



CHRIS CLARKE

QC

7A9E15013E1C23218



HUEK

CARRY OUT COMPLIANCE TO THE NZ HEAVY VEHICLE BRAKE RULE.

Roll STABILITY FUNCTION ACTIVATED

HUBNZ 32015/3 SCHED 5.

33000 KG.

N/A.

BRAKE DESIGN CERTIFICATE - JH440102.

WARNING LAMP MUST ILLUMINATE WHEN IGNITION SWITCHED ON + THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE EXCEEDS 75KPH.

N/A

Declaration

24.01.2016

458164

WABCO

START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2013-08-06	Serial number	897001470000E
Serial number (modulator)	000000022813		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2014-01-24 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO		TRAILER EBS-E		GGVS/ADR TUEH TB 2007 - 019.00 TDB0749											
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT TRAILERS			GIO	Pin1	Pin3	Pin4								
TYP TYPE TYPE	5AFT PLATFORM			1	---	---	---								
FAHRZEUG IDENTNR CHASSIS NUMBER NUMERO DE CHASSIS	7A9E15011E1023218			2	---	---	---								
BREMSE RECHNUNGS NR BRAKE CALCULATION NO CALCULO DE FREINAGE NO	TP50956A			3	ALS2	ALS2	---								
POLE RADZAHNZAHL POLE WHEEL * FETH C-01-1 DENTS ROUE DENTEE * d-0-1	90	90	ABS-System ABS-System Systeme ABS	4	---	---	---								
			4S/3M	5	DIAG	DIAG	DIAG								
RSS Einfachbereifung Simple type Munste simple			Lenkachse Steering axle Essou avant	6	---	---	---								
RSS Zweifelhochbereifung Two Tone Munste double	X		Rahmenfahrzeug Critical Trailer Vehicle critique	7	---	---	---								
Subsystems	SB	I/O	24N												
ACHSE AXLE ESSIEU	pm (bar)		6.5	pm (bar)		0.7	2.0	---	6.5	TYP TYPE	(mm)	(mm)	(bar)	10	Pz
	pz													TR (daN)	
1	1800	1.0	2.4	7500	4.9	0.4	1.4	---	5.7	-	18	65	69	507	3934
2	1800	1.0	2.4	7500	4.9	0.4	1.4	---	5.7	-	18	65	69	507	3934
3	1250	0.6	1.7	6000	3.9	0.4	1.4	---	4.5	-	14 / 16	64	69	498	2771
4	1250	0.6	1.7	6000	3.9	0.4	1.4	---	4.5	-	14 / 16	64	69	498	2771
5	1250	0.6	1.7	6000	3.9	0.4	1.4	---	4.5	-	14	64	69	498	2771

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 TRAILERS	Vehicle ident. no	7A9E15011E1023218
Vehicle type	5AFT PLATFORM	Odometer reading	2.3 km
next Service	0 km	Trip reading	2.3 km
Tested by	Chris Clarke		
Date	2014-01-24 11:43:50 a.m.		

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

distribution: DOMETT TRAILERS
7A9E15013E1023218
SODC: JH14C102

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 TRAILERS
trailer model : SAFT PLATFORM
trailer type : 5-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 + 5 : SAF, PAN 19-1, TDB 0749 ECE,

		<u>unladen</u>	<u>laden</u>
total mass	P in kg	7350	33000
axle 1	P1 in kg	1800	7500
axle 2	P2 in kg	1800	7500
axle 3	P3 in kg	1250	6000
axle 4	P4 in kg	1250	6000
axle 5	P5 in kg	1250	6000
wheel base	E in mm	7850 - 7850	
centre of gravity height	h in mm	1110	2084

		<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.14/16	T.14/16	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) p _H at z=22,5%bar	2.2	2.2	2.0	2.0	2.0	
chamber pressure (rdyn max) p _H at z=22,5%bar	2.2	2.2	2.0	2.0	2.0	
chamber press. (servo) p _{cha} at pm6,5bar bar	5.7	5.7	4.5	4.5	4.5	
piston force ThA at pm6,5bar N	6060	6060	4285	4285	4285	
brake force (rdyn min) T _{lad.} at pm6,5bar N	45876	45876	32317	32317	32317	
brake force (rdyn max) T _{lad.} at pm6,5bar N	45876	45876	32317	32317	32317	
brake force within 1 % rolling friction proportion	%	21.2	21.2	19.2	19.2	19.2

braking rate z_{laden} 0.583 for rdyn min
z = sum (FR)/FRmax 0.583 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 18HSCLD64

