



Heavy Vehicle Specialist Certificate

Must be presented to a Transport Service Delivery Agent
Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's Name (PRINT IN CAPS)

CHRIS CLARKE

ID

CJC

Vehicle Registration*

VIN / Chassis Number

7A9C20035D1023194

Component being certified:

Chassis Modification

Load Anchorage

Log Bolsters

Towing Connection

✓ Brakes

SRT

Certification Category

PSV Stability

PSV Rollover

Swept Path

HUEK

PBS

Description of Work

CARRY OUT SET UP OF TRAILER EBS SYSTEM.

Roll STABILITY FUNCTION ACTIVE.

Code/Standard Certified to

HUBNZ 32015/2 3EH0 S

Component Load Rating(s)

34000 KG.

General Drawing Number(s)

N/A.

Supporting Documents

Brake Design Certificate ~~BE~~ JH131011
PREV EXEMPTION HUB13/275.

*Special Conditions

WARNING LAMP MUST ILLUMINATE WHEN IGNITION SWITCHED ON + THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE EXCEEDS 7 KPH

Certification Expiry Date (if applicable)

N/A

or

Hubodometer Reading (whichever comes first)

Declaration

I, the undersigned, declare that I am the Heavy Vehicle Specialist Inspector identified above and I hold a current valid appointment. I certify that the above mentioned vehicle component's design, manufacture and installation, and this certification comply in all respects with the Land Transport Rule Vehicle Standards Compliance 2002 and my Deed of Appointment. To the best of my knowledge the information contained in this Certificate is true and correct.

Designer's ID (if verified by a manufacturer)

Inspector's / Delegate's Signature

*Delegate's/Inspector's Name (PRINT IN CAPS)

ID number

Date

17.10.2013

Number

450522

COF Vehicle Inspector's ID
















COF Vehicle Inspector Signature:

Date

All fields excluding those marked with * must be completed before this certificate can be accepted.

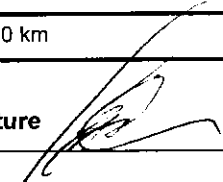
WABCO START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2013-05-06	Serial number	897001366300E
Serial number (modulator)	000000021693		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2013-10-10 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO		TRAILER EBS-E		GGVS/ADR TUEH TB 2007 - 019.00 TDB 0749											
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT			GIO	Pin1	Pin3	Pin4								
TYP TYPE TYPE	3AS B FRONT			1	---	---	---								
FAHRZEUG IDENTIFIKATION CHASSIS NUMBER NUMÉRO DE CHASSIS	7A9C20035D1023194			2	---	---	---								
BREMSENRECHNUNGS-NR BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP50919S			3	---	---	---								
POLRADZÄHNEZAHL c-d e-f POLE WHEEL TEETH c-d e-f DENTS ROUE DENTÉE c-d e-f	90	90	ABS-System ABS-System Systeme ABS	4	---	---	---								
RSS RSS RSS	Einfachbereifung Single Tyre Monte simple	X	Lenkachse Steering axle Essieu vireur	5	DIAG	DIAG	DIAG								
	Zwillingsbereifung Twin Tyre Monte jumelée		Kippkritisches Fahrzeug Critical Trailer Vehicule critique	6	---	---	---								
Subsystems	SB	I/O	24N	7	---	---	---								
															
															
	pm (bar)	6.5	pm (bar)	0.7	2.0	---	6.5								
ACHSE AXLE ESSIEU							pz								
1	1200	0.5	1.7	6600	4.3	0.4	1.4	---	5.4	-	14 / 16	64	69	436	2915
2	1200	0.5	1.7	6600	4.3	0.4	1.4	---	5.4	-	14 / 16	64	69	436	2915
3	1200	0.5	1.7	6600	4.3	0.4	1.4	---	5.4	-	14	64	69	436	2915
4	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	Not tested
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	7A9C20035D1023194
Vehicle type	3AS B FRONT	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tested by	Chris Clarke	Signature 	
Date	2013-10-10 4:44:15 p.m.		

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

distribution: DOMETT
 7A9C20035D1023194
 SODC: JH131011
 PREV: HVB13/275

please note!

