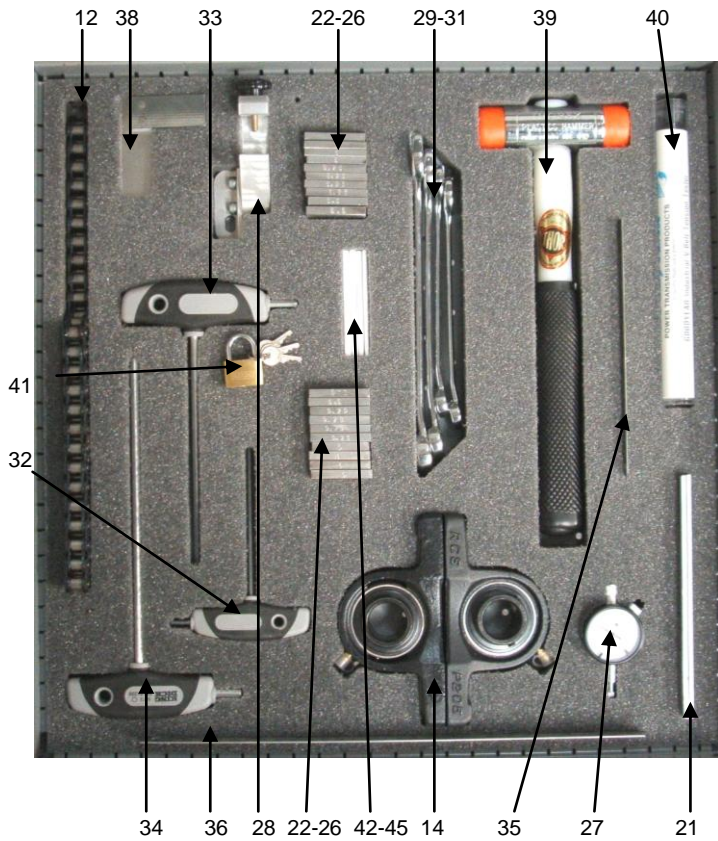
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E. & O. E.

As the company operates a system of continually striving to improve its products and services we reserve the right to change, amend or modify the product/s without prior notification.

## Mechanical Transmissions Set of Components (with toolkit):-



### Comprises:-

- |    |   |    |  |
|----|---|----|--|
| 1  | Electric motor, 6 pole, 0.37 kW         | 2  | Worm & Wheel gearbox                   |
| 3  | Inline gearbox                          | 4  | Gear Set – SPUR                        |
| 5  | Gear Set – BEVEL                        | 6  | Sprocket Set                           |
| 7  | Twin VEE Belt Pulley Set                | 8  | Taper Lock Bush Set                    |
| 9  | Timing Belt Pulley Set                  | 10 | VEE Belts (2 off)                      |
| 11 | Timing Belt                             | 12 | Chain                                  |
| 13 | Shaft                                   | 14 | Pillow Blocks (2 off)                  |
| 15 | Torque Limiter                          | 16 | Gear Coupling                          |
| 17 | Spider Coupling                         | 18 | Motor/Gearbox Rails                    |
| 19 | Pillow Block Adjustment Base (2 off)    | 20 | Gearbox Adjusters                      |
| 21 | Gearbox Spacer (2 off)                  | 22 | Ground Steel Spacer – 5,00mm (4 off)   |
| 23 | Ground Steel Spacer – 5,25mm (4 off)    | 24 | Ground Steel Spacer – 5,50mm (4 off)   |
| 25 | Ground Steel Spacer – 5,75mm (4 off)    | 26 | Ground Steel Spacer – 6,00mm (4 off)   |
| 27 | Dial Test Indicator                     | 28 | Bracket/clamp for DTI                  |
| 29 | 19mm Combination Spanner                | 30 | 17mm Combination Spanner               |
| 31 | 13mm Combination Spanner (2 off)        | 32 | “T” Bar Hex Key 3mm                    |
| 33 | “T” Bar Hex Key 5mm                     | 34 | “T” Bar Hex Key 6mm                    |
| 35 | 150mm / 6” Engineers Steel Rule         | 36 | 300mm / 12” Engineers Steel Rule       |
| 37 | 600mm / 24” Engineers Steel Rule        | 38 | 50mm / 2” Engineers Square             |
| 39 | Nylon Faced mallet                      | 40 | Belt Tension Tester                    |
| 41 | Padlock for Electrical Isolator/Guards  | 42 | Stainless Steel Shim – 0,05mm (10 off) |
| 43 | Stainless Steel Shim – 0,075mm (10 off) | 44 | Stainless Steel Shim – 0,10mm (10 off) |
| 45 | Stainless Steel Shim – 0,20mm (10 off)  |    |  |

## Support Materials available:-

- Exercises / Solutions with Question / Answer Papers:
  - Mechanical Transmissions



### Features:

- Mobile trolley can be easily relocated in laboratory or classroom when required
- Mobile trolley versions allow secure storage of components when not in use
- All steel construction, with specially designed worktable
- Easy to use
- Wide range of components available
- Full range of support materials
- Assembled exercises may be function tested under power

### Advantages:

- Low capital cost
- Genuine industrial components
- Mobile / portable (according to version ordered)
- Replaces permanently mounted components for easily interchangeable items
- Ergonomically pleasing design
- Minimum space required
- Complete toolkit (of required tools) included
- Supplied complete with 'Collection of Exercises/Solutions with Question/Answer papers'

### Benefits:

- Improved quality of training
- Improved appearance
- Create professional image
- Cost effective system
- Extensive number of exercises possible
- Supplied ready for use (no precious development time required)

### Safety:

- Fully guarded, lockable, with two (2) interlocked safety switches
- RCD mains plug fitted\*
- Lockable electrical isolator on mains supply

\* fitted to UK version only

## Technical Specification

**Electrical Supply:** 230V a.c. 50hz or 115V a.c. 60hz single phase (to be specified when ordering)

<b>Dimensions:</b>	<b>Mobile</b>	<b>Benchtop</b>
Height (mm):	1020	470
Width (mm):	685	685
Length (mm):	1140	1140
Weight (Kg):	120	50