



Heavy Vehicle Specialist Certificate

Vehicle Identification Number (VIN) / Chassis Number / Registration Number

NAME OF THE SPECIALIST
CHRIS CLARKE

ETC

7A9D3501301023210

Vehicle Type: Light Vehicle Heavy Vehicle
Category: Light Vehicle Heavy Vehicle

HUEK

CARRY OUT COMPLIANCE OF TRAILER TO NZ HEAVY VEHICLE BRAKE RULE.

ROLL STABILITY FUNCTION ACTUATED

Comments (if any):

HUB12 3015/2 SCHED 5

Comments (if any):

300000KG

Comments (if any):

N/A

Supporting Documents:

Brake Design Certificate - JH131113
TRC EXEMPTION RCF - HUB13/485.

Special Conditions:

WARNING LIGHT MUST ILLUMINATE WHEN IGNITION SWITCHED ON - THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE EXCEEDS 7KPH.

Certificate Expiry Date:

N/A

or

Hubodometer Reading (as per certificate):

Declaration

I, the undersigned, being the Heavy Vehicle Specialist, hereby declare that the information provided above is true and valid, and that I am a duly qualified and licensed Heavy Vehicle Specialist under the Heavy Vehicle Regulations 2004. I also declare that I am not aware of any circumstances that would prevent the Certificate being issued.

Signature of Specialist:

Date of Issue:

08-12-2013

457715

WABCO

START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2013-08-07	Serial number	897001484800N
Serial number (modulator)	000000022836		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2013-12-13 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
HXS 380 x 220

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT			GIO	Pin1	Pin3	Pin4
TYP TYPE TYPE	4AFT TIPPER			1	---	---	---
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9D35013D1023210			2	---	---	---
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO CALCUL DE FREINAGE NO	TP50942A			3	ALS2	ALS2	---
POLRADZAHNZAHL c-d e f POLE WHEEL TEETH c-d e f DENTS ROUE DENTEE c-d e f	100	100	ABS-System ABS-System Systeme ABS	4	---	---	---
			4S/3M	5	DIAG	DIAG	DIAG
RSS RSS RSS	Einfachbereifung Single Tyre Monte simple		Lenkachse Steering axle Essieu vireur	6	---	---	---
	Zwillingsbereifung Twin Tyre Monte jumellee	X	Kippkritisches Fahrzeug Critical Trailer Vehicule critique	7	---	---	---
Subsystems	---	I/O	24N				

ACHSE AXLE ESSEU	pm (bar)		6.5		pm (bar)		0.7		2.0		---		6.5		TYP TYPE	(mm)	(mm)	(bar)	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-				1.0	Pz
1	1500	0.8	1.9	7500	4.8	0.4	1.4	---	6.0	-	24	67	165	610	4700				
2	1500	0.8	1.9	7500	4.8	0.4	1.4	---	6.0	-	24	67	165	610	4700				
3	1250	0.6	1.2	7500	4.8	0.3	1.5	---	4.0	-	24 / 30	64	140	570	2662				
4	1250	0.6	1.2	7500	4.8	0.3	1.5	---	4.0	-	24 / 30	64	140	570	2662				
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---				

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	Not OK
EBS pressure test	Not tested	Lifting axle test	Not tested
Redundancy test	OK	ECAS distance sensor calibration	Not tested
ABS sensor assignment	OK	Distance sensor Axle load calibr	Not tested
RTR check	Not tested	Leak test	Not tested
Immobilizer test	Not tested	Signal outputs TEBS	Not tested
Signal inputs	Not tested		

Diagnostic memory ELEX	Not tested	Signal outputs ELEX	Not tested
TailGUARDlight	Not tested	TailGUARD	Not tested

Manufacturer	DOMETT	Vehicle ident. no	7A9D35013D1023210
Vehicle type	4AFT TIPPER	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tested by	Chris Clarke	<div style="text-align: right;">Signature </div>	
Date	2013-12-13 8:43:32 a.m.		