This brake calculation is made under consideration of
 -the legal precriptions 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!
 WABCO Brake V6.13.06.12 db 12.06.2013

vehicle manufacturer: DOMETT
 trailer model : 3AS B FRONT
 trailer type : 3-axle-semi-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS
 TRISTOP 1+2: T.14/24
 265/70 R 19,5

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

		<u>unladen</u>		<u>laden</u>	
total mass	P in kg	5000	- 6000	30000	- 34000
king-pin	PS kg	1400	- 2400	10200	- 14200
axle 1	P1 in kg		1200		6600
axle 2	P2 in kg		1200		6600
axle 3	P3 in kg		1200		6600
total axle mass	PR in kg		3600		19800
wheel base	E in mm	6900	- 6900		
centre of gravity height	h in mm		1210		2183
K-factor		Kv min	1.8320	Kc min	0.9760
K-factor		Kv max	1.8326	Kc max	1.0036

		<u>axle 1</u>	<u>axle 2</u>	<u>axle 3</u>
no. of combined axles		1	1	1
no. of brake chambers per axle line	KDZ	2	2	2
The power output corresponds to		BZ 119.6	BZ 119.6	BZ 122.1
brake chamber manufacturer		Meritor	Meritor	Meritor
chamber size		T.14/216	T.14/16	14.
lever length	lBh in mm	69	69	69
brake factor	[-]	23.03	23.03	23.03
dyn. rolling radius	rdyn min in mm	421	421	421
dyn. rolling radius	rdyn max in mm	421	421	421
threshold torque	Co Nm	6.0	6.0	6.0

calculation:

chamber pressure (rdyn min) pH at z=22,5%bar	2.1	2.1	2.1
chamber pressure (rdyn max) pH at z=22,5%bar	2.1	2.1	2.1
chamber press. (servo) pcha at pm6,5bar bar	5.4	5.4	5.4
piston force ThA at pm6,5bar N	5187	5187	5187
brake force (rdyn min) T lad. at pm6,5bar N	39192	39192	39192
brake force (rdyn max) T lad. at pm6,5bar N	39192	39192	39192
brake force within 1 % rolling friction proportion	%	33.3	33.3

braking rate z laden 0.605 for rdyn min
 z = sum (TR)/PRmax 0.605 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: Meritor 1416HTLD64

axle 2:

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

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

brake cylinder: Meritor 1416HTLD64

axle 3:

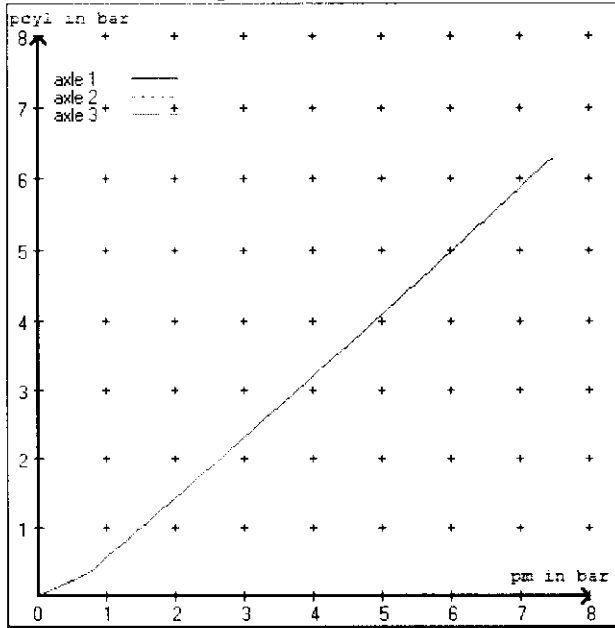
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

valve 2: 480 102 ... 0 () WABCO or 480 207 0.. 0 / 2.. 0
EBS trailer modulator

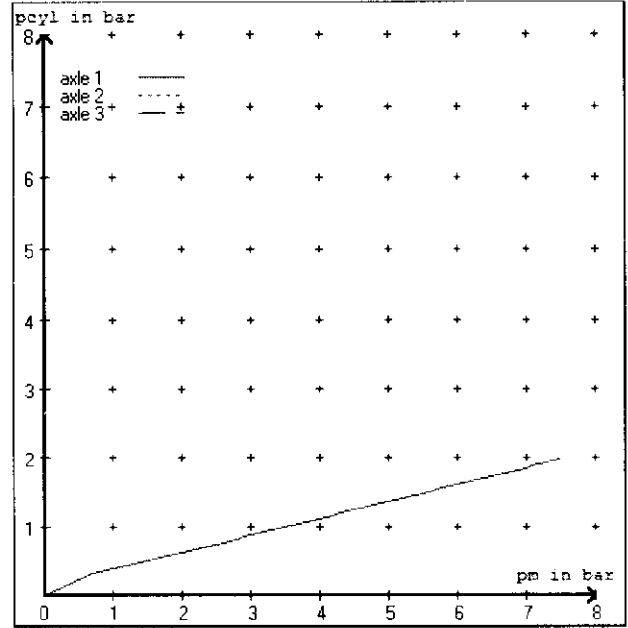
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30) for rdyn min : axle1 axle2 axle3
at pm 3.6 bar => pcha in bar : 2.8 2.8 2.8
test type III (zIII = 0.06) for rdyn min : axle1 axle2 axle3
at pm 1.2 bar => pcha in bar : 0.7 0.7 0.7

