

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) ID

CHRIS CLARKE **CJC**

Vehicle registration (optional) VIN/chassis number

7A9E10012G1023488

Make **DOMETT**

Model (optional)

Certification category **HVEK**

Component being certified:

<input type="checkbox"/> Chassis	<input type="checkbox"/> Load anchorage
<input type="checkbox"/> Log bolsters	<input checked="" type="checkbox"/> Brakes
<input type="checkbox"/> SRT	<input type="checkbox"/> PSV stability
<input type="checkbox"/> Swept path	<input type="checkbox"/> PSV rollover
<input type="checkbox"/> Towing connection	<input type="checkbox"/> 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**

General drawing number(s) **N/A**

Component load rating(s)

~~N/A~~
N/A

Supporting documents

BRAKE CODE CERTIFICATE LC140615

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 **8-Aug-16** Number **561811**

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	2015-11-25	Serial number	436020699100F
Serial number (modulator)	000000121362		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2016-08-08 ; 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 TYPE		5AFT TANKER		1		ILS1		---		ILS1							
FAHRZEUG IDENT.NR. CHASSIS NUMBER NUMERO DE CHASSIS		7A9E10012G1023488		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 DENTEE 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 Eclair vieur		6		---		---							
		Zwillingsbereifung Twin Tire Monte jumelée		X		Kipprichtiges Fahrzeug Critical Trailer Vehicule critique		7		---							
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	
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	7A9E10012G1023488
Vehicle type	5AFT TANKER	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	Chris Clarke	Signature	
Date	2016-08-08 2:08:28 p.m.		

distribution: DOMETTS

2016, 5A, SAF,
 7A9E10012G1023488
 LC160615
 LT400 CJC 561811

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

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 (V6.14.04.20).
 -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

axle 1 + 2 + 3 + 4 + 5 : SAF, SBW 1937, TDB 0749 ECE,

		<u>unladen</u>	<u>laden</u>
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

	<u>axle 1</u>	<u>axle 2</u>	<u>axle 3</u>	<u>axle 4</u>	<u>axle 5</u>
no. of combined axles	1	1	1	1	1
no. of brake chambers per axle line KDZ	2	2	2	2	2
The power output corresponds to	BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6	BZ 122.1
brake chamber manufacturer	Meritor	Meritor	Meritor	Meritor	Meritor
chamber size	18.	18.	T.14/24	T.14/24	14.
lever length lBh in mm	69	69	69	69	69
brake factor [-]	23.03	23.03	23.03	23.03	23.03
dyn. rolling radius rdyn min in mm	421	421	421	421	421
dyn. rolling radius rdyn max in mm	421	421	421	421	421
threshold torque Co Nm	6.0	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

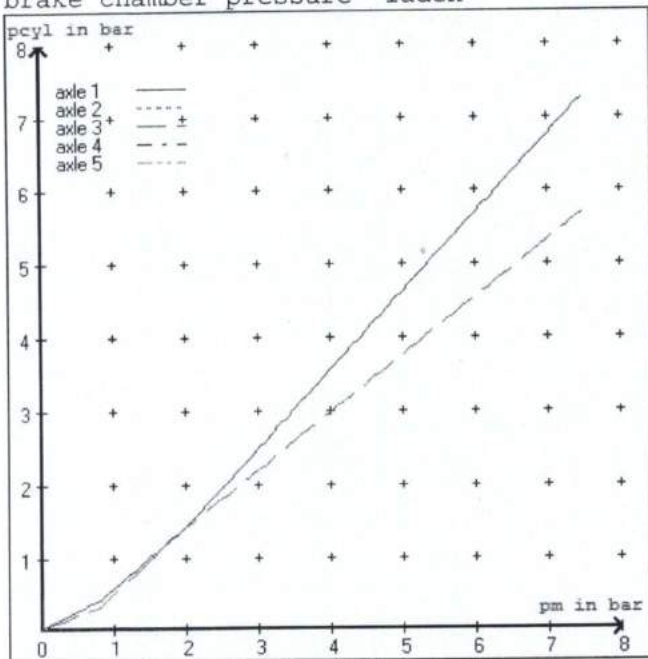
axle 5:

