

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 (optional) _____ VIN/chassis number **7A9E10010G1023473**

Make **DOMETT** Component being certified: Chassis Load anchorage
 Model (optional) _____ Log bolsters Towing connection Brakes
 Certification category **HVEK** SRT PSV stability PSV rollover
 Swept path PBS

Description of work
CERTIFY TO HEAVY VEHICLE BRAKE RULE 32015/3.
NEW ZEALAND HEAVY VEHICLE BRAKE SPECIFICATION.

Code/standard/rule certified to **SCHEDULE 5** Component load rating(s) **N/A**
 General drawing number(s) **N/A**

Supporting documents
BRAKE CODE CERTIFICATE LC160415

Special conditions (optional)
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 **17-May-16** Number **549846**

CoF vehicle inspector ID _____ CoF vehicle inspector signature _____ Date _____

All fields are mandatory unless otherwise stated.

WABCO

START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 064 0
Production date	2015-12-03	Serial number	436020857000D
Serial number (modulator)	000000121824		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2016-05-17 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO		TRAILER EBS-E		GGVS/ADR TUEH TB 2007 - 019.00 TDB0749											
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT T&T		GIO	Pin1	Pin3	Pin4									
TYP TYPE	5AFT TANKER		1	ILS1	---	ILS1									
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E10010G1023473		2	eTASC	---	eTASC									
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP2016A		3	ALS2	ALS2	---									
POLRADZAHNEZAHL c-d e-f POLE WHEEL TEETH c-d e-f DENTS ROUE DENTÉE c-d e-f	90	90	4	---	MH	LS1									
ABS-System ABS system Système ABS	4S/3M		5	DIAG	DIAG	DIAG									
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	Lenkachse Steering axle Essieu steer	6	---	---	---									
	Zwillingsbereifung Twin Tire Monte jumelé	Kippkritisches Fahrzeug Critical Trailer Véhicule critique	7	---	---	---									
	X														
Subsystems	---	I/O	24N												
ACHSE AXLE ESSIEU	pm (bar)	6.5	pm (bar)	0.8	2.0	---	6.5	TYP TYPE	(mm)	(mm)	(bar)	1.0	Pz		
											TR (daN)				
1	1500	0.6	1.6	8000	5.1	0.4	1.4	---	6.2	-	18	65	69	506	3799
2	1500	0.6	1.6	8000	5.1	0.4	1.4	---	6.2	-	18	65	69	506	3799
3	1100	0.3	1.2	6400	3.9	0.3	1.4	---	4.9	-	14 / 16	64	69	500	2781
4	1100	0.3	1.2	6400	3.9	0.3	1.4	---	4.9	-	14 / 16	64	69	500	2781
5	1100	0.3	1.2	6400	3.9	0.3	1.4	---	4.9	1	14	64	69	500	2781

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	7A9E10010G1023473
Vehicle type	5AFT TANKER	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	Chris Clarke		
Date	2016-05-17 11:26:22 a.m.		

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

distribution: DOMETTS
 2016, 5A, SAF,
 7A9E10010G1023473
 LC160415
 LT400 CJC 549846

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: DOMETTS
 trailer model : 2016 5A TANKER, E1001
 trailer type : 5-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 + 5 : SAF, SBW 1937, TDB 0749 ECE,

		unladen	laden
total mass	P in kg	6300	35200
axle 1	P1 in kg	1500	8000
axle 2	P2 in kg	1500	8000
axle 3	P3 in kg	1100	6400
axle 4	P4 in kg	1100	6400
axle 5	P5 in kg	1100	6400
wheel base	E in mm	5700 - 5700	
centre of gravity height	h in mm	900	1521

	axle 1	axle 2	axle 3	axle 4	axle 5
no. of combined axles	1	1	1	1	1
no. of brake chambers per axle line K D Z	2	2	2	2	2
The power output corresponds to brake chamber manufacturer	BZ 122.1 Meritor	BZ 122.1 Meritor	BZ 119.6 Meritor	BZ 119.6 Meritor	BZ 122.1 Meritor
chamber size	18.	18.	T.14/24	T.14/24	14.
lever length	1Bh in mm	69	69	69	69
brake factor	[-]	23.03	23.03	23.03	23.03
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	6.0	6.0	6.0	6.0

