

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* VIN/Chassis Number

7A9E25019F1023397

Component being certified:

<input type="checkbox"/> Chassis	<input type="checkbox"/> Load Anchorage	<input type="checkbox"/> Log Bolsters
<input type="checkbox"/> Towing Connection	<input checked="" type="checkbox"/> Brakes	<input type="checkbox"/> SRT
<input type="checkbox"/> PSV Stability	<input type="checkbox"/> PSV Rollover	<input type="checkbox"/> Swept Path
<input type="checkbox"/> PBS		

Certification Category

HVEK

Description of Work

CERTIFY TO SCHEDULE 5

ROLL STABILTY FUNCTION ACTIVATED

Code/Standard/Rule Certified to	Component Load Rating(s)
HVBR 32015/3 Schedule 5	32000KG
General Drawing Number(s)	
N/A	

Supporting Documents

BRAKE RULE CERTIFICATE - CJC153295

Special Conditions*

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

Certification Expiry Date (if applicable)	or	Hubodometer Reading (whichever comes first)
N/A		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

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) ID Number

CHRIS CLARKE **CJC**

Date Number

22-Aug-15 **522445**

CoF Vehicle Inspector ID	CoF Vehicle Inspector Signature	Date
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All fields excluding those marked with * must be completed before this certificate can be accepted.

NOTICE TO VEHICLE OPERATOR

THIS VEHICLE HAS A BRAKE SYSTEM WHICH HAS BEEN DESIGNED AND FITTED IN ACCORDANCE WITH THE LAND TRANSPORT HEAVY VEHICLE BRAKE RULE 32015/3.

IF THIS VEHICLE IS OPERATED IN CONJUNCTION WITH NON-CERTIFIED VEHICLES, THERE MAY BE OPERATIONAL FACTORS WHICH NEED TO BE TAKEN INTO CONSIDERATION.

PLEASE REFER TO THE CERTIFIER FOR FURTHER INFORMATION.

**EXCERPT FROM LAND TRANSPORT RULE; HEAVY-VEHICLE BRAKES
RULE 32015/3. SECTION 10,**

10.1 RESPONSIBILITIES OF OPERATORS

A person who operates a vehicle must ensure that the vehicle complies with this rule.

10.2 RESPONSIBILITIES OF REPAIRERS

A person who repairs or adjusts a brake must ensure that the repair or adjustment:

- a) does not prevent the vehicle from complying with this rule;
- b) complies with Land Transport Rule: Vehicle Repair 1998.

10.3 RESPONSIBILITIES OF MODIFIERS

A person who modifies a vehicle so as to affect the braking performance of the vehicle must:

- a) ensure that the modification does not prevent the vehicle from complying with this Rule; and
- b) notify the operator that the vehicle must be inspected and, if necessary, certified by person or organisation appointed to carry out specialist inspection and certification of heavy vehicle brakes.

IF YOU ARE UNSURE ABOUT YOUR RESPONSIBILITIES, PLEASE CONTACT THE VEHICLE MANUFACTURER, OR MYSELF.

COMPLAINTS. Complaints and Warranty issues which relate to Brake Certification will be acknowledged within 7 working days and a resolution proposed within 25 working days. Resolution of complaints and Warranty issues is subject to Transpecs Warranty policy. Customers have the right to appeal to the New Zealand Transport Authority if dissatisfied with a Compliance issue. (Refer NZTA Deed Of Appointment Para 47.4) NZTA Helpdesk 0800 699 000


.....
(C. Clarke (CJC) HVEK)

NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an Electronic Brake System.


To comply with the New Zealand Heavy Vehicle Brake Rule 32015/3, it must be used only in conjunction with a truck/tractor equipped with a 5 or 7 pin ABS/EBS power supply socket.

Failure to connect to such supply invalidates Brake Rule compliance.

The trailer ABS/EBS warning light on the towing vehicle dashboard must illuminate when the ignition is switched on and extinguish when the vehicle is in motion.

If the light does not illuminate when ignition is switched on, the system must be checked. If the light remains illuminated when the vehicle is in motion, Brake Rule compliance is compromised. Repairs must be made as soon as possible.

If you are unsure of your responsibilities and/or obligations, please contact either the vehicle manufacturer or myself.