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

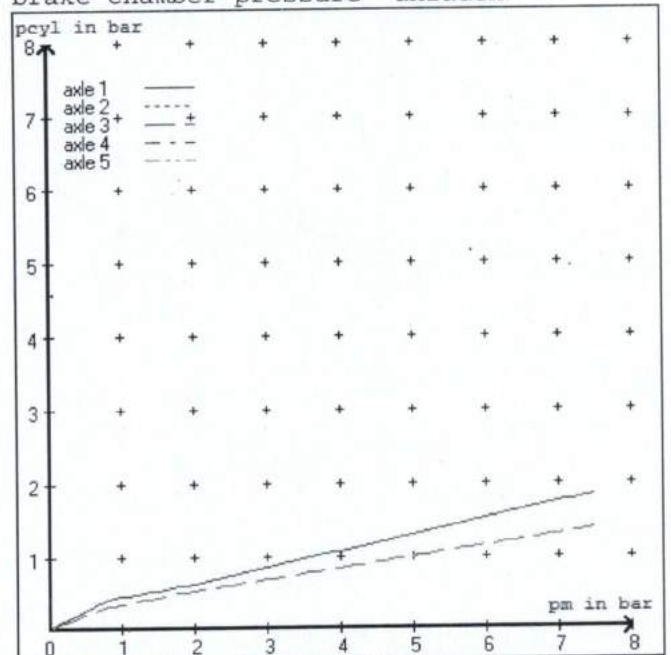
brake cylinder: Meritor 14HSCLD64

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	

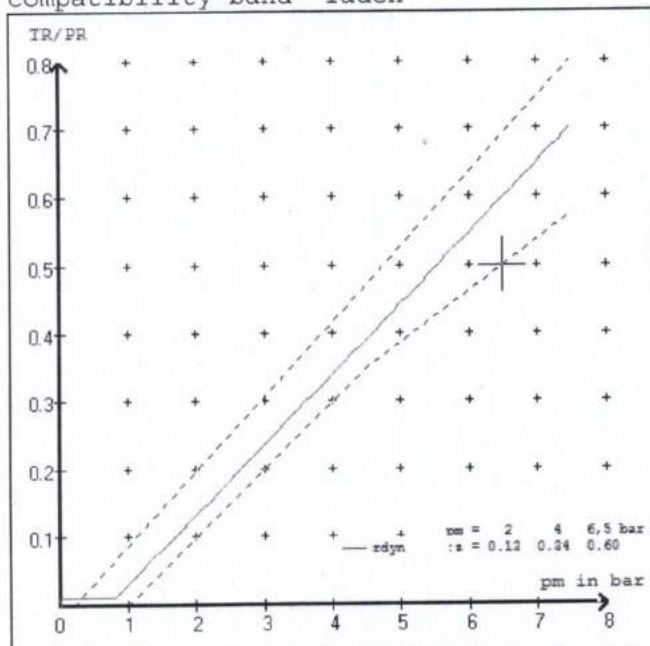
brake chamber pressure laden



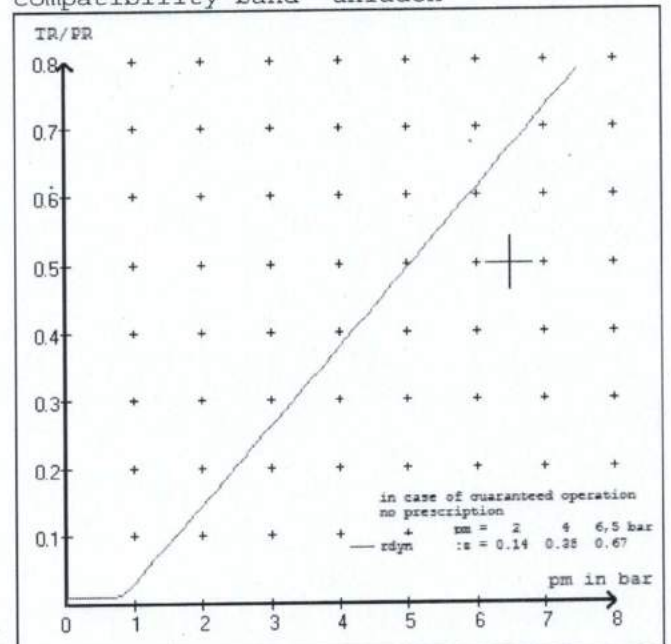
brake chamber pressure unladen



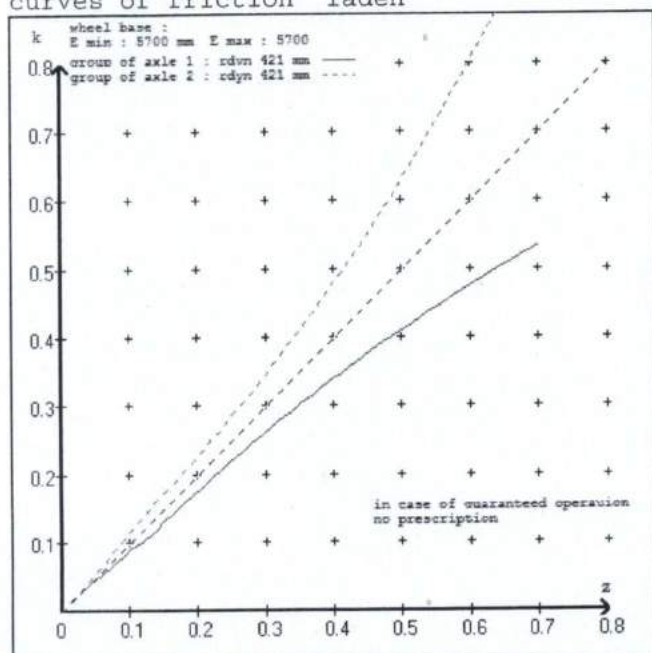
