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 *(optional)*:

VIN/chassis number: 7A9E10019G1023486

Make: DOMETT

Component being certified:

- [ ] Chassis
- [ ] Load anchorage
- [ ] Log bolsters
- [ ] Towing connection
- [X] Brakes
- [ ] SRT
- [ ] PSV stability
- [ ] PSV rollover
- [ ] Swept path
- [ ] PBS

Model *(optional)*:

Certification category: HVEK

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 LC160613

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: 29-Jul-16

Number: 558693

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**	436020907400G
Serial number (modulator)	000000121816		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2016-07-29 ; 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
TYP TYPE TYPE	5AFT TANKER
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E10019G1023486
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP2016A
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	--- / I/O / 24N

GIO	Pin1	Pin3	Pin4
1	ILS1	---	ILS1
2	eTASC	---	eTASC
3	ALS2	ALS2	---
4	---	MH	LS1
5	DIAG	DIAG	DIAG
6	---	---	---
7	---	---	---

	pm (bar)		6.5	pm (bar)		0.8	2.0	---	6.5					(bar) 1.0	(bar) Pz
ACHSE AXLE ESSIEU									pz		TYP TYPE	(mm)		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**	7A9E10019G1023486
Vehicle type	5AFT TANKER	**Odometer reading**	0.0 km
next Service	0 km	**Trip reading**	0.0 km
Tester	Chris Clarke	**Signature**	
Date	2016-07-29 10:23:51 a.m.		

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

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

distribution: DOMETTS

2016, 5A, SAF,
7A9E10019G1023486
LC160613
LT400 CJC 558693

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	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

