

■ Test Bench - Operating Instructions

■ 2nd Edition

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Vehicle Control Systems

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Table of Contents

1	Safety Instructions	1
2	Design and Function	2
2.1	Purpose	2
2.2	Structure	2
2.3	Function	3
3	Operation in Connection with WABCO Test Instruction	4
4	Erection	4
5	Maintenance	5
Annex		6
	Technical Data	6
	Accessories (Part of Delivery)	6



1 Safety Information

 Before erecting test bench and testing sample, carefully peruse following safety information.



WARNING

Only specialist personnel with specific system knowledge is authorized to testing sample.

Before starting any repair work, first read and understand all of this instruction document.

Test sample on calibrated test bench only.

Ensure before starting any test that the shut-off cocks are having their correct normal position (see test instructions).

While performing sample test, absolutely keep to pertinent test instruction.

In case of doubt about correct setting of sample you should consult vehicle manufacturer for the allowed values.



CAUTION

Keep to company's relevant accident prevention regulations and national regulations.

See to it that quick disconnects are safely plugged on test bench and test sample.

Take care to have test sample safely clamped in vise.

Only loosen lock screws, hoses and equipment parts then when the respective lines of the test bench are vented.

Symbolism



WARNING

Possible dangers

grave personal injuries or death



CAUTION

Immediately impending dangers

Personal injury or material loss



Additional hints, info, tips

- Action step
- Enumeration
- ↑ see preceding figure
- ↓ see following figure

2 Design and Function

2.1 Purpose

The test bench is designed for testing equipment from compressed-air braking systems for instance.

