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: 7A9D35019G1023460

Component being certified:

- [ ] Chassis
- [ ] 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 OF LTR 32015/3
ROLL STABILITY FUNCTION ACTIVATED

Code/Standard/Rule Certified to: LTR 32015/3

Component Load Rating(s): 30 Tonnes GVM

General Drawing Number(s): N/A

Supporting Documents:

BRAKE CODE CERTIFICATE CJC163652
BRAKE CALCULATION # GENNZ50110A

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: 2-Mar-16

Number: 544002

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

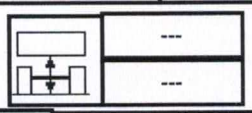
System	Trailer EBS-E	**WABCO part number**	480 102 080 0
Production date	2015-09-29	**Serial number**	437001604100A
Serial number (modulator)	000000042182		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2016-03-02 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

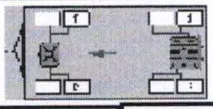
WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT T&T
TYP TYPE TYPE	4AFT BULK TIPPER
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9D35019G1023460
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	GenNZ50110A
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 Système ABS	4S/3M
RSS RSS RSS Einfachbereifung Single Tire Monte simple	
Lenkachse Steering axle Essieu vireur	
Zwillingsbereifung Twin Tire Monte jumelée	X
Kippkritisches Fahrzeug Critical Trailer Véhicule critique	
Subsystems	SB / I/O / 24N

GIO	Pin1	Pin3	Pin4
1	24V-O1	---	---
2	---	---	---
3	ALS2	ALS2	---
4	---	---	---
5	DIAG	DIAG	DIAG
6	---	---	---
7	---	---	---





ACHSE AXLE ESSIEU	pm (bar)		6.5	pm (bar)		0.7	2.0	---	6.5		TYP TYPE	(mm)	(mm)	(bar) 1.0 TR (daN)	Pz
									pz						
1	1570	0.7	1.9	7500	4.8	0.3	1.5	---	5.3	-	24	75	152	644	4431
2	1570	0.7	1.9	7500	4.8	0.3	1.5	---	5.3	-	24	75	152	644	4431
3	1270	0.5	1.4	7500	4.8	0.3	1.3	---	4.4	-	24 / 30	75	127	567	2929
4	1270	0.5	1.4	7500	4.8	0.3	1.3	---	4.4	-	24 / 30	75	127	567	2929
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---

TEBS-E

Diagnostic memory	OK	**Warning lamp control**	OK
Parameter setting	carried out	**Stop light power supply**	OK
EBS pressure test	OK	**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**	Not tested
Signal inputs	Not tested	**Tag axle test**	Not tested

Electronic Extension Module

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

Manufacturer	DOMETT T&T	**Vehicle ident. no**	7A9D35019G1023460
Vehicle type	4AFT BULK TIPPER	**Odometer reading**	10.2 km
next Service	0 km	**Trip reading**	10.2 km
Tester	Chris Clarke		
Date	2016-03-02 4:34:27 p.m.	**Signature**	

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

distribution: DOMETT T&T
7A9D35019G1023460
CJC163651

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 T&T
trailer model : 4AFT BULK 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 : SAF, SNK 367x180, TDB 0459 ECE,

		unladen	laden
total mass	P in kg	5680	30000
axle 1	P1 in kg	1570	7500
axle 2	P2 in kg	1570	7500
axle 3	P3 in kg	1270	7500
axle 4	P4 in kg	1270	7500
wheel base	E in mm	4900 - 4900	
centre of gravity height	h in mm	1250	2030

		axle 1	axle 2	axle 3	axle 4
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		BC 0069.1	BC 0069.1	BC 0023.1	BC 0023.1
brake chamber manufacturer		BPW	BPW	WABCO	WABCO
chamber size		24.	24.	24/30	24/30
lever length	lBh in mm	152	152	127	127
brake factor	[-]	9.73	9.73	9.73	9.73
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	13.0	13.0	13.0	13.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%	bar	2.0	2.0	2.0	2.0
chamber pressure(rdyn max)pH at z=22,5%	bar	2.0	2.0	2.0	2.0
chamber press.(servo)pcha at pm6,5bar	bar	5.3	5.3	4.4	4.4
piston force ThA at pm6,5bar	N	7575	7575	5985	5985
brake force(rdyn min)T lad. at pm6,5bar	N	53354	53354	35269	35269
brake force(rdyn max)T lad. at pm6,5bar	N	53354	53354	35269	35269
brake force within 1 % rolling friction proportion	%	27.8	27.8	22.2	22.2

braking rate z laden 0.602 for rdyn min
z = sum (TR)/PRmax 0.602 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: BPW 05.444.15...

