



NZ TRANSPORT AGENCY  
WAKA KOTAHU

# Heavy Vehicle Specialist Certificate

Heavy Vehicle Specialist Inspector and Inspecting Organisation

Inspector's Name (PRINT IN CAPS)

LANCE CAWTE

ID

LPC

Registration Number

75855

VIN / Chassis Number

7A9D10017Y0023196

Component being certified:

Log Boilers	Load Anchorage	Chassis Modification	Towing Connection	Brakes	SRT
			X		

Vehicle Category

HVEK

Condition of Work

CERTIFY TO HEAVY VEHICLE BRAKE RULE 32015/2.

NEW ZEALAND HEAVY VEHICLE BRAKE SPECIFICATION

Standard Certified to

SCHEDULE 5

Original Drawing Number(s)

N/A

Supporting Documents

BRAKE CODE CERTIFICATE LC120401

Conditions

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

Registration Expiry Date (if applicable)

N/A

Hubodometer Reading (whichever comes first)

01



Designer's ID (if certified by a manufacturer)

Inspector's / Delegate's Signature

Delegate's Name (PRINT IN CAPS)

Date

3-Apr-12

399855

The undersigned, declare that I am the Heavy Vehicle  
 safety Inspector identified above and I hold a current valid  
 appointment, certify that the above mentioned vehicle  
 conforms to design, manufacture and installation and this  
 information complies in all respects with the Land Transport  
 Vehicle Standards Compliance 2008 and my level of  
 competence in the design, manufacture and installation  
 of the vehicle. I have no knowledge of any information  
 that would affect the vehicle's compliance and I confirm



# HEAVY VEHICLE BRAKE RULE

## WORKSHEET

(PROCEDURE DOCUMENTATION SHEET - PDS)

&

### CONFIRMATION OF COMPLIANCE

CERTIFICATE No. LC120401

DOMETT TRAILERS

CUSTOMER ORDER No. 3746 T7011 #4  
DATE RECEIVED 02/04/12

VEHICLE TYPE 4 AXLE FULL TRAILER

REG No. 7585S CHASSIS No. 7A9D10017Y0023196

### BRIEF SPECIFICATION AS CERTIFIED TO SCHEDULE 5

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

<p>PACKING SLIP NO. <span style="border: 1px solid black; display: inline-block; width: 150px; height: 20px; vertical-align: middle;"></span></p> <p>NOTES:</p> <p>PROCESS TIME: <span style="border: 1px solid black; display: inline-block; width: 50px; height: 20px; vertical-align: middle; text-align: center;">1</span></p>																	
<p><b>OTHER:</b> TYRES <u>265/70R 19.5</u></p>																	
<p><b>FRICION MATERIAL:</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%;"></td> <td style="width: 30%; text-align: center;">(Front) Lining Brand</td> <td style="width: 30%; text-align: center;">JURID 539</td> </tr> <tr> <td></td> <td style="text-align: center;">(Rear) Lining Brand</td> <td style="text-align: center;">JURID 539</td> </tr> <tr> <td style="text-align: center;">Aftermarket</td> <td style="text-align: center;"><b>OEM</b></td> <td></td> </tr> <tr> <td></td> <td style="text-align: center;">Grade</td> <td style="text-align: center;">Grade</td> </tr> </table>			(Front) Lining Brand	JURID 539		(Rear) Lining Brand	JURID 539	Aftermarket	<b>OEM</b>			Grade	Grade				
	(Front) Lining Brand	JURID 539															
	(Rear) Lining Brand	JURID 539															
Aftermarket	<b>OEM</b>																
	Grade	Grade															
<p><b>SLACK ADJUSTER:</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Front Length (mm) <u>N/A</u></td> <td style="width: 50%;">Rear Length (mm) <u>N/A</u></td> </tr> </table> <p><b>BRAKE CALIPERS:</b> Type <u>WARCO</u></p>		Front Length (mm) <u>N/A</u>	Rear Length (mm) <u>N/A</u>														
Front Length (mm) <u>N/A</u>	Rear Length (mm) <u>N/A</u>																
<p><b>BRAKE CHAMBERS:</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Front: Make TSE 14HSLD64 Type: 14</td> <td style="width: 50%;">Rear: Make TSE 1416HTLD64 Type: 14/16</td> </tr> <tr> <td>STROKE: 64 mm</td> <td>STROKE: 64 mm</td> </tr> </table>		Front: Make TSE 14HSLD64 Type: 14	Rear: Make TSE 1416HTLD64 Type: 14/16	STROKE: 64 mm	STROKE: 64 mm												
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<p><b>Other Valves</b></p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Make: _____</td> <td style="width: 50%;">Type: _____</td> </tr> <tr> <td>Setting: _____</td> <td></td> </tr> <tr> <td>Make: _____</td> <td>Type: _____</td> </tr> <tr> <td>Setting: _____</td> <td></td> </tr> <tr> <td>Make: _____</td> <td>Type: _____</td> </tr> <tr> <td>Setting: _____</td> <td></td> </tr> <tr> <td>Make: _____</td> <td>Type: _____</td> </tr> <tr> <td>Setting: _____</td> <td></td> </tr> </table> <p>Comments: <u>EBS, SPECIAL CONDITIONS APPLY. SEE INSTRUCTIONS ON LT400 399855</u></p>		Make: _____	Type: _____	Setting: _____		Make: _____	Type: _____	Setting: _____		Make: _____	Type: _____	Setting: _____		Make: _____	Type: _____	Setting: _____	
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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: 02/04/12 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/EEC, last amended by 98/12/EC and 2006/96/EC or 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 10.05.21) -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 comment to do a braking harmonisation! WABCObrake V6 10.05.21 dp 26.05.2010

