



Heavy Vehicle Specialist Certificate

Must be presented to a Transport Service Delivery Unit or
Heavy Vehicle Specialist Inspector and Inspection Organisation

Heavy Vehicle Identification Number (VIN) (make sure it is correct)

CHRIS CLARKE

ID

CJC

Component Identification

VIN / Chassis Number

7A9D35016D1023203

Component Identification

Chassis Modification

Load Anchorage

Loj Boster

Towing Connection

✓ Brakes

SAT

PSV Stability

PSV Rollover

Steer Path

Component Identification

HUEK.

PBS

Component Identification

CARRY OUT SET UP OF TRAILER CBS SYSTEM.

Roll Stability Function (RSS) ACTUATED.

Code/Standard Certificate

Component Load Rating(s)

HUBNZ 32015/2 3200 5.

General Braking System(s)

28000 KG.

N/A.

Subordinate Certificate

Brake Design Certificate - JH130920.

PREU EXEMPTION - HUB13/374.

Name of Certificate

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

Component Identification

N/A

or

Hub Motor Reading

Declaration

I hereby declare that I am the Heavy Vehicle Specialist Inspector and I hold a current licence to practise in the above mentioned vehicle category. I have inspected the installation, and this complies with the Land Transport Act 2002 and its Regulations. I have powered the vehicle and checked the installation is correct.

Inspector ID Number (make sure it is correct)

Inspector's Full Name (make sure it is correct)

Inspector's Signature (make sure it is correct)

Date

Name

26 09 2013

447134

Inspector's Organisation

Date

Notes: If any of these marked with * must be completed in order for this certificate to be a copy

WABCO START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2013-05-11	Serial number	897001385400C
Serial number (modulator)	000000021799		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2013-09-26 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO		TRAILER EBS-E		GGVSIADR TUEH TB 2007 - 019.00 TDB 0749											
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT T&T			GIO	Pin1	Pin3	Pin4								
TYP TYPE	4AFT (TIPPER)			1	---	---	---								
FABRIZUAG-IDENTNR CHASSIS NUMBER NUMERO DE CHASSIS	7A9D35016D1023203			2	---	---	---								
BREMSBERECHNUNGS-NR BRAKE CALCULATION NO CALCUL DE FREINAGE NO	TP50902A			3	ALS2	ALS2	---								
POLEADZAHNEZAHL c.d. e.1 POLEWHEEL TECH. c.d. e.1 DENTS ROUE DENTEE c.d. e.1	90	90	ABS-System ABS-System Systeme ABS	4	---	---	---								
RSS RSS RSS	Einfaehbereifung Single Tyre Monte simple	Lenkaxse Steering axle Essieu vireur	4S/3M	5	DIAG	DIAG	DIAG								
	Zwillingsbereifung Twin Tyre Monte jumelle	Kapierliches Fahrzeug Critical Trailer Vehicule critique		6	---	---	---								
Subsystems	SB	I/O	24N	7	---	---	---								
	pm (bar)	6.5	pm (bar)	0.7	2.0	---	6.5								
ACHSE AXLE ESSIEU							pz								
1	1400	0.7	2.1	7000	4.6	0.4	1.5	---	6.6	-	14	64	69	507	4151
2	1400	0.7	2.1	7000	4.6	0.4	1.5	---	6.6	-	14	64	69	507	4151
3	1250	0.6	1.4	7000	4.6	0.4	1.5	---	4.4	-	14 / 16	64	69	507	2719
4	1250	0.6	1.4	7000	4.6	0.4	1.5	---	4.4	-	14 / 16	64	69	507	2719
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	Not tested
EBS pressure test	Not tested	Lifting axle test	Not tested
Redundancy test	OK	ECAS distance sensor calibration	Not tested
ABS sensor assignment	OK	Distance sensor Axle load calibr	Not tested
RTR check	Not tested	Leak test	Not tested
Immobilizer test	Not tested	Signal outputs TEBS	Not tested
Signal inputs	Not tested		

Diagnostic memory ELEX	Not tested	Signal outputs ELEX	Not tested
TailGUARDlight	Not tested	TailGUARD	Not tested

Manufacturer	DOMETT T&T	Vehicle ident. no	7A9D35016D1023203
Vehicle type	4AFT (TIPPER)	Odometer reading	1.1 km
next Service	0 km	Trip reading	1.1 km
Tested by	Chris Clarke	Signature	
Date	2013-09-26 9:55:00 a.m.		