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

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

brake cylinder: BPW 05.444.15...

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 925 376 000-004 0 / 925 376 1.. 0

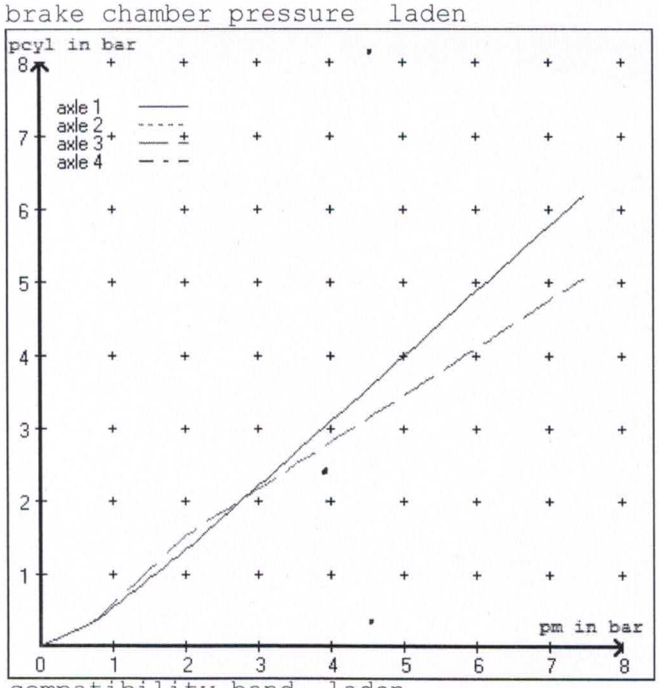
axle 4:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

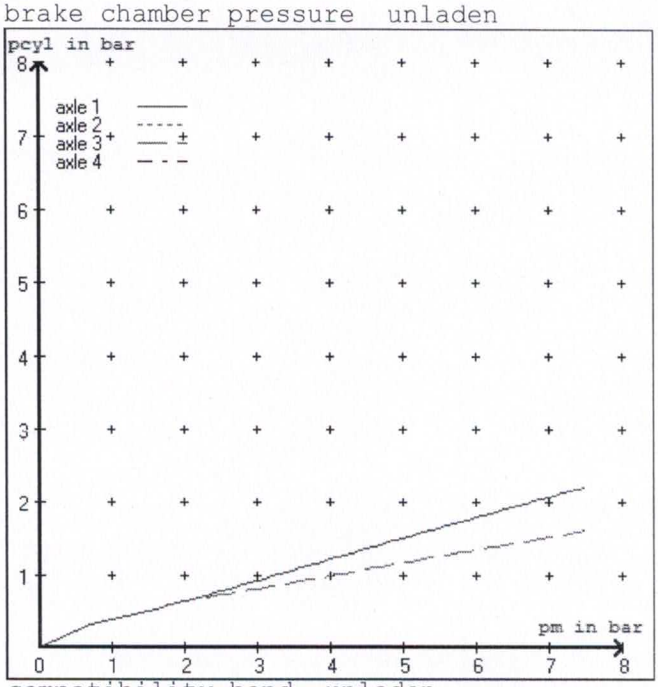
brake cylinder: WABCO 925 376 000-004 0 / 925 376 1.. 0

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 3.5 bar =>	pcha in bar :	2.6	2.6	2.5	2.5	
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	