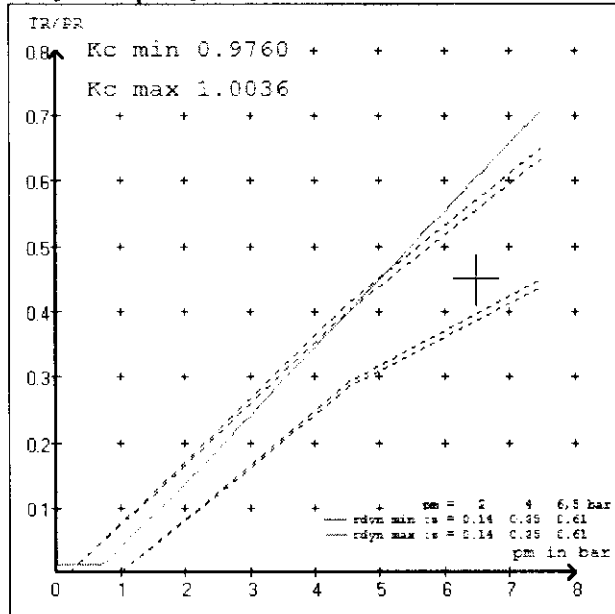
brake chamber pressure laden



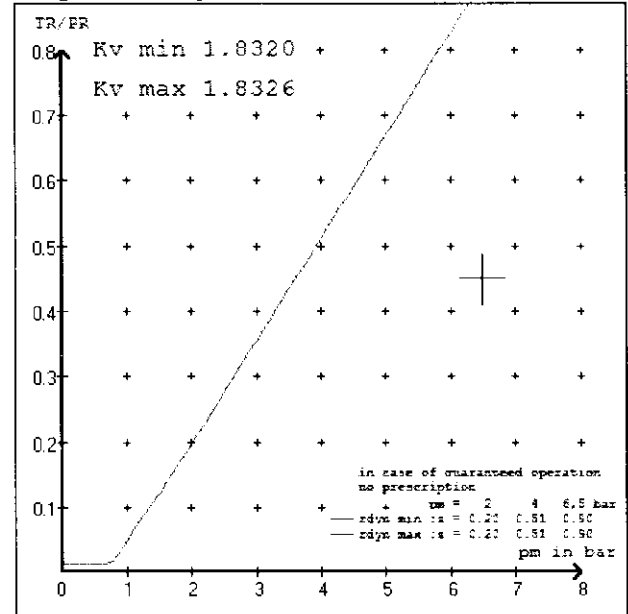
brake chamber pressure unladen



compatibility band laden



compatibility band unladen



vehicle manufacturer: DOMETT
 trailer model : 3AS B FRONT
 trailer type : 3-axle-semi-trailer

brake chamber and lever length :

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

brake diagram :

valve :

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

EBS input data

=====

vehicle manufacturer: DOMETT
 trailer model : 3AS B FRONT
 trailer type : 3-axle-semi-trailer
 brake calculation no. : TP 50919S

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 = 0.142
 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	1200	to be	1.7	6600	to be	0.3	1.4	5.4
2	1200	entered by	1.7	6600	entered by	0.3	1.4	5.4
3	1200	the vehicle	1.7	6600	the vehicle	0.3	1.4	5.4
4	0	manufact.	0,0	0	manufact.	0,0	0,0	0,0
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.

