NZ TRANSPORT AGENCY
WAKA KOTAHI

Heavy Vehicle Specialist Certificate

Must be presented to a CoF (Heavy) Inspecting Organisation
Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's or Manufacturing Inspecting Organisation's Name *(PRINT IN CAPS)*: Chris Clarke

ID: CJC

Vehicle Registration*:

VIN/Chassis Number: 7A9C20025F1023349

Component being certified:

- [ ] Chassis Modification
- [ ] Load Anchorage
- [ ] Log Bolsters
- [ ] Towing Connection
- [X] Brakes
- [ ] SRT
- [ ] PSV Stability
- [ ] PSV Rollover
- [ ] Swept Path
- [ ] PBS

Certification Category: HVEK

Description of Work:

CERTIFY TO SCHEDULE 5

ROLL STABILTY FUNCTION ACTIVATED

Code/Standard/Rule Certified to: HVBR 32015/3 Schedule 5

Component Load Rating(s): 26000KG

General Drawing Number(s): N/A

Supporting Documents:

BRAKE RULE CERTIFICATE - JH150314

Special Conditions*:

WARNING LAMP MUST ILLUMINATE WHEN IGNITION IS SWITCHED ON & THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE SPEED 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 and I hold a current valid appointment. I certify that the above mentioned vehicle component's design, manufacture and installation, and this certification complies in all respects with the Land Transport Rule: Vehicle Standards Compliance 2002 and my Appointment. To the best of my knowledge the information contained in the Certificate is true and correct.

Designer's ID *(if different from inspector below)*:

Inspector's Signature:

Inspector's Name *(PRINT IN CAPS)*: CHRIS CLARKE

ID Number: CJC

Date: 21-Mar-15

Number: 504544

CoF Vehicle Inspector 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	2014-12-13	**Serial number**	437000997700A
Serial number (modulator)	000000035595		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2015-03-21 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

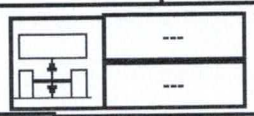
WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
TDB0749

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT
TYP TYPE TYPE	3ASBR C/SIDE
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9C20025F1023349
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51243S

POLRADZÄHNEZAHL c-d | e-f POLE WHEEL TEETH c-d | e-f DENTS ROUE DENTÉE c-d | e-f	90	---	ABS-System ABS system Système ABS	2S/2M	
RSS Einfachbereifung Single Tire Monte simple			Lenkachse Steering axle Essieu vireur		
RSS RSS Zwillingsbereifung Twin Tire Monte jumelée	X		Kippkritisches Fahrzeug Critical Trailer Véhicule critique		
Subsystems	---		I/O	24N	

GIO	Pin1	Pin3	Pin4
1	---	---	---
2	---	---	---
3	---	---	---
4	---	---	---
5	DIAG	DIAG	DIAG
6	---	---	---
7	---	---	---



	pm (bar)		6.5	pm (bar)		0.6	2.0	---	6.5		TYP TYPE	(mm)	(mm)	(bar) 1.0	(bar) Pz
ACHSE AXLE ESSIEU									pz					TR (daN)	
1	1300	0.5	1.8	6400	4.0	0.3	1.5	---	5.2	-	14 / 16	64	69	438	2824
2	1300	0.5	1.8	6400	4.0	0.3	1.5	---	5.2	-	14 / 16	64	69	438	2824
3	1300	0.5	1.8	6400	4.0	0.3	1.5	---	5.2	-	14	64	69	438	2824
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 height sensor calibration**	Not tested
ABS sensor assignment	OK	**Height sensor axle load**	Not tested
RTR check	Not tested	**Leak test**	Not tested
Immobilizer test	Not tested	**Signal outputs TEBS**	Not tested
Signal inputs	Not tested	**Tag axle test**	Not tested

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

Manufacturer	DOMETT	**Vehicle ident. no**	7A9C20025F1023349
Vehicle type	3ASBR C/SIDE	**Odometer reading**	0.0 km
next Service	0 km	**Trip reading**	0.0 km
Tester	Chris Clarke	**Signature**	
Date	2015-03-21 11:34:12 a.m.		