calculation:

chamber pressure (rdyn min) pH at z=22,5%bar	2.4	2.4	2.1	2.1	2.1
chamber pressure (rdyn max) pH at z=22,5%bar	2.4	2.4	2.1	2.1	2.1
chamber press. (servo) pcha at pm6,5bar bar	6.2	6.2	4.9	4.9	4.9
piston force ThA at pm6,5bar N	6622	6622	4686	4686	4686
brake force (rdyn min) T lad. at pm6,5bar N	50176	50176	35386	35386	35386
brake force (rdyn max) T lad. at pm6,5bar N	50176	50176	35386	35386	35386
brake force within 1 % rolling friction proportion %	21.2	21.2	19.2	19.2	19.2

braking rate z laden 0.598 for rdyn min
 z = sum (TR)/PRmax 0.598 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 or 480 207 2.. 0
EBS relay valve

brake cylinder: Meritor 18HSCLD64

axle 2:

valve 1: 480 207 0.. 0 WABCO or 480 207 2.. 0
EBS relay valve

brake cylinder: Meritor 18HSCLD64

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

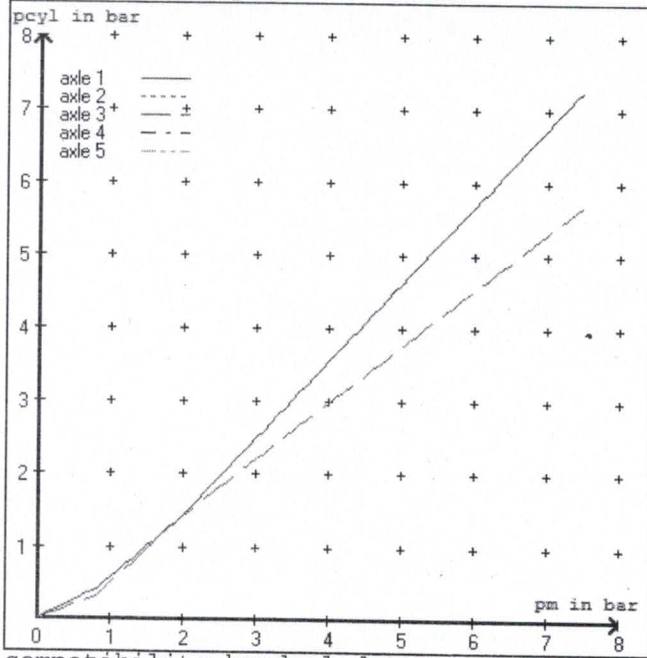
axle 5:

valve 1: 480 102 ... 0 WABCO
EBS trailer modulator

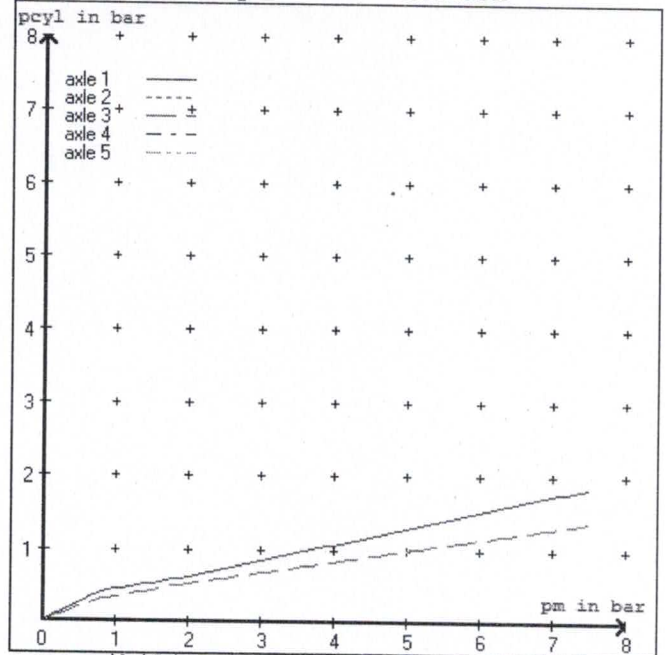
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.6 bar =>	pcha in bar :	3.1	3.1	2.7	2.7	2.7	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 1.3 bar =>	pcha in bar :	0.8	0.8	0.8	0.8	0.8	

