



Heavy Vehicle Specialist Certificate

Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's Name (PRINT IN CAPS) ID LANCE CAWTE LPC

Vehicle Registration* 7030W
VIN / Chassis Number 7A9D1001010023238

Component being certified: Chassis Modification Load Anchorage Log Bolsters
Towing Connection Brakes SRT

Certification Category HVEK

Description of Work
CERTIFY TO HEAVY VEHICLE BRAKE RULE 32015/2.
NEW ZEALAND HEAVY VEHICLE BRAKE SPECIFICATION

Code/Standard Certified to SCHEDULE 5
General Drawing Number(s) N/A
Supporting Documents BRAKE CODE CERTIFICATE LC120403

*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
Hubodometer Reading (whichever comes first) 01

Designer's ID (if certified by a manufacturer)

Inspector's / Delegates' Signature

*Delegates' Name (PRINT IN CAPS)

Date 12-Apr-12
Number 399857

COF Vehicle Inspector ID:

COF Vehicle Inspector Signature:

Date

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 components design, manufacture and installation, and this certification complies 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.

Declaration



HEAVY VEHICLE BRAKE RULE

WORKSHEET

(PROCEDURE DOCUMENTATION SHEET - PDS)



CONFIRMATION OF COMPLIANCE

CERTIFICATE No.

CUSTOMER NAME

CUSTOMER ORDER No. DATE RECEIVED

VEHICLE TYPE

REG No. CHASSIS No.

BRIEF SPECIFICATION AS CERTIFIED TO SCHEDULE 5

BRAKE VALVES:	
Primary Relay	Make: <u>WARCO</u> Type: <u>480/207/001/0</u>
Secondary Relay	Make: <u>WARCO</u> Type: <u>480/102/064/0</u>
Spring Brake Relay	Make: <u>SEALCO</u> Type: <u>110701</u>
Park Brake Valve	Make: <u>SEALCO</u> Type: <u>17600B</u>
Locked Ratio	Make: _____ Type: _____ Setting: _____
Load Sense Valve	Front: Make: <u>N/A</u> Type: <u>N/A</u>
	Settings: Laden: <u>N/A</u> Unladen: <u>N/A</u>
Load Sense Valve	Rear: Make: <u>N/A</u> Type: <u>N/A</u>
	Settings: Laden: <u>N/A</u> Unladen: <u>N/A</u>

<p>Other Valves</p> <p>Make: _____ Type: _____ Setting: _____</p> <p>Make: _____ Type: _____ Setting: _____</p> <p>Make: _____ Type: _____ Setting: _____</p> <p>Make: _____ Type: _____ Setting: _____</p> <p>Comments: _____</p> <p>EBS, SPECIAL CONDITIONS APPLY. SEE INSTRUCTIONS ON LT400 399857</p>	<p>FRICION MATERIAL:</p> <p>(Front) Lining Brand <u>JURID 539</u> Grade _____</p> <p>(Rear) Lining Brand <u>JURID 539</u> Grade _____</p> <p>OEM Aftermarket</p>
<p>SLACK ADJUSTER:</p> <p>Front Length (mm) <u>N/A</u></p> <p>Rear Length (mm) <u>N/A</u></p>	<p>BRAKE CALIPERS: Type <u>WABCO</u></p>
<p>BRAKE CHAMBERS:</p> <p>Front: Make TSE 14HSCLD64 Type: 14 STROKE: 64 mm</p> <p>Rear: Make TSE 1416HTLD64 Type: 14/16 STROKE: 64 mm</p>	<p>OTHER:</p> <p>TYRES <u>265/70R 19.5</u></p>
<p>NOTES:</p>	
<p>PACKING SLIP NO. </p>	<p>PROCESS TIME: 1</p>

Comments:

Position:

Postal address:

Phone (bus): Fax (bus):

Name:

Certifier's identification:

Date: Signed:

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, Schedule 5.