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 18HSCLD64

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.. 0 WABCO
 EBS emergency valve

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

brake cylinder: Meritor 1416HTLD64

axle 5:

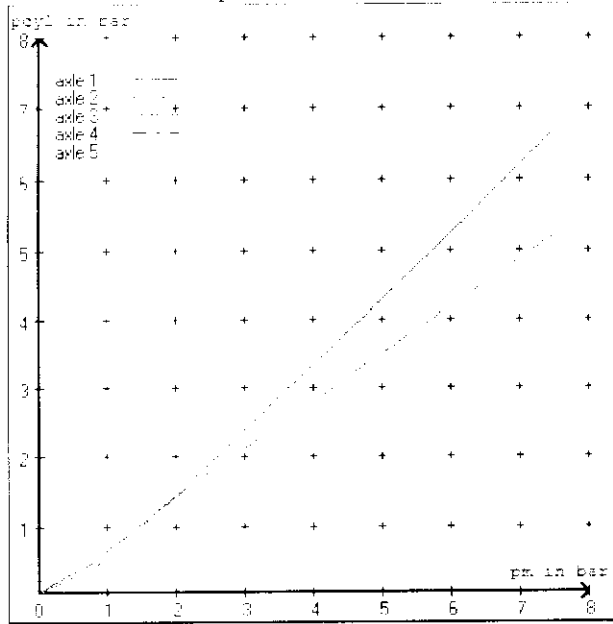
valve 1: 971 002 0.. 0 WABCO
 EBS emergency valve

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

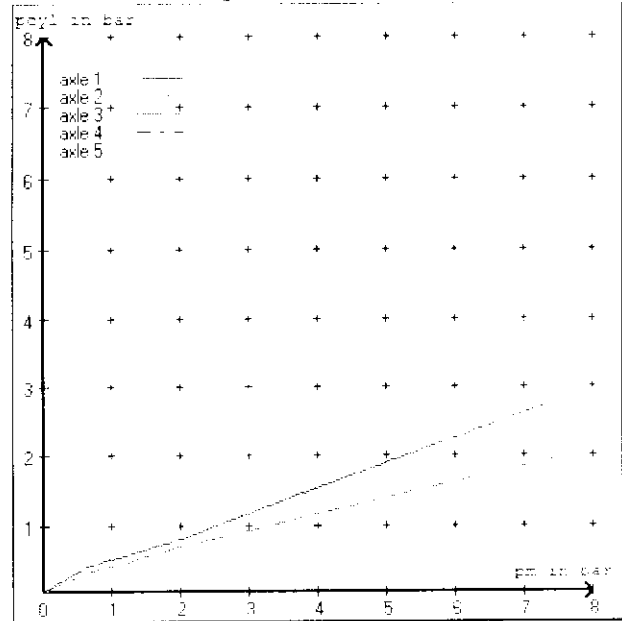
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.6 bar =>	pcha in bar :	3.0	3.0	2.5	2.5	2.5	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 1.2 bar =>	pcha in bar :	0.8	0.8	0.7	0.7	0.7	

