

Mechanical Transmission Trainer 40-001 and 40-002

Features

- Fully operational equipment covers a wide range of transmission systems
- Genuine industrial components
- Flexible configuration
- Accompanying exercises and solutions

Benefits

- Improved quality of training
- Cost effective system
- Extensive number of exercises
- Supplied ready for use

Curriculum coverage

- Methods of connecting different shaft arrangements
- Principles & characteristics of transmission systems
- Materials used for transmission systems
- Safety precautions relevant to transmission systems

Mechanical transmission systems are widely used in today's manufacturing industry. This training system has been designed to prepare a well-trained and multi-skilled workforce.

Feedback's range of Mechatronics trainers adds a new and affordable dimension to the engineering training of those preparing for or working in these areas.

The Mechatronics range of equipment has been developed by engineering trainers for engineering trainers and lecturers, with safety, ease-of-use and cost-effectiveness as prime considerations. Portability and space efficiency have been carefully considered, too, as the range is available in different configurations to allow for transporting and storage. Industry specification components are used throughout.

To complement the laboratory and workshop equipment, extensive training material is provided. All the courseware is based around genuine industrial products and practical applications, providing appropriate content to cover school, college, university and industrial level training.

The Mechanical Transmission Trainer provides a variety of fully working components to demonstrate belt, chain, shaft, gear, coupling, gearbox and transmission drive chains on a worktable with full industrial safety facilities.



Mechanical Transmission Trainer 40-001, 40-002

As is the case in industry, the safe use of the operational transmission trainer is essential. The safety features on the trainer include:

- **Powerbreaker RCD plug on the mains cable (UK version only).**
- **Lockable isolator switch on the mains supply.**
- **Lockable safety guards and two interlocked safety switches that cut motor power as soon as the hoods are lifted during operation.**
- **Impact resistant safety guards.**



Feedback's Mechanical Transmission Trainer provides a variety of fully working components to demonstrate belt, chain and gear transmissions and couplings that are fitted on a worktable, with full industrial safety features. This system has been designed with the specific purpose of meeting the needs of education and training centres offering programmes for multi-skilling, cross-skilling, mechanical technician qualifications and apprenticeships. The trainer provides hands-on experience to allow students and trainees to set up different transmission systems and compare them in terms of underlying principles, ease of assembly, maintenance issues and operational characteristics.

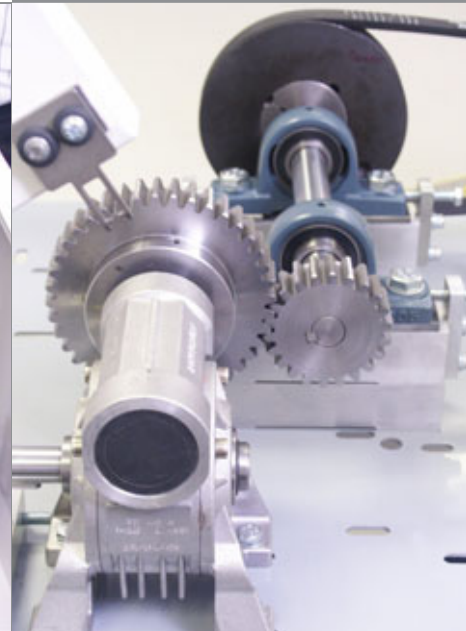
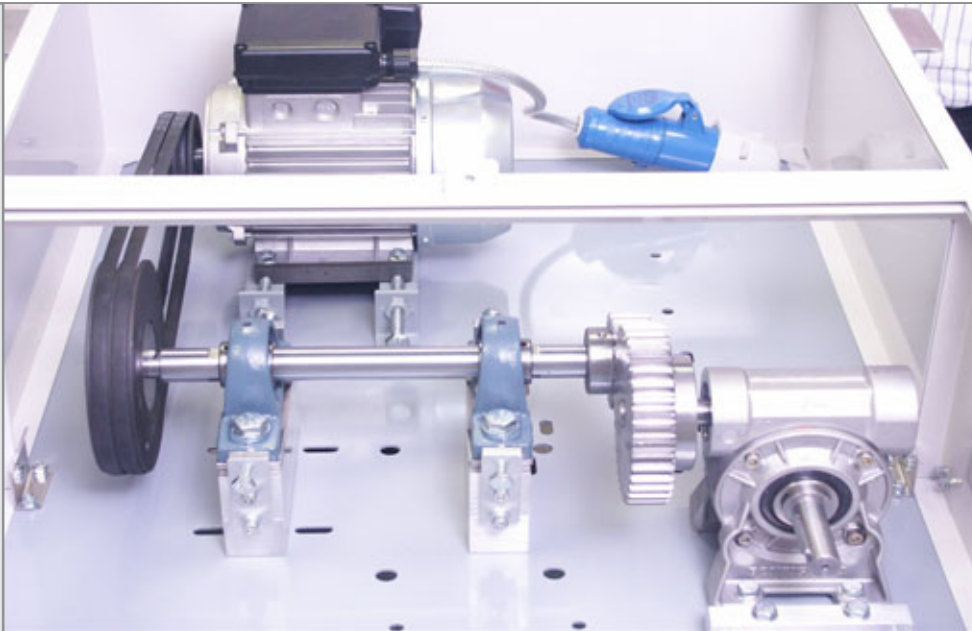
For maximum flexibility, the system is based on a worktable design, which can be supplied as either a complete mobile trolley (with built-in equipment storage), or as a unit suitable for bench-top mounting. Rubber-faced castors are fitted to the strong and sturdy mobile trolley, allowing the Trainer to be moved easily between locations.