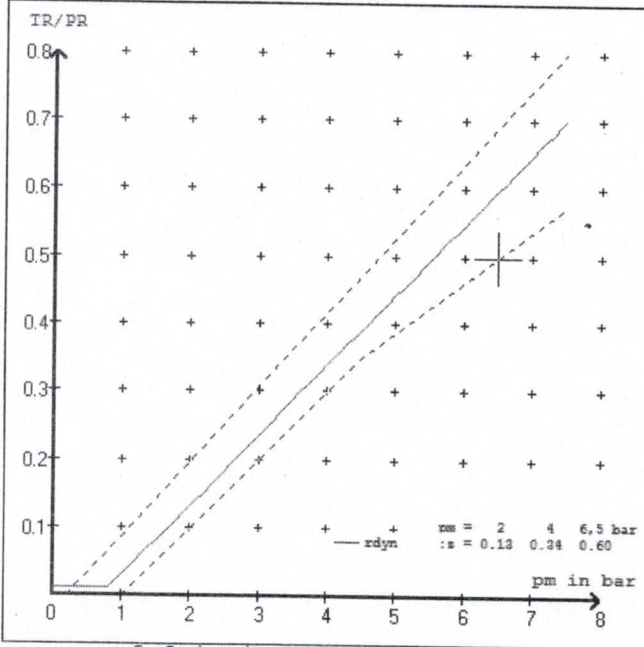
brake chamber pressure laden



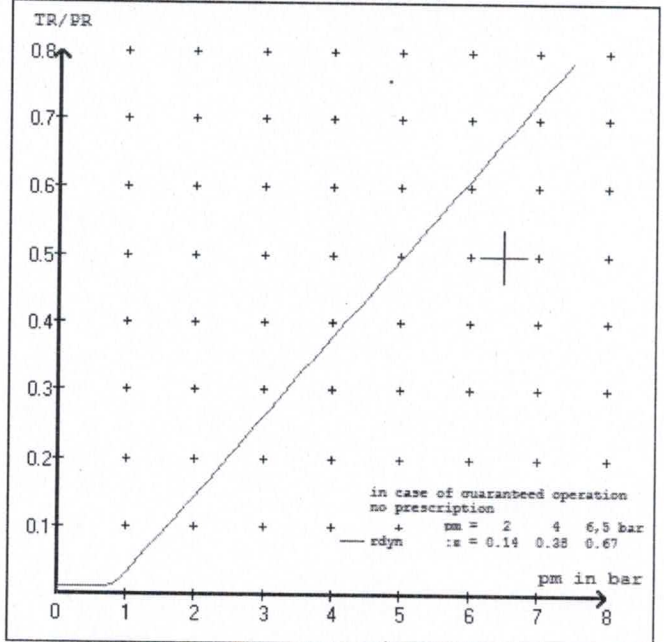
brake chamber pressure unladen



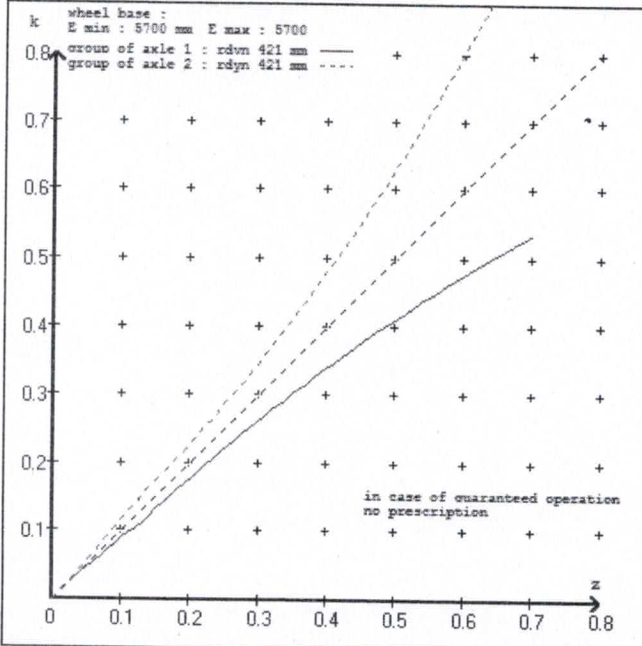
compatibility band laden



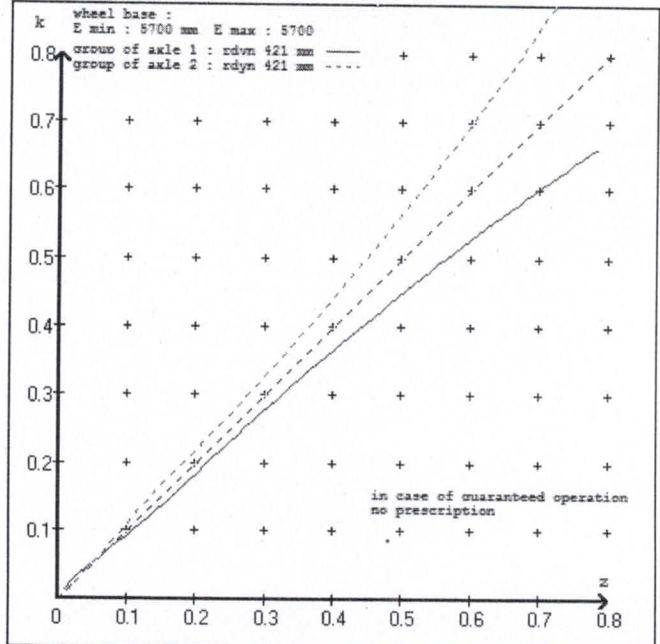
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETTS
 trailer model : 2016 5A TANKER, E1001
 trailer type : 5-axle-full-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter 18. (Meritor) lever length 69 mm
 axle 2 : 2 x type/diameter 18. (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
 axle 5 : 2 x type/diameter 14. (Meritor) lever length 69 mm

brake diagram :

valve :

480 207 0.. 0 WABCO EBS relay valve or 480 207 2.. 0
 480 102 ... 0 WABCO EBS trailer modulator

EBS input data

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vehicle manufacturer: DOMETTS
 trailer model : 2016 5A TANKER, E1001
 trailer type : 5-axle-full-trailer
 brake calculation no. : TP 2016A

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 = 0.010
 (laden condition) 2.0 bar z = 0.134
 6.5 bar z = 0.600

control pressure pm		6,5	control pressure pm		0.8	2.0	6.5	
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden		