Confirmation of continued compliance of modification

Position:

Postal address: TRANSPORT SPECIALTIES LTD
PO BOX 98-971,
MANUKAU CITY,
MANUKAU 2241

Phone (bus): 09 9807300 Fax (bus): 09 9807306

Name & ID: LANCE CAWTE (LPC)

Certifier's identification

Date: 12/04/12 Signed: 

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

Confirmation of compliance

trailer (full, semi-, centre-axle) with air brake system acc. to 71/320/ECE, last amended by 98/12/EC and 2006/96/EC or UN/ECE-R.13.11

distribution: DOMETT CHASSIS # 238 CERT # LC120403 LT400 # 399857
 vehicle manufacturer: DOMETT D101 TANKER
 trailer model: D101 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,

total mass	P in kg	P1 in kg	P2 in kg	P3 in kg	P4 in kg	E in mm	h in mm	centre of gravity height
28000	5000	1300	1300	1200	1200	4770 - 4800	1140	1800
laden								

no. of combined axles	no. of brake chambers per axle line	KDZ	1	2	3	4
axle 1	axle 2	axle 3	axle 4			
1	1	2	2	2	2	2
BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6	BZ 119.6	BZ 119.6	BZ 119.6
Meritor	Meritor	Meritor	Meritor	Meritor	Meritor	Meritor
14.	14.	14.	T.14/24	T.14/24	T.14/24	T.14/24
69	69	69	69	69	69	69
23.03	23.03	23.03	23.03	23.03	23.03	23.03
rdyn min in mm	rdyn min in mm	rdyn min in mm	rdyn min in mm	rdyn min in mm	rdyn min in mm	rdyn min in mm
421	421	421	421	421	421	421
Co Nm	Co Nm	Co Nm	Co Nm	Co Nm	Co Nm	Co Nm
6.0	6.0	6.0	6.0	6.0	6.0	6.0

calculation:
 chamber pressure (rdyn min) p_H at z=22,5%bar 2.4
 chamber pressure (rdyn max) p_H at z=22,5%bar 2.4
 chamber press. (servo) p_{cha} at p_{m6},5bar 5.8
 piston force TH_A at p_{m6},5bar N 5588
 brake force (rdyn min) T_{lad}. at p_{m6},5bar N 42260
 brake force (rdyn max) T_{lad}. at p_{m6},5bar N 42260
 brake force within 1 % rolling friction 25.0
 proportion 25.0

braking rate z laden 0.549 for rdyn min 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: 480 207 0.. 0

WABCO

EBS relay valve

brake cylinder: Meritor 14HSCLD64

axle 2:

valve 1: 480 207 0.. 0

WABCO

EBS relay valve

brake cylinder: Meritor 14HSCLD64

axle 3:

valve 1: 480 102 ... 0

WABCO

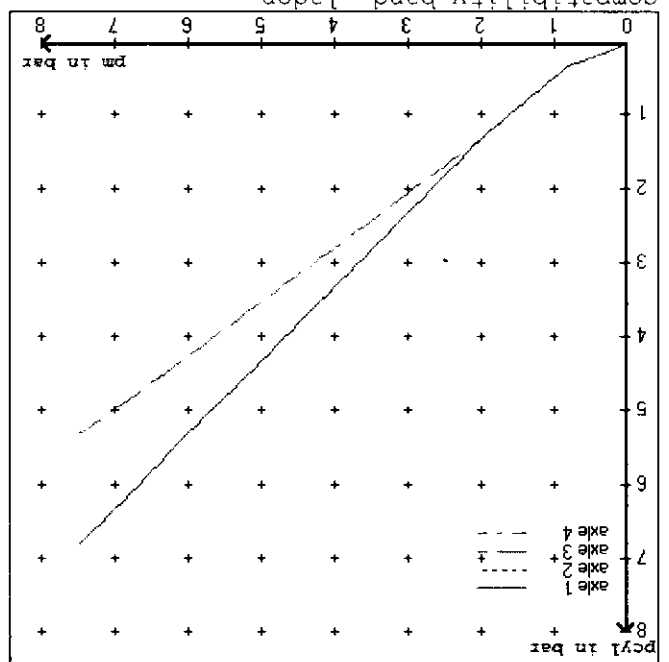
EBS trailer modulator

brake cylinder: Meritor 1424HTLD64

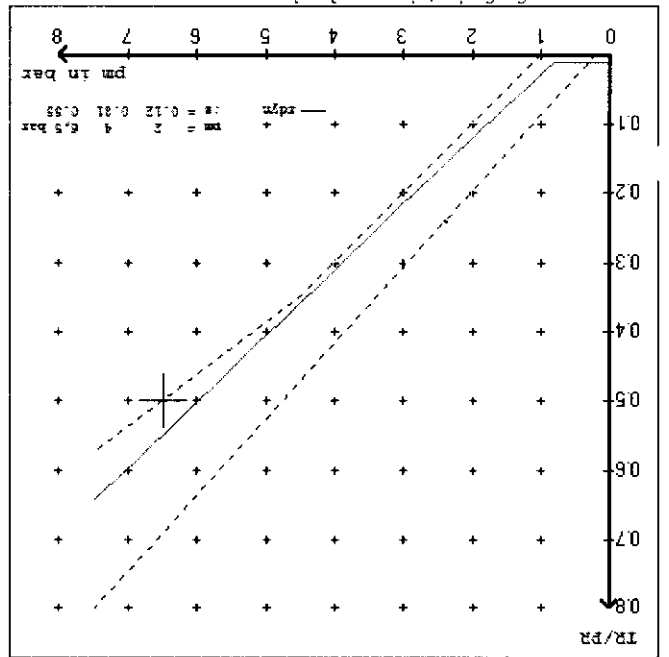
axle 4:
valve 1: 480 102 ... 0
WABCO
EBS trailer modulator
brake cylinder: Meritor 1424HTLD64

test type III . (zIII = 0.30) for rdyn min : axle1 axle2 axle3 axle4
pcha ln bar : 3.2 3.2 3.2 2.7 2.7
at pm 3.9 bar =>
test type III (zIII = 0.06) for rdyn min : axle1 axle2 axle3 axle4
pcha ln bar : 0.8 0.8 0.8 0.8 0.8
at pm 1.3 bar =>