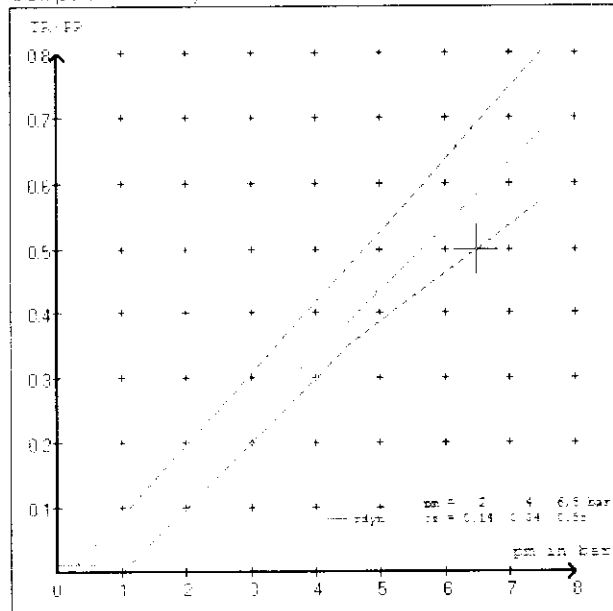
brake chamber pressure laden



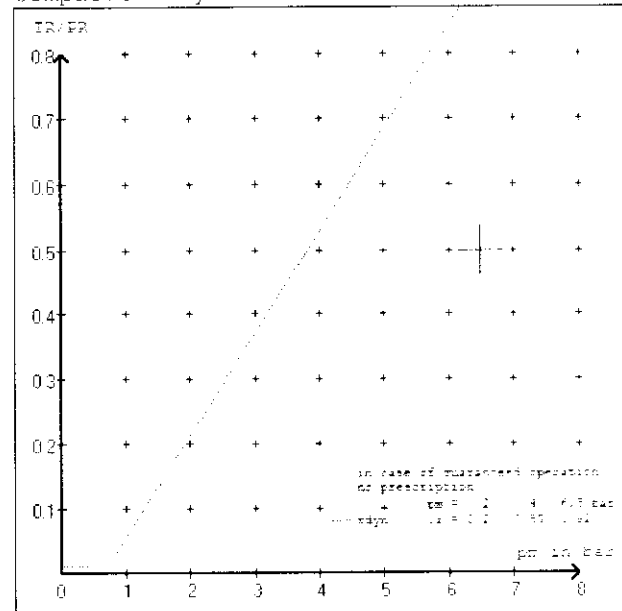
brake chamber pressure unladen



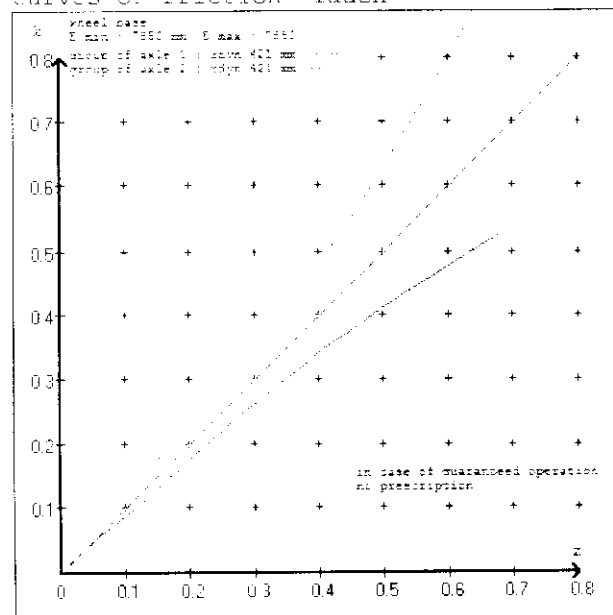
compatibility band laden



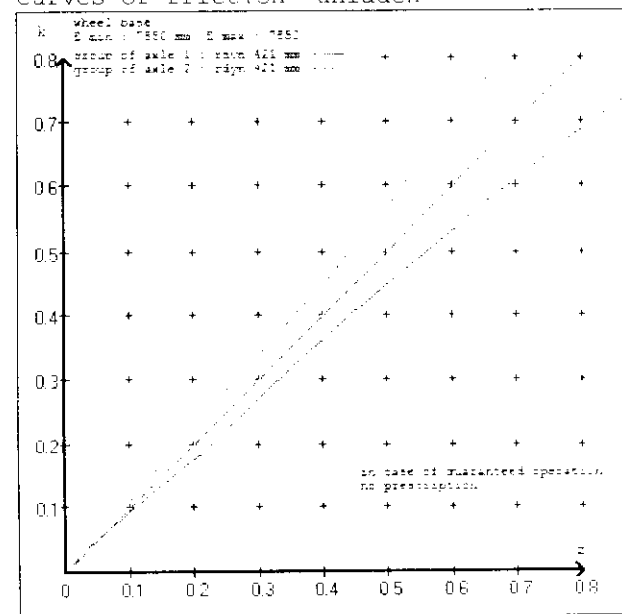
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT TRAILERS
 trailer model : SAFT PLATFORM
 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.14/16 (Meritor) lever length 69 mm
 axle 4 : 2 x type/diameter T.14/16 (Meritor) lever length 69 mm
 axle 5 : 2 x type/diameter 14. (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 TRAILERS
 trailer model : SAFT PLATFORM
 trailer type : 5-axle-full-trailer
 brake calculation no. : TP 50956A