NZ TRANSPORT AGENCY
WAKA KOTAHU

NATIONAL OFFICE

50 Victoria Street
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Wellington 6141
New Zealand
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www.nzta.govt.nz

Exemption: HVB13/374

**EXEMPTION FROM SPECIFIED REQUIREMENTS OF LAND TRANSPORT RULE:
Heavy-vehicle Brakes 2006, Rule 32015**

Pursuant to Section 166(1) of the Land Transport Act 1998, and pursuant to the powers delegated to me, I, Jackie Hartley, Administrator (Assessments) hereby exempt the motor vehicle specified in Schedule 1 hereto from the section of Land Transport Rule: Heavy-vehicle Brakes 2006 (the Rule) listed in Schedule 2, subject to the conditions specified in Schedule 3.

Schedule 1: Vehicle Details:

Make/Model: **Domett Truck & Trailer Ltd, 4 Axle Full Trailer**
VIN/Chassis: **7A9D35016D1023203**

Schedule 2: Exempted Requirement:

2.3(9) The parking brake of a vehicle, whether or not it is being operated as a combination vehicle, must be able to be applied by the driver from the normal driving position using one control only.

Schedule 3: Conditions of this Exemption:

- 1) The vehicle must be fitted with a Wabco park-release emergency valve (PREV), Part Number: 971 002 900 0.
- 2) The vehicle must be fitted with the Wabco PREV name plate, Part Number 971 002 103 4, adjacent to the PREV.
- 3) The vehicle must still be fitted with a parking brake that complies with all parking brake requirements in the Rule other than the requirement in Clause 2.3(9) of the Rule.
- 4) The installation of the PREV must be approved in writing by Gough Transpecs or an NZ Transport Agency appointed HVEK certifier acting on behalf of, and under instruction from, Gough Transpecs; Gough Transpecs must keep a written record of all approvals.
- 5) The HVEK certifier in 4) must be fully trained in end of line procedures for Wabco electronically controlled braking systems.
- 6) Gough Transpecs must provide full operator training in the use of the PREV and furnish the operator with full written operating instructions for the PREV.
- 7) The vehicle must not be modified in any way while operating under this exemption.
- 8) This original exemption must be kept by Gough Transpecs.
- 9) A copy of this exemption (printed on a silver WABCO sticker) must be affixed to the exempted vehicle as close to the WABCO PREV as possible.
- 10) The sticker in 9) must be legible and include all printed areas of this original exemption letter.
- 11) This exemption can be revoked at any time in writing by the NZ Transport Agency.

Signed at Wellington this 18th day of September 2013

Jackie Hartley
Administrator (Assessments)

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

distribution: DOMETT T&T
 7A9D35016D1023203
 SDC: JH130920
 PREV: HVB13/374

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 (V6.13.06.12)
 -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 V6.13.06.12 db 12.06.2013

vehicle manufacturer: DOMETT T&T
 trailer model : 4AFT (TIPPER)
 trailer type : 4-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS E
 TRISTOP 3+4: T.14/16
 265/70 R 19,5

axle 1 + 2 + 3 + 4 : SAF, PAN 19-1, TDB 0749 ECE,

		<u>unladen</u>	<u>laden</u>
total mass	P in kg	5300	28000
axle 1	P1 in kg	1400	7000
axle 2	P2 in kg	1400	7000
axle 3	P3 in kg	1250	7000
axle 4	P4 in kg	1250	7000
wheel base	E in mm	4545 - 4545	
centre of gravity height	h in mm	1230	1847