1	1500	to be	1.6	8000	to be	0.4	1.4	6.2
2	1500	entered by the vehicle manufact.	1.6	8000	entered by the vehicle manufact.	0.4	1.4	6.2
3	1100		1.2	6400		0.3	1.4	4.9
4	1100		1.2	6400		0.3	1.4	4.9
5	1100		1.2	6400		0.3	1.4	4.9

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.

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axle 1	axle 2	axle 3	axle 4	axle 5
axle load pcy1	axle load pcy1	axle load pcy1	axle load pcy1	axle load pcy1
1500 1.6	1500 1.6	1100 1.2	1100 1.2	1100 1.2
2000 2.0	2000 2.0	1600 1.5	1600 1.5	1600 1.5
2500 2.3	2500 2.3	2100 1.9	2100 1.9	2100 1.9
3000 2.7	3000 2.7	2600 2.2	2600 2.2	2600 2.2
3500 3.0	3500 3.0	3100 2.6	3100 2.6	3100 2.6
4000 3.4	4000 3.4	3600 2.9	3600 2.9	3600 2.9
4500 3.7	4500 3.7	4100 3.3	4100 3.3	4100 3.3
5000 4.1	5000 4.1	4600 3.6	4600 3.6	4600 3.6
8000 6.2	8000 6.2	6400 4.9	6400 4.9	6400 4.9

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
axle 4 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 20130930 30.09.2013
axle 5 : 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 = 24.1 % Fe
axle 2	(rdyn 421 mm)	T = 24.1 % Fe
axle 3	(rdyn 421 mm)	T = 18.4 % Fe
axle 4	(rdyn 421 mm)	T = 18.4 % Fe
axle 5	(rdyn 421 mm)	T = 18.4 % Fe