Exemption: HVB13/485

**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, Jackie Hartley, Administrator (Assessments) 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: Vehicle Details:

Make/Model: **Domett Trailers Ltd, 5 Axle Full Trailer**
VIN/Chassis: **7A9D35013D1023210**

Schedule 2: Exempted Requirement:

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 Gough Transpecs or an NZ Transport Agency appointed HVEK certifier acting on behalf of, and under instruction from, Gough Transpecs; Gough Transpecs must keep a written record of all approvals.
- 5) The HVEK certifier in 4) must be fully trained in end of line procedures for Wabco electronically controlled braking systems.
- 6) Gough Transpecs must provide full operator training in the use of the PREV and furnish the operator with full written operating instructions for the PREV.
- 7) The vehicle must not be modified in any way while operating under this exemption.
- 8) This original exemption must be kept by Gough Transpecs.
- 9) 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.
- 10) The sticker in 9) must be legible and include all printed areas of this original exemption letter.
- 11) This exemption can be revoked at any time in writing by the NZ Transport Agency.

Signed at Wellington this 27th day of November 2013

Jackie Hartley
Administrator (Assessments)

trailer (full, semi-, centre-axle) with air brake system acc. to UN/ECE-R.13.11

please note!

This brake calculation is made under consideration of
 -the legal prescriptions mentioned above in the version valid at the time of making the program (V6 13.06.12)
 -the functional characteristics of our products as well as the data of the brake out of the test approvals of the axle 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).
 In any case we commend to do a braking harmonisation!
 WABCOBrake V6.13.06.12 db 12.06.2013

distribution: DOMETT
 7A9D35013D1023210
 SODC: JH131113
 PREV: HVB13/485

vehicle manufacturer: DOMETT
 trailer model : 4AFT TIPPER
 trailer type : 4-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS E
 TRISTOP 3+4: 24/30
 265/70 R 19,5

axle 1 + 2 + 3 + 4 : Hendrickson, HXS 15 x 8.625, 04F108,

		unladen	laden
total mass	P in kg	5500	30000
axle 1	P1 in kg	1500	7500
axle 2	P2 in kg	1500	7500
axle 3	P3 in kg	1250	7500
axle 4	P4 in kg	1250	7500
wheel base	E in mm	4600 - 4600	
centre of gravity height	h in mm	1250	2070

	axle 1	axle 2	axle 3	axle 4
no. of combined axles	1	1	1	1
no. of brake chambers per axle line	2	2	2	2
The power output corresponds to	BC 0029.0BC	0029.0BC	0051.0BC	0051.0
brake chamber manufacturer	WABCO	WABCO	WABCO	WABCO
chamber size	24	24	24/30	24/30
lever length	165	165	140	140
brake factor	8.70	8.70	8.70	8.70
dyn. rolling radius	421	421	421	421
dyn. rolling radius	421	421	421	421
threshold torque	20.0	20.0	20.0	20.0

calculation:	axle 1	axle 2	axle 3	axle 4
chamber pressure (rdyn min) pH at z=22,5%bar	2.1	2.1	1.9	1.9
chamber pressure (rdyn max) pH at z=22,5%bar	2.1	2.1	1.9	1.9
chamber press. (servo) pcha at pm6,5bar bar	6.0	6.0	4.0	4.0
piston force ThA at pm6,5bar N	8408	8408	5621	5621
brake force (rdyn min) T lad. at pm6,5bar N	57247	57247	32434	32434
brake force (rdyn max) T lad. at pm6,5bar N	57247	57247	32434	32434
brake force within 1 % rolling friction proportion	26.9	26.9	23.1	23.1

braking rate z laden 0.609 for rdyn min
 z = sum (TR)/PRmax 0.609 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: 480 102 ... 0 WABCO
 EBS trailer modulator

brake cylinder: WABCO 423 106 90. 0 / 423 106 96x 0

axle 2:

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

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

brake cylinder: WABCO 423 106 90. 0 / 423 106 96x 0

axle 3:

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

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

brake cylinder: WABCO 925 376 005 0 / 925 376 2... 0

axle 4:

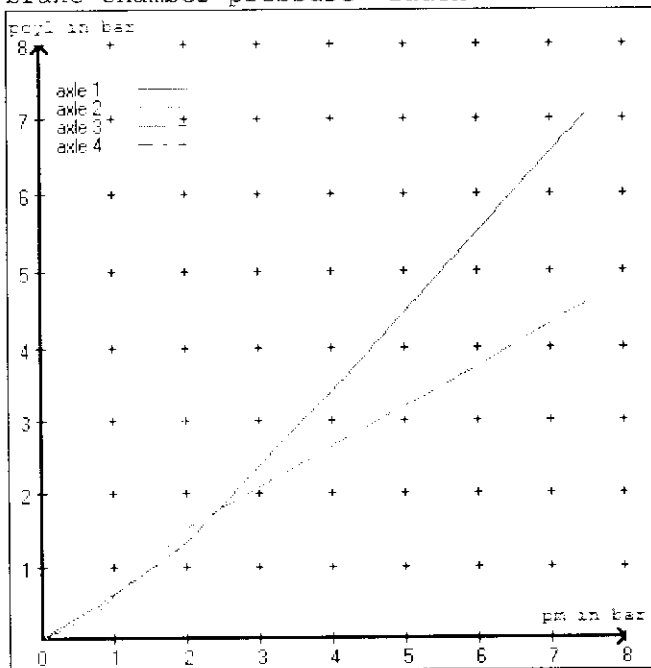
valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

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

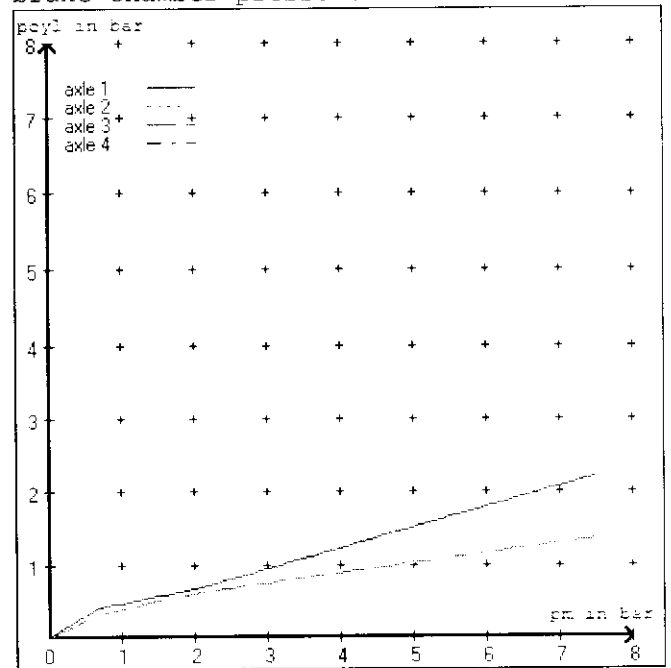
brake cylinder: WABCO 925 376 005 0 / 925 376 2... 0

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 3.5 bar =>	pcha in bar :	2.9	2.9	2.3	2.3	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 1.2 bar =>	pcha in bar :	0.7	0.7	0.7	0.7	