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. laden		
1	1800	to be	2.4	7500	to be	0.4	1.4	5.7
2	1800	entered by the vehicle manufact.	2.4	7500	entered by the vehicle manufact.	0.4	1.4	5.7
3	1250		1.7	6000		0.4	1.4	4.5
4	1250		1.7	6000		0.4	1.4	4.5
5	1250		1.7	6000		0.4	1.4	4.5

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
1800 2.4	1800 2.4	1250 1.7	1250 1.7	1250 1.7
2300 2.7	2300 2.7	1750 2.0	1750 2.0	1750 2.0
2800 3.0	2800 3.0	2250 2.3	2250 2.3	2250 2.3
3300 3.3	3300 3.3	2750 2.6	2750 2.6	2750 2.6
3800 3.6	3800 3.6	3250 2.9	3250 2.9	3250 2.9
4300 3.8	4300 3.8	3750 3.2	3750 3.2	3750 3.2
4800 4.1	4800 4.1	4250 3.5	4250 3.5	4250 3.5
5300 4.4	5300 4.4	4750 3.8	4750 3.8	4750 3.8
7500 5.7	7500 5.7	6000 4.5	6000 4.5	6000 4.5

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
axle 5 :	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 = 22.5 % Fe
axle 2	(rdyn 421 mm)	T = 22.5 % Fe
axle 3	(rdyn 421 mm)	T = 17.3 % Fe
axle 4	(rdyn 421 mm)	T = 17.3 % Fe
axle 5	(rdyn 421 mm)	T = 17.3 % 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 = 6060 N
axle2	ThA = 6060 N
axle3	ThA = 4285 N
axle4	ThA = 4285 N
axle5	ThA = 4285 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 = 36129 N
axle 2	(rdyn 421 mm)	T = 36129 N
axle 3	(rdyn 421 mm)	T = 25468 N
axle 4	(rdyn 421 mm)	T = 25468 N
axle 5	(rdyn 421 mm)	T = 25468 N

basic test	type III
of subject	(calculated)
trailer (E)	residual

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.58	(hot)braking 0.46
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required braking rate (items 1.5.3 and 1.7.2 to annex 11)	> 0,4 and >. 0,6*E (0.35)
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axle 1	(rdyn 421 mm)	T = 36129 N
axle 2	(rdyn 421 mm)	T = 36129 N
axle 3	(rdyn 421 mm)	T = 25468 N
axle 4	(rdyn 421 mm)	T = 25468 N
axle 5	(rdyn 421 mm)	T = 25468 N

basic test	type III
of subject	(calculated)
trailer (E)	residual

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.58	(hot)braking 0.46
---	------	----------------------

required braking rate (items 1.5.3 and 1.7.2 to annex 11)	>= 0,4 and >. 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

calculations:

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	48188	48188
$Tf = (TFZ * KDZ * 2 * Co / lBh) * iFb$		
braking rate zf laden	0.308	
$zf = \sum (Tf) / P + 0,01$		

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 = 5952 mm for E = 7850 mm
 =====
 min Ef = 5952 mm for E = 7850 mm
 =====

min Ef minimum distance between front axle(s) (trailer) or support (semi-trailer) 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 2084 mm height of center of gravity - laden
 PR = 18000 kg maximum bogie mass - laden
 P = 33000 kg maximum total mass - laden
 nf = 2 no. of axle(s) with TRISTOP spring brake actuators
 ng = 3 no. of bogie axle(s)