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

axle 1	(sp = 58 mm)	s = 39 mm
axle 2	(sp = 58 mm)	s = 39 mm
axle 3	(sp = 56 mm)	s = 39 mm
axle 4	(sp = 56 mm)	s = 39 mm
axle 5	(sp = 56 mm)	s = 39 mm

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

axle1	ThA = 6622 N
axle2	ThA = 6622 N
axle3	ThA = 4686 N
axle4	ThA = 4686 N
axle5	ThA = 4686 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 = 39203 N
axle 2	(rdyn 421 mm)	T = 39203 N
axle 3	(rdyn 421 mm)	T = 27691 N
axle 4	(rdyn 421 mm)	T = 27691 N
axle 5	(rdyn 421 mm)	T = 27691 N

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	basic test	type III
	of subject trailer (E)	(calculated) residual (hot)braking
	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)
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axle 1	(rdyn 421 mm)	T = 39203 N
axle 2	(rdyn 421 mm)	T = 39203 N
axle 3	(rdyn 421 mm)	T = 27691 N
axle 4	(rdyn 421 mm)	T = 27691 N
axle 5	(rdyn 421 mm)	T = 27691 N

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	basic test	type III
	of subject trailer (E)	(calculated) residual (hot)braking
	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

	<u>axle 3</u>	<u>axle 4</u>
no of TRISTOP-actuators per axle line KDZ	2	2
TRISTOP-actuator type	T.14/24	T.14/24
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	7605	7605
sp.brake chamber no Meritor.....	4	4
release pressure pLs in bar	4.8	4.8

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	59654	59654
Tf = (TFZ*KDZ-2*Co/lBh)*iFb		
braking rate zf laden	0.356	
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 = 4324 mm for E = 5700 mm

=====

min Ef = 4324 mm for E = 5700 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 =	1521 mm	height of center of gravity - laden
PR =	19200 kg	maximum bogie mass - laden
P =	35200 kg	maximum total mass - laden
nf =	2	no. of axle(s) with TRISTOP spring brake actuators
ng =	3	no. of bogie axle(s)

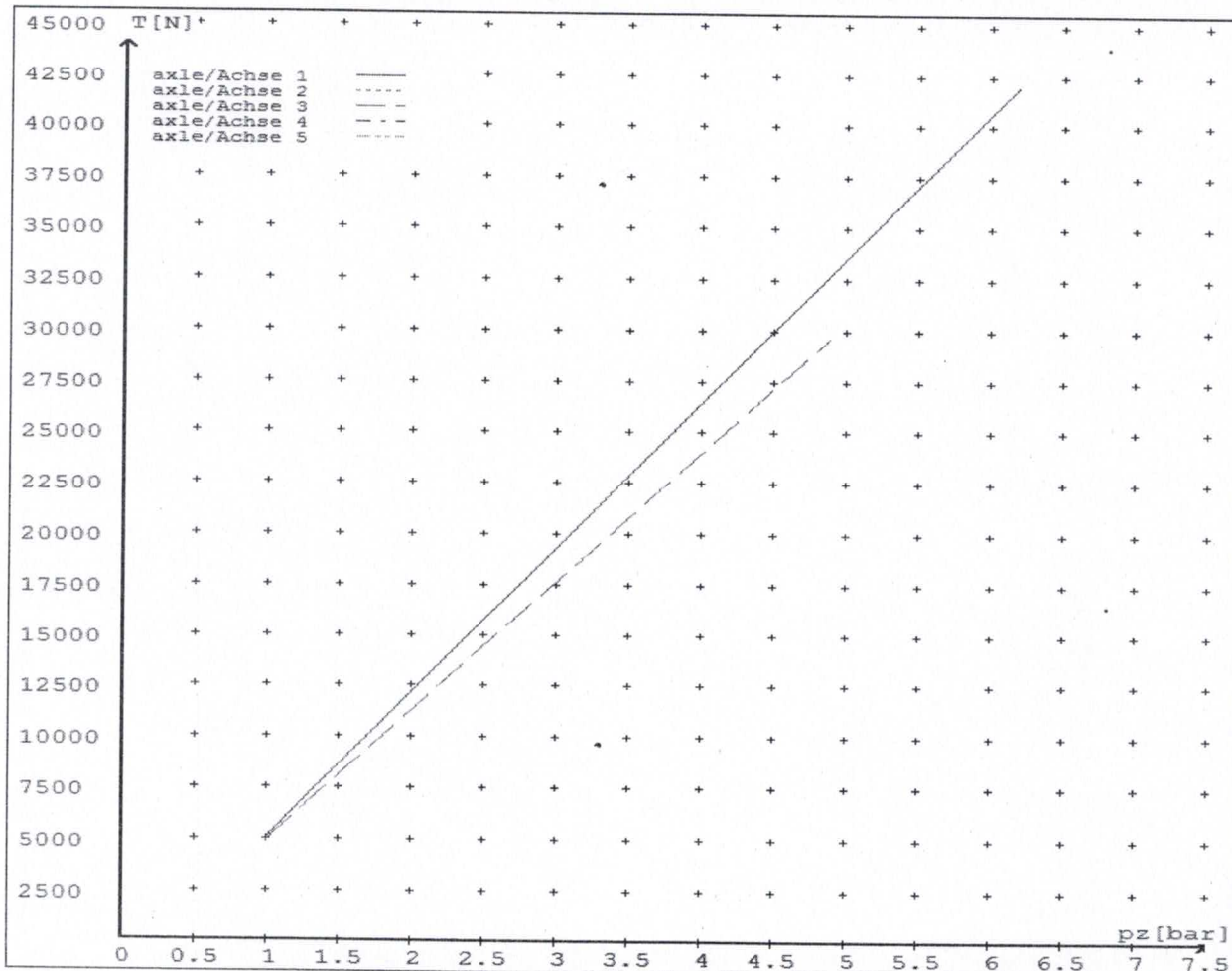
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	4986	
	6.2	41953	
axle 2	1.0	4986	
	6.2	41953	
axle 3	1.0		4892
	4.9		29587
axle 4	1.0		4892
	4.9		29587
axle 5	1.0		4892
	4.9		29587

