

Test instruction

Symbols and Signal Words



WARNING

Possible hazardous situation. To disregard this may lead to serious or fatal personal injuries.



CAUTION

Possible hazardous situation. To disregard this may lead to personal injuries.

– Handling

• List

i Note(s), explanation(s) and information which you must take into consideration

i Carefully read through all the safety information before starting the testing.

Safety information



WARNING

Only qualified skilled personnel with specific system knowledge are authorized to perform the device testing at the test bench.

Never start testing until you have read and understood all the information required for the test.

Test the device on a calibrated test bench only.

In case of doubt, use test values specified by the vehicle manufacturer.

While testing the device, always adhere to the contents of this test instruction.



CAUTION

Comply with the company and national accident prevention/health & safety regulations

Undo the screw plugs, hoses and equipment parts only when the respective lines have been vented.

Test instruction for device 973 002 ... 0

050	405
051	408
052	419
070	421
404	

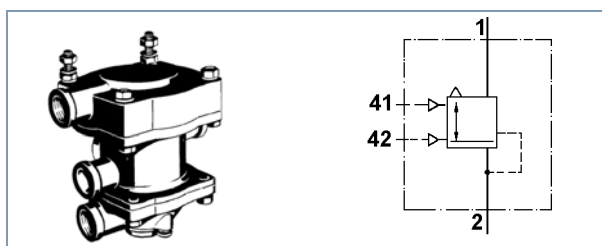


Fig. 1 Trailer Control Valve 973 002 ... 0 / Functional symbol

Equipment/tools required

- Test bench 435 197 000 0 or adequate testing equipment (see fig. 3)
- Clamping angle 899 709 035 2 (see adjacent fig.)
- Soapsuds and brush



Additional documents required

- i** The documents are available on the WABCO homepage <http://www.wabco-auto.com> - simply enter the product or document number in INFORM.
- Test Bench 435 197 000 0 - Operating Instructions
- General Repair and Test Information
 - 820 001 074 3 de
 - 820 001 075 3 en
 - 820 001 076 3 es
 - 820 001 077 3 fr
 - 820 001 078 3 it

Testing

! WARNING

Do not install a repaired device in the vehicle unless it has passed the following tests.

1 External inspection

- Inspect the device for external visible damage.
- Visually inspect all the device's ports for blockages.

2 Preparations

i Before starting each test, ensure that the stopcocks are in their correct normal position (see table 1).

The output side of pressure regulator D must be unpressurised.

Stopcocks	A	B	C	F	L	V	2	3	4	6	7	11	12	21	22
open	x		x	x									x		x
closed		x				x	x	x	x	x	x		x		x

Table 1: Normal position of stopcocks on the test bench

i If you do not have test bench 435 197 000 0 you must test the device according to the following diagram (see fig. 3).

Never directly clamp the device in the vice. This could damage the device.

- Fix clamping angle to device.
- Clamp the clamping angle and the device in the vice.
- Connect the device to the test bench ports (see fig. 1) or according to the test diagram.

i **Test bench**
Set pressure regulator D to 7 bar.

! CAUTION

Ensure that the plug-in connections on the test bench and the device are securely inserted.