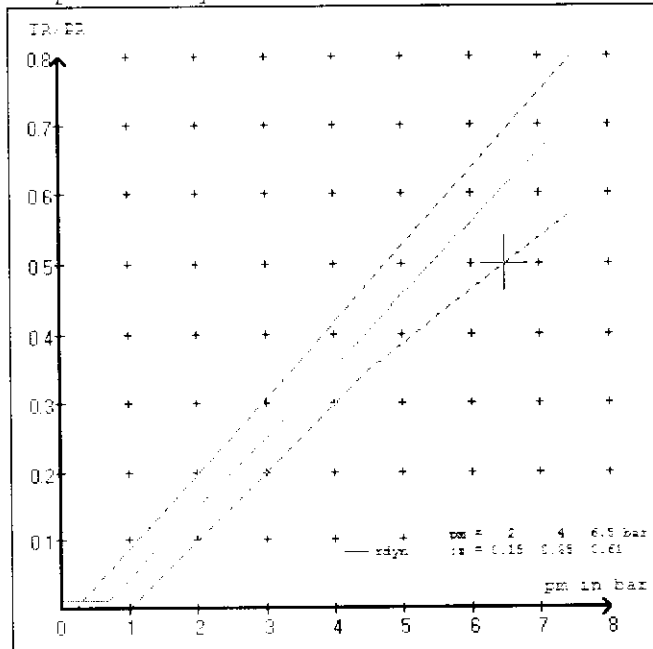
brake chamber pressure laden



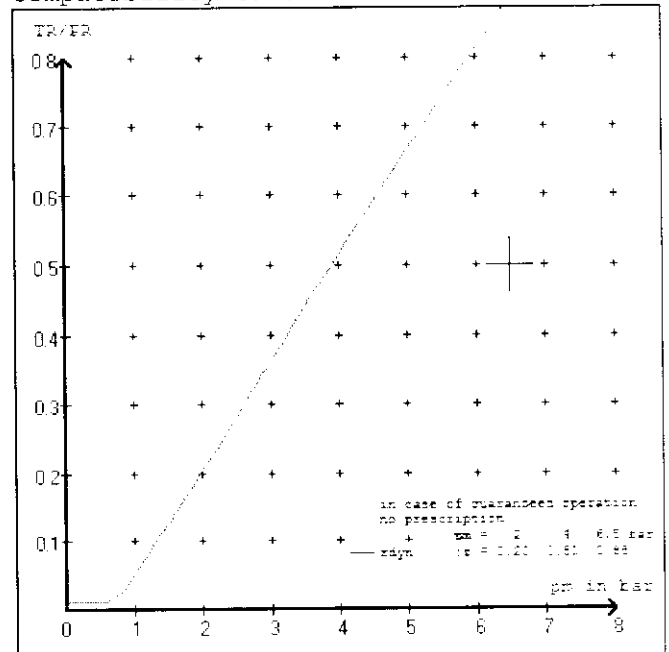
brake chamber pressure unladen



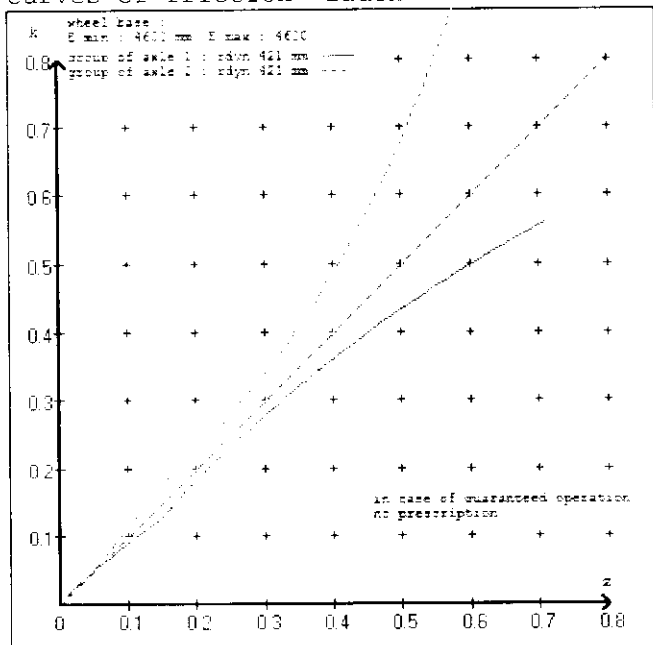
compatibility band laden



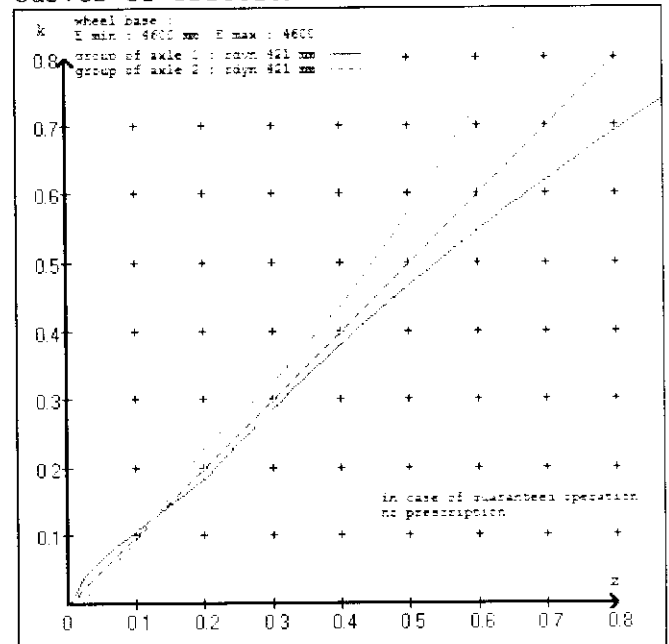
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT
 trailer model : 4AFT TIPPER
 trailer type : 4-axle-full-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter 24 (WABCO) lever length 165 mm
 axle 2 : 2 x type/diameter 24 (WABCO) lever length 165 mm
 axle 3 : 2 x type/diameter 24/30 (WABCO) lever length 140 mm
 axle 4 : 2 x type/diameter 24/30 (WABCO) lever length 140 mm

brake diagram :

valve :

971 002 ... 0 WABCO EBS emergency valve
 480 102 ... 0 WABCO EBS trailer modulator
 480 207 0.. 0 WABCO EBS relay valve or 480 207 2.. 0

EBS input data

=====
 vehicle manufacturer: DOMETT
 trailer model : 4AFT TIPPER
 trailer type : 4-axle-full-trailer
 brake calculation no. : TP 50942A

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

assignment pm / deceleration z: pm 0.7 bar z = 0.010
 (laden condition) 2.0 bar z = 0.140
 6.5 bar z = 0.600

control pressure pm			6,5	control pressure pm			0.7	2.0	6.5
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden			
1	1500	to be	1.9	7500	to be	0.4	1.3	6.0	
2	1500	entered by the vehicle manufact.	1.9	7500	entered by the vehicle manufact.	0.4	1.3	6.0	
3	1250		1.2	7500		0.3	1.5	4.0	