		<u>axle 1</u>	<u>axle 2</u>	<u>axle 3</u>	<u>axle 4</u>
no. of combined axles		1	1	1	1
no. of brake chambers per axle line	KDZ	2	2	2	2
The power output corresponds to		BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6
brake chamber manufacturer		Meritor	Meritor	Meritor	Meritor
chamber size		14.	14.	T.14/16	T.14/16
lever length	lBh 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	2.5	2.5	2.0	2.0	
chamber pressure (rdyn max) pH at z=22,5%bar	2.5	2.5	2.0	2.0	
chamber press. (servo) pcha at pm6,5bar bar	6.6	6.6	4.4	4.4	
piston force ThA at pm6,5bar N	6389	6389	4185	4185	
brake force (rdyn min) T lad. at pm6,5bar N	48318	48318	31658	31658	
brake force (rdyn max) T lad. at pm6,5bar N	48318	48318	31658	31658	
brake force within 1 % rolling friction proportion	%	25.0	25.0	25.0	25.0

braking rate z laden 0.582 for rdyn min
 z - sum (TR)/PRmax 0.582 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: 971 002 ... 0 WABCO
 EBS emergency valve

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

brake cylinder: Meritor 14HSCLD64

axle 2:

valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

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

brake cylinder: Meritor 14HSCLD64

axle 3:

valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 102 0... 0 WABCO
 EBS trailer modulator

brake cylinder: Meritor 1416HTLD64

axle 4:

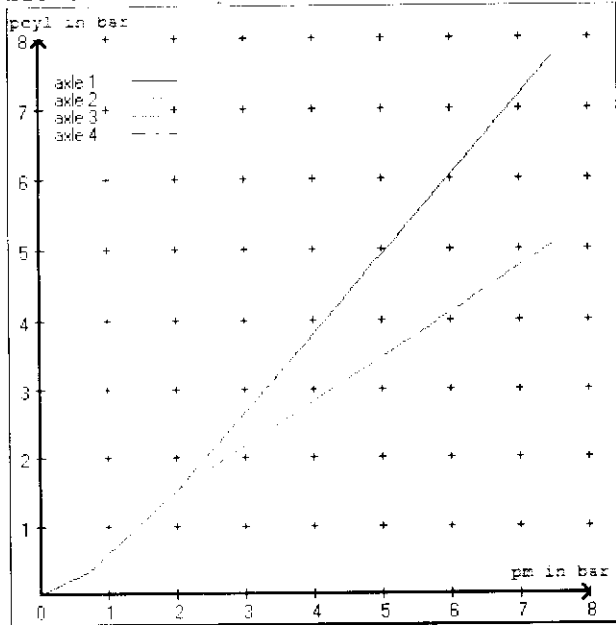
valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 102 0.. 0 WABCO
 EBS trailer modulator

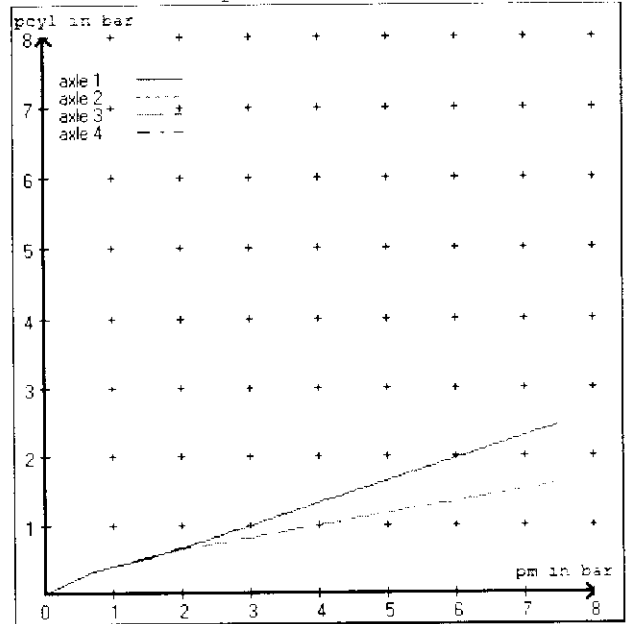
brake cylinder: Meritor 1416HTLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 3.6 bar =>	pcha in bar :	3.3	3.3	2.5	2.5	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 1.2 bar =>	pcha in bar :	0.8	0.8	0.8	0.8	