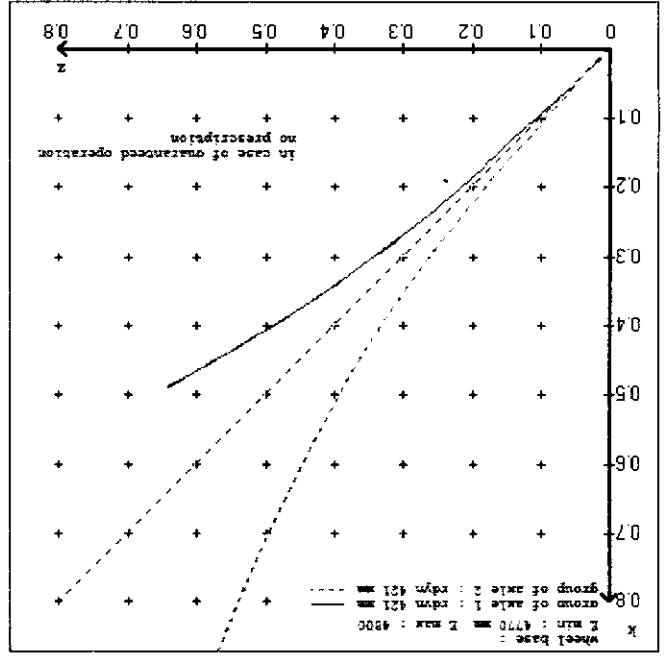
brake chamber pressure laden



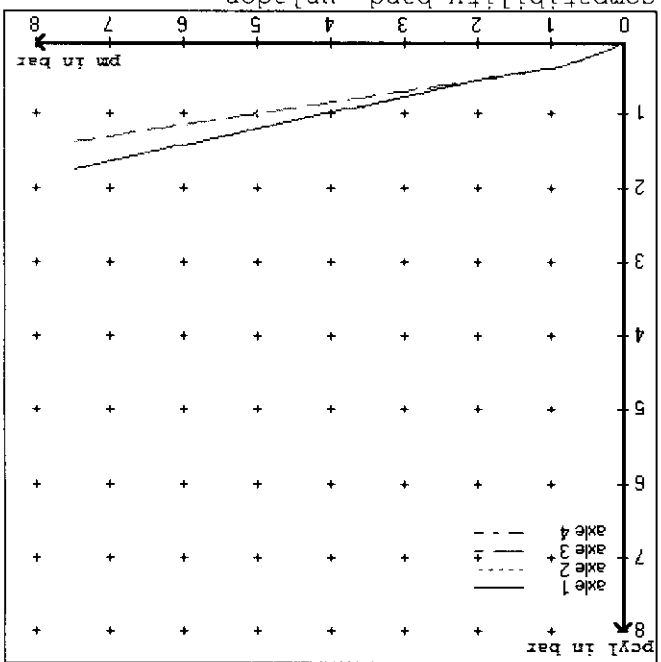
compatibility band laden



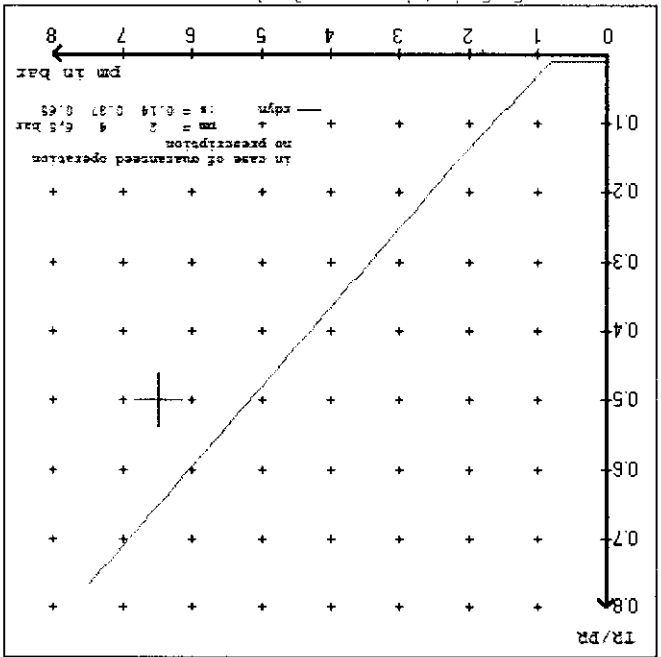
curves of friction laden



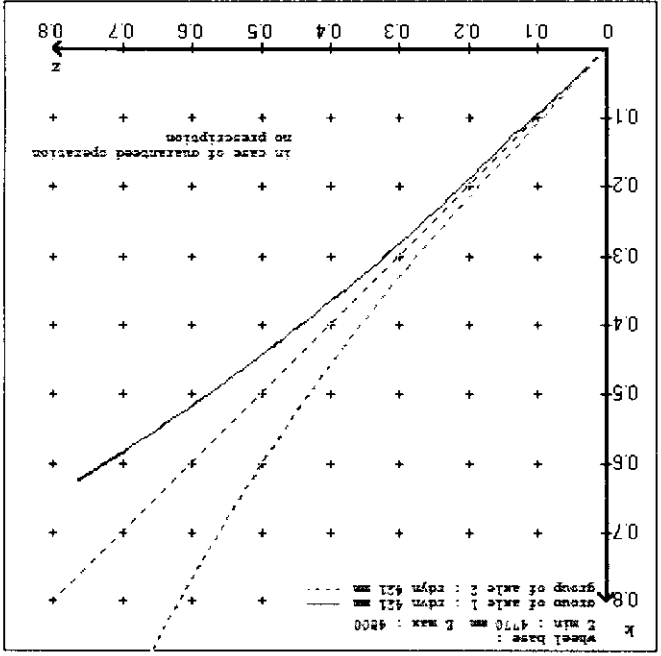
brake chamber pressure unladen



compatibility band unladen



curves of friction unladen



vehicle manufacturer: DOMETT
 trailer model: D101 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.14/24 (Meritor) Lever length 69 mm
 axle 4 : 2 x type/diameter T.14/24 (Meritor) Lever length 69 mm

brake diagram :