distribution: DOMETT  
 CHASSIS # 196  
 CERT # LC120401  
 LT1400 # 399855

vehicle manufacturer: DOMETT  
 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,

	F in kg	P1 in kg	P2 in kg	P3 in kg	P4 in kg	E in mm	h in mm
total mass	5000	1300	1300	1200	1200	4770 - 4800	1140
axle 1		1300					
axle 2		1300					
axle 3			1200				
axle 4				1200			
laden	28000	7000	7000	7000	7000		1800

	no. of combined axles	no. of brake chambers per axle line	KDZ	BZ	Meritor	chamber size	Lever length	Lbh in mm	brake factor	dyn. rolling radius	dyn. rolling radius	Co
axle 1	1	1	2	BZ 122.1	Meritor	14.	69	23.03	23.03	421	421	6.0
axle 2	1	2	2	BZ 122.1	Meritor	14.	69	23.03	23.03	421	421	6.0
axle 3	1	2	2	BZ 119.6	Meritor	T.14/24	69	23.03	23.03	421	421	6.0
axle 4	1	2	2	BZ 119.6	Meritor	T.14/24	69	23.03	23.03	421	421	6.0

calculation:

	chamber pressure (rdyn min) p <sub>H</sub> at z=22,5%bar	chamber pressure (rdyn max) p <sub>H</sub> at z=22,5%bar	chamber press.(servo)p <sub>cha</sub> at p <sub>m6,5</sub> bar	THA at p <sub>m6,5</sub> bar N	brake force (rdyn min) T <sub>lad</sub> , at p <sub>m6,5</sub> bar N	brake force (rdyn max) T <sub>lad</sub> , at p <sub>m6,5</sub> bar N	brake force within 1 % rolling friction	proportion
axle 1	2.4	2.4	2.4	5.8	42260	42260	42260	25.0
axle 2	2.4	2.4	2.4	5.8	42260	42260	42260	25.0
axle 3	2.1	2.1	2.1	4.6	33173	33173	33173	25.0
axle 4	2.1	2.1	2.1	4.6	4385	4385	4385	25.0

braking rate z laden 0.549 for rdyn min 0.549 for rdyn max  
 z = sum (TR)/FRmax  
 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