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

distribution: DOMETT
7A9C20025F1023349
SODC: JH150314
LT400:

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 (V6.14.04.20).
-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 V6.14.04.20 db 08.07.2014

vehicle manufacturer: DOMETT
trailer model : 3ASBF & 3ASBR C/SIDE
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, SBW 1937, TDB 0749 ECE,

		unladen	laden
total mass	P in kg	5500 - 6500	30000 - 32000
king-pin	PS kg	1600 - 2600	10800 - 12800
axle 1	P1 in kg	1300	6400
axle 2	P2 in kg	1300	6400
axle 3	P3 in kg	1300	6400
total axle mass	PR in kg	3900	19200
wheel base	E in mm	6900 - 6900	
centre of gravity height	h in mm	1238	2189
K-factor		Kv min 1.7967	Kc min 0.9815
K-factor		Kv max 1.7988	Kc max 0.9959

		axle 1	axle 2	axle 3
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.14/24	T.14/24	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	5.2	5.2	5.2
piston force ThA at pm6,5bar	N	4986	4986	4986
brake force(rdyn min)T lad. at pm6,5bar	N	37658	37658	37658
brake force(rdyn max)T lad. at pm6,5bar	N	37658	37658	37658
brake force within 1 % rolling friction proportion	%	33.3	33.3	33.3

braking rate z laden	0.600	for rdyn min
z = sum (TR)/PRmax	0.600	for rdyn max

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

brake diagram : 841 701 101 0

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 1424HTLD64

axle 2:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

brake cylinder: Meritor 1424HTLD64

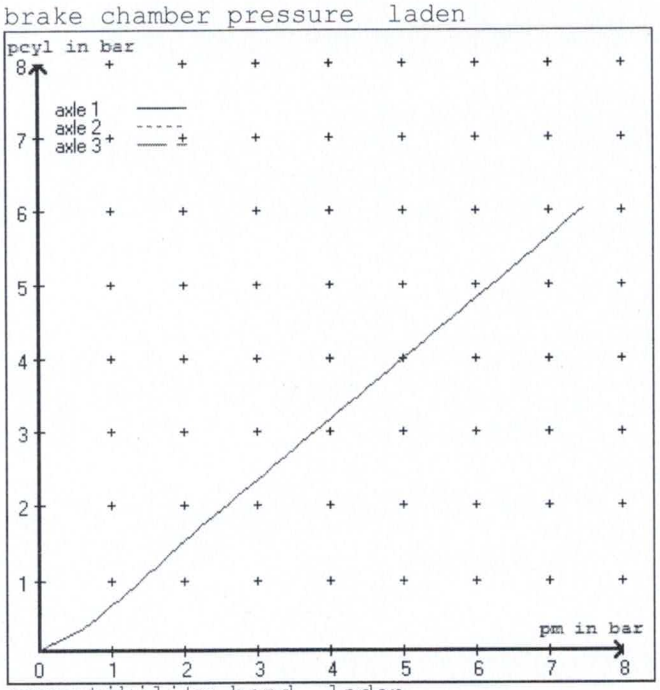
axle 3:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