compatibility band laden



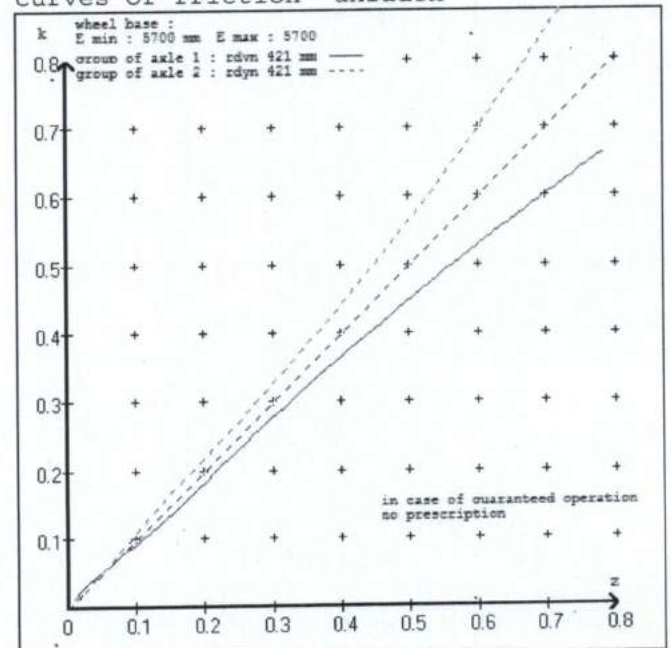
compatibility band unladen



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

=====

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	1.6	8000	entered by	0.4	1.4	6.2	
3	1100	the vehicle	1.2	6400	the vehicle	0.3	1.4	4.9	
4	1100	manufact.	1.2	6400	manufact.	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.