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

EBS input data

vehicle manufacturer: DOMETT

trailer model : D101 TANKER
 trailer type : 4-axle-full-trailer

brake calculation no. : TP 2012A

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

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 load	axle load	brake pr. unladen	axle load laden	brake pr. unladen	axle load laden	brake pr. unladen	axle load laden	brake pr. unladen	axle load laden	brake pr. unladen	axle load laden
1	2	3	4	5	0	1	2	3	4	5	0
1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300	1300
to be	entered by	the vehicle	manufact.	to be	entered by	the vehicle	manufact.	to be	entered by	the vehicle	manufact.
1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2
7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000	7000
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
1300	1300	1200	1200	1200	1200	1200	1200	1200	1200	1200	1200
axle 1	axle 2	axle 3	axle 4	axle 5	0	axle 1	axle 2	axle 3	axle 4	axle 5	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 1	axle 2	axle 3	axle 4
1300	1300	1200	1200	1300	1300	1200	1200
1.5	1.5	1.2	1.2	1.5	1.5	1.2	1.2
1800	1800	1700	1700	1800	1800	1700	1700
2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
2800	2800	2700	2700	2800	2800	2700	2700
3.0	3.0	2.4	2.4	3.0	3.0	2.4	2.4
3800	3800	3700	3700	3800	3800	3700	3700
3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
4300	4300	4200	4200	4300	4300	4200	4200
4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
4800	4800	4700	4700	4800	4800	4700	4700
5.8	5.8	4.6	4.6	5.8	5.8	4.6	4.6

Transport Special.-brake calculation no: TP 2012A date 11.04.2012 LFC
 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 test report :
 SBW 1937-... brake lining: Jurid 539
 TDB 0749 ECE date : 13.10.2008
 axle 2 : reference axle: SAF test report :
 SBW 1937-... brake lining: Jurid 539
 TDB 0749 ECE date : 13.10.2008
 axle 3 : reference axle: SAF test report :
 SBW 1937-... brake lining: Jurid 539
 TDB 0749 ECE date : 13.10.2008
 axle 4 : reference axle: SAF test report :
 SBW 1937-... brake lining: Jurid 539
 TDB 0749 ECE date : 13.10.2008

calc. verif. of residual (hot) braking force type III
 (item 4.2 of appendix I to annex VII)
 axle 1 (rdyn 421 mm) T = 22.5 % Fe
 axle 2 (rdyn 421 mm) T = 22.5 % Fe
 axle 3 (rdyn 421 mm) T = 18.7 % Fe
 axle 4 (rdyn 421 mm) T = 18.7 % Fe

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 type III
 of subject (calculated) residual
 trailer (z) residual
 (hot)braking 0.43
 0.55
 (item 4.3.2 to appendix I to annex VII)
 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 type III
 of subject (calculated) residual
 trailer (z) residual
 (hot)braking 0.43
 0.55
 (item 4.3.2 to appendix I to annex VII)
 required braking rate
 (items 1.3.3 and 1.6.2 to annex II)
 >= 0,4 and >= 0,6*z (0.33)

Spring parking brake

axle 3	axle 4
no of TRISTOP-actuators per axle line KDZ	2
TRISTOP-actuator type	T.14/24
LbH in mm	69
lever length	69
stat. tyre radius	401
rstat max in mm	401
at a stroke of	30
s in mm	30
min. force of spring brake	7605
TFZ in N	7605
sp.brake chamber no Meritor.....	4
release pressure	4.8
pls in bar	4.8

calculation:

ratio until road	3.9674	3.9674
lFB = lBh*Eta*C*rBt/(rBn*rstat)		
for rstat in mm	401	401
brake force of spring br. TF in N	59654	59654
TF = (TFZ*KDZ-2*Co/lBh)*lFB		
braking rate	zf laden	0.444
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 fulfill the regulations

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

$$\text{min Ef} = 3495 \text{ mm} \quad \text{for } E = 4770 \text{ mm}$$

$$\text{min Ef} = 3515 \text{ mm} \quad \text{for } E = 4800 \text{ mm}$$

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 =	maximum permissible frictional connection required	0.80	=	
zferf =	maximum required braking ratio of the parking brake	0.18	=	
h =	height of center of gravity - laden	1800 mm	=	
PR =	maximum bogie mass - laden	1400 kg	=	
P =	maximum total mass - laden	2800 kg	=	
nf =	no. of axle(s) with TRISTOP spring brake actuators	2	=	
ng =	no. of bogie axle(s)	2	=	

