



Hegewald & Peschke

Meß- und Prüftechnik GmbH

Product Information

Test stand for cable-controlled gearshift

1 electromechanical actuator 1000N force/displacement controlled



Hegewald & Peschke Meß- und Prüftechnik GmbH
Am Gründchen 1, 01683 Nossen, Germany
Telephone: +49 35242 445-0, Telefax: +49 35242 445-111
E-Mail: info@Hegewald-Peschke.de
<http://www.Hegewald-Peschke.com>



Test task:

Vertical and horizontal testing of cable pulls for gearshifts

Possible tests with the software LabMaster:

- Static and cyclic compression/tensile tests (e.g. compression test on the shift lever to determine the actuation path for unlocking the locking mechanism)
- Determination of inherent friction
- Limit load tests
- Displacement-clearance-measurements in switching and selection direction
- Efficiency assessment

The H&P test software allows complete control of the machine, display of measured data, calculation of test results and data storage.

Characteristics:

- Various fixtures/ fixing possibilities/ counterweights possible
- Electric cylinder force/displacement controlled: Fmax 1 kN, 200 mm stroke, vmax 500 mm/min
- Operating directions select, switch, immerse
- Different load cells can be easily connected depending on the load range
- Control of the test axis with high control accuracy in force- and position-controlled operation
- The electronics are characterized by a high force resolution of 180,000 steps (with 20ms integration time) and a high computing power.
- Parameters such as force, path, speed (indirectly via time settings), number of cycles and pause time are freely programmable via the standard software; furthermore, the software allows a largely free definition of the entire test sequence by the successive processing of program blocks, which in turn can be called up cyclically.

- The drive is carried out with a DC servo motor via a ball screw spindle. The spindle bearings and the screw drives are backlash-free and guarantee a high dynamic of power transmission and control due to the rolling friction. The interaction of all elements in the power flow, such as motor, gear, spindle system and piston rod up to the load cell with the force introduction elements, results in the high system rigidity of this machine.

Technical data:

Max. stroke path	200 mm
Positioning accuracy:	±1 mm
Lifting force:	±1000 N maximum
Max. speed:	500 mm/min
Swivel range:	3 fixed test axes according to the direction of operation - select, switch, immerse
Dimensions: WxHxD	2080 mm x 2140 mm x 920 mm (model 41-046-281)



Mechanical construction:

- Column to accommodate the actuator which can be positioned anywhere along the entire length of the table top. The clamping fixture for the actuator can be adapted in height.
- 1 electromechanical test axis force/displacement controlled, stroke 200mm, test force up to 1000N, 3 load cells
The test axis is mounted on the side of the column in such a way that it can be swivelled manually so that testing can be carried out in any direction from vertical downwards to horizontal. The swivel axis is locked by a star grip.
- Displacement measurement via motor encoder for the test axis
- Controller unit for supplying the test axis and communication with the PC
- 1 adapter for mounting the rope fixation/loading unit
- 1 freely adjustable rope pulley, mounted at the end of the table, so that the counterweights 30 N and 120 N, which are also included, can act in the working direction of the rope hoists
- One adapter each for the shift lever, suitable for the load cells with connection M5 or M12
- Mounting frame for the circuit housing incl. a 10 mm spacer plate; slotted in the direction of the cable for easier replacement of the test object. This frame is firmly connected to the actuator holder, which ensures the exact alignment of the actuator to the shift lever. The actuator column is inclined by 10° parallel to the shift lever in the middle position, which means that the adjustment of the working height does not require a new alignment. The positioning on the table can be done in any position via slotted holes and the grooves of the table top.

The test system is available both as a complete test stand (41-046-281) and as a mobile version (41-046-282), in which the individual

components are mounted on an existing table.

The complete test stand contains the following additional components:

- Movable table made of lightweight profiles, usable table surface considering the cladding 1880 mm x 840 mm, table height approx. 800 mm; The table top has parallel grooves (40 mm spacing), which allows a flexible test setup. The area under the table top is can be used completely as storage.
- Protective enclosure which completely encloses the table surface and, at the top, the portal. Three sides and the upper end are permanently mounted, the front is closed with two doors. The doors are not monitored, but primarily serve the protection of the system when not in use - tests can be carried out with the doors open. All sides transparent (polycarbonate).
- 1 gear dummy to accommodate the abutment of the circuit to be tested

Included accessories:

- 1 accessory case
- 1 transport case for the partially dismantled test device (*only for 41-046-282*)
- 1 force transducer 1000N (connection M12)
- 1 1 force transducer 500N (connection M12 (*only for 41-046-281*))
- 1 force transducer 50N (connection M5)
- 2 test weights with test certificate for checking the load cell before starting the test
- 1 adapter for force introduction for all working directions, connection M5
- 1 adapter for force introduction for all working directions, connection M12
- 1 set of clamping devices for the switch housing and abutments for alignment in mounting position
- 1 guide for the rope end for load introduction / fixation

Additional accessories, e.g. for other types of test specimens, can be offered separately if required.