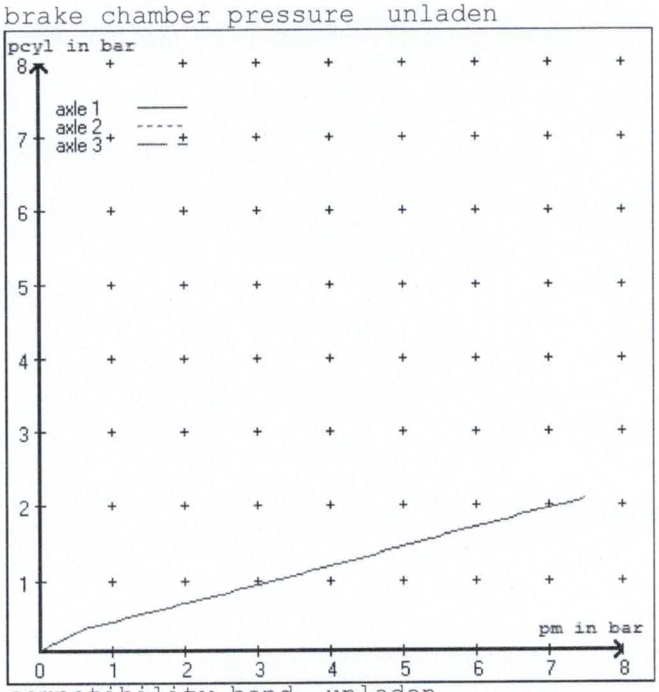
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3
at pm 3.5 bar =>	pcha in bar :	2.7	2.7	2.7
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3
at pm 1.1 bar =>	pcha in bar :	0.7	0.7	0.7

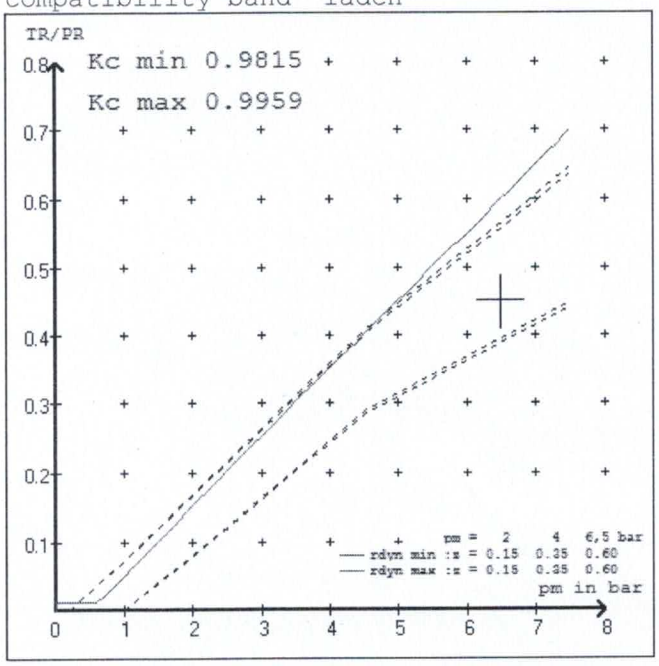
brake chamber pressure laden



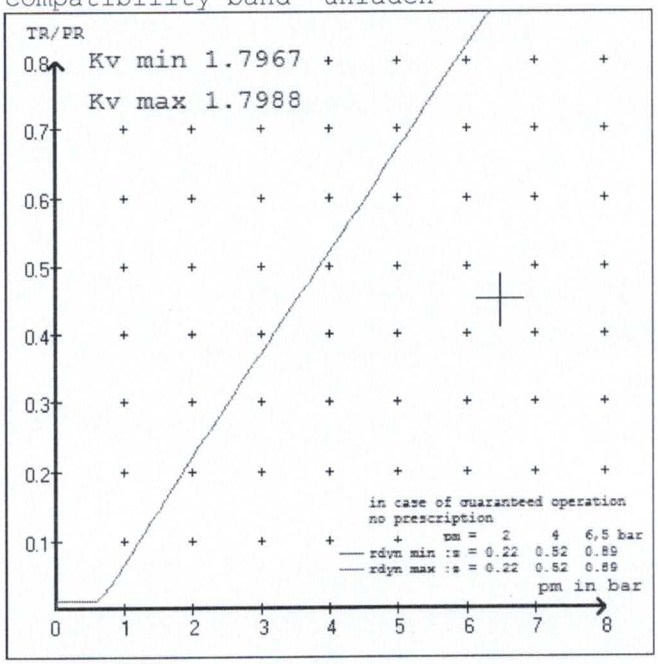
brake chamber pressure unladen



compatibility band laden



compatibility band unladen



vehicle manufacturer: DOMETT
trailer model : 3ASBF C/SIDE
trailer type : 3-axle-semi-trailer

brake chamber and lever length :
axle 1 : 2 x type/diameter T.14/24 (Meritor) lever length 69 mm
axle 2 : 2 x type/diameter T.14/24 (Meritor) lever length 69 mm
axle 3 : 2 x type/diameter 14. (Meritor) lever length 69 mm

brake diagram : 841 701 101 0

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 : 3ASBF C/SIDE
trailer type : 3-axle-semi-trailer
brake calculation no. : TP 51243S

