

HVBR WORKSHEET

(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No.

JH100502

CUSTOMER NAME

DOMETT TRUCK & TRAILER LTD

CUSTOMER ORDER No.

3370/BC

DATE RECEIVED

18.05.10

VEHICLE TYPE

4 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9D10019A0023870

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:

Type: 14HSCLD64-1604 (TSE): Max stroke = 64mm Lever length = 69mm
Type: 1416HTLD64-1606 (TSE): Max stroke = 64mm Lever length = 69mm

BRAKE VALVES:

Ratio Valve Setting: EBS CONTROL

Test Points: 3 4 5 7

FRICITION LINING:

(All) Lining Brand

OEM
JURID 539

Aftermarket

EBS CONTROL: SPECIAL CONDITIONS APPLY – SEE INSTRUCTION ON LT400 323298

VALVES: AS PER DATA SHEET ATTACHED

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO 468819

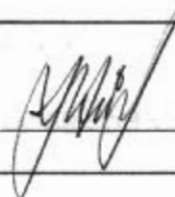
PROCESS TIME:

1

THE TSE CHAMBERS (ABOVE) CORRESPOND TO THE MERITOR CHAMBER DETAILED IN BRAKE CALC #TP50420.

COMPLETION DATE: 26 MAY 2010

SIGNATURE



Statement of Compliance with the New Zealand Heavy Brake Rule

Documentation required to support Statements of Compliance with the New Zealand Heavy Brake Rule, to be made available to the Statutory Authority on request, must include all calculations and test reports.

Confirmation of compliance

I confirm that the vehicle identified on page 1 of this Statement of Compliance complies with all relevant requirements of the current New Zealand Heavy Vehicle Brake Rule 32015/2, Schedule 5.

Date: 26TH May 2010

Signed: _____



Certifier's identification

Name: J E Hirst

Phone (bus): (09) 980 7300

Fax (bus): (09) 980 7306

Postal address: Transport Specialties, Cnr Kerrs & Ash Roads

Wiri, Auckland, PO Box 98 971 Manukau City 2241

Position: JEH

Confirmation of continued compliance of modification

I confirm the brake system of the vehicle identified on page 1 of this Statement of Compliance as modified by myself, continues to comply with all the relevant requirements of the current New Zealand Heavy Vehicle Brake Rule 32015/2, Schedule 5.

Date: _____ Signed: _____

Certifier's identification: JEH

Name:

Phone (bus): (09) 980 7300

Fax (bus): (09) 980 7306

Postal address: Transport Specialties Ltd

Cnr Kerrs & Ash Roads, Wiri, Auckland

PO Box 98 971, Manukau City 2241



Document: B1044802
Exemption: HVB10/151

**EXEMPTION FROM SPECIFIED REQUIREMENTS OF LAND TRANSPORT RULE:
Heavy-vehicle Brakes 2006, Rule 32015**

Pursuant to Section 166(1) of the Land Transport Act 1998, and pursuant to the powers delegated to me, I Andrew Tyacke, Vehicle Compliance Specialist, hereby exempt the motor vehicle specified in Schedule 1 hereto from the section of Land Transport Rule: Heavy-vehicle Brakes 2006 (the Rule) listed in Schedule 2, subject to the conditions specified in Schedule 3.

SCHEDULE 1:

Make/Model: **Domett Truck & Trailer LTD, D1001**
VIN/Chassis: **7A9D10019A0023870**

SCHEDULE 2: - Exempted Requirement

Section 2.3(9); The parking brake of a vehicle, whether or not it is being operated as a combination vehicle, must be able to be applied by the driver from the normal driving position using one control only.

SCHEDULE 3: - Conditions of this exemption:

- 1) The vehicle must be fitted with a Wabco park-release emergency valve (PREV), Part Number: 971 002 900 0.
- 2) The vehicle must be fitted with the Wabco PREV name plate, Part Number 971 002 103 4, adjacent to the PREV.
- 3) The vehicle must still be fitted with a parking brake that complies with all parking brake requirements in the Rule other than the requirement in Clause 2.3(9) of the Rule.
- 4) The installation of the PREV must be approved in writing by Transport Specialties Limited (Transpecs); Transpecs must keep a written record of their approval.
- 5) Transpecs must provide full operator training in the use of the PREV and furnish the operator with full written operating instructions for the PREV.
- 6) The vehicle must not be modified in any way while operating under this exemption.
- 7) This original exemption must be kept by Transport Specialties LTD.
- 8) A copy of this exemption (printed on a silver WABCO Sticker) must be affixed to the exempted vehicle as close to the WABCO PREV as possible.
- 9) The sticker in 8) must be legible and include all printed area's of this original exemption letter.
- 10) This exemption can be revoked at any time in writing by the NZ Transport Agency.