=====

axle 1	axle 2	axle 3
axle load pcy1	axle load pcy1	axle load pcy1
1200	1.7	1200
1700	2.0	1700
2200	2.4	2200
2700	2.7	2700
3200	3.1	3200
3700	3.4	3700
4200	3.8	4200
4700	4.1	4700
6600	5.4	6600

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

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 = 19.4 % Fe
axle 2	(rdyn 421 mm)	T = 19.4 % Fe
axle 3	(rdyn 421 mm)	T = 19.4 % Fe

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

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

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

axle1	ThA = 5187 N
axle2	ThA = 5187 N
axle3	ThA = 5187 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 = 30870 N
axle 2	(rdyn 421 mm)	T = 30870 N
axle 3	(rdyn 421 mm)	T = 30870 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
		0.48

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.36)

axle 1	(rdyn 421 mm)	T = 30870 N
axle 2	(rdyn 421 mm)	T = 30870 N
axle 3	(rdyn 421 mm)	T = 30870 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
		0.48

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.36)

spring parking brake

	<u>axle 1</u>	<u>axle 2</u>
no of TRISTOP-actuators per axle line KDZ	2	2
TRISTOP-actuator type	T.14/16	T.14/16
lever length lBh in mm	69	69
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	6160	6160
sp.brake chamber no Meritor.....	4	4
release pressure pLs in bar	4.5	4.5

calculation:

ratio until road	3.9674	3.9674
iFb = lBh*Eta*C*rBt/(rBn*rstat)		
for rstat in mm	401	401
brake force of spring br. Tf in N	48188	48188
Tf = (TFZ*KDZ-2*Co/lBh)*iFb		
braking rate zf laden	0.506	

Test of the frictional connection required by the parking brake

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

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

min Ef = 4943 mm for E = 6900 mm
 =====
 min Ef = 4943 mm for E = 6900 mm
 =====

min Ef = minimum distance between front axle(s) (trailer) or support (semitrailer)
 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 = 2183 mm height of center of gravity - laden
 PR = 19800 kg maximum bogie mass - laden
 P = 34000 kg maximum total mass - laden
 nf = 2 no. of axle(s) with TRISTOP spring brake actuators
 ng = 3 no. of bogie axle(s)