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

assignment pm / deceleration z: pm 0.6 bar z = 0.010
(laden condition) 2.0 bar z = 0.150
6.5 bar z = 0.600

control pressure pm			6,5	control pressure pm		0.6	2.0	6.5
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden		
1	1300	to be entered by the vehicle manufact.	1.8	6400	to be entered by the vehicle manufact.	0.3	1.5	5.2
2	1300		1.8	6400		0.3	1.5	5.2
3	1300		1.8	6400		0.3	1.5	5.2
4	0		0,0	0		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	pcyl	axle load	pcyl	axle load	pcyl
1300	1.8	1300	1.8	1300	1.8
1800	2.1	1800	2.1	1800	2.1
2300	2.5	2300	2.5	2300	2.5
2800	2.8	2800	2.8	2800	2.8
3300	3.1	3300	3.1	3300	3.1
3800	3.5	3800	3.5	3800	3.5
4300	3.8	4300	3.8	4300	3.8
4800	4.1	4800	4.1	4800	4.1
6400	5.2	6400	5.2	6400	5.2

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	: 20130930 30.09.2013
axle 2 : reference axle: SAF	SBW 1937	brake lining:	Jurid 539
test report :	TDB 0749 ECE	date	: 20130930 30.09.2013
axle 3 : reference axle: SAF	SBW 1937	brake lining:	Jurid 539
test report :	TDB 0749 ECE	date	: 20130930 30.09.2013

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 = 18.8 % Fe
axle 2	(rdyn 421 mm)	T = 18.8 % Fe
axle 3	(rdyn 421 mm)	T = 18.8 % 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 = 4986 N
axle2	ThA = 4986 N
axle3	ThA = 4986 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 = 29453 N
axle 2	(rdyn 421 mm)	T = 29453 N
axle 3	(rdyn 421 mm)	T = 29453 N

	basic test of subject trailer (E)	type III (calculated) residual (hot)braking
braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.60	0.47
required braking rate (items 1.5.3 and 1.7.2 to annex 11)		>= 0,4 and >= 0,6*E (0.36)

axle 1	(rdyn 421 mm)	T = 29453 N
axle 2	(rdyn 421 mm)	T = 29453 N
axle 3	(rdyn 421 mm)	T = 29453 N

	basic test of subject trailer (E)	type III (calculated) residual (hot)braking
braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.60	0.47
required braking rate (items 1.5.3 and 1.7.2 to annex 11)		>= 0,4 and >= 0,6*E (0.36)

spring parking brake

		axle 1	axle 2
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 0.522 (Min.)
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 = 4761 mm for E = 6900 mm
==========
min Ef = 4761 mm for E = 6900 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	=	2189 mm	height of center of gravity - laden
PR	=	19200 kg	maximum bogie mass - laden
P	=	32000 kg	maximum total mass - laden
nf	=	2	no. of axle(s) with TRISTOP spring brake actuators
ng	=	3	no. of bogie axle(s)