2.2 Structure

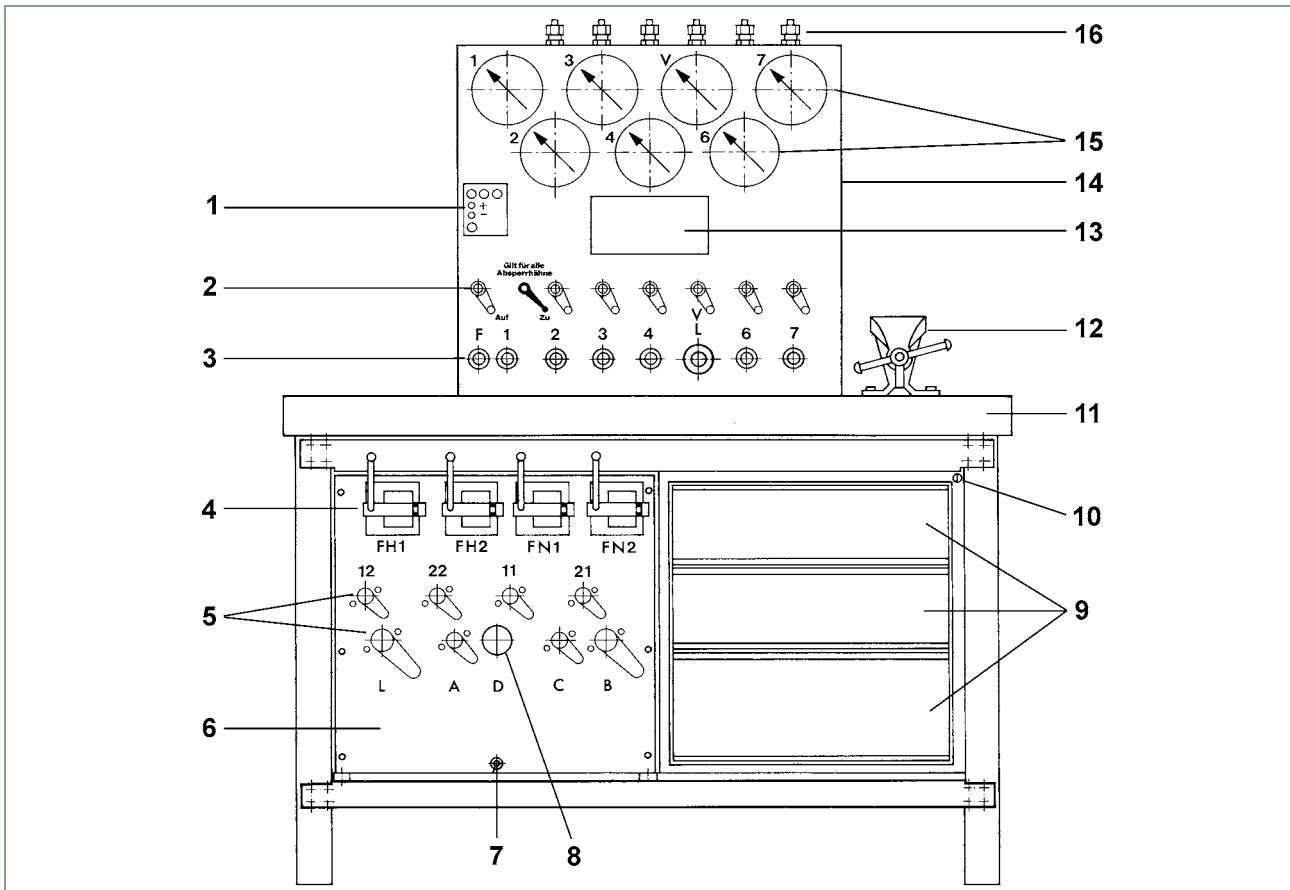
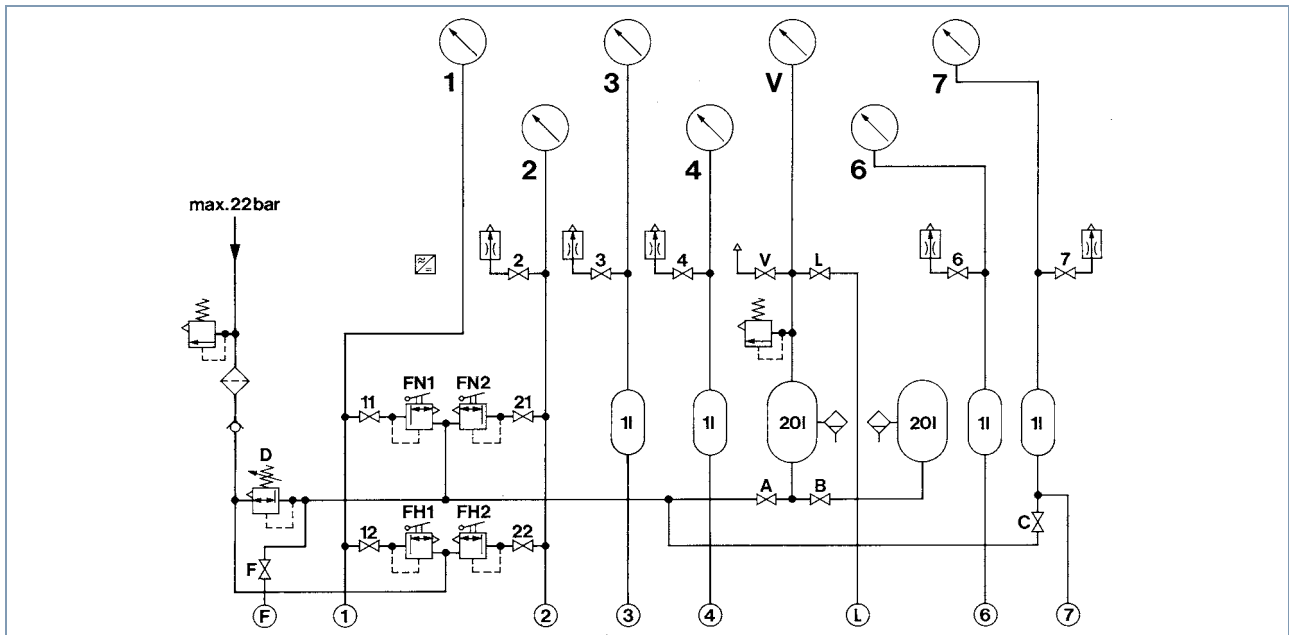