Signed at Wellington this 15th day of April 2010

Andrew Tyacke
Vehicle Compliance Specialist
Vehicles Unit



Transpecs

QUALITY ON THE MOVE

NOTICE TO VEHICLE OPERATOR

THIS VEHICLE HAS A BRAKE SYSTEM WHICH HAS BEEN DESIGNED AND FITTED IN ACCORDANCE WITH THE LAND TRANSPORT HEAVY VEHICLE BRAKE RULE 32015/2.

IF THIS VEHICLE IS OPERATED IN CONJUNCTION WITH NON-CERTIFIED VEHICLES, THERE MAY BE OPERATIONAL FACTORS WHICH NEED TO BE TAKEN INTO CONSIDERATION.

PLEASE REFER TO THE CERTIFIER FOR FURTHER INFORMATION.

**EXCERPT FROM LAND TRANSPORT RULE; HEAVY-VEHICLE BRAKES
RULE 32015/2. SECTION 10,**

10.1 RESPONSIBILITIES OF OPERATORS

A person who operates a vehicle must ensure that the vehicle complies with this rule.

10.2 RESPONSIBILITIES OF REPAIRERS

A person who repairs or adjusts a brake must ensure that the repair or adjustment:

- a) does not prevent the vehicle from complying with this rule;
- b) complies with Land Transport Rule: Vehicle Repair 1998.

10.3 RESPONSIBILITIES OF MODIFIERS

A person who modifies a vehicle so as to affect the braking performance of the vehicle must:

- a) ensure that the modification does not prevent the vehicle from complying with this Rule; and
- b) notify the operator that the vehicle must be inspected and, if necessary, certified by person or organisation appointed to carry out specialist inspection and certification of heavy vehicle brakes.

IF YOU ARE UNSURE ABOUT YOUR RESPONSIBILITIES, PLEASE CONTACT THE VEHICLE MANUFACTURER, OR MYSELF.

COMPLAINTS. Complaints and Warranty issues which relate to Brake Certification will be acknowledged within 7 working days and a resolution proposed within 25 working days. Resolution of complaints and Warranty issues is subject to Transpecs Warranty policy. Customers have the right to appeal to the New Zealand Transport Authority if dissatisfied with a Compliance issue. (Refer NZTA Deed Of Appointment Para 7.4) NZTA Helpdesk 0800 699 000

.....
(J.Hirst (JEH) HVEK)



NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an Electronic Brake System.

To comply with the New Zealand Heavy Vehicle Brake Rule 32015/2, it must be used only in conjunction with a truck/tractor equipped with a 5 or 7 pin ABS/EBS power supply socket.

Failure to connect to such supply invalidates Brake Rule compliance.

The trailer ABS/EBS warning light on the towing vehicle dashboard must illuminate when the ignition is switched on and extinguish when the vehicle is in motion.

If the light does not illuminate when ignition is switched on, the system must be checked. If the light remains illuminated when the vehicle is in motion, Brake Rule compliance is compromised. Repairs must be made as soon as possible.

If you are unsure of your responsibilities and/or obligations, please contact either the vehicle manufacturer or myself.



J E Hirst
(JEH HVEK)
(09 980 7300)



NOTICE TO VEHICLE OPERATOR


WABCO Park Release Emergency Valve **(PREV)**

This trailer is equipped with a WABCO PREV
Part # 971 002 900 0

Application of the park brake via the cab control valve will actuate and apply all service brakes on the trailer. In the event of a leak in the service brake system the Spring Brakes will automatically override and hold the vehicle in compliance to Land Transport Rule: Heavy-vehicle Brakes Rule 32015/2.

When the vehicle is presented for COF the trailer park brake system is tested by pulling the red actuation knob on the PREV, situated mid way down the chassis rail. The cab control in the prime mover does not have to be applied for this test procedure.