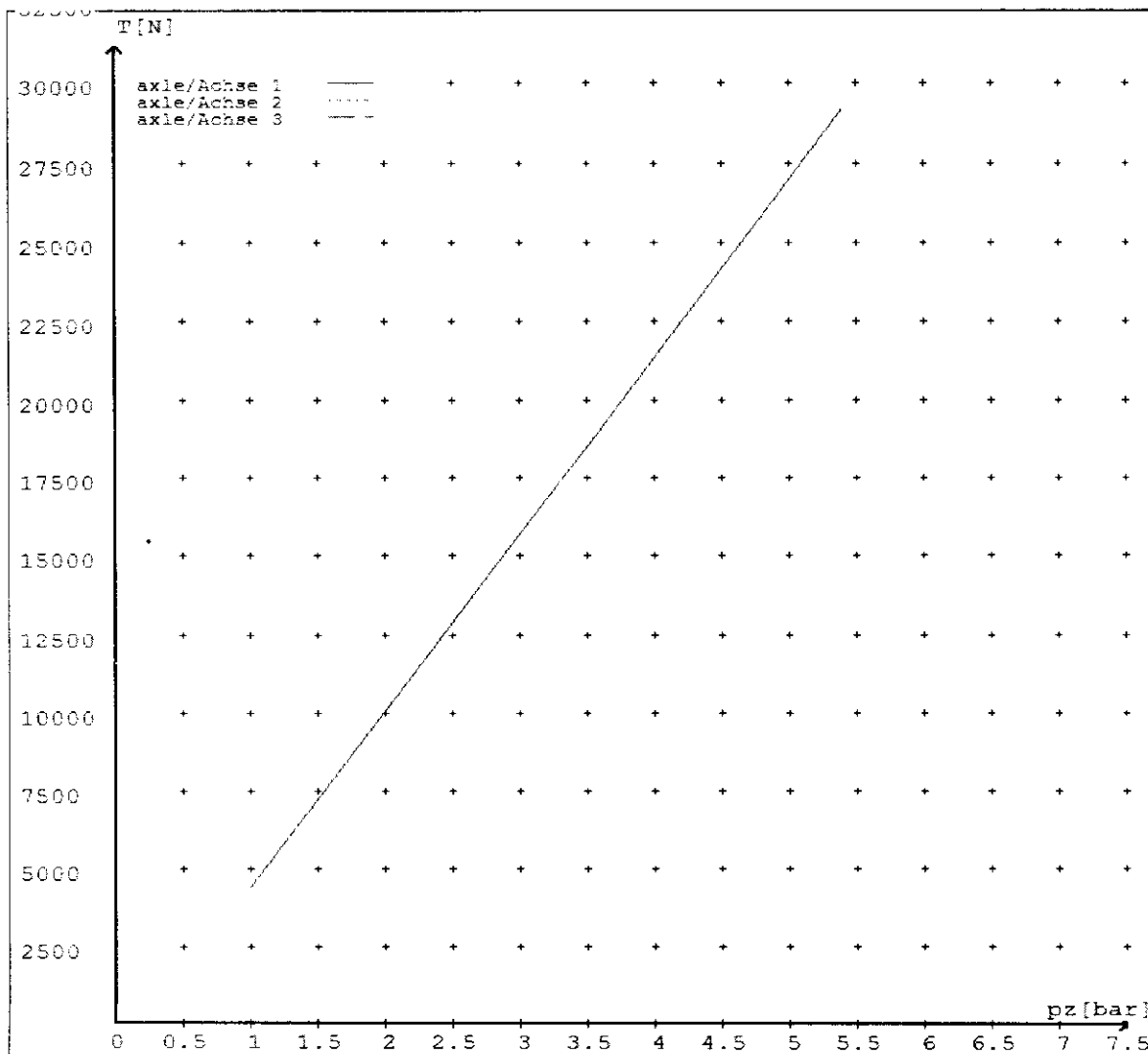
reference values

reference values for z = 45% for max rdyn: 421 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0		4367
	5.4		29151
axle 2	1.0		4367
	5.4		29151
axle 3	1.0		4367
	5.4		29151

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	T.14/16	T.14/16	14./	/	/
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	64	64	64		
Lever length = ...mm Hebellänge = ...mm	69.08	69.08	69.08		



reference values for $z = 0.45$

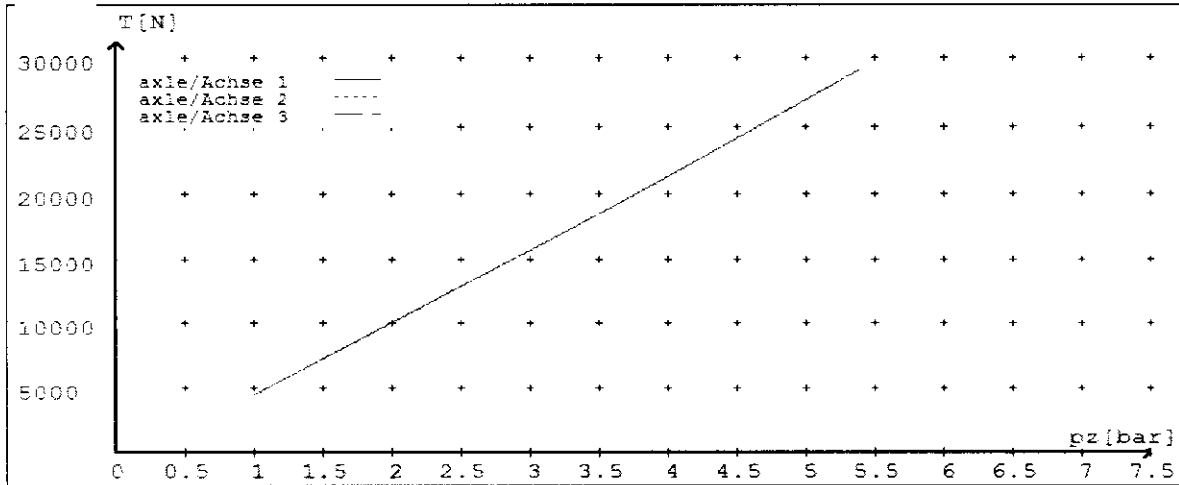
for max r_{dyn}: 421 mm

Angabe der Referenzwerte für $z = 0.45$

für max r_{dyn}: 421 mm

brake calculation no: TP 50919S date 10.10.2013

Bremsberechnung Nr: TP 50919S vom 10.10.2013



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	T.14/16	T.14/16	14./	/	/
Maximum stroke s _{max} = ...mm maximaler Hub s _{max} = ...mm	64	64	64		
Lever length = ...mm Hebellänge = ...mm	69.08	69.08	69.08		



NZ TRANSPORT AGENCY
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Exemption: HVB13/275

**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 T & T Ltd, 3 Axle Semi (B Front)**
VIN/Chassis: **7A9C20035D1023194**

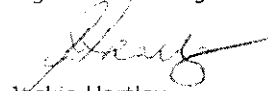
Schedule 2: Exempted Requirement:

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 13th day of August 2013


Jackie Hartley
Administrator (Assessments)