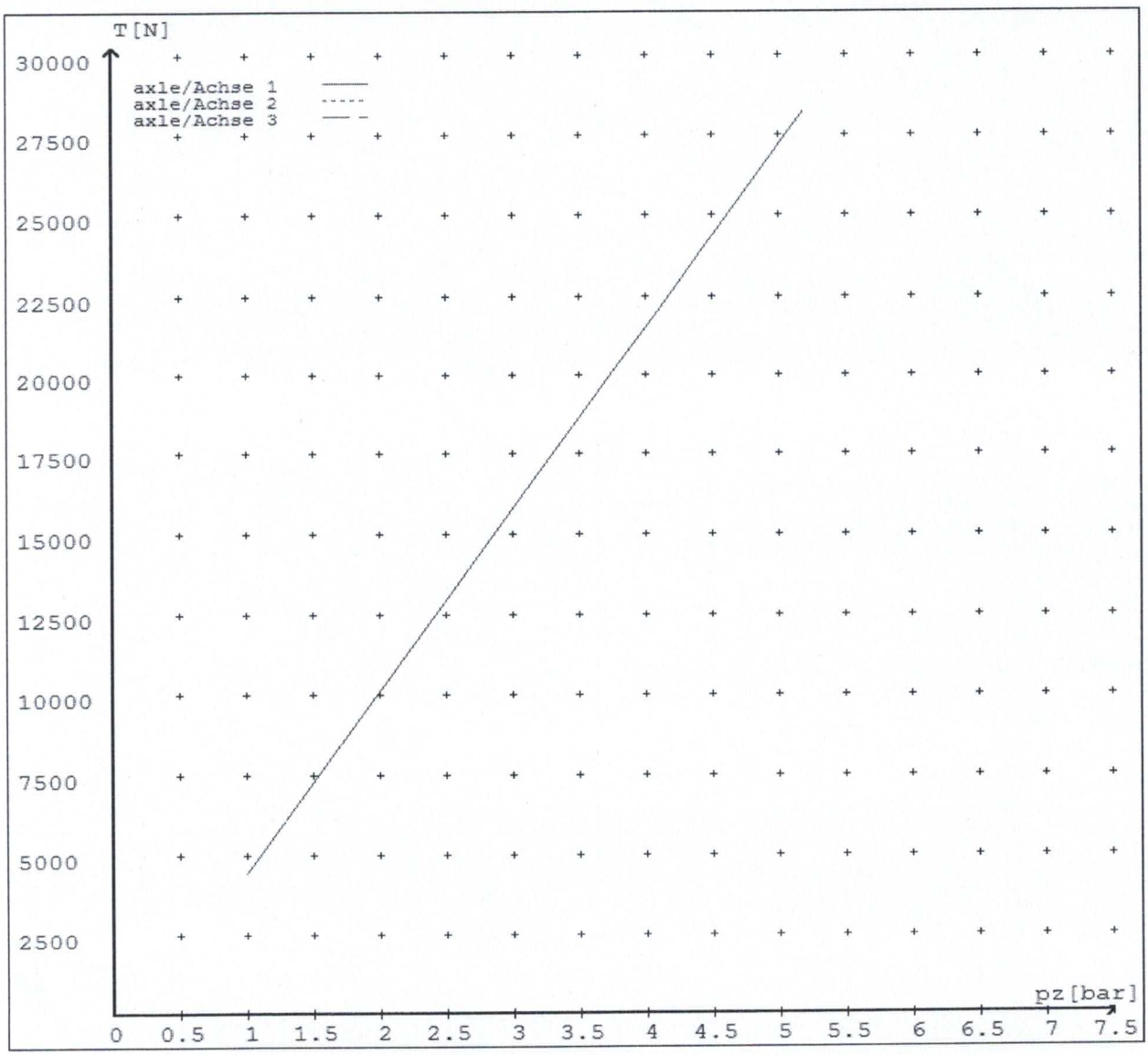
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0 5.2		4389 28243
axle 2	1.0 5.2		4389 28243
axle 3	1.0 5.2		4389 28243

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	T.14/24	T.14/24	14./	/	/
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	64	64	64		
Lever length = ...mm Hebellänge = ...mm	69.08	69.08	69.08		