If you are unsure of any aspect relating to this instruction please contact either the vehicle manufacturer or myself.



J E Hirst
(JEH HVEK)
(09 980 7300)

trailer (full, semi-, centre-axle) with air brake system acc. to 71/320/EEC, last amended by 98/12/EC and 2006/96/EC or UN/ECE-R.13.10

distribution: DOMETT

please note!

This brake calculation is made under consideration of
 -the legal prescriptions mentioned above in the version valid all the time of making the program (V6.09.06.08).
 -the functional characteristics of our products, but not of those of other manufacturers, and
 -the other vehicle data included in the brake calculation.
 Please check whether these data correspond to the actual vehicle data. Our conditions of delivery apply (particularly section 9.0).
 WABCOBrake V6.09.06.08 db 08.06.2009

vehicle manufacturer: DOMETT
 trailer model : 4AX TANKER
 trailer type : 4-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS
 TRISTOP 3+4: T.14/24
 265/70 R 19,5

axle 1 + 2 + 3 + 4 : SAF, PAN 19-1, TDB 0749 ECE,

		<u>unladen</u>	<u>laden</u>
total mass	P in kg	5200	28000
axle 1	P1 in kg	1400	7000
axle 2	P2 in kg	1400	7000
axle 3	P3 in kg	1200	7000
axle 4	P4 in kg	1200	7000
wheel base	E in mm	4800 - 4800	
centre of gravity height	h in mm	1170	1755

		<u>axle 1</u>	<u>axle 2</u>	<u>axle 3</u>	<u>axle 4</u>
no. of combined axles		1	1	1	1
no. of brake chambers per axle line	KDZ	2	2	2	2
The power output corresponds to		BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6
brake chamber manufacturer		Meritor	Meritor	Meritor	Meritor
chamber size		14.	14.	T.14/16	T.14/16
lever length	lBh in mm	69	69	69	69
brake factor	[-]	23.03	23.03	23.03	23.03
dyn. rolling radius	rdyn min in mm	421	421	421	421
dyn. rolling radius	rdyn max in mm	421	421	421	421
threshold torque	Co Nm	6.0	6.0	6.0	6.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%bar		2.4	2.4	2.1	2.1
chamber pressure(rdyn max)pH at z=22,5%bar		2.4	2.4	2.1	2.1
chamber press.(servo)pcha at pm6,5bar bar		5.8	5.8	4.6	4.6
piston force ThA at pm6,5bar N		5588	5588	4385	4385
brake force(rdyn min)T lad. at pm6,5bar N		42260	42260	33173	33173
brake force(rdyn max)T lad. at pm6,5bar N		42260	42260	33173	33173
brake force within 1 % rolling friction					
proportion %		25.0	25.0	25.0	25.0

braking rate z laden 0.549 for rdyn min
 z = sum (TR)/PRmax 0.549 for rdyn max

Trailer may only be operated in combination with trucks/tractors with ISO 7638 supply (5 or 7 polar).

brake diagram :

maximum pressure: 8.5 bar

axle 1:

valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 207 0.. 0 WABCO
 EBS relay valve

axle 2:

valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 207 0.. 0 WABCO
 EBS relay valve

axle 3:

valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 102 0.. 0 WABCO
 EBS trailer modulator

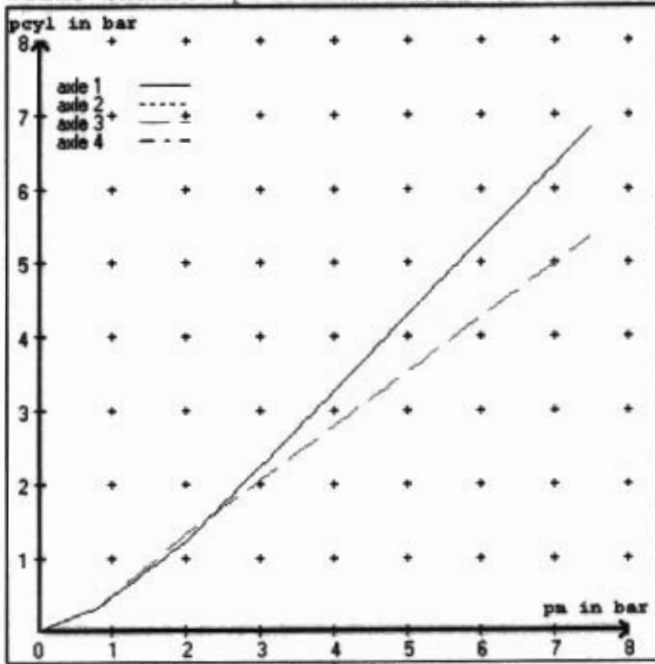
axle 4:

valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 102 0.. 0 WABCO
 EBS trailer modulator