=====

axle 1		axle 2		axle 3		axle 4		axle 5	
axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl
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. verific. 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

	basic test	type III
	of subject	(calculated)
	trailer (E)	residual
braking rate of the vehicle		(hot)braking
(item 4.3.2 to appendix 2 to annex 11)	0.60	0.47

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.36)

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

	basic test	type III
	of subject	(calculated)
	trailer (E)	residual
braking rate of the vehicle		(hot)braking
(item 4.3.2 to appendix 2 to annex 11)	0.60	0.47

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 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	
$zf = \text{sum}(Tf) / P + 0,01$			

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)

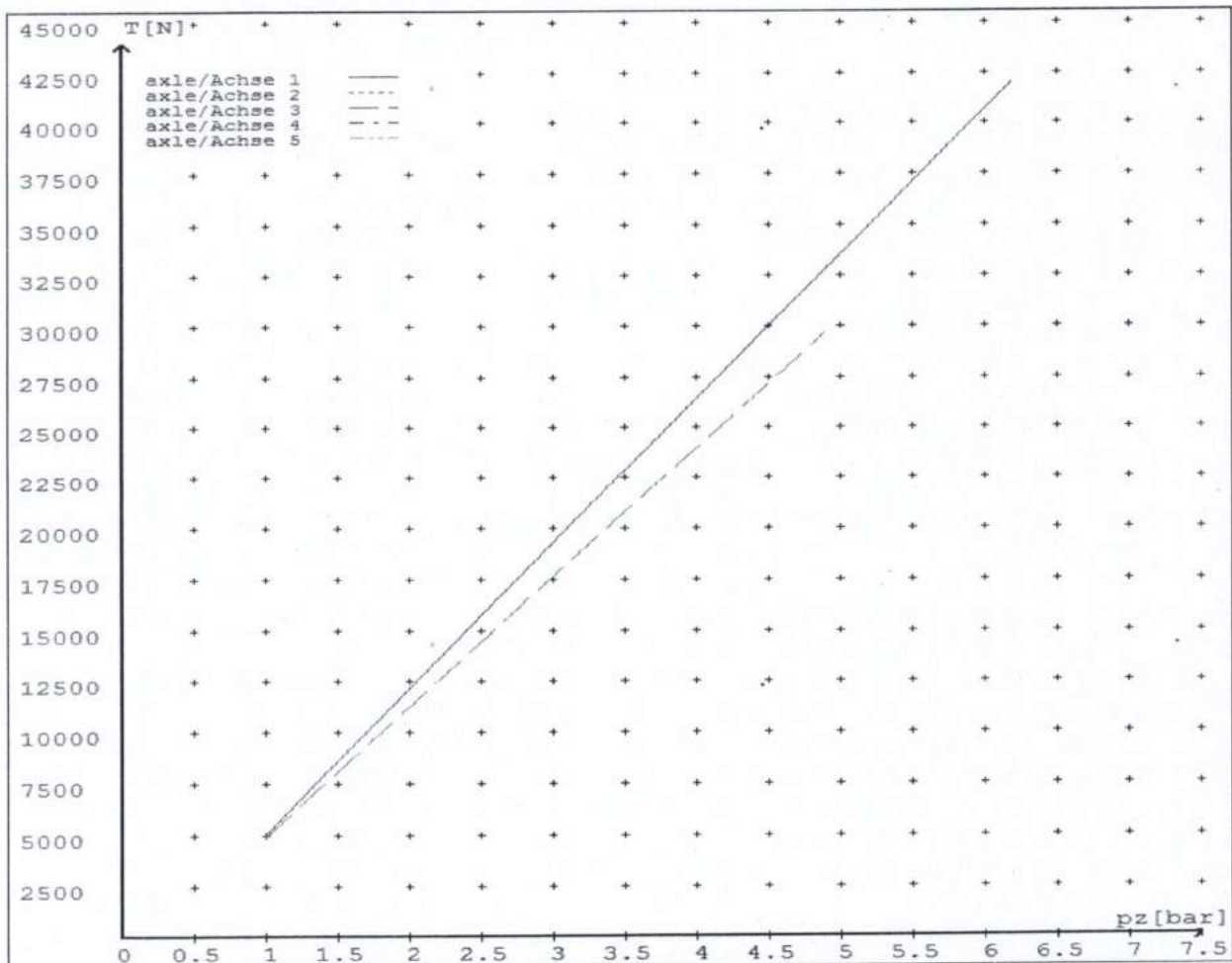
reference values

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 $z = 0.5$