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	18./	18./	T.14/24	T.14/24	14./
Maximum stroke smax = ...mm maximaler Hub smax =mm	64	64	64	64	64
Lever length =mm Hebellänge =mm	69.08	69.08	69.08	69.08	69.08



reference values for $z = 0.5$

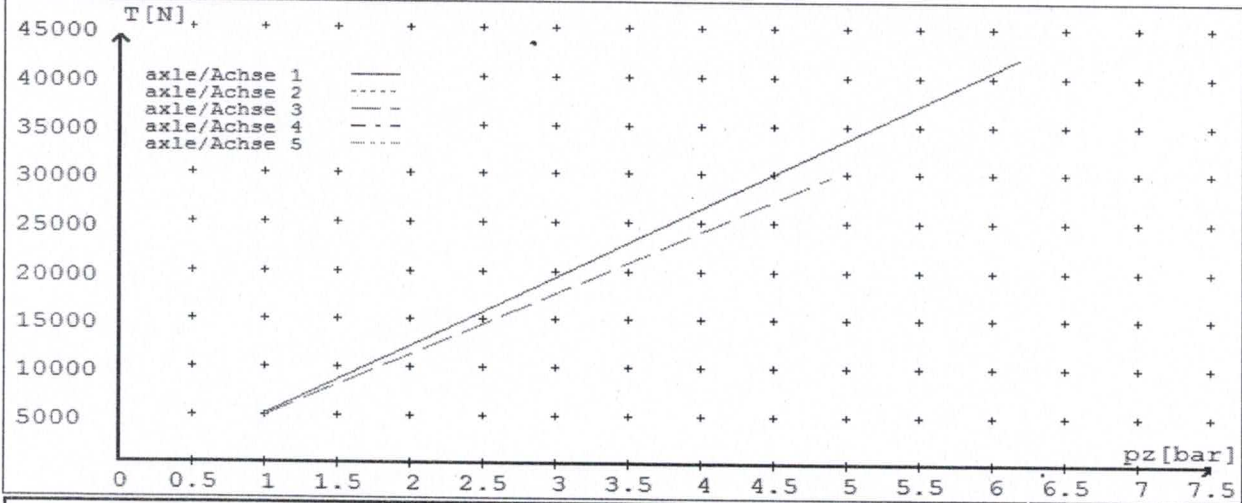
Angabe der Referenzwerte für $z = 0.5$

for max rdyn: 421 mm

für max rdyn: 421 mm

brake calculation no: TP 2016A date 22.03.2016

Bremsberechnung Nr: TP 2016A vom 22.03.2016



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	18./	18./	T.14/24	T.14/24	14./
Maximum stroke $s_{max} = \dots$ mm maximaler Hub $s_{max} = \dots$ mm	64	64	64	64	64
Lever length = \dots mm Hebellänge = \dots mm	69.08	69.08	69.08	69.08	69.08