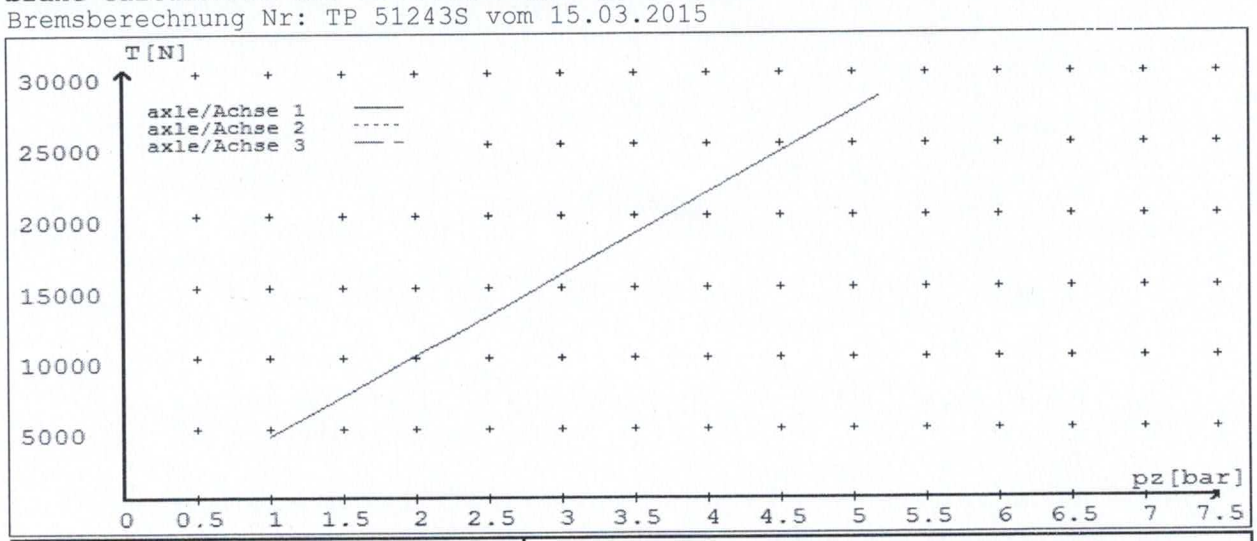


Print on WABCO no. 899 200 922 4 (only possible with laser printers!)

reference values for z = 0.45
Angabe der Referenzwerte für z = 0.45

for max rdyn: 421 mm
für max rdyn: 421 mm

brake calculation no: TP 51243S date 15.03.2015
Bremsberechnung Nr: TP 51243S vom 15.03.2015



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	T.14/24	T.14/24	14./	/	/
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	64	64	64		
Lever length = ...mm Hebellänge = ...mm	69.08	69.08	69.08		

HVBR WORKSHEET

(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH150314

CUSTOMER NAME: DOMETT TRAILERS LTD

CUSTOMER ORDER No.: 4352 DATE RECEIVED: 06.01.15

VEHICLE TYPE: 3 AXLE SEMI TRAILER (B Rear)

REG No.: CHASSIS No.: 7A9C20025F1023349

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:
Type: 1416HTLD64 (TSE): Max stroke = 64 mm Lever length = 69 mm
Type: 14HSCLD64 (TSE): Max stroke = 64 mm Lever length = 69 mm

BRAKE SYSTEM: WABCO TEBS-E CONTROL WITH RSS ACTIVATED
Test Points: 3 4 5 7

FRICTION LINING:

	OEM	Aftermarket
(All) Lining Brand	JURID 539	

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

VALVES: AS PER BRAKE CALCULATION TP51243 & SO..02514

TYRE SIZE: 265 70 R 19.5

NOTES
PACKING SLIP NO.: SO..2514 PROCESS TIME: 1

BRAKE CALC #TP51243: THE MERITOR SPRING BRAKE CHAMBERS IN THE CALCULATION ARE 1424HTLD64. THESE ARE USED TO DETERMINE THE SERVICE BRAKE PERFORMANCE OF THE TSE VARIANT DETAILED ABOVE. THE 1616HTLD64 CHAMBERS WERE USED TO VERIFY THE PARK BRAKE PERFORMANCE.

COMPLETION DATE : 15th March 2015 SIGNATURE (pp.):

Statement of Compliance with the New Zealand Heavy Brake Rule

Documentation required supporting 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 32015/3, Schedule 5.

Date: 15th March 2015 Signed (pp.): _____

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 32015/3, 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