Fig. 1 Test Bench Components

- | | |
|---------------------------------------|--------------------------------|
| 1 Magnet test equipment | 9 Drawers |
| 2 Shut-off cocks with backend nozzles | 10 Central locking system |
| 3 Test bench ports | 11 Test bench plate |
| 4 Precision control valves | 12 Vise (drawing shown offset) |
| 5 Shut-off cocks with backend nozzles | 13 Circuit diagram |
| 6 Insert | 14 Dash panel |
| 7 Button actuator for draining | 15 Pressure gauge |
| 8 Pressure reducing valve | 16 Nozzles |

2.3 Function



FH = Precision Control Valve, High Pressure

FN = Precision Control Valve, Low Pressure

fig. 2 Circuit Diagram

High-pressure line runs to precision control valves FH1 and FH2, via shut-off cocks 12 and 22, to test bench ports ① and ② as well as to pressure gages 1 and 2.

- Set pressure-reducing valve D (↑ see Fig. 1, 8) for directing compressed air to low pressure part.

! Adjustment up to 10 bar possible.

- Open shut-off cock A.

You may read set pressure from pressure gage V.

Low-pressure line runs to precision control valves FN1 and FN2, via shut-off cocks 11 and 21, to test bench ports ① and ② as well as to pressure gages 1 and 2.

Test bench ports ③, ④, ⑥ and ⑦ run to identical measuring units. The measuring units consist of one 1 liter air reservoir, one shut-off cock and one backend nozzle each.

Air Squeezer Tests

! Exclusively use test port ④ for air squeezer tests only.

- Open shut-off cock B for connecting both 20 liter tanks.
- Open shut-off cock V for maintaining generated pressure at desired level.

Both 20 liter tanks are secured by safety valve.

Using test bench port ④ you may withdraw max 10 bar of compressed air after opening shut-off cock F.

Electropneumatic Brake and Control Equipment

Test bench is equipped with magnet test equipment (↑ see Fig. 1, 1) for testing electropneumatic brake and control equipment. It is suitable both for testing pulse magnets or permanent magnets.

3 Operation in Connection with WABCO Test Instruction

! You will find the test instruction for the test sample under www.wabco-auto.com when entering product number in product catalog INFORM.

Test bench 435 197 000 0 is adjusted for being used for WABCO Test Instructions. Each Test Instruction itself contains information to be used on the test bench. This is followed by excerpts from Test Instruction for truck brake valves 461 315

- Connect test sample to the numbered test bench ports. When doing so, heed terminal marking on test sample.

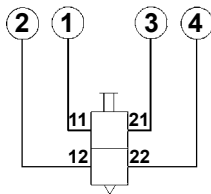


fig. 3 Connecting Test Sample to Numbered Test Bench Ports

- Before starting the test, set shut-off cocks to normal position according to table.

Cock	A	B	C	D	E	F	L	V	2	3	4	6	7	11	12	21	22
on	x													x		x	
off		x	x	x	x	x	x	x	x	x	x	x	x		x		x

fig. 4 Shut-off Cocks Normal Position when testing Truck Brake Valves 461 315

- Further test sequence to be taken from test instruction.

4 Erection

! Hose fittings, vise and accessories to be found in the test bench drawers.

When erecting the test bench, proceed as follows:

- Connect dash panel to workbench plate using the enclosed hexagon head cap screws.
- !** The mounting holes are pre-drilled (↓ see Fig. 5, A).

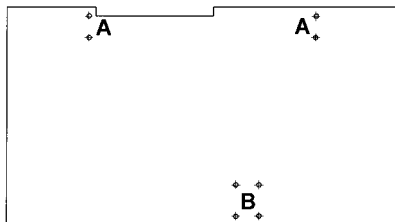


fig. 5 Work plate - Top View

- A Mounting holes for dash panel
- B Mounting holes for vise

- Connect all connecting lines according to their marking.
- Connect test bench to house supply circuit of compressed air.

! Maximum working pressure: 22 bar

Each pressure gage has a red arresting screw on its housing underside. Its purpose is to protect the measurement system from shipping damage.

- Remove arresting screw before commissioning.
- Close tapped hole with the lock screws.
- Fix vise on workbench plate (↑ see Fig. 5, B) using the hexagon head cap screws supplied.