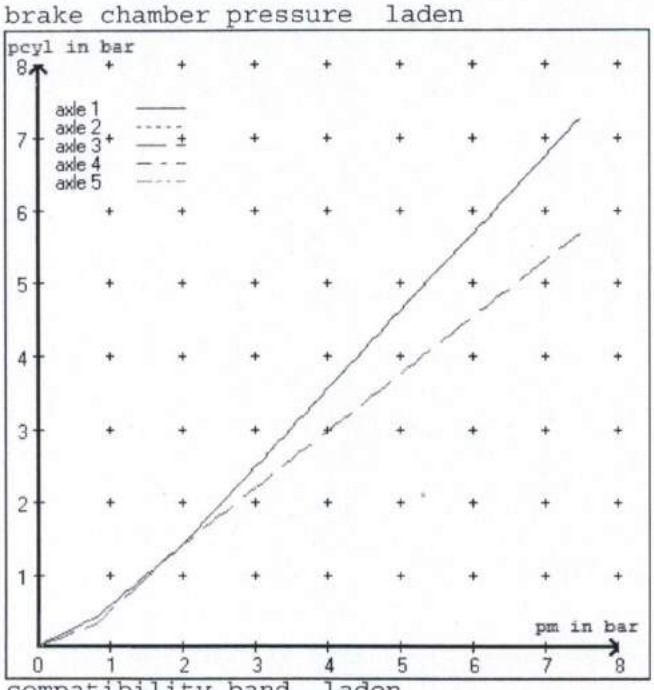
brake cylinder: Meritor 1424HTLD64

axle 5:
valve 1: 480 102 ... 0 WABCO
EBS trailer modulator

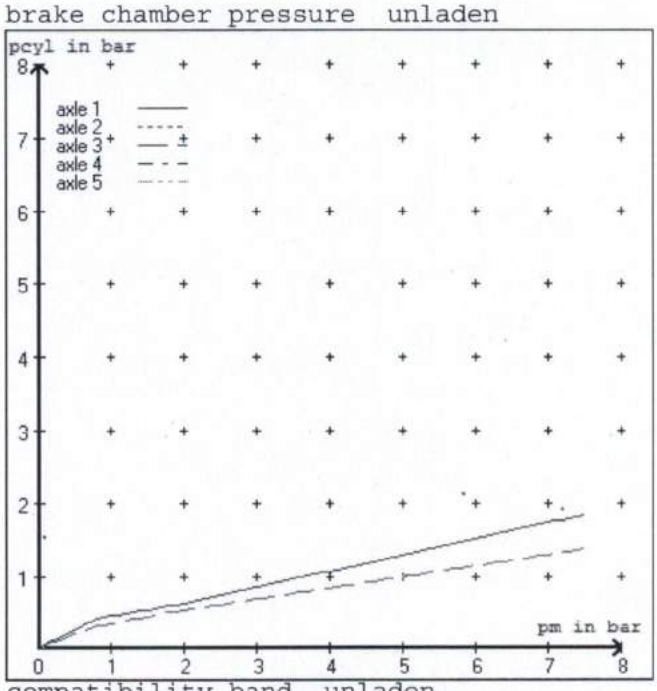
brake cylinder: Meritor 14HSCLD64

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

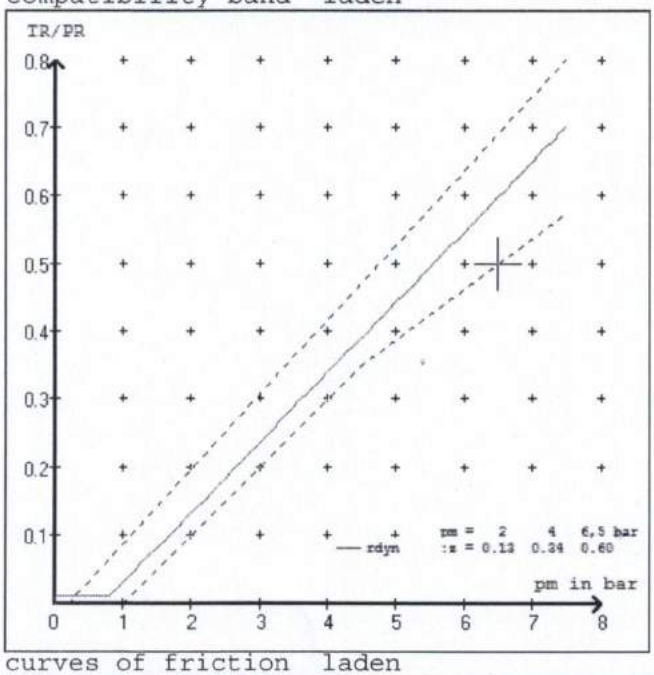
brake chamber pressure laden



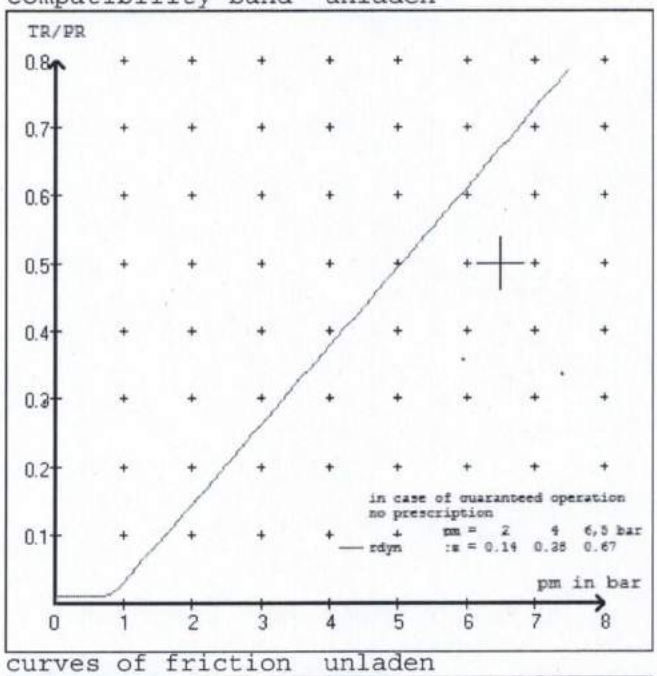
brake chamber pressure unladen



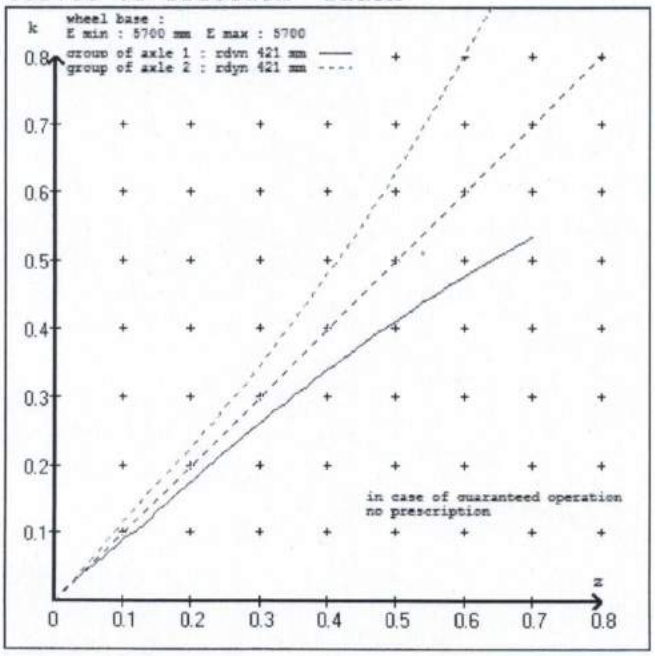
compatibility band laden



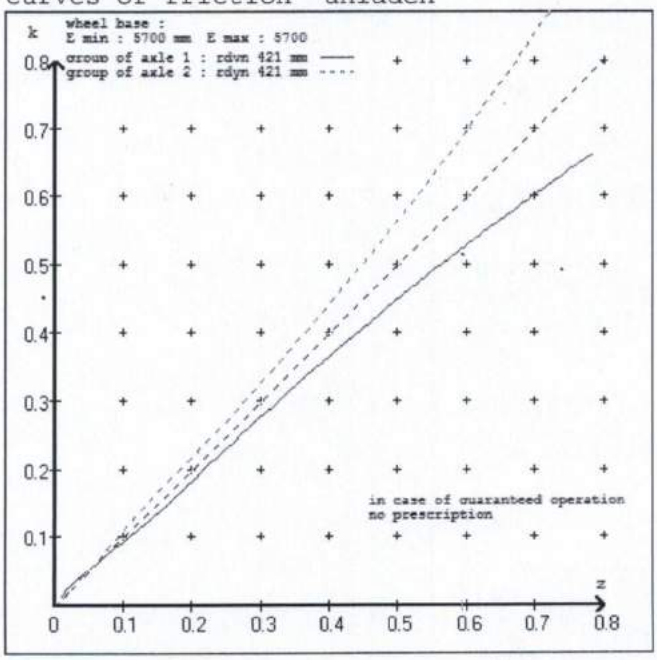
compatibility band unladen



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 entered by the vehicle manufact.	1.6	8000	to be entered by the vehicle manufact.	0.4	1.4	6.2
2	1500		1.6	8000		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.
==========

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. 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

	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	0.47
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 = 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 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	0.47
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

		axle 3	axle 4
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)