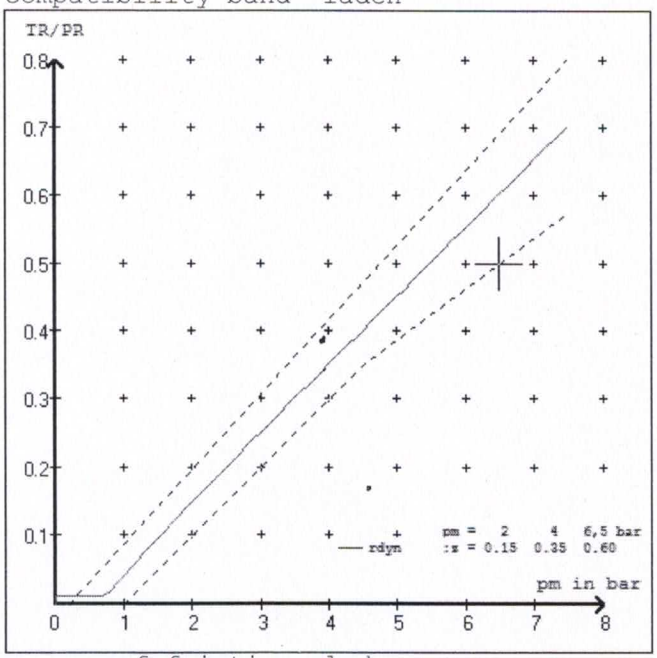
brake chamber pressure laden



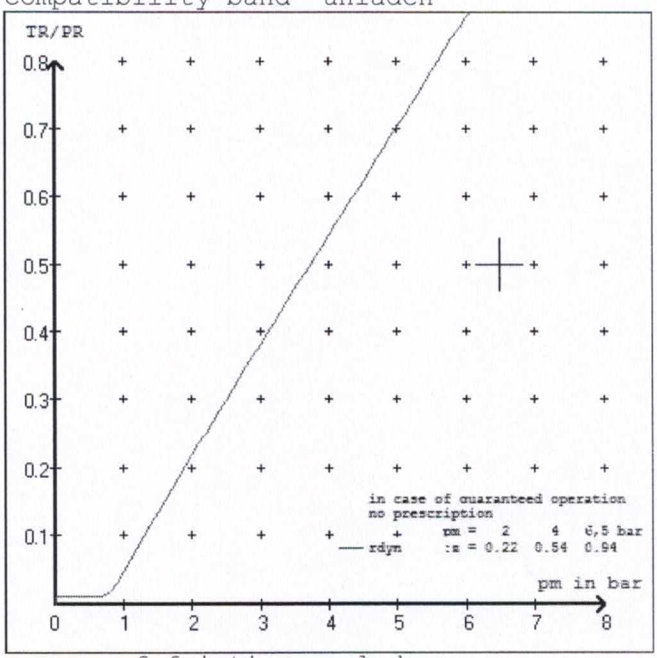
brake chamber pressure unladen



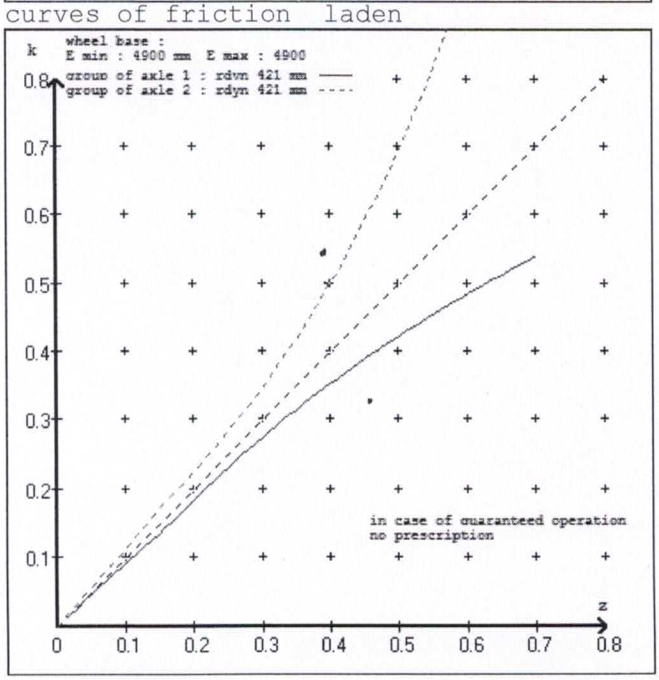
compatibility band laden



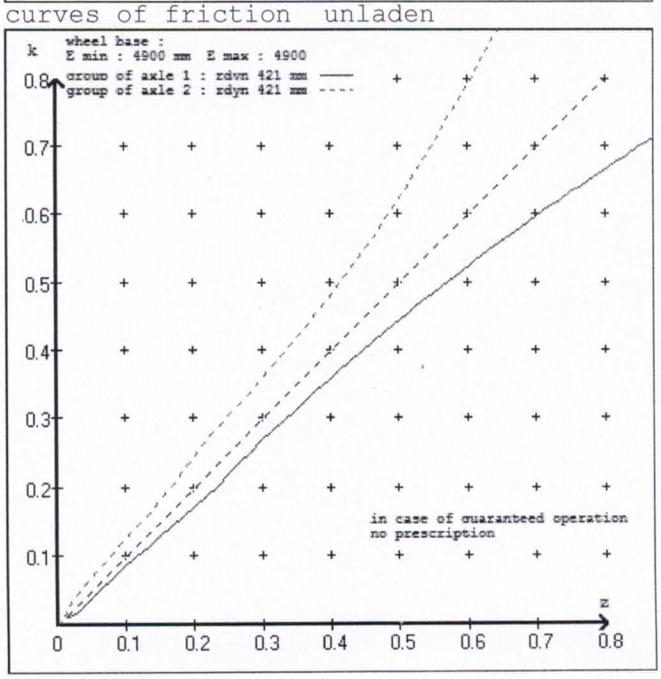
compatibility band unladen



curves of friction laden



curves of friction unladen



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

brake chamber and lever length :
axle 1 : 2 x type/diameter 24. (BPW) lever length 152 mm
axle 2 : 2 x type/diameter 24. (BPW) lever length 152 mm
axle 3 : 2 x type/diameter 24/30 (WABCO) lever length 127 mm
axle 4 : 2 x type/diameter 24/30 (WABCO) lever length 127 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 T&T
trailer model : 4AFT BULK TIPPER
trailer type : 4-axle-full-trailer
brake calculation no. : GenNZ 50110A

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	1570	to be entered by the vehicle manufact.	1.9	7500	to be entered by the vehicle manufact.	0.3	1.3	5.3
2	1570		1.9	7500		0.3	1.3	5.3
3	1270		1.4	7500		0.3	1.5	4.4
4	1270		1.4	7500		0.3	1.5	4.4
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
1570	1.9	1570	1.9	1270	1.4	1270	1.4