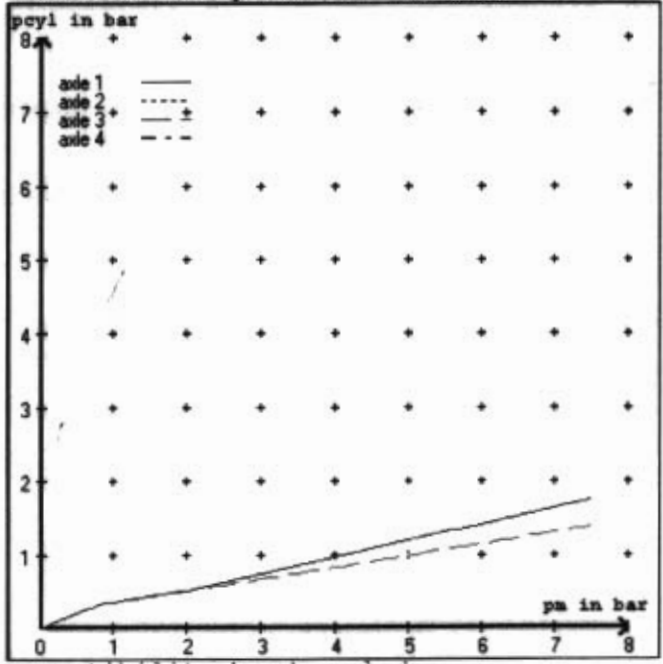
test type III	(zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm	3.9 bar =>	pcha in bar :	3.2	3.2	2.7	2.7	
test type III	(zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm	1.4 bar =>	pcha in bar :	0.7	0.7	0.8	0.8	