C. J. Clarke
(CJC HVEK)
(027 200 2084)

NOTICE TO VEHICLE OPERATOR

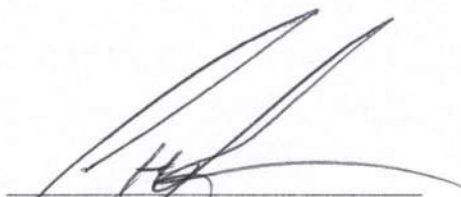
WABCO Park Release Emergency Valve
(PREV)

This trailer is equipped with a WABCO PREV
Part # 971 002 900 0

Application of the park brake via the cab control valve will actuate and apply all service brakes on the trailer. In the event of a leak in the service brake system the Spring Brakes will automatically override and hold the vehicle in compliance to Land Transport Rule: Heavy-vehicle Brakes Rule 32015/3.

When the vehicle is presented for COF the trailer park brake system is tested by pulling the red actuation knob on the PREV, situated mid way down the chassis rail. The cab control in the prime mover does not have to be applied for this test procedure.

If you are unsure of any aspect relating to this instruction please contact either the vehicle manufacturer or myself.

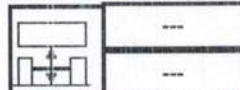











Q. J. Clarke
(CJC HVEK)
(027 200 2084)

WABCO

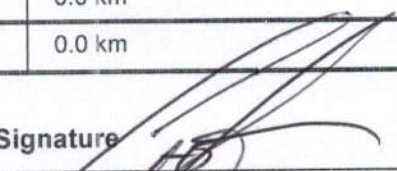
START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2015-02-24	Serial number	437001213100L
Serial number (modulator)	000000038007		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2015-08-22 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO		TRAILER EBS-E		GGVS/ADR TUEH TB 2007 - 019.00											
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT		GIO	Pin1	Pin3	Pin4									
TYP TYPE TYPE	5AFT STOCK		1	24V-01	---	---									
FÄHRZEUG IDENT.NR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E25019F1023397		2	---	---	---									
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	GenNZ50075A		3	ALS2	ALS2	---									
POLRADZÄHNEZAHN c-d e-f POLE WHEEL TEETH c-d e-f DENTS ROUE DENTÉE c-d e-f	90	90	4	---	---	---									
		ABS-System ABS system Système ABS	5	DIAG	DIAG	DIAG									
		4S/3M	6	---	---	---									
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	Lenkachse Steering axle Essieu vireur	7	---	---	---									
	Zwillingsbereifung Twin Tire Monte jumelée	X													
Subsystems	---	I/O	24N												
ACHSE AXLE ESSIEU	pm (bar)	6.5	pm (bar)	0.8	2.0	---	6.5								
								---		pz	TYP TYPE	(mm)	(mm)	(bar)	Pz
1	1330	0.5	1.5	8000	5.0	0.4	1.4	---	6.1	-	20	65	69	508	4479
2	1330	0.5	1.5	8000	5.0	0.4	1.4	---	6.1	-	20	65	69	508	4479
3	1010	0.3	1.1	6400	4.0	0.3	1.4	---	4.6	-	14 / 16	64	69	506	2667
4	1010	0.3	1.1	6400	4.0	0.3	1.4	---	4.6	-	14 / 16	64	69	506	2667
5	1010	0.3	1.1	6400	4.0	0.3	1.4	---	4.6	-	14	64	69	506	2667

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 TEBS	Not tested
Signal inputs	Not tested	Tag axle test	Not tested

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

Manufacturer	DOMETT	Vehicle ident. no	7A9E25019F1023397
Vehicle type	5AFT STOCK	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	Chris Clarke		
Date	2015-08-22 2:44:26 p.m.		

HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. CJC153295

CUSTOMER NAME

DOMETT TRAILERS LTD

CUSTOMER ORDER No.

4430

DATE RECEIVED

June 2015

VEHICLE TYPE

5 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9E25019F1023397

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 20HSCLD65	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:

(All) Lining Brand

OEM

JURID 539

Aftermarket

EBS CONTROL: SPECIAL CONDITIONS APPLY – SEE INSTRUCTION ON LT400:

VALVES: AS PER BRAKE CALCULATION GenNZ 50075A

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

PROCESS TIME:

1

BRAKE CALC #TP51310. THE MERITOR CHAMBERS ARE THE TSE VARIANT. THE 1424HTLD64 IN THE CALC ARE USED TO DETERMINE THE SERVICE BRAKE PERFORMANCE. 1616HTLD64 ARE USED TO DETERMINE THE PARK BRAKE PERFORMANCE.