2070	2.2	2070	2.2	1770	1.6	1770	1.6
2570	2.5	2570	2.5	2270	1.9	2270	1.9
3070	2.8	3070	2.8	2770	2.1	2770	2.1
3570	3.0	3570	3.0	3270	2.4	3270	2.4
4070	3.3	4070	3.3	3770	2.6	3770	2.6
4570	3.6	4570	3.6	4270	2.8	4270	2.8
5070	3.9	5070	3.9	4770	3.1	4770	3.1
7500	5.3	7500	5.3	7500	4.4	7500	4.4

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

axle 1 :	reference axle: SAF	SNK 3718	brake lining: BK 6386	
	test report :	TDB 0459 ECE	date :	20130801 01.08.2013
axle 2 :	reference axle: SAF	SNK 3718	brake lining: BK 6386	
	test report :	TDB 0459 ECE	date :	20130801 01.08.2013
axle 3 :	reference axle: SAF	SNK 3718	brake lining: BK 6386	
	test report :	TDB 0459 ECE	date :	20130801 01.08.2013
axle 4 :	reference axle: SAF	SNK 3718	brake lining: BK 6386	
	test report :	TDB 0459 ECE	date :	20130801 01.08.2013

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 = 25.0 % Fe
axle 2	(rdyn 421 mm)	T = 25.0 % Fe
axle 3	(rdyn 421 mm)	T = 19.1 % Fe
axle 4	(rdyn 421 mm)	T = 19.1 % Fe

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

axle 1	(sp = 73 mm)	s = 64 mm
axle 2	(sp = 73 mm)	s = 64 mm
axle 3	(sp = 71 mm)	s = 54 mm
axle 4	(sp = 71 mm)	s = 54 mm