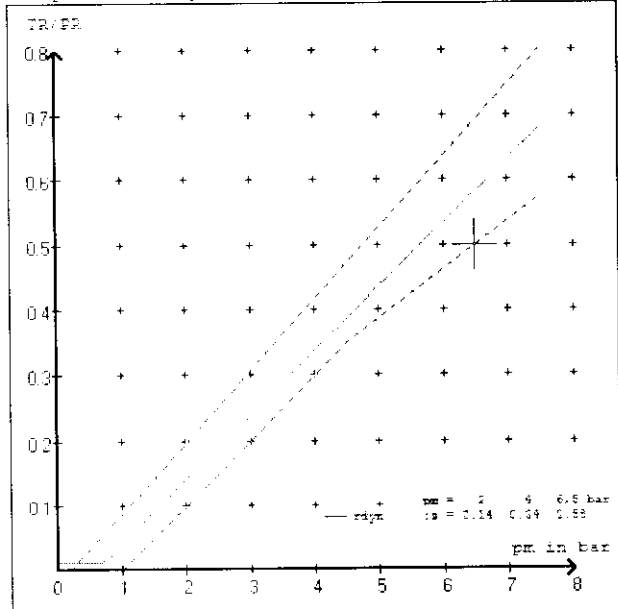
brake chamber pressure laden



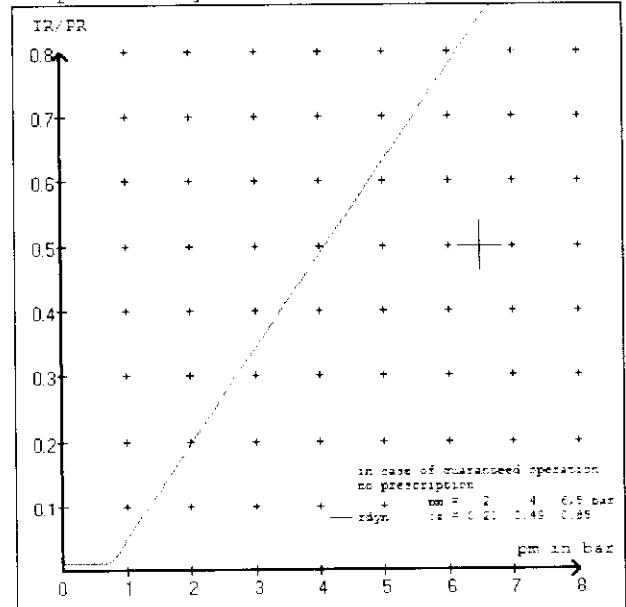
brake chamber pressure unladen



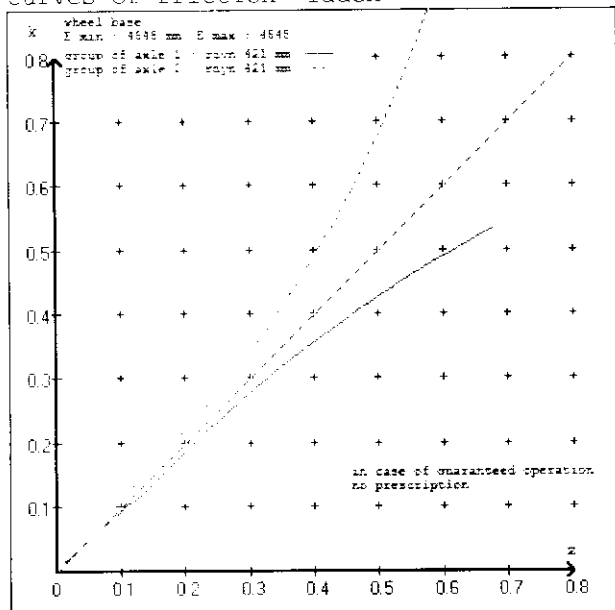
compatibility band laden



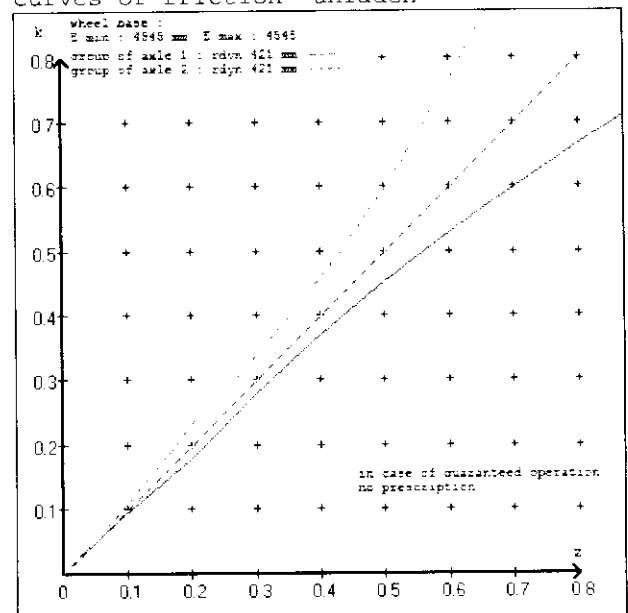
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT T&T
 trailer model : 4AFT (TIPPER)
 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.14/16 (Meritor) lever length 69 mm
 axle 4 : 2 x type/diameter T.14/16 (Meritor) lever length 69 mm

brake diagram :

valve :

971 002 ... 0 WABCO EBS emergency valve
 480 207 0... 0 WABCO EBS relay valve or 480 207 2... 0
 480 102 0... 0 WABCO EBS trailer modulator

EBS input data

 vehicle manufacturer: DOMETT T&T
 trailer model : 4AFT (TIPPER)
 trailer type : 4-axle-full-trailer
 brake calculation no. : TP 50902A

tire circumference main axle : 2650 for rdyn max
 tire circumference auxiliary axle : 2650 for rdyn max

assignment pm / deceleration z: pm 0.7 bar z = 0.010