brake chamber pressure laden

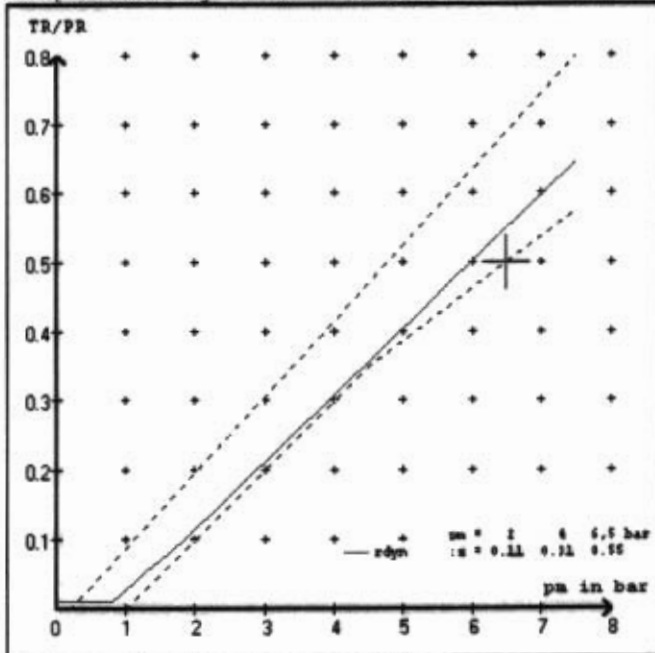


compatibility band laden

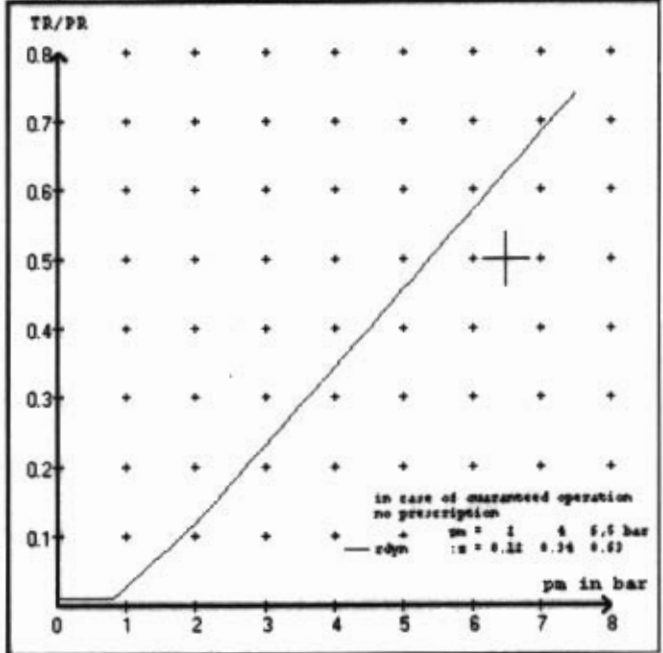
brake chamber pressure unladen



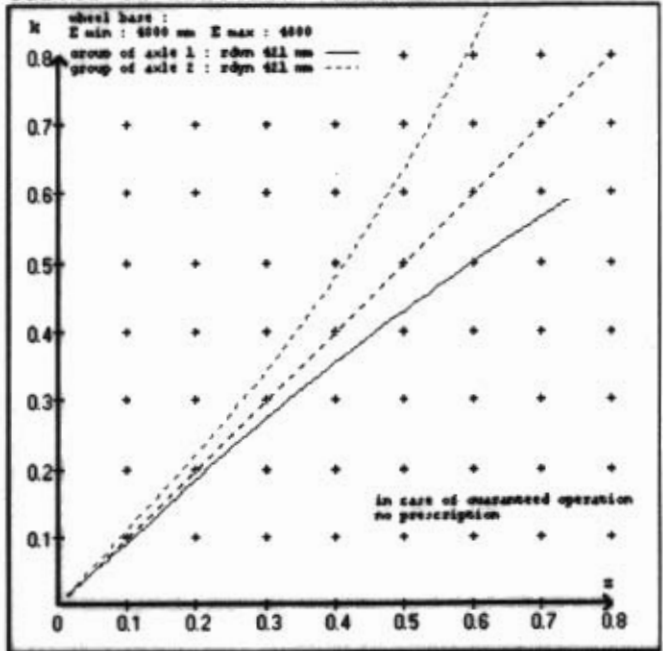
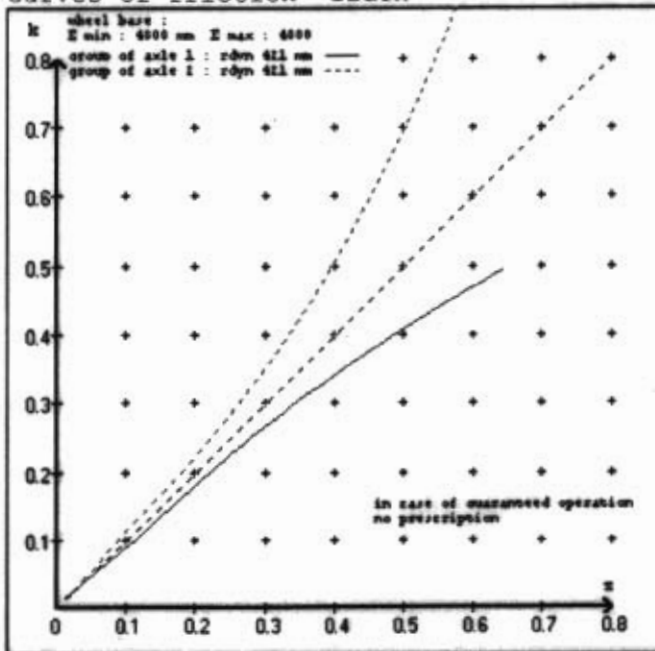
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT
 trailer model : 4AX TANKER
 trailer type : 4-axle-full-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter 14. (Meritor) lever length 69 mm
 axle 2 : 2 x type/diameter 14. (Meritor) lever length 69 mm
 axle 3 : 2 x type/diameter T.14/16 (Meritor) lever length 69 mm
 axle 4 : 2 x type/diameter T.14/16 (Meritor) lever length 69 mm

brake diagram :

valve :
 971 002 ... 0 WABCO EBS emergency valve
 480 207 0.. 0 WABCO EBS relay valve
 480 102 0.. 0 WABCO EBS trailer modulator