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

axle1	ThA = 7575 N
axle2	ThA = 7575 N
axle3	ThA = 5985 N
axle4	ThA = 5985 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 = 38388 N
axle 2	(rdyn 421 mm)	T = 38388 N
axle 3	(rdyn 421 mm)	T = 25474 N
axle 4	(rdyn 421 mm)	T = 25474 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	0.43
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 = 38388 N
axle 2	(rdyn 421 mm)	T = 38388 N
axle 3	(rdyn 421 mm)	T = 25474 N
axle 4	(rdyn 421 mm)	T = 25474 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	0.43
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 3	axle 4
no of TRISTOP-actuators per axle line	KDZ	2	2
TRISTOP-actuator type		24/30	24/30
lever length	lBh in mm	127	127
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	6520	6520
sp.brake chamber no 925		376 000-0	376 000-0
sp.brake chamber no 925		376 1.. 0	376 1.. 0
release pressure	pLs in bar	4.8	4.8

calculation:

ratio until road		3.0816	3.0816
iFb = lBh*Eta*C*rBt/(2*rBn*rstat)			
	for rstat in mm	401	401
brake force of spring br. Tf	in N	39553	39553
Tf = (TFZ*KDZ-2*Co/lBh)*iFb			

braking rate zf laden 0.279
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 = 3633 mm for E = 4900 mm
==========
min Ef = 3633 mm for E = 4900 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	=	2030 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)

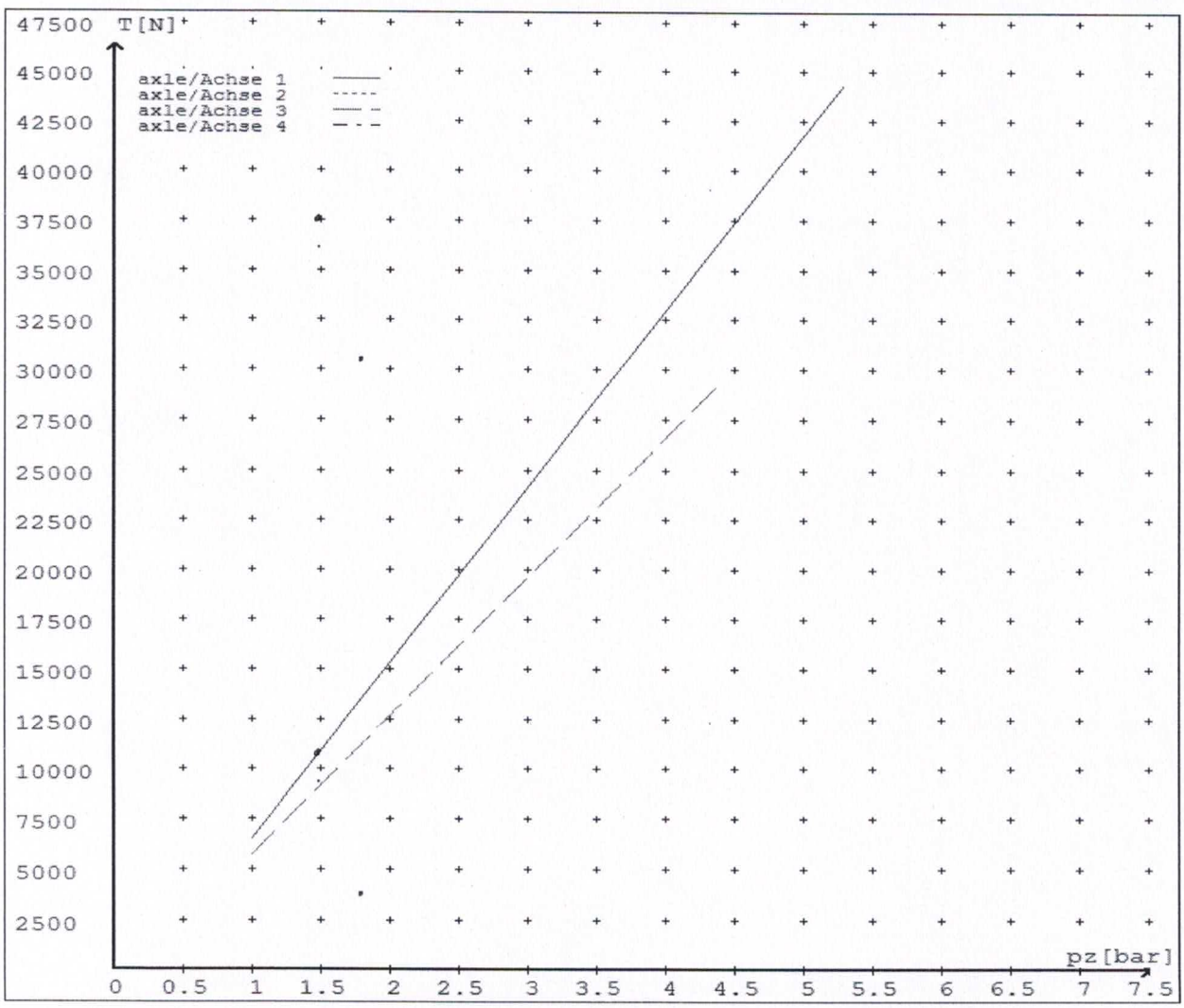
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0 5.3	6449 44314	
axle 2	1.0 5.3	6449 44314	
axle 3	1.0 4.4		5670 29293
axle 4	1.0 4.4		5670 29293