 (laden condition) 2.0 bar z = 0.138
 6.5 bar z = 0.580

control pressure pm		6,5	control pressure pm		0.7	2.0	6.5	
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. lader		
1	1400	to be	2.1	7000	to be	0.4	1.5	6.6
2	1400	entered by the vehicle manufact.	2.1	7000	entered by the vehicle manufact.	0.4	1.5	6.6
3	1250		1.4	7000		0.4	1.5	4.4
4	1250		1.4	7000		0.4	1.5	4.4
5	0		0,0	0		0,0	0,0	0,0

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 load pcy1	axle load pcy1	axle load pcy1	axle load pcy1
1400	2.1	1250	1.4
1900	2.5	1750	1.7
2400	2.9	2250	1.9
2900	3.3	2750	2.2
3400	3.7	3250	2.4
3900	4.1	3750	2.7
4400	4.5	4250	3.0
4900	4.9	4750	3.2
7000	6.6	7000	4.4

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 : 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 4.2.1 of appendix 2 to annex 11)

axle 1	(rdyn 421 mm)	T = 23.6 % Fe
axle 2	(rdyn 421 mm)	T = 23.6 % Fe
axle 3	(rdyn 421 mm)	T = 17.6 % Fe
axle 4	(rdyn 421 mm)	T = 17.6 % Fe