EBS input data

vehicle manufacturer: DOMETT
 trailer model : 4AX TANKER
 trailer type : 4-axle-full-trailer
 brake calculation no. : TP 50420A

tire circumference main axle : 2650 for rdyn max
 tire circumference auxiliary axle : 2650 for rdyn max

assignment pm / deceleration z: pm 0.8 bar z = 0.000
 (laden condition) 2.0 bar z = 0.116
 6.5 bar z = 0.550

control pressure pm		6,5	control pressure pm		0.8	2.0	6.5	
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden		
1	1400	to be	1.5	7000	to be	0.4	1.2	5.8
2	1400	entered by the vehicle manufact.	1.5	7000	entered by the vehicle manufact.	0.4	1.2	5.8
3	1200		1.2	7000		0.4	1.3	4.6
4	1200		1.2	7000		0.4	1.3	4.6
5	0		0,0	0		0,0	0,0	0,0

The unladen values indicated in the above table are values for the basic parameter set. Higher unladen axle loads and liftaxles are automatically recognized and do not require separate adjustment. The above unladen axle loads must not be fallen below.

axle 1	axle 2	axle 3	axle 4
axle load pcyl	axle load pcyl	axle load pcyl	axle load pcyl
1400	1.5	1200	1.2
1900	1.9	1700	1.5
2400	2.3	2200	1.8
2900	2.7	2700	2.1
3400	3.0	3200	2.4
3900	3.4	3700	2.7
4400	3.8	4200	3.0
4900	4.2	4700	3.3
7000	5.8	7000	4.6

data sheet to EC/ECE vehicle type-approval certificate concerning braking equipment: according to 98/12/EC annex IX 2.7.4 / ECE R13 annex 11

axle 1 : reference axle: SAF	SBW 1937-...	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 13.10.2008
axle 2 : reference axle: SAF	SBW 1937-...	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 13.10.2008
axle 3 : reference axle: SAF	SBW 1937-...	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 13.10.2008
axle 4 : reference axle: SAF	SBW 1937-...	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 13.10.2008

calc. verific. of residual (hot) braking force type III
(item 4.2 of appendix I to annex VII)

axle 1	(rdyn 421 mm)	T = 22.3 % Pe
axle 2	(rdyn 421 mm)	T = 22.3 % Pe
axle 3	(rdyn 421 mm)	T = 18.9 % Pe
axle 4	(rdyn 421 mm)	T = 18.9 % Pe

calculated actuator stroke in mm
(item 4.3.1.1 of appendix I to annex VII)

axle 1	(sp = 57 mm)	s = 39 mm
axle 2	(sp = 57 mm)	s = 39 mm
axle 3	(sp = 56 mm)	s = 39 mm
axle 4	(sp = 56 mm)	s = 39 mm

average thrust output in N at pm = 6,5 bar (however max. pcha = 7,0 bar)

axle1	ThA = 5588 N
axle2	ThA = 5588 N
axle3	ThA = 4385 N
axle4	ThA = 4385 N

calc. residual (hot) braking force in N
(item 4.3.1.4 of appendix I to annex VII)

axle 1	(rdyn 421 mm)	T = 33284 N
axle 2	(rdyn 421 mm)	T = 33284 N
axle 3	(rdyn 421 mm)	T = 26161 N
axle 4	(rdyn 421 mm)	T = 26161 N

basic test of subject trailer (z)	type III (calculated) residual (hot)braking
-----------------------------------------	------------------------------------------------------

braking rate of the vehicle (item 4.3.2 to appendix I to annex VII)	0.55	0.43
------------------------------------------------------------------------	------	------

required braking rate (items 1.3.3 and 1.6.2 to annex II)	>= 0,4 and >= 0,6*z (0.33)
--------------------------------------------------------------	-------------------------------

calc. residual (hot) braking force in N
(item 4.3.1.4 of appendix I to annex VII)

axle 1	(rdyn 421 mm)	T = 33284 N
axle 2	(rdyn 421 mm)	T = 33284 N
axle 3	(rdyn 421 mm)	T = 26161 N
axle 4	(rdyn 421 mm)	T = 26161 N

basic test of subject trailer (z)	type III (calculated) residual (hot)braking
-----------------------------------------	------------------------------------------------------

braking rate of the vehicle (item 4.3.2 to appendix I to annex VII)	0.55	0.43
------------------------------------------------------------------------	------	------

required braking rate (items 1.3.3 and 1.6.2 to annex II)	>= 0,4 and >= 0,6*z (0.33)
--------------------------------------------------------------	-------------------------------