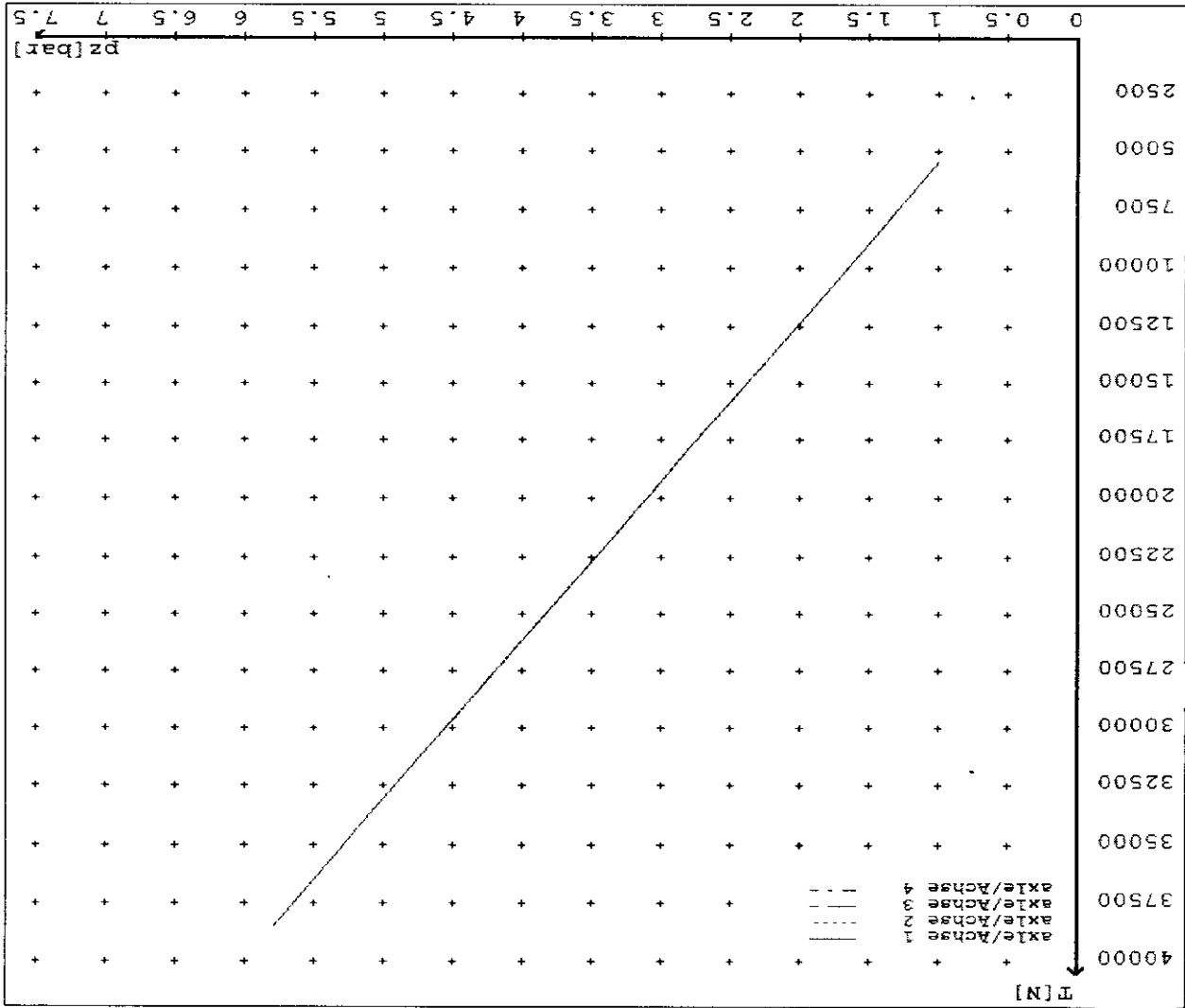
reference values

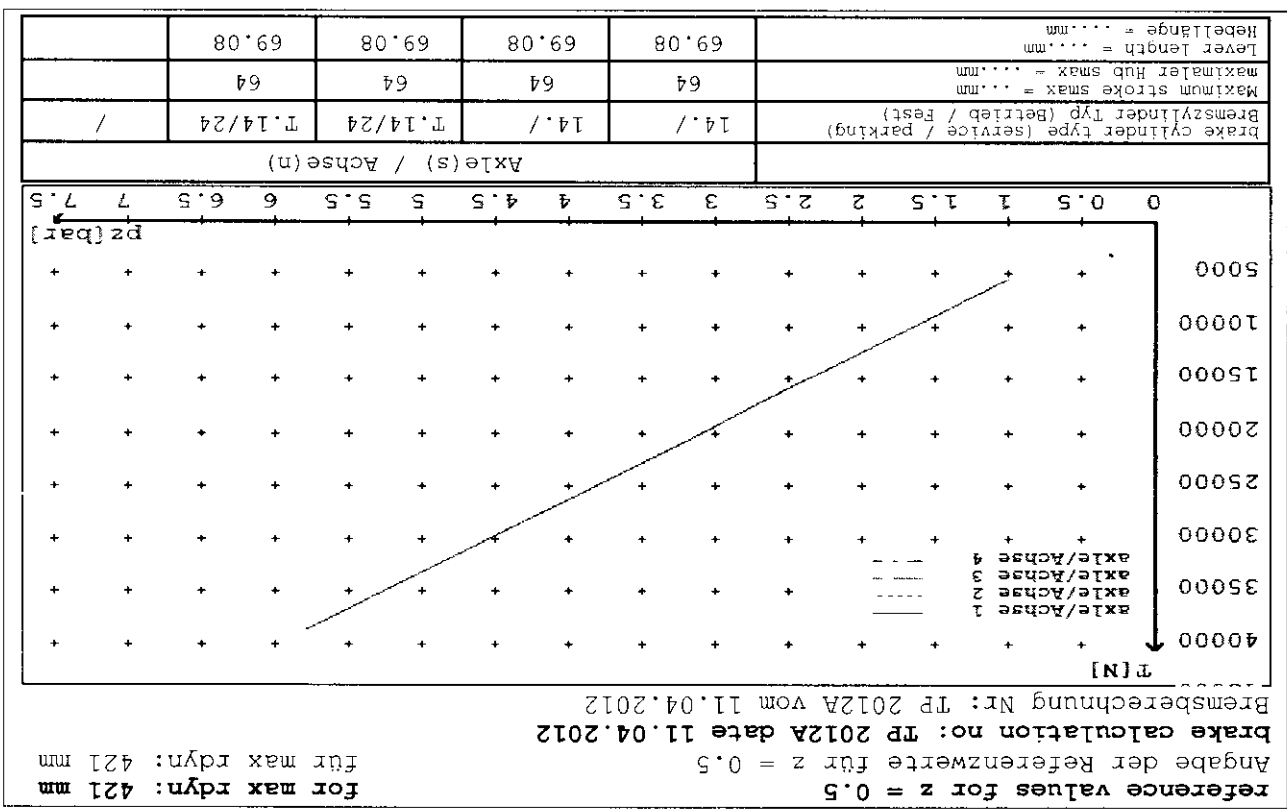
reference values for z = 50% for max rdyn: 421 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0	5383	38488
axle 2	1.0	5383	38488
axle 3	1.0	5383	30212
axle 4	1.0	5383	30212

VIN - no.:

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







P.O.Box 98-971

South Auckland Mail Centre

Lance Cawte (LPC)

DATE	12-Apr-12	LOAD SENSED	WABCO EBS "E"
CERT. NO.	LC120403	PREV EXEMPTION	N/A
VIN / CHASSIS	7A9D1001010023238		
BRAKE CHAMBERS FRONT	TSE 14	14HSCLD64	STROKE 64mm
BRAKE CHAMBERS REAR	TSE 14/16	1416HTLD64	STROKE 64mm
SLACK LENGTH FRONT	DISC	TYRE SIZE FRONT	265/70R 19.5
SLACK LENGTH REAR	DISC	TYRE SIZE REAR	265/70R 19.5
THIS VEHICLE COMPLIES WITH THE NZ			
HEAVY VEHICLE BRAKE RULE 32015, SCHEDULE 5		LINING MATERIAL FRONT	JURID 539
		LINING MATERIAL REAR	JURID 539