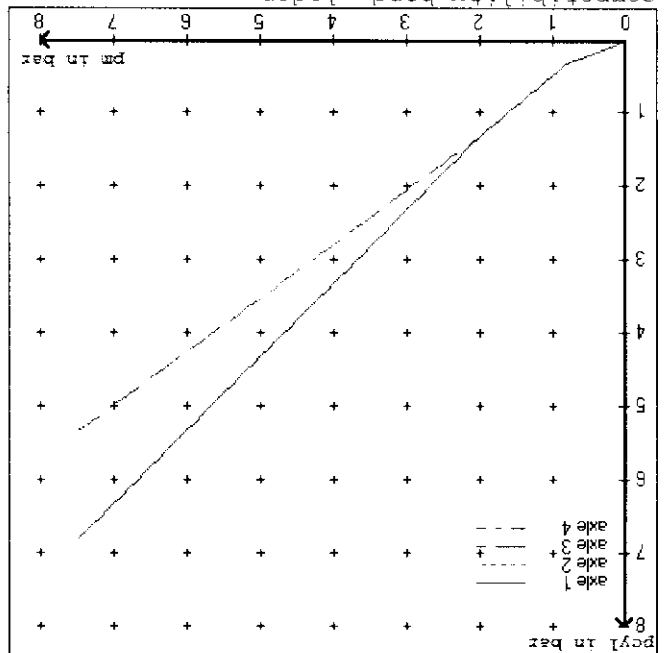
EBS trailer modulator

brake cylinder: Meritor 1424HTLD64

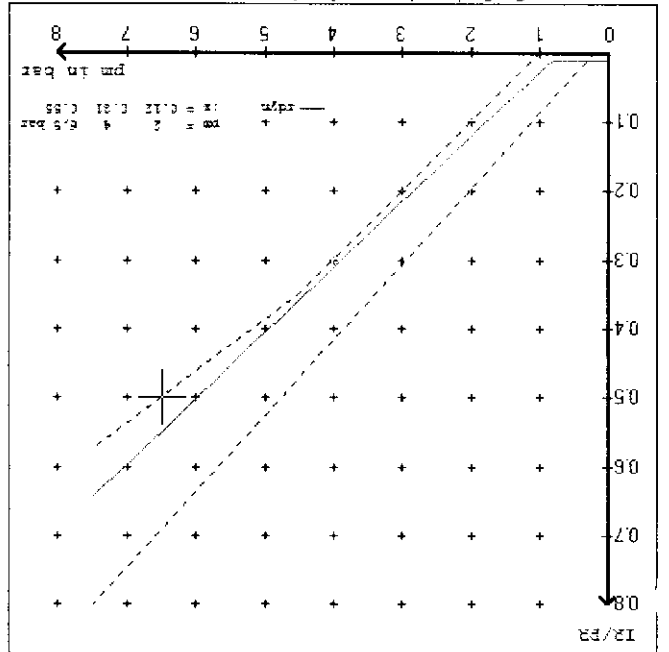
axle 4:  
valve 1: 480 102 ... 0  
WABCO  
EBS trailer modulator  
brake cylinder: Meritor 1424HTUD64