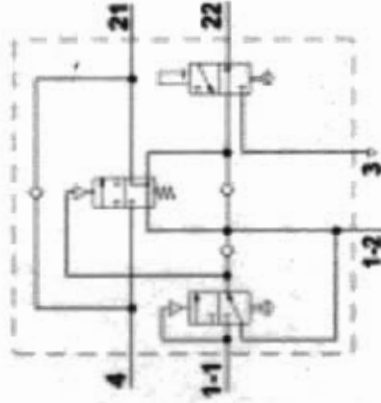
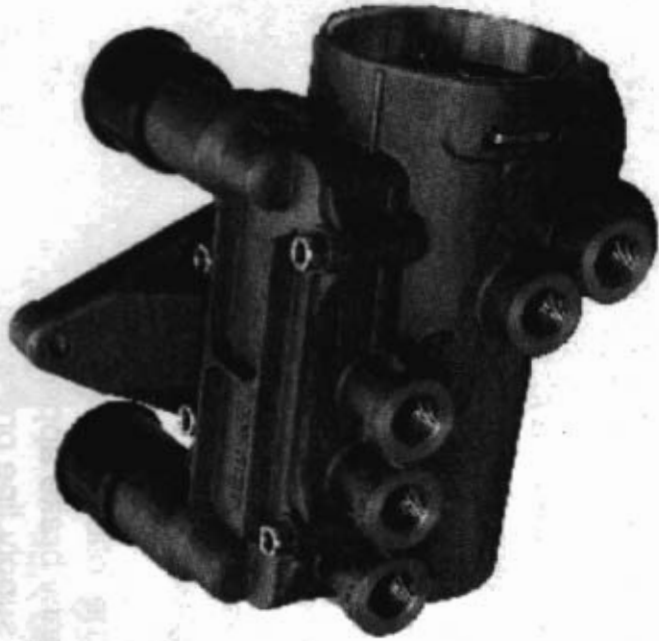


WABCO

Fleet operators

Market information

Park-release emergency valve (PREV) | 971 002 900 0



Market information

Technical information release: Wabco PREV ID # 971 002 900 0

Trailers in the fleet may be equipped with Wabco's Park Release Emergency Valve (PREV) - subject to an approved exemption notice attached to the trailer (similar to the brake compliance plate).

The PREV replaces the standard Spring Brake Control & Yard Release valves to significantly enhance vehicle control & stability. The valve may be fitted as O.E. or as a retrofit package.

The valve will be located mid way down the side of the chassis rail & can be identified by the prominent Red & Black control knobs spaced 120mm apart, housed in one assembly.

The trailer equipped with a PREV & used in conjunction with EBS brake control systems will have proportional & modulated (ABS) braking through actuation of the service brakes, rather than the spring brakes, when the Emergency brake is operated.

If any of the following events occur;