Note that the guards can be easily lifted away (without tools) from the worktable, to allow full access during transmission set-up. However, operation of the motor is not possible until the guards are replaced and closed.

A complete collection of exercises and solutions is supplied with each system. These exercises support the transmission trainers and include exercises for motor, vee belts/pulleys, chains/sprockets, timing belts/pulleys, gearboxes and gear sets, clutches and couplings.

Starting at a basic level, these exercises build up in complexity with issues such as: alignment, tensioning and adjustment. Question and answer papers are supplied to monitor student progress.

A licence for the original purchaser to photocopy course material is included.



Curriculum coverage (includes the following but is not limited to):

- VEE belt pulleys/belts - fitting, adjustment, alignment and tensioning.
- Sprockets/chain - fitting, adjustment, alignment and tensioning.
- Timing belt pulleys/timing belt - fitting, adjustment, alignment and tensioning.
- Shaft and plummer blocks - fitting and adjustment with straight edge.
- Shaft and plummer blocks - fitting and adjustment with DTI.
- Gear coupling - fitting and alignment.
- Spider coupling - fitting and alignment.
- Torque limiter - fitting and alignment.
- Spur gear set - fitting and alignment.
- Bevel gear set - fitting and alignment.
- Gearbox drive via shaft, torque limiter and gear coupling.
- Three stage speed reduction using Vee belts, gears and gearbox.
- Three stage speed reduction using Vee belts, timing belt and gearbox.
- Three stage speed reduction using Vee belts, shaft, spur gears and gearbox.
- Five stage speed reduction using Vee belts, shaft, spur gears, sprockets/chain and two (2) gearboxes.
- Five stage speed reduction using Vee belts, shaft, timing belt, bevel gears and two (2) gearboxes.



40-001 Components

- 1 Electric motor, 80 frame, 6 pole (230V 50Hz 1ph) or (115V 60Hz 1ph)
- 1 Worm and Wheel gearbox
- 1 Inline gearbox
- 1 SPUR gear set
- 1 BEVEL gear set
- 1 Sprocket set
- 1 Twin Vee belt pulley set
- 1 Taper lock bush set (for use with vee belt pulleys)
- 1 Timing belt pulley set
- 2 Vee belts
- 1 Timing belt
- 1 Chain
- 1 Shaft
- 2 Plummer (pillow) blocks
- 1 Adjustable torque limiter
- 1 Gear coupling
- 1 Spider coupling
- 2 Sets Motor/gearbox adjustment rails
- 2 Sets Motor/gearbox adjusters
- 4 Groundstock spacer blocks 5.00mm
- 4 Groundstock spacer blocks 5.25mm
- 4 Groundstock spacer blocks 5.50mm
- 4 Groundstock spacer blocks 5.75mm
- 4 Groundstock spacer blocks 6.00mm
- 10 Stainless steel shims 0.05mm
- 10 Stainless steel shims 0.075mm
- 10 Stainless steel shims 0.10mm
- 10 Stainless steel shims 0.20mm



Toolkit 40-202

Setting up transmission configurations requires a small number of readily available, standard workshop tools. A complete toolkit can be supplied as an option, if required.

The Toolkit comprises:-

- 1 Dial Test indicator.
- 1 Magnetic base for Dial Test Indicator.
- 1 19mm Combination spanner.
- 1 17mm Combination spanner.
- 2 13mm Combination spanners.
- 1 'T' handle hex (allen) key 3mm.
- 1 'T' handle hex (allen) key 5mm.
- 1 'T' handle hex (allen) key 6mm.
- 1 150mm / 6 inch engineers steel rule.
- 1 300mm / 12 inch engineers steel rule.
- 1 600mm / 24 inch engineers steel rule.
- 1 50mm / 2 inch engineers square.
- 1 Nylon faced mallet.
- 1 Belt tensioner.
- 1 Padlock for electrical isolator / safety guards.

Ordering Information

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| Mechanical Transmission Training Unit - Trolley Mounted with tool kit | 40-001 |
| Mechanical Transmission Training Unit - Benchtop with tool kit | 40-002 |
| Mechanical Transmission Training Unit - Trolley Mounted, without tool kit | 40-200 |
| Mechanical Transmission Training Unit - Benchtop without tool kit | 40-201 |
| Mechanical Transmission Training Unit tool kit | 40-202 |

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