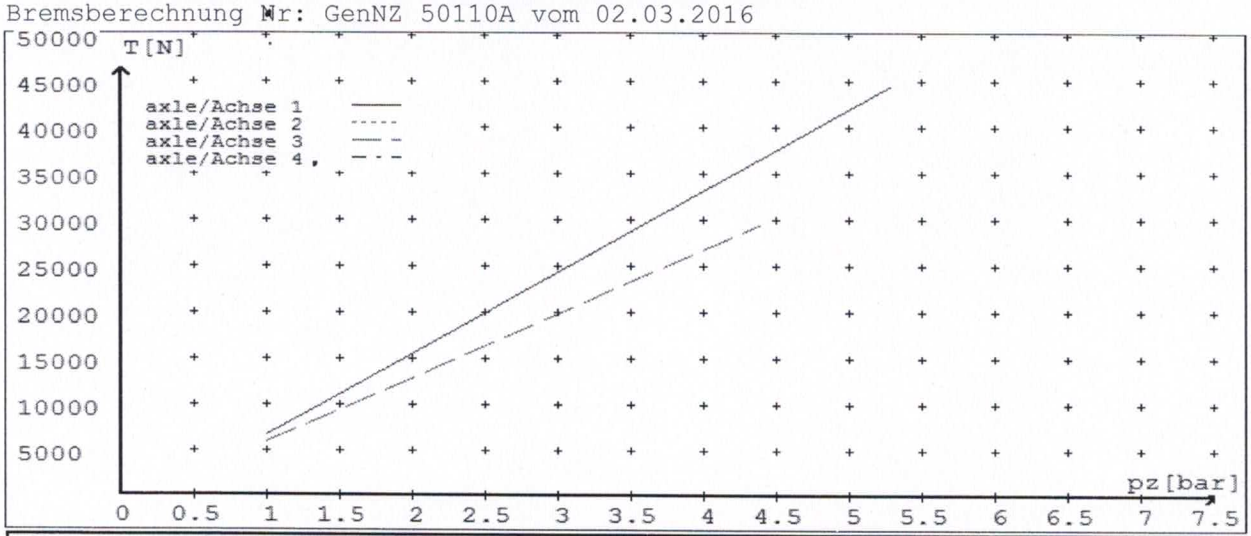
VIN - no.:

	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	75	75	75	75	
Lever length = ...mm Hebellänge = ...mm	152	152	127	127	



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

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: GenNZ 50110A date 02.03.2016
Bremsberechnung Nr: GenNZ 50110A vom 02.03.2016



	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	75	75	75	75	
Lever length = ...mm Hebellänge = ...mm	152	152	127	127	

GOUGH Transpecs

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 32015/3.

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 32015/3. 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 47.4) **NZTA Helpdesk 0800 699 000**

pp.....
(C.Clarke (CJC) HVEK)

GOUGH Transpecs

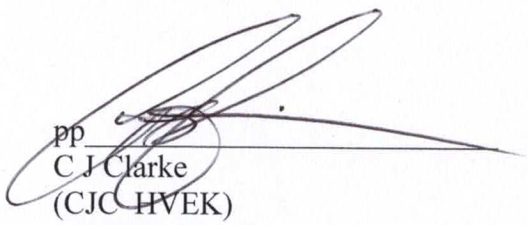
NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an **E**lectronic **B**rake **S**ystem.

To comply with the New Zealand Heavy Vehicle Brake Rule 32015/3, 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.



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C J Clarke
(CJC HVEK)
(027 200 2084)