4	1250		1.2	7500		0.3	1.5	4.0	
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.

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axle 1	axle 2	axle 3	axle 4
axle load pcyl	axle load pcyl	axle load pcyl	axle load pcyl
1500	1.9	1500	1.9
2000	2.2	1250	1.2
2500	2.6	1750	1.4
3000	2.9	2250	1.6
3500	3.3	2750	1.9
4000	3.6	3250	2.1
4500	3.9	3750	2.3
5000	4.3	4250	2.5
7500	6.0	4750	2.8
		7500	4.0

data sheet to ECE vehicle type-approval certificate concerning braking equipment: according to ECE R13 annex 11

axle 1	: reference axle: HendricksonINTRAAX	brake lining: Abex 3030-197
	test report : 04F108	date : 08/25/04
axle 2	: reference axle: HendricksonINTRAAX	brake lining: Abex 3030-197
	test report : 04F108	date : 08/25/04
axle 3	: reference axle: HendricksonINTRAAX	brake lining: Abex 3030-197
	test report : 04F108	date : 08/25/04
axle 4	: reference axle: HendricksonINTRAAX	brake lining: Abex 3030-197
	test report : 04F108	date : 08/25/04

calc. verif. of residual (hot) braking force type III
(item 4.2.1 of appendix 2 to annex 11)

axle 1	(rdyn 421 mm)	T = 25.2 % Fe
axle 2	(rdyn 421 mm)	T = 25.2 % Fe
axle 3	(rdyn 421 mm)	T = 17.7 % Fe
axle 4	(rdyn 421 mm)	T = 17.7 % Fe

calculated actuator stroke in mm
(item 4.3.1.1 of appendix 2 to annex 11)

axle 1	(sp = 71 mm)	s = 50 mm
axle 2	(sp = 71 mm)	s = 50 mm
axle 3	(sp = 63 mm)	s = 42 mm
axle 4	(sp = 63 mm)	s = 42 mm