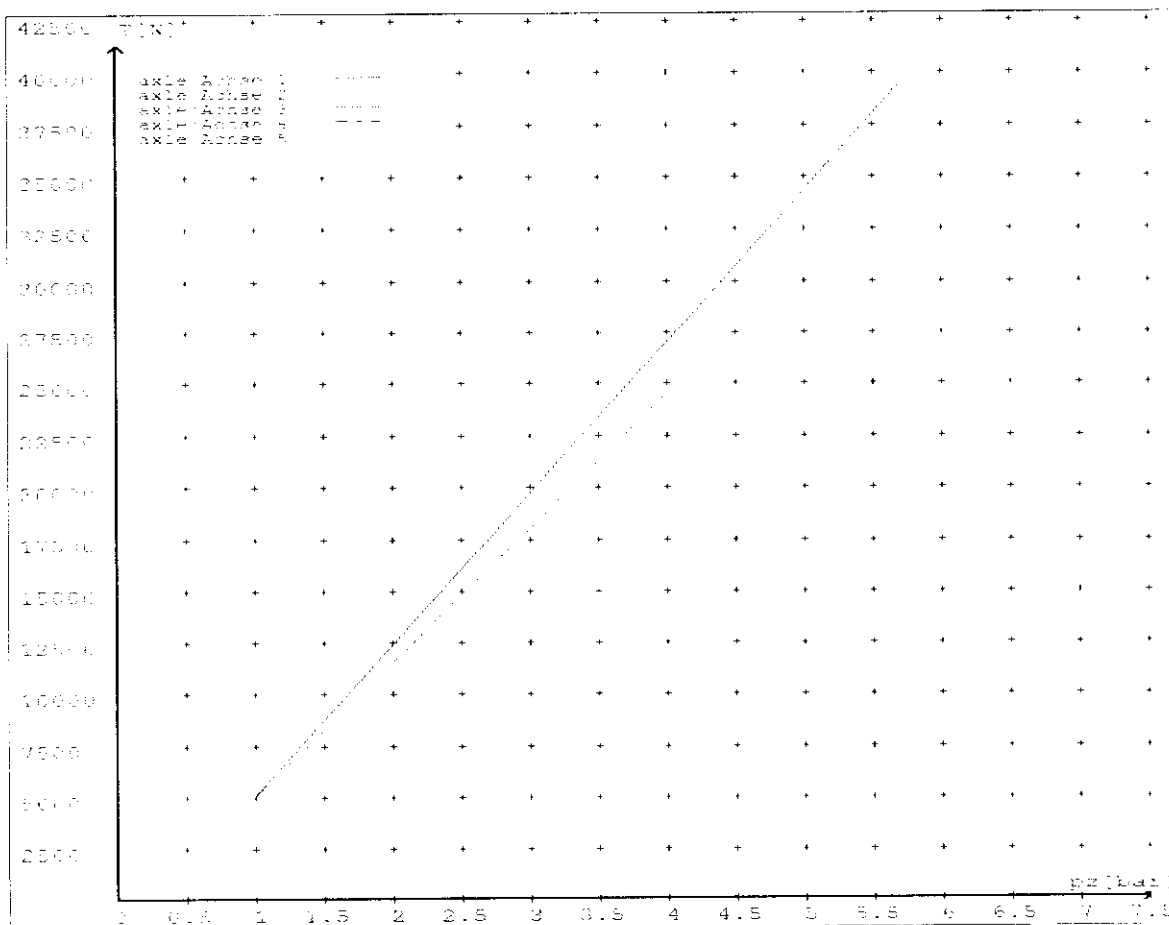
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	5072	
	5.7	39344	
axle 2	1.0	5072	
	5.7	39344	
axle 3	1.0		4985
	4.5		27716
axle 4	1.0		4985
	4.5		27716
axle 5	1.0		4985
	4.5		27716

VIN - no.:

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



HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH1401402

CUSTOMER NAME

DOMETT TRAILERS LTD

CUSTOMER ORDER No.

4126

DATE RECEIVED

Dec 13

VEHICLE TYPE

5 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9E15013E1023218

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:

<u>Ax #</u>	<u>Make/model</u>	<u>Max stroke</u>	<u>Lever length</u>
1&2	TSE 18HSCLD65	65 mm	69 mm
3&4	TSE 1416HTLD64	64 mm	69 mm
5	TSE 14HSCLD64	64 mm	69 mm

BRAKE SYSTEM:

WABCO EBS : RSS ACTIVATED

TEST POINTS FITTED:

3 4 5 7

FRICITION LINING:

OEM

Aftermarket

(All) Lining Brand

JURID 539

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

VALVES: AS PER BRAKE CALCULATION TP 50956 & SO1543606

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO1543606

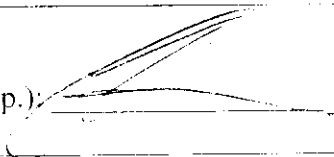
PROCESS TIME:

1

BRAKE CALC : TP50956

COMPLETION DATE : 23rd Jan 2014

SIGNATURE (pp.):



Statement of Compliance with the New Zealand Heavy Brake Rule

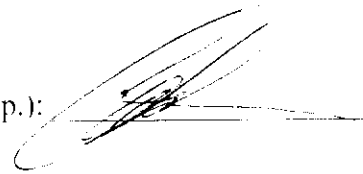
Documentation required supporting Statements of Compliance with the New Zealand Heavy Brake Rule, to be made available to the Statutory Authority on request, must include all calculations and test reports.

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 Jan 2014

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