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

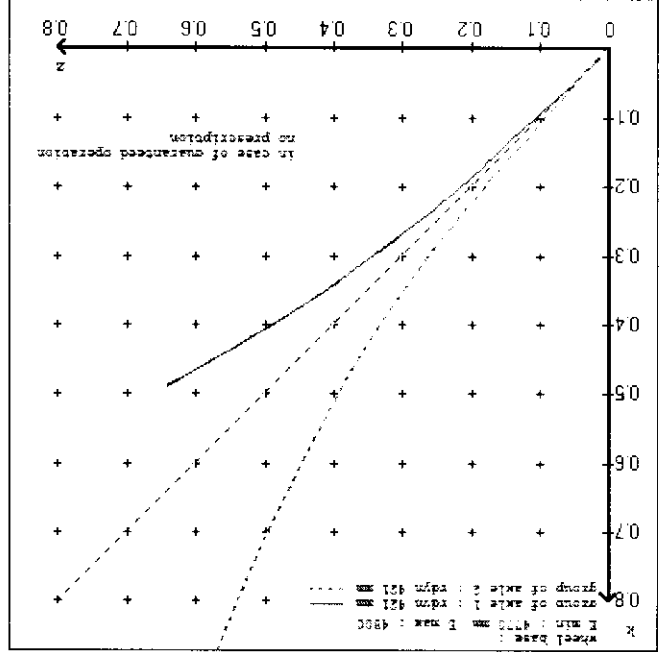
brake chamber pressure laden



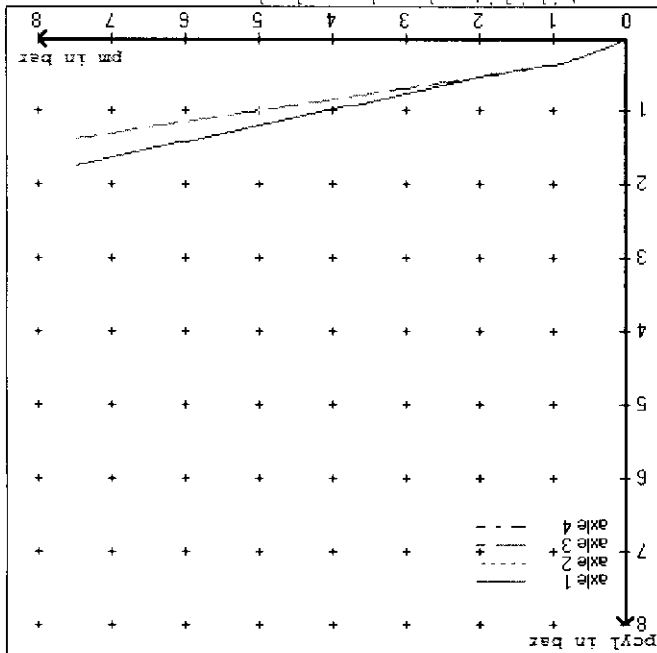
compatibility band laden



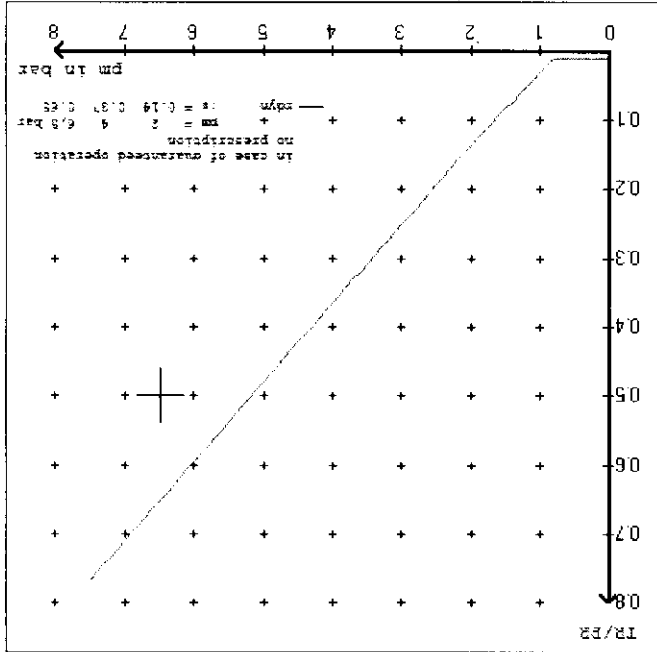
curves of friction laden



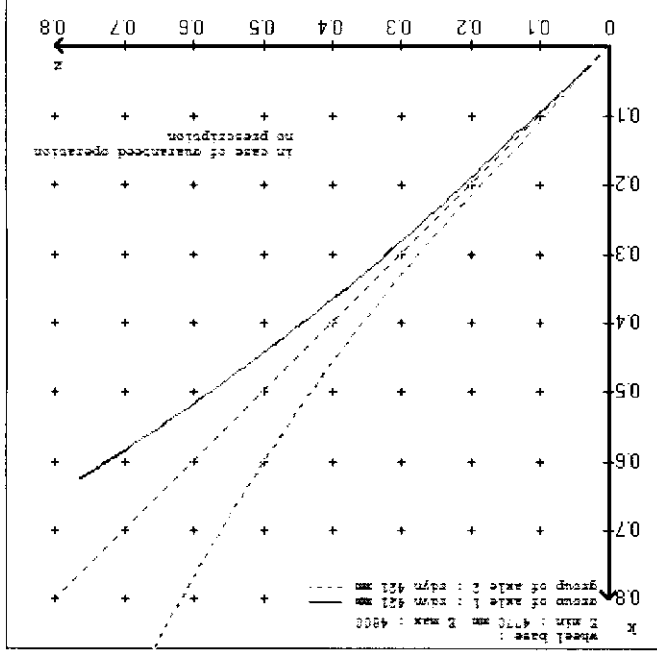
brake chamber pressure unladen



compatibility band unladen



curves of friction unladen



curves of friction unladen





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 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  
 axle 4 : 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 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 (hot)braking 0.43  
 (item 4.3.2 to appendix I to annex VII) >= 0,4 and >= 0,6\*z (0.33)

required braking rate (items 1.3.3 and 1.6.2 to annex II)

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 (hot)braking 0.43  
 (item 4.3.2 to appendix I to annex VII) >= 0,4 and >= 0,6\*z (0.33)

required braking rate (items 1.3.3 and 1.6.2 to annex II)

spring parking brake

axle 3	axle 4
no of TRISTOP-actuators per axle line KDZ	2
TRISTOP-actuator type	T.14/24
lever length	69
Lbh in mm	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

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

min Ef = 3495 mm for E = 4770 mm

min Ef = 3515 mm for E = 4800 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 =	1800 mm height of center of gravity - laden
PR =	14000 kg maximum bogie mass - laden
P =	28000 kg maximum total mass - laden
nf =	2 no. of axle(s) with TRISTOP spring brake actuators
ng =	2 no. of bogie axle(s)