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

axle1	ThA = 8408 N
axle2	ThA = 8408 N
axle3	ThA = 5621 N
axle4	ThA = 5621 N

calc. residual (hot) braking force in N
(item 4.3.1.4 of appendix 2 to annex 11)

axle 1	(rdyn 421 mm)	T = 59917 N
axle 2	(rdyn 421 mm)	T = 59917 N
axle 3	(rdyn 421 mm)	T = 34137 N
axle 4	(rdyn 421 mm)	T = 34137 N

	basic test	type III
	of subject	(calculated)
braking rate of the vehicle	trailer (E)	residual
(item 4.3.2 to appendix 2 to annex 11)	0.61	(hot)braking
		0.64

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.37)

axle 1	(rdyn 421 mm)	T = 59917 N
axle 2	(rdyn 421 mm)	T = 59917 N
axle 3	(rdyn 421 mm)	T = 34137 N
axle 4	(rdyn 421 mm)	T = 34137 N

	basic test	type III
	of subject	(calculated)
braking rate of the vehicle	trailer (E)	residual
(item 4.3.2 to appendix 2 to annex 11)	0.61	(hot)braking
		0.64

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.37)

spring parking brake

		<u>axle 3</u>	<u>axle 4</u>
no of TRISTOP-actuators per axle line KDZ		2	2
TRISTOP-actuator type		24/30	24/30
lever length	lBh in mm	140	140
stat. tyre radius	rstat max in mm	401	401
at a stroke of	s in mm	30	30
min. force of spring brake	TFZ in N	6360	6360
sp.brake chamber no 925		376 005 0376 005 0	
sp.brake chamber no 925		376 2.. 0376 2.. 0	
release pressure	pLs in bar	4.9	4.9

calculation:

ratio until road		3.0374	3.0374
iFb = lBh*Eta*C*rBt/(2*rBn*rstat)			
	for rstat in mm	401	401
brake force of spring br. Tf in N		37768	37768
Tf = (TFZ*KDZ-2*Co/lBh)*iFb			
braking rate	zf laden	0.267	
zf = sum (Tf)/P + 0,01			

Test of the frictional connection required by the parking brake

minimum wheelbase/minimum supporting width min Ef necessary to fulfil the regulations

$$\min Ef = E * (1 - PR/P + zferf * h/E) / (1 - zferf / (fzul * nf/ng))$$

min Ef = 3449 mm for E = 4600 mm

=====

min Ef = 3449 mm for E = 4600 mm

=====

- min Ef = minimum distance between front axle(s) (trailer) or support (semitraile and the rear axle(s) (resultant of the bogie)
- E = wheel base
- fzul = 0.80 maximum permissible frictional connection required
- zferf = 0.18 maximum required braking ratio of the parking brake
- h = 2070 mm height of center of gravity - laden
- PR = 15000 kg maximum bogie mass - laden
- P = 30000 kg maximum total mass - laden
- nf = 2 no. of axle(s) with TRISTOP spring brake actuators
- ng = 2 no. of bogie axle(s)

axle manufacturer	axle 1 + 2 + 3 + 4
type of brake	Hendrickson
type of axle	HXS 15 x 8.625
test report no.	INTRAAX
test report of characteristic value	04F108
adm. stat. axle load	Pstat in kg 10500
tested axle load	Pe in kg 10500
max. adm. tyre radius	Rez1 in mm 999
adm. cam. torque (6,5 bar)	Czul in Nm 2020
lining area per brake	AB in cm ² 1351
no. of brake cylinder	- 2
brakefactor Bf	- 8.70
threshold torque (Co,dec)	in Nm 20
date	08/25/04
brake lining	Abex 3030-197
cam torque	Ce in Nm 1480
brake force	TeIII in daN 5220
stroke	seIII in mm 46
tested tyre radius	Re in mm 516
tested lever length	le in mm 152
threshold torque (Co,e)	in Nm 9