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

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 = 6389 N
axle2	ThA = 6389 N
axle3	ThA = 4185 N
axle4	ThA = 4185 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 = 38032 N
axle 2	(rdyn 421 mm)	T = 38032 N
axle 3	(rdyn 421 mm)	T = 24974 N
axle 4	(rdyn 421 mm)	T = 24974 N

	basic test	type III
	of subject	(calculated)
braking rate of the vehicle	trailer (E)	residual
(item 4.3.2 to appendix 2 to annex 11)	0.58	(hot)braking
		0.46

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.35)

axle 1	(rdyn 421 mm)	T = 38032 N
axle 2	(rdyn 421 mm)	T = 38032 N
axle 3	(rdyn 421 mm)	T = 24974 N
axle 4	(rdyn 421 mm)	T = 24974 N

	basic test	type III
	of subject	(calculated)
braking rate of the vehicle	trailer (E)	residual
(item 4.3.2 to appendix 2 to annex 11)	0.58	(hot)braking
		0.46

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	> 0,6*E (0.35)

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.14/16	T.14/16
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	6160	6160
sp.brake chamber no Meritor.....	4	4
release pressure pLs in bar	4.5	4.5

calculation:

ratio until road	3.9674	3.9674
$iFb = lBh * rBta * C * rBt / (rBn * rstat)$ for rstat in mm	401	401
brake force of spring br. Tf in N $Tf = (TFZ * KDZ - 2 * Co / lBh) * iFb$	48188	48188
braking rate zf laden	0.361	
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 = 3361 mm for E = 4545 mm
 =====
 min Ef = 3361 mm for E = 4545 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 = 1847 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)

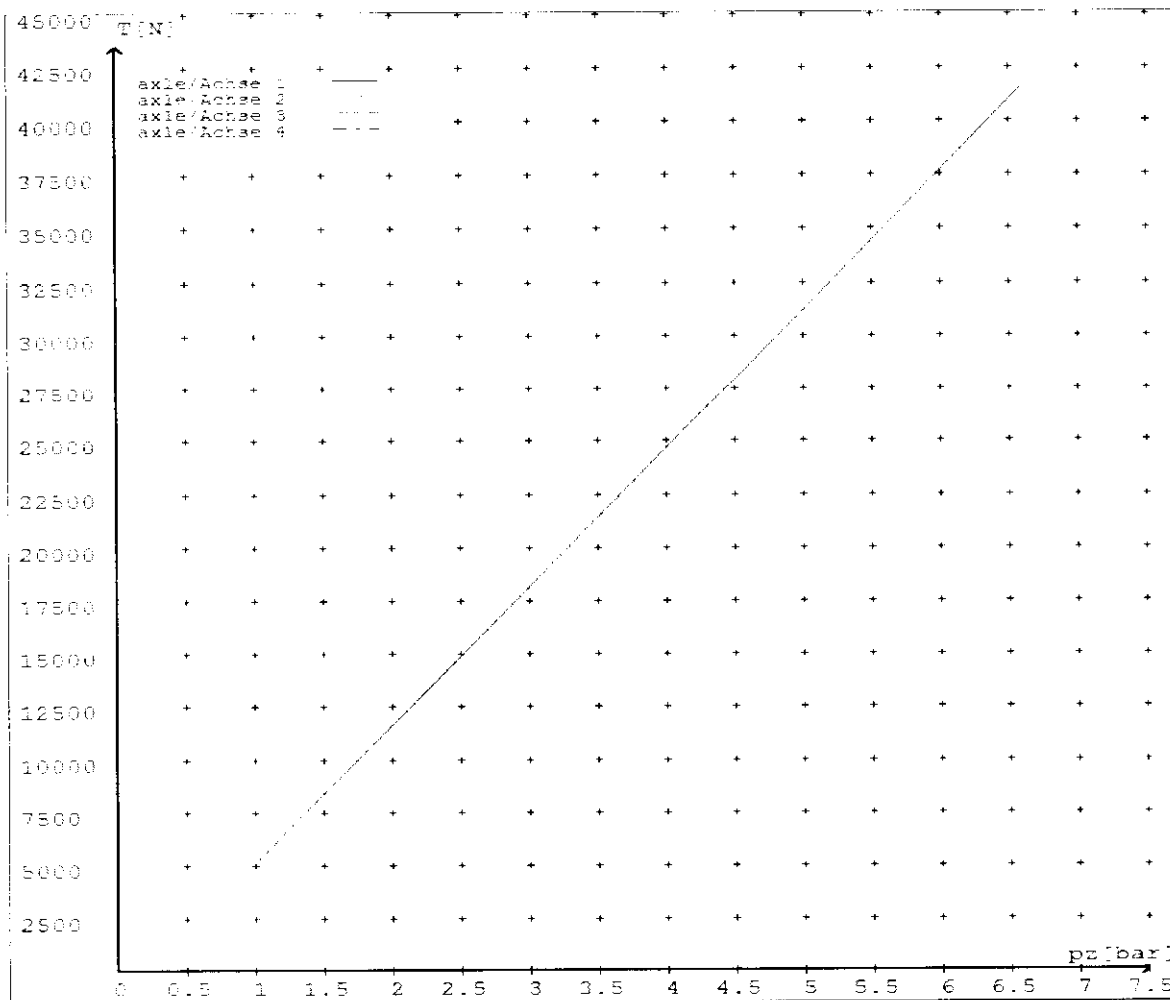
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	5078	
	6.6	41511	
axle 2	1.0	5078	
	6.6	41511	
axle 3	1.0		5078
	4.4		27198
axle 4	1.0		5078
	4.4		27198