GOUGH**Transpecs**

**HEAVY VEHICLE BRAKE RULE
32015/3 WORKSHEET
PROCEDURE DOCUMENTATION SHEET- (PDS)**

**&
CONFIRMATION OF COMPLIANCE**

CERTIFICATE NO:

CUSTOMER NAME:

CUSTOMER ORDER NO: DATE RECEIVED:

VEHICLE TYPE:

VIN / CHASSIS NO:

BRIEF SPECIFICATION AS CERTIFIED TO SCHEDULE 5

BRAKE VALVES:	MAKE	TYPE
PRIMARY RELAY:	WABCO	<input type="text" value="480 102 064 0"/>
SECONDARY RELAY:	WABCO	<input type="text" value="480 207 001 0"/>
SPRING BRAKE RELAY:	SEALCO	<input type="text" value="110701"/>
PARK BRAKE VALVE:	SEALCO	<input type="text" value="17600B"/>
LOCKED RATIO:	<input type="text"/>	
MAKE:	<input type="text"/>	
SETTING:	<input type="text"/>	

OTHER VALVES

OTHER VALVES

MAKE:	<input type="text"/>	TYPE	<input type="text"/>	SETTING	<input type="text"/>
MAKE:	<input type="text"/>	TYPE	<input type="text"/>	SETTING	<input type="text"/>
MAKE:	<input type="text"/>	TYPE	<input type="text"/>	SETTING	<input type="text"/>
MAKE:	<input type="text"/>	TYPE	<input type="text"/>	SETTING	<input type="text"/>

BRAKE CHAMBERS

	FRONT	REAR	5TH
MAKE:	TSE	TSE	TSE
SIZE:	18HSCLD65	1416HTLD64	14HSCLD64
STROKE: MM	65mm	64mm	64mm
SLACK LENGTH: MM	DISC	DISC	DISC

BRAKE CALIPERS

BRAKE CALIPERS: WABCO

FRICITION MATERIAL:

OEM Aftermarket

LINING BRAND

LINING BRAND

FRONT	REAR
JURID 539	JURID 539

OTHERS

TYRES:	FRONT	REAR
	265/70R 19.5	265/70R 19.5

COMMENTS

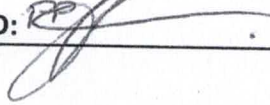
EBS, SPECIAL CONDITIONS APPLY. SEE INSTRUCTIONS ON LT400 # 0

NOTES:

PACKING SLIP NO. _____ PROCESS TIME _____

CONFIRMATION OF COMPLIANCE

I CONFIRM THAT THE VEHICLE IDENTIFIED IN PAGES 1 AND 2 OF THIS CONFIRMATION OF COMPLIANCE COMPLIES WITH ALL RELEVANT REQUIREMENTS OF THE CURRENT NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015/3, SCHEDULE 5.

DATE: 17/05/2016 SIGNED: 

NAME & ID: LANCE CAWTE (LPC)

PHONE (BUS): 09 980 7300 FAX (BUS): 03 3083277

POSTAL ADDRESS: TRANSPORT SPECIALTIES LTD
PO BOX 98-971,
MANUKAU CITY,
AUCKLAND 2241

POSITION: Brake certifier HVEK

I CONFIRM THE BRAKE SYSTEM OF THE VEHICLE IDENTIFIED IN 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 BRAKE RULE 32015/3 SCHEDULE 5.

DATE: _____ SIGNED: _____

NAME: _____

CERTIFIERS ID: _____ POSITION: _____

PHONE (BUS): _____ FAX (BUS): _____

COMMENTS: _____