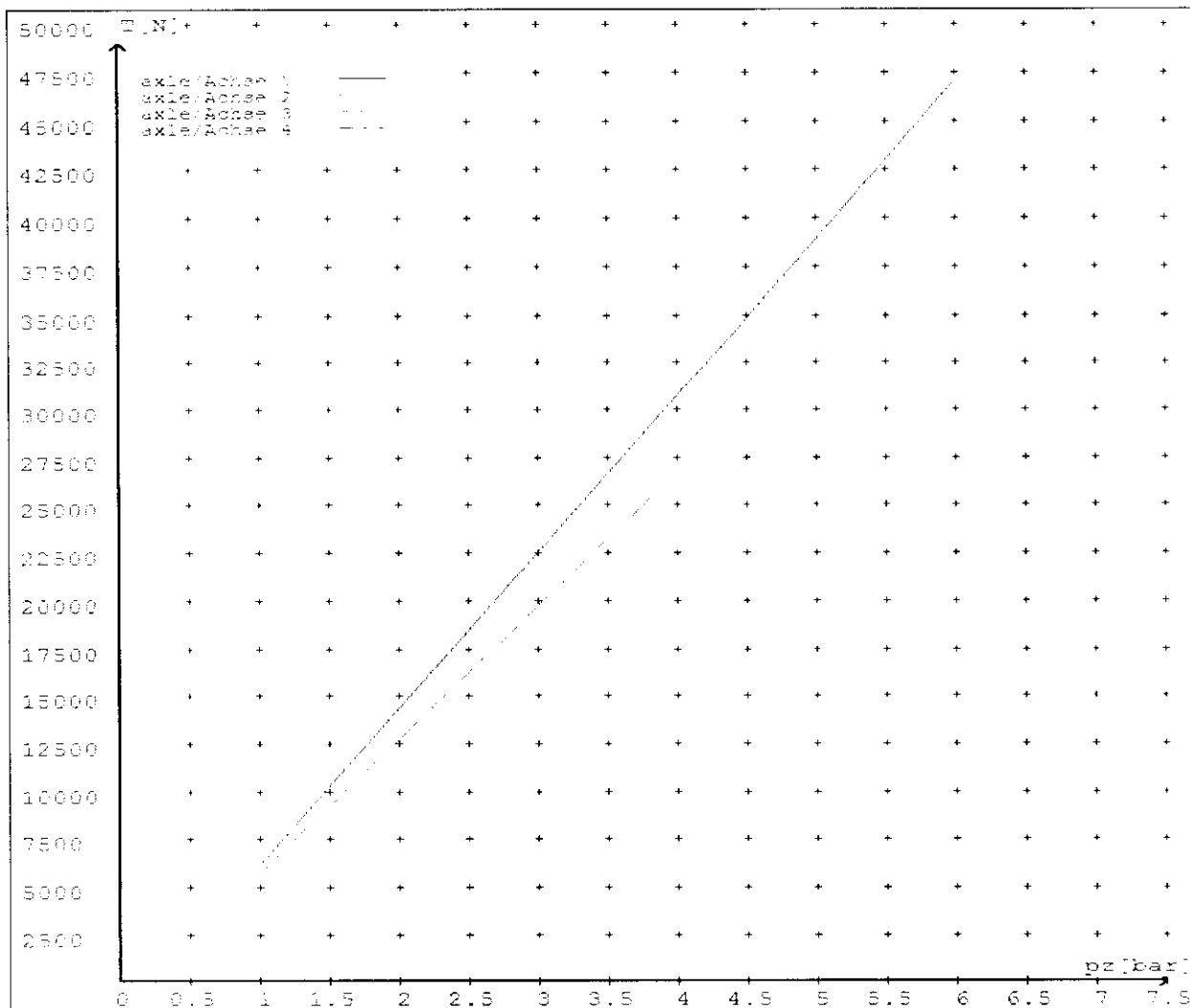
reference values

reference values for z = 50% for max rdyn: 421 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0	6101	
	6.0	47001	
axle 2	1.0	6101	
	6.0	47001	
axle 3	1.0		5707
	4.0		26628
axle 4	1.0		5707
	4.0		26628