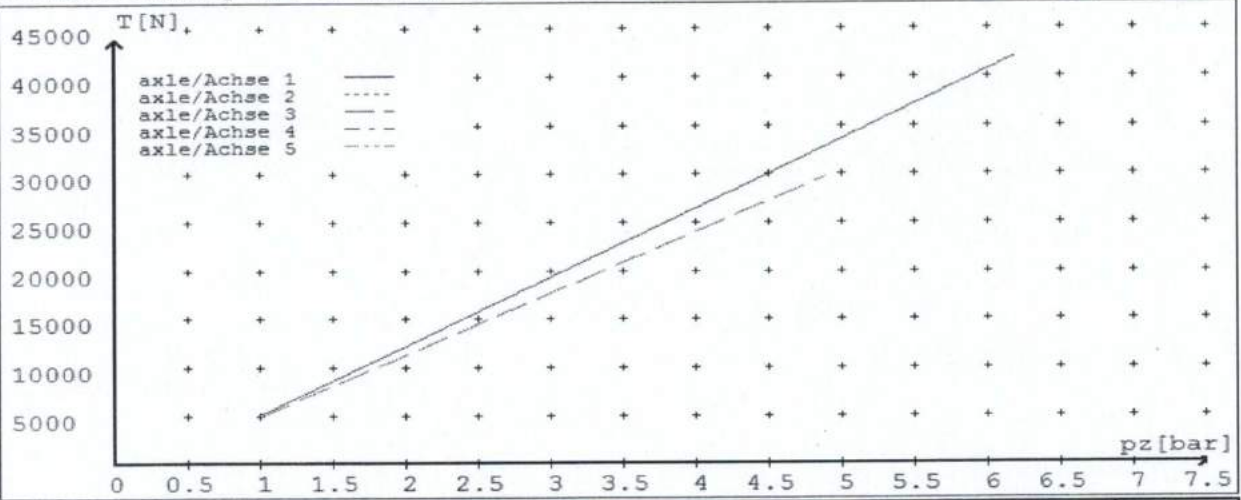
for max rdyn: 421 mm

Angabe der Referenzwerte für $z = 0.5$

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:

LC140615

CUSTOMER NAME:

DOMETT TRAILERS

CUSTOMER ORDER NO:

4556

DATE RECEIVED:

21/03/2016

VEHICLE TYPE:

FULL TANKER

VIN / CHASSIS NO:

7A9E10012G1023488

BRIEF SPECIFICATION AS CERTIFIED TO SCHEDULE 5

BRAKE VALVES:

MAKE

TYPE

PRIMARY RELAY:

WABCO

480 102 064 0

SECONDARY RELAY:

WABCO

480 207 001 0

SPRING BRAKE RELAY:

SEALCO

110701

PARK BRAKE VALVE:

SEALCO

17600B

LOCKED RATIO:

MAKE:

SETTING:

OTHER VALVES

OTHER VALVES

MAKE:

TYPE

SETTING

MAKE:

TYPE

SETTING

MAKE:

TYPE

SETTING

MAKE:

TYPE

SETTING

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

FRICTION 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

COMMENTSEBS, 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: 8/08/2016 **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: _____