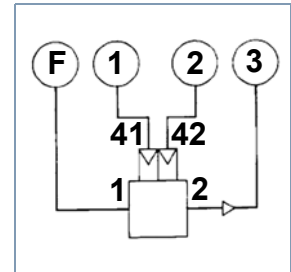


Fig. 2 Test bench connection diagram

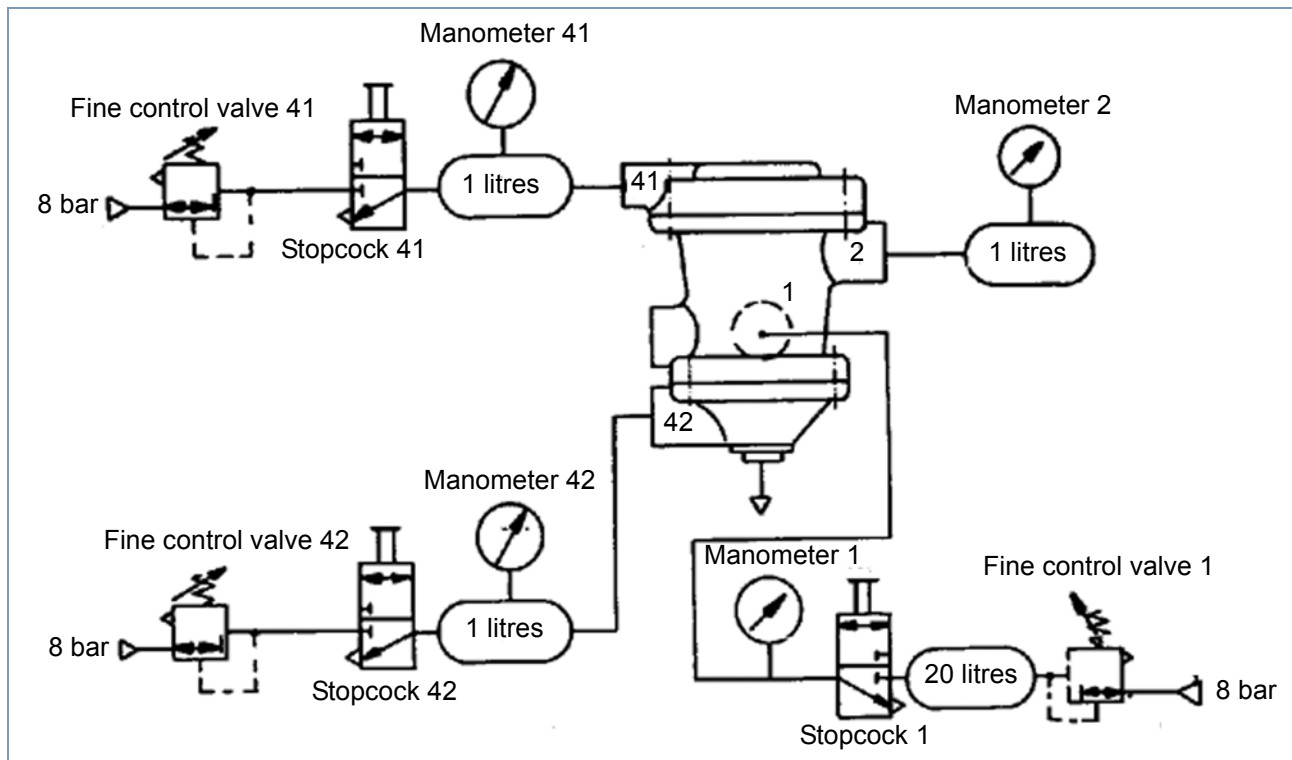


Fig. 3 Test diagram

Trailer Control Valve


with predominance

973 002 (A)

i Perform the following test sequence in the specified order.

Refer to table 3 for set values E, test values P and predominance "a" (variable amount by which the air pressure in the trailer can be increased).

i The braking pressure is 8 bar max / 7.0 bar min.

Test step	Device ports				Note
	A1 bar	A41 bar	A42 bar	A2 bar	
3 Check for leaks					
Vent A41 and A42. Undo and twist off the hose connection at A42. Wet A1, A41, A42 and the device vent with soap suds. Reconnect the hose connection.	7	0	0	0	Permissible leakage: 8 cm ³ /min  WARNING Never install a leaking trailer control valve on the vehicle.
4 Functional test					
Pressurise and depressurise A41 several times.	7	0...7 7...0	0	0...7 7...0	Manometer 2 (test bench: Manometer 3) must display an immediate rise or drop in pressure.
Vent A41.	7	>0...≤0.3	0	>0	
Increase pressure at A41. Adjust the predominance by turning the adjusting screw to the value "a" (see table 3).	7	E1	0	a	
Increase pressure at A41.	7	7	0	P1	Manometer 2 (test bench: Manometer 3) must display an immediate pressure increase. Pressure stages must not exceed 0.3 bar.
Slowly vent A41.	7	E2	0	-	Start of the pressure drop at manometer 2 (test bench: manometer 3). Device must audibly vent.
Continue to vent A41.	7	E3	0	P2	
Vent A41 to 0 bar.	7	0	0	0...0.1	
Vent A42.	7	0	E4	>0	



Test step	Device ports				Note
	A1 bar	A41 bar	A42 bar	A2 bar	
Increase pressure at A42.	7	0	7	P3	
5 Tightness					
Vent A1, A41 and A42. Wet the device including the separation joints with soap suds.	7	7	7	0	Permissible leakage: 8 cm ³ /min  WARNING Never install a leaking trailer control valve on the vehicle.
6 Vent device.					
Vent A1, A41 and A42. Clean device.	0	0	0	0	 CAUTION Do not disconnect the hose connections until you have vented the device to 0 bar.

Table 2: Test steps

Test and set values

973 002 ... 0 Variant	E1	P1	E2	E3	P2	E4	P3	"a"
050	2	6.2...6.6	≥6.2	3	3.4±0.15	0...1.4	5.8...6.2	2.2±0.1
051	=> 050							2.3±0.1
052	2	6.2...6.6	≥5.8	3	3.9±0.15	0...1.4	≥5.7	2.4±0.1
070	2	6.2...6.6	6.2...5.8			1...1.4	6.4...7	2.6±0.1
404	2...3	≥6.7	≥6.2	3...2	A41 $\begin{matrix} +0.2 \\ 0 \end{matrix}$	0...1.4	≥6.4	0
405	2...3	6.2...6.6	≥5.8	3...2	A41+0.5±0.2	0...1.4	≥6.4	0
408	=> 070							2.6±0.1
419	2...3	6.2...6.6	≥5.8	3...2	A41+1±0.2	0...1.4	≥6.4	2.4±0.1
421	=> 070							2.6±0.1

Table 3: Test and set values (E = set value, P = test value)