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24/	24/	24/30	24/30	/
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	67	67	64	64	
Lever length = ...mm Hebellänge = ...mm	165	165	140	140	



reference values for $z = 0.5$

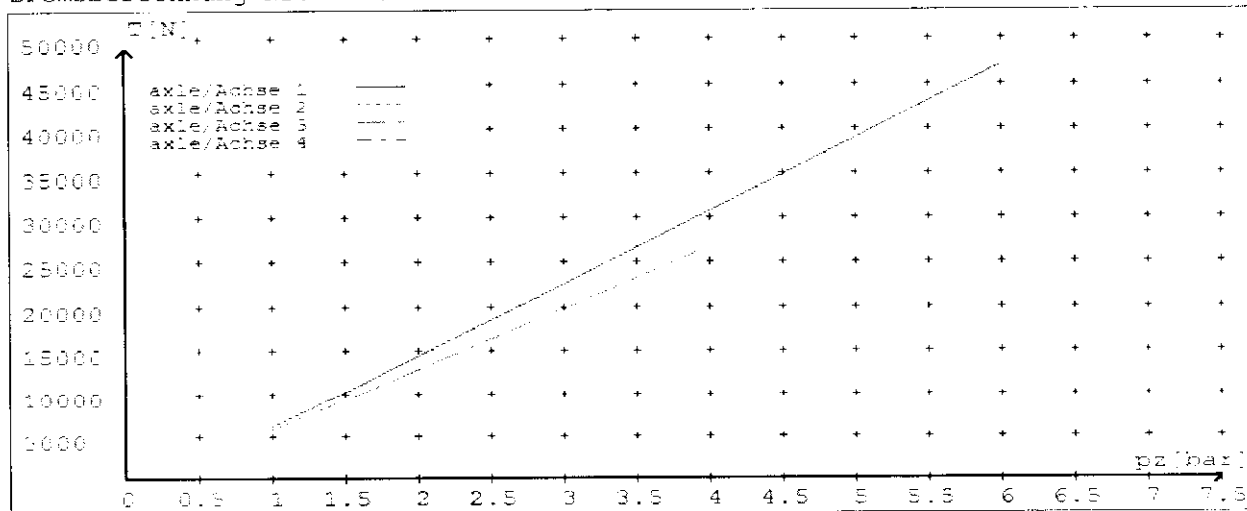
for max rdyn: 421 mm

Angabe der Referenzwerte für $z = 0.5$

für max rdyn: 421 mm

brake calculation no: TP 50942A date 07.11.2013

Bremsberechnung Nr: TP 50942A vom 07.11.2013



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24/	24/	24/30	24/30	/
Maximum stroke smax -mm maximaler Hub smax -mm	67	67	64	64	
Lever lengthmm Hebelängemm	165	165	140	140	

HVBR WORKSHEET

(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No.

CUSTOMER NAME

CUSTOMER ORDER No.

DATE RECEIVED

VEHICLE TYPE

REG No.

CHASSIS No.

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:

Type: 24S (TSE): Max stroke = 67 mm Lever length = 165 mm

Type: 2430GC (TSE): Max stroke = 64 mm Lever length = 140 mm

Ratio Valve Setting: EBS CONTROL WITH RSS ACTIVATED

Test Points: 3 4 5 7

FRICITION LINING:

(All) Lining Brand

OEM

Aftermarket

ABEX 3030-197

EBS CONTROL: SPECIAL CONDITIONS APPLY - SEE INSTRUCTION ON L1400

VALVES: AS PER DATA SHEET ATTACHED & SO1542818

TYRE SIZE: 265 70 R 19.5

NOTES


PACKING SLIP NO.

PROCESS TIME:

WABCO Brake calculation TP50942: WABCO CHAMBERS ARE TSE

COMPLETION DATE : 20th Nov 2013

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: 20th Nov 2013

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