! The mounting holes are pre-drilled (↑ see Fig. 5, A).



CAUTION

It is imperative to pre-connect water separator for protecting test sample from contamination.

5 Maintenance

! Frequency of maintenance work depends on how often the test bench is used.

Draining condensation Water from the 20 Liter Air Reservoirs

- Press onto button actuator (↑ see Fig. 1, 7) for operating both drain valves.

Oiling

- Oil spindle and guide cheeks of vise as well as drawer roller bearings.

Cleaning the Sieves

The sieves are accommodated behind the caps.

- Turn out all caps F through 7 (↑ see Fig. 1, 3) from distribution bar.
- Clean sieves.

Cleaning the Line Filter

The line filter prevents test bench contamination over the air supply facility.

- Clean line filter.

Opening the Slide-In Module



CAUTION

Turn off in-house network terminals for compressed air supply and power.

- Loosen the 9 fillister head screws on the rear side of the dash panel.

- Remove the fillister head screws.
- Loosen all connecting lines between dash panel and slide-in module.
- Remove the connecting lines.
- Loosen slide-in module lock (↓ see Fig. 6).

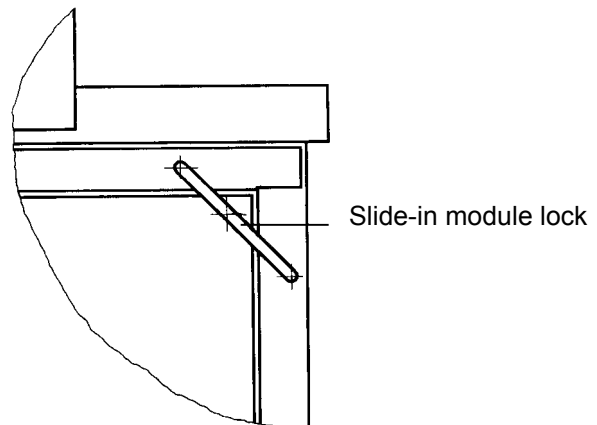


fig. 6 Detail Test Bench - Back View

Calibrating the Pressure Gages

! The quality stickers on the pressure gages contain date of next calibration.

You need to have calibration of the pressure gages carried out in compliance with your national regulations.

Annex

Technical Data

Product number	435 197 000 0
Dimensions	Height 1,640 mm Width 1,250 mm Depth 815 mm
Weight	Approx. 240 kg
Permissible Media	Air
Maximum Operating Pressure	22 bar
Work bench	3 Drawers:
Vise	Width of Jaw 100 mm Stroke 85 mm
Pressure Gauge	Diameter 160 mm Measuring Range 0 to 25 bar Pitch 0.2 bar Quality Class for fine Measurements 0.6
Magnet Test Equipment for	Secondary 12 and 24 V DC / Maximum 1 A AC Supply 230 V

Accessories (Part of Delivery)

Pieces	Description
1	Clamping Angle
2	Hose Connector NW8/M 16x1.5-1,000 long
5	Hose Connector NW8/M 16x1.5-1,500 long
5	Screw Plug M 22x1.5
4	Screw Plug M 16x1.5
5	Screw Plug M 12x1.5
2	T-Piece with Counternut M 22x1.5
5	Double Socket M 22x1.5/M 22x1.5
1	Double Socket M 16x1.5/M 26x1.5
4	Double Socket M 16x1.5/M 22x1.5
6	Double Socket M 16x1.5/M 16x1.5
4	Double Socket M 14x1.5/M 16x1.5
4	Double Socket R 1/4" cone/M 16x1.5
1	Reducer
6	Thrust Ring for M 26x1.5
6	Thrust Ring for M 22x1.5
6	Thrust Ring for M 16x1.5
6	Thrust Ring for M 14x1.5
6	Thrust Ring for M 12x1.5
10	O-Ring for M 26x1.5
10	O-Ring for M 22x1.5
10	O-Ring for M 16x1.5
10	O-Ring for M 14x1.5
10	O-Ring for M 12x1.5
10	Sealing Ring for M 22x1.5, inner
1	Laminated Hose NW10/M 22x1.5-1,200 long