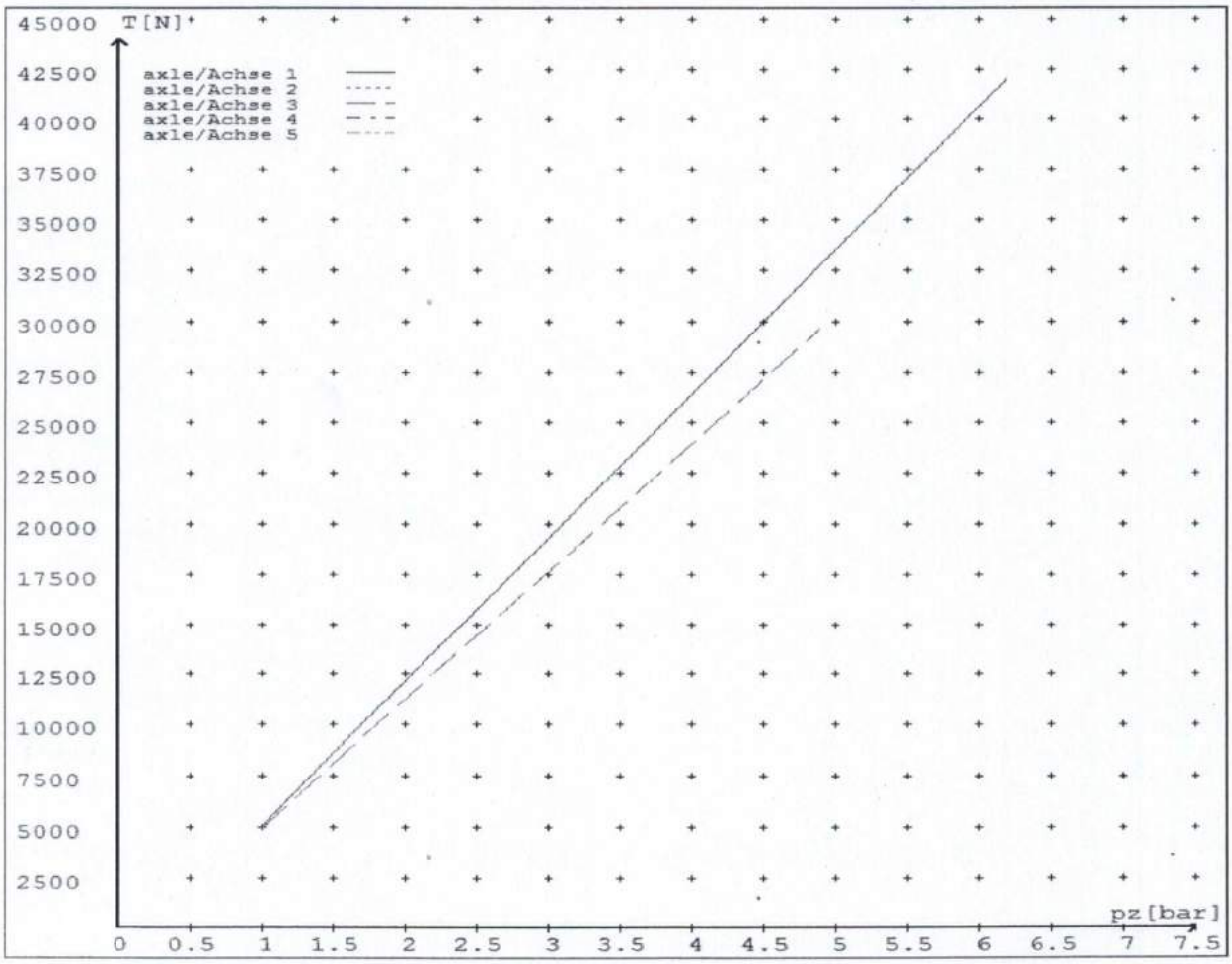
reference values

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

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

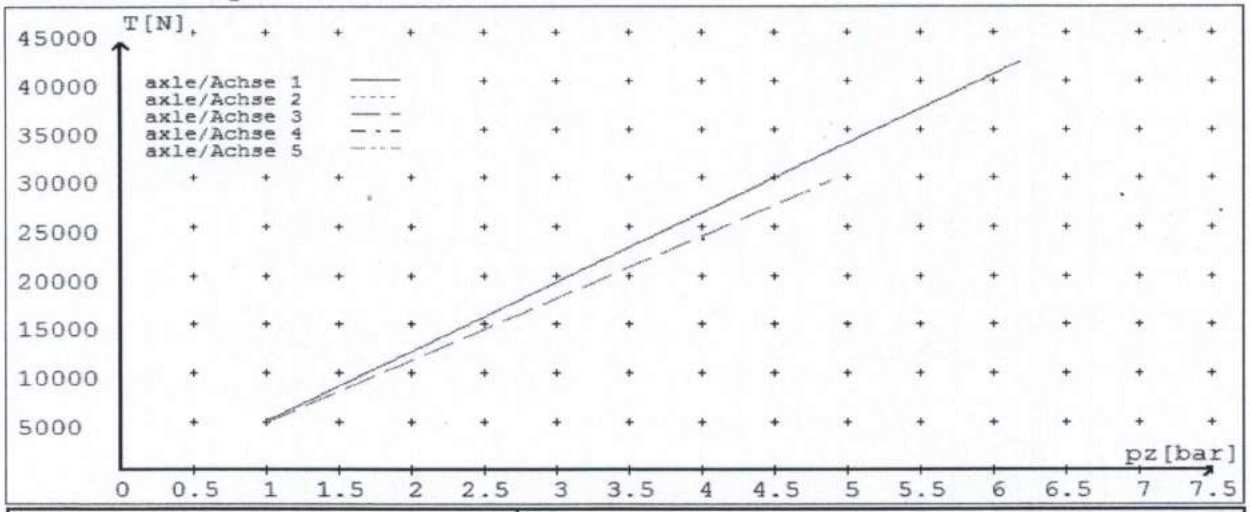
VIN - no.:

	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



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: 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 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

GOUGH Transpecs

HEAVY VEHICLE BRAKE RULE
32015/3 WORKSHEET
PROCEDURE DOCUMENTATION SHEET- (PDS)
&
CONFIRMATION OF COMPLIANCE

CERTIFICATE NO:	LC160613		
CUSTOMER NAME:	DOMETT TRAILERS		
CUSTOMER ORDER NO:	4554	**DATE RECEIVED:**	21/03/2016
VEHICLE TYPE:	FULL TANKER		
VIN / CHASSIS NO:	7A9E10019G1023486		

BRIEF SPECIFICATION AS CERTIFIED TO SCHEDULE 5

	MAKE	**TYPE**
BRAKE VALVES:		
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

COMMENTS

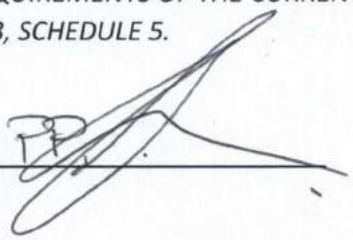
EBS, SPECIAL CONDITIONS APPLY. SEE INSTRUCTIONS ON LT400 # 0

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: 29/07/2016 **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: _____