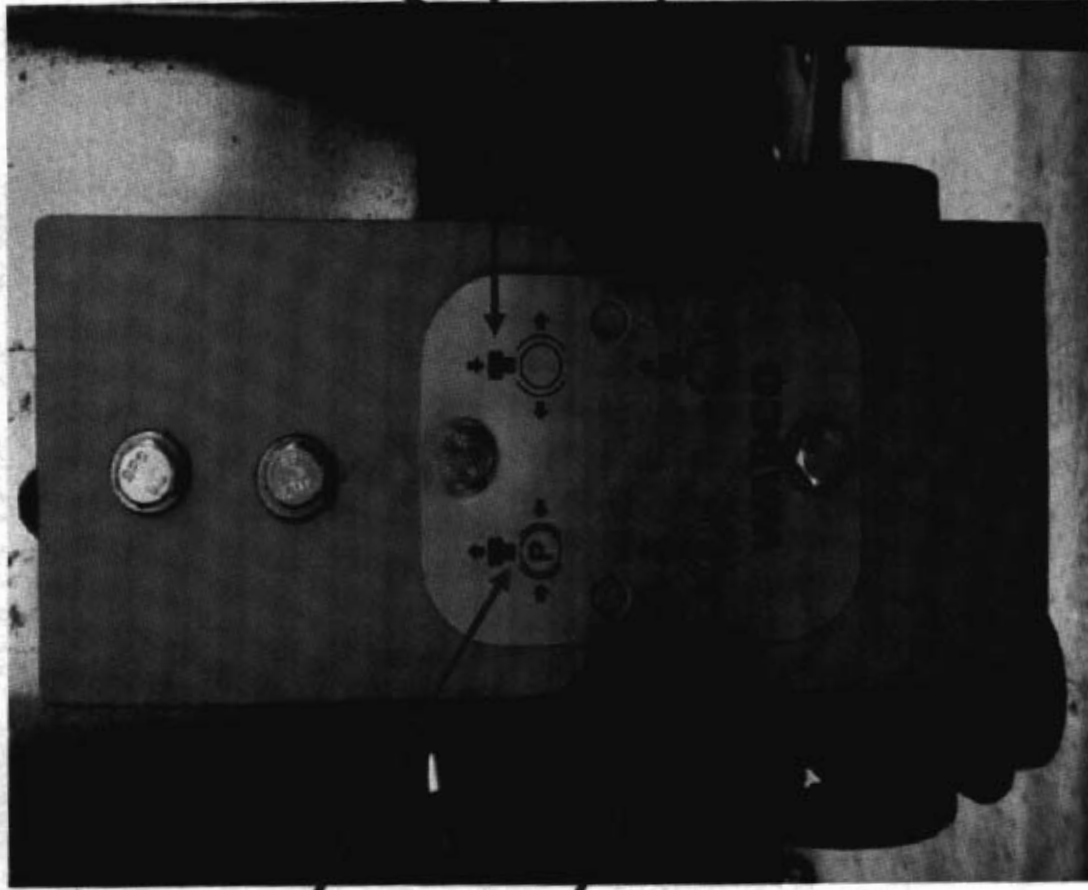
- Emergency brake application (via cab control)
- Drop in supply line pressure (< 310 kPa)
- Supply line rupture ...

...the improved operational characteristic of the emergency brake function prevents wheel lock & the prevalent tyre damage associated with it. More importantly though a Service brake application provides optimum stability by ensuring full directional control of the vehicle is maintained.

Application of the park brake via the cab control will apply all Service Brakes on the trailer. Should the system pressure drop the trailer Spring Brakes will automatically apply.

When the trailer is presented for COF the park brake system performance is checked by pulling the Red control knob on the PREV assembly. The park brake control in the cab does not have to be applied during the park brake test at COF.

Market information



The trailer Park brake is applied by pulling the Red control knob. The Parking Brake performance of the trailer is therefore checked on the Brake Roller Machine by pulling the Red park brake control knob.

If the trailer is detached from the prime mover, please apply the Park brake.

When the park brake is applied in the towing vehicle, the Service brakes are applied on the trailer.

The Black control knob is used to manoeuvre the trailer when not connected to a prime mover.

Push the control knob in to release the Service brakes — pull the control knob out to reapply the Service brakes.

If the control knob is left pushed in it will automatically 'pop-out' when the prime mover is re-coupled, the supply lines reconnected & the Park brake control in the cab is released.

Market information

An Emergency Brake application will apply the Service brakes. The vehicle operator should notice the event & will be able to safely manoeuvre the combination to a controlled stop.

However, if the operator is initially unaware of a problem the illuminated EBS/ABS warning lamp will indicate that a problem exists.

TEBS is a self-monitoring system & may generate a fault code similar to the example illustrated below.

The importance of monitoring & reporting the ABS/EBS warning lamp events cannot be stressed enough & must be reported immediately. It is recommended Service providers check the TEBS diagnostic memory at each service interval. This operation takes approx 5 minutes.

Pneumatic Control line/ Residual pressure

Page 1 of 1

Pneumatic Control line/ Residual pressure

Residual pressure has been detected in the pneumatic control line (yellow coupling head).

The fault is detected when the desired-pressure sensor measures a pressure > 0.3 bar and the vehicle speed increases by 30 km/h.

(Plausibility: The vehicle cannot accelerate and brake at the same time.)

Are pipes kinked or blocked?

Is the trailer control valve in the towing vehicle OK?