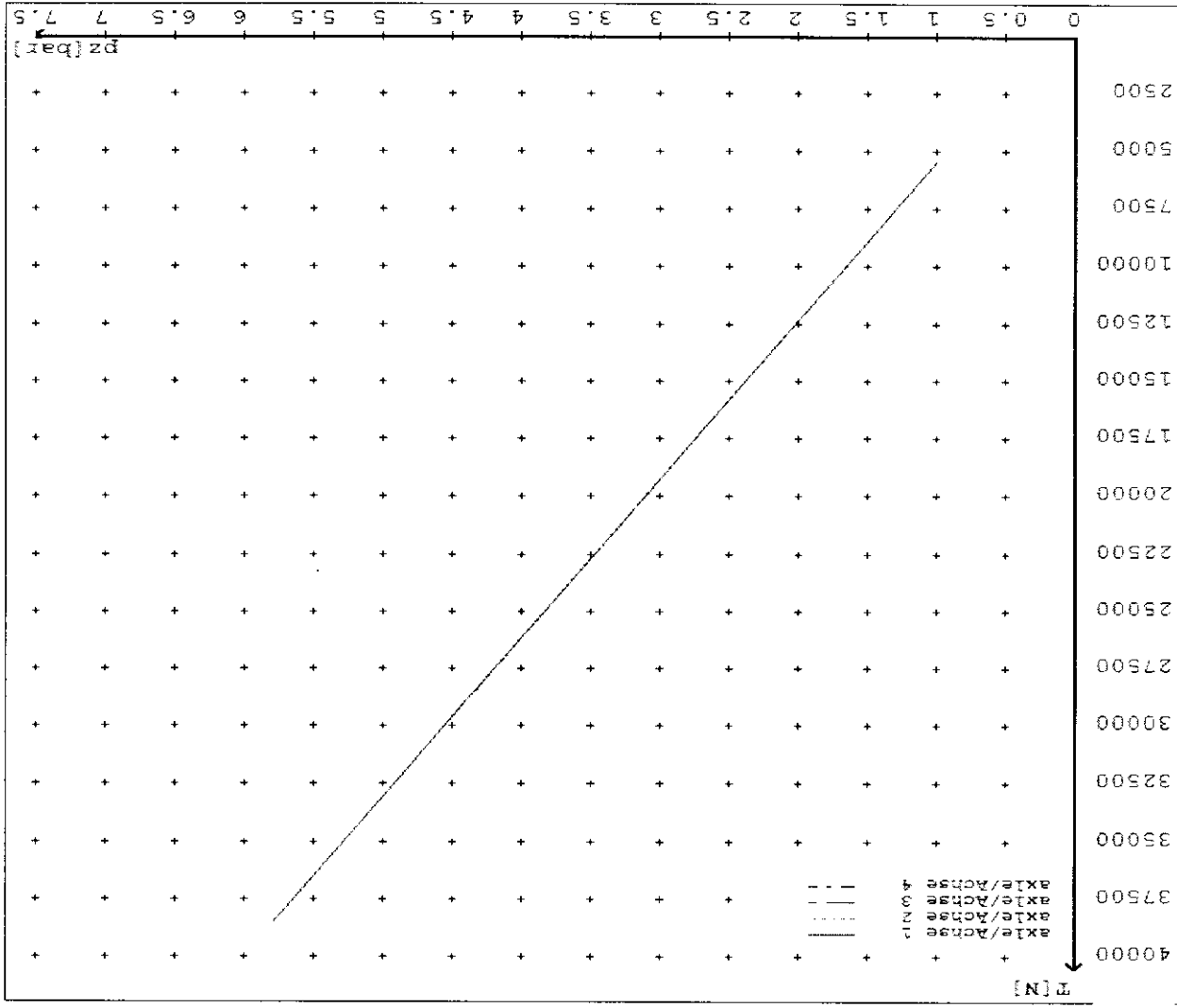
reference values

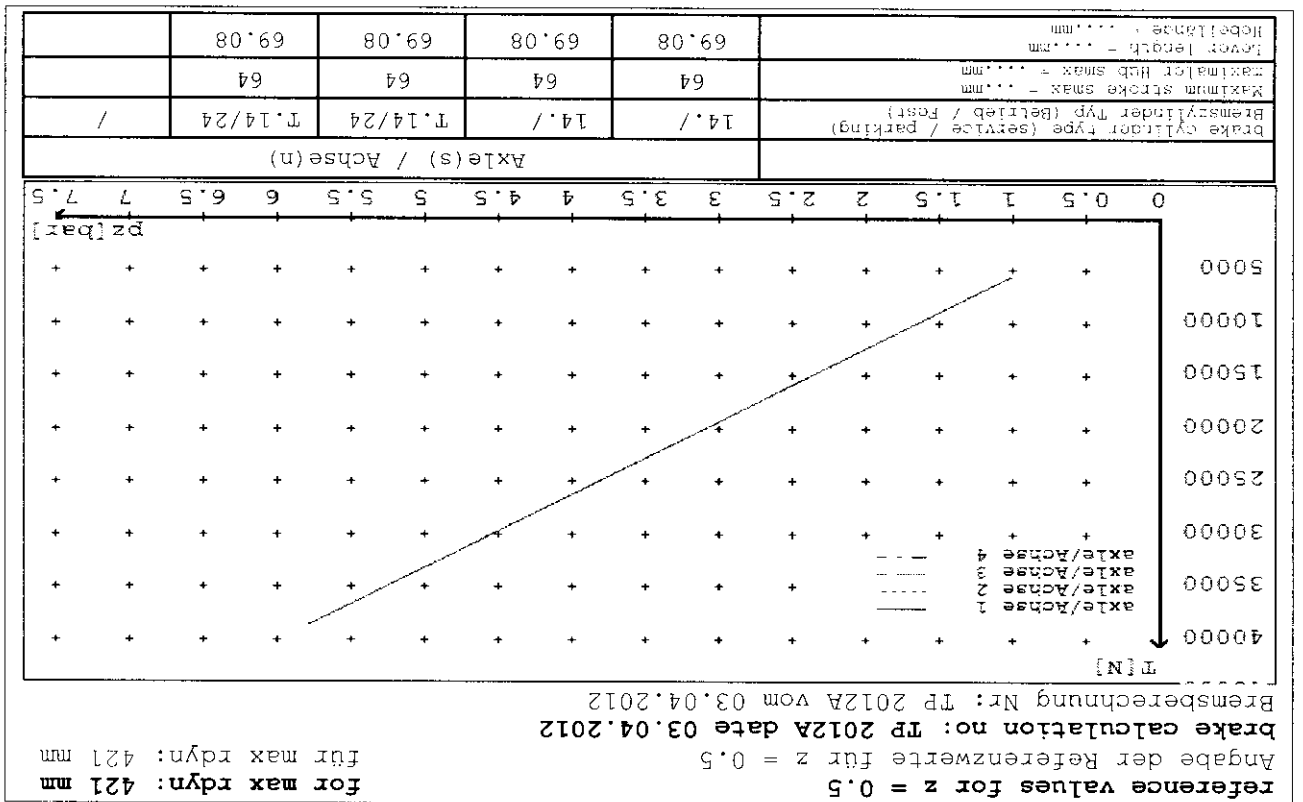
reference values for z = 50% for max rdyn: 421 mm

axle	1	2	3	4
axle 1	1.0	1.0	1.0	1.0
	5383	5383	5383	5383
	38488	38488	38488	38488
axle 2	1.0	1.0	1.0	1.0
	5383	5383	5383	5383
	38488	38488	38488	38488
axle 3	1.0	1.0	1.0	1.0
	5383	5383	5383	5383
	38488	38488	38488	38488
axle 4	1.0	1.0	1.0	1.0
	5383	5383	5383	5383
	38488	38488	38488	38488

VIN - no.:

axle(s) / Achse(n)	14./	14./	14./	64	64	64	64	64	64
brake cylinder type (service / parking)	14./	14./	14./	64	64	64	64	64	64
Brmszylinder Typ (Betrieb / Fest)	14./	14./	14./	64	64	64	64	64	64
Maximum stroke smax = ...mm	64	64	64	64	64	64	64	64	64
maximaler Hub smax = ...mm	64	64	64	64	64	64	64	64	64
Lever length = ...mm	69.08	69.08	69.08	69.08	69.08	69.08	69.08	69.08	69.08
Hebelänge = ...mm	69.08	69.08	69.08	69.08	69.08	69.08	69.08	69.08	69.08







P.O.Box 98-971

South Auckland Mail Centre

Lance Cawte (LPC)

DATE	3-Apr-12	LOAD SENSED	WABCO EBS "E"
CERT. NO.	LC120401	PREV EXEMPTION	N/A
VIN / CHASSIS	7A9D10017Y0023196		
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