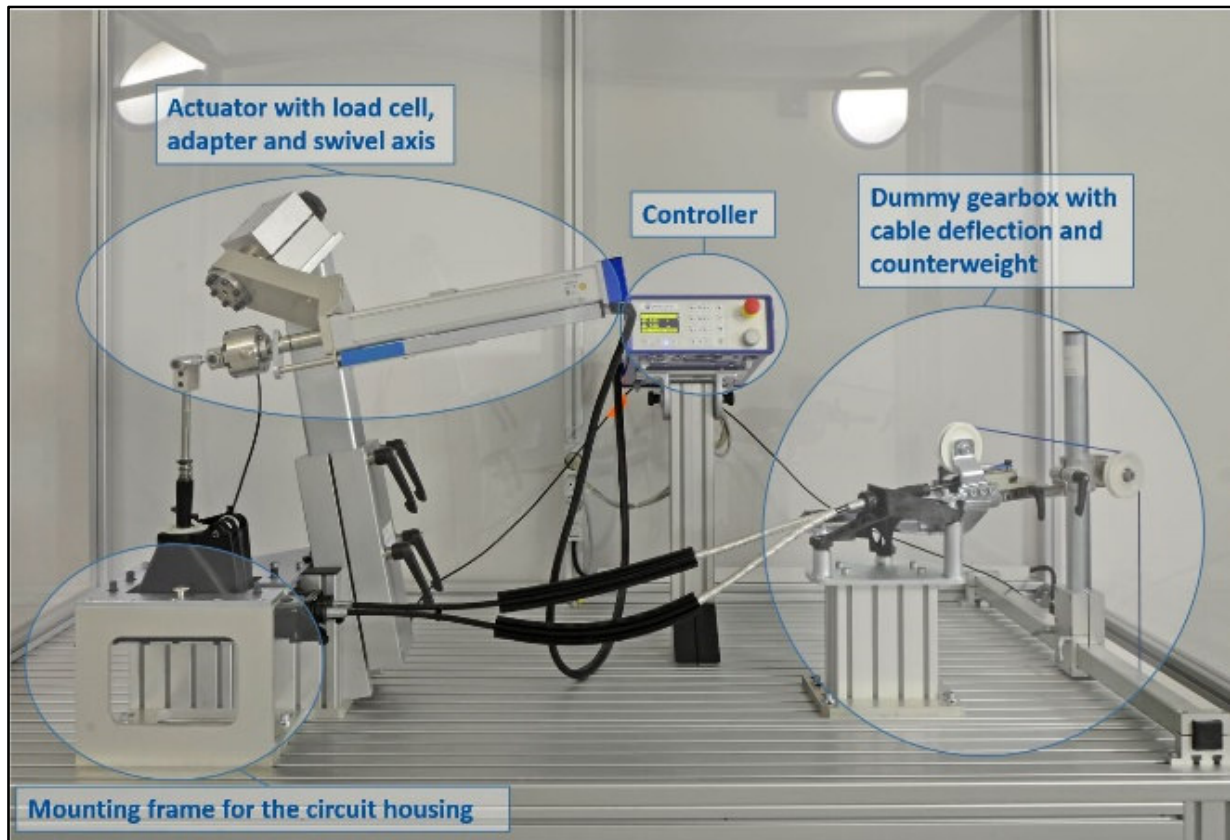


Fig. 1: Mechanical construction

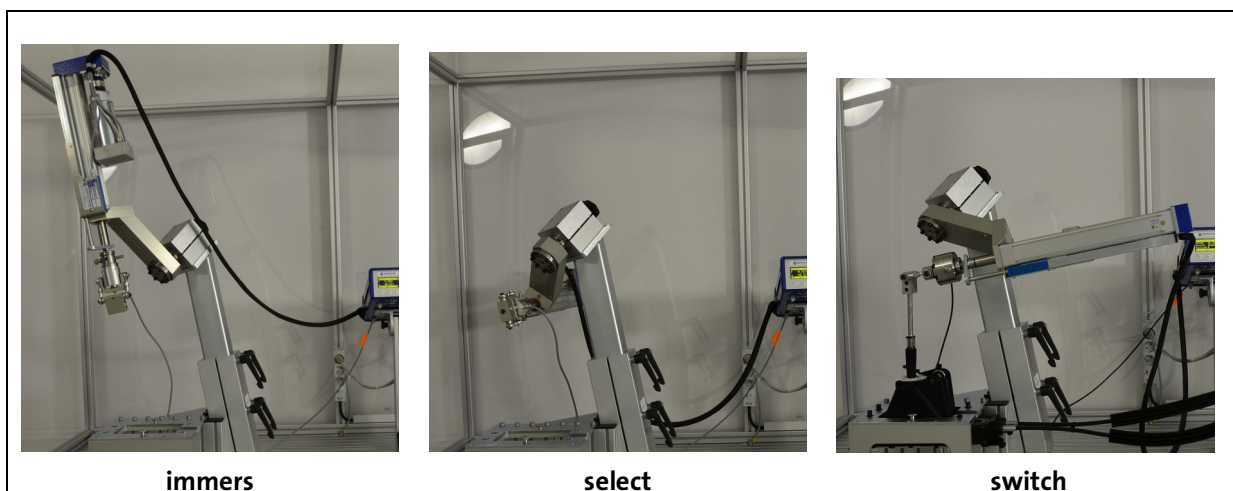


Fig. 2: Operating directions