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	14./	14./	T.14/16	T.14/16	/
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	64	64	64	64	
Lever length ...mm Hebellänge - ...mm	69.08	69.08	69.08	69.08	



HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH130920

CUSTOMER NAME

DOMETT T&T

CUSTOMER ORDER No.

4082

DATE RECEIVED

Sept 2013

VEHICLE TYPE

4 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9D35016D1023203

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:

Type: 14HSC1.D64 (TSE): Max stroke = 64 mm Lever length = 69 mm
Type: 1416HTLD64 (TSE) : Max stroke = 64 mm Lever length = 69 mm

BRAKE VALVES:

Ratio Valve Setting: **EBS CONTROL**

Test Points: 3 4 5 7

FRICITION LINING:

(All) Lining Brand

OEM
JURID 539

Aftermarket

EBS CONTROL: IF SPECIAL CONDITIONS APPLY - SEE INSTRUCTION ON L1400

VALVES: AS PER BRAKE CALCULATION# TP50902 & SO1537282

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO1537282

PROCESS TIME:

1

WABCO Brake CALC TP50902: THE MERITOR CHAMBERS ARE THE TSE VARIANT AS DETAILED ABOVE.

COMPLETION DATE : 23rd Sept 2013

SIGNATURE (pp.):




Statement of Compliance with the New Zealand Heavy Brake Rule

Documentation required supporting Statements of Compliance with the New Zealand Heavy Brake Rule, to be made available to the Statutory Authority on request, must include all calculations and test reports.

Confirmation of compliance

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

Date: 23rd Sept 2013

Signed (pp.): 

Certifier's identification

Name: J E Hirst

Phone (bus): (09) 980 7300

Fax (bus): (09) 980 7306

Postal address: Transport Specialties, Cnr Kerrs & Ash Roads

Wiri, Auckland, PO Box 98 971 Manukau City 2241

Position: JEH

Confirmation of continued compliance of modification

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 32015/2, Schedule 5.

Date: _____

Signed: _____

Certifier's identification: JEH

Name:

Phone (bus): (09) 980 7300

Fax (bus): (09) 980 7306

Postal address: Transport Specialties Ltd

Cnr Kerrs & Ash Roads, Wiri, Auckland

PO Box 98 971, Manukau City 2241