COMPLETION DATE : 22nd August 2015

SIGNATURE: 

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 32015/3, Schedule 5.

Date: 22nd August 2015

Signed: 

Certifier's identification

Name: C J Clarke

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: CJC

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 32015/3, Schedule 5.

Date: _____

Signed: _____

Certifier's identification: CJC

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

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

distribution: DOMETT
 7A9E25019F1023397
 CJC153295
 LT400 522445

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 command to do a braking harmonisation!
 WABCOBrake V6.14.04.20 db 08.07.2014

vehicle manufacturer: DOMETT
 trailer model : 5AFT STOCK
 trailer type : 5-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS E
 TRISTOP 3+4: T.14/24 (TSE1416HTLD64 ACTUALLY FITTED
 - SEE PAGE 7 FOR PERFORMANCE DATA)
 265/70 R 19,5

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

		unladen	laden
total mass	P in kg	5690	35200
axle 1	P1 in kg	1330	8000
axle 2	P2 in kg	1330	8000
axle 3	P3 in kg	1010	6400
axle 4	P4 in kg	1010	6400
axle 5	P5 in kg	1010	6400
wheel base	E in mm	6490 - 6490	
centre of gravity height	h in mm	1050	2497

	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 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	20.	20.	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	2.3	2.3	2.0	2.0	2.0
chamber pressure(rdyn max)pH at z=22,5%bar	2.3	2.3	2.0	2.0	2.0
chamber press.(servo)pcha at pm6,5bar bar	6.1	6.1	4.6	4.6	4.6
piston force ThA at pm6,5bar N	7071	7071	4385	4385	4385
brake force(rdyn min)T lad. at pm6,5bar N	53571	53571	33114	33114	33114
brake force(rdyn max)T lad. at pm6,5bar N	53571	53571	33114	33114	33114
brake force within 1 % rolling friction proportion %	22.3	22.3	18.5	18.5	18.5

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: 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 20HSCLD65

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 20HSCLD65

axle 3:

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

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

brake cylinder: Meritor 1424HTLD64

axle 4:

valve 1: 971 002 ... 0 WABCO
EBS emergency valve
valve 2: 480 102 ... 0 WABCO
EBS trailer modulator

brake cylinder: Meritor 1424HTLD64

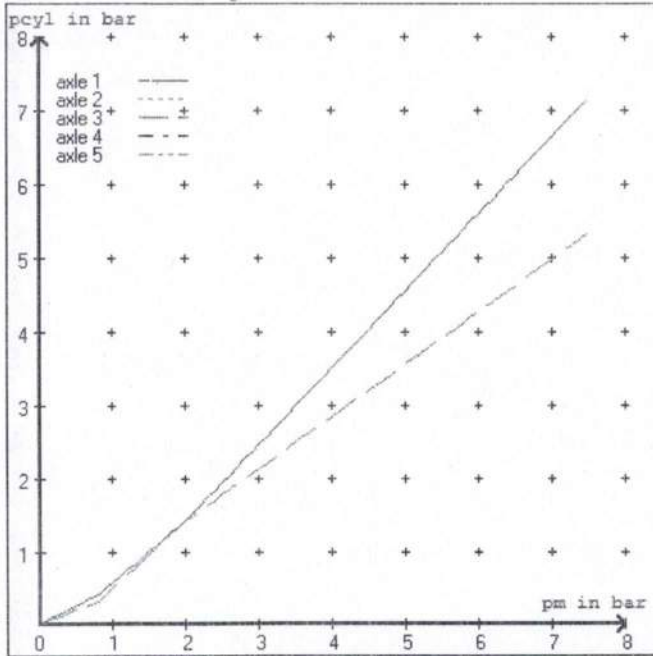
axle 5:

valve 1: 971 002 ... 0 WABCO
EBS emergency valve
valve 2: 480 102 ... 0 WABCO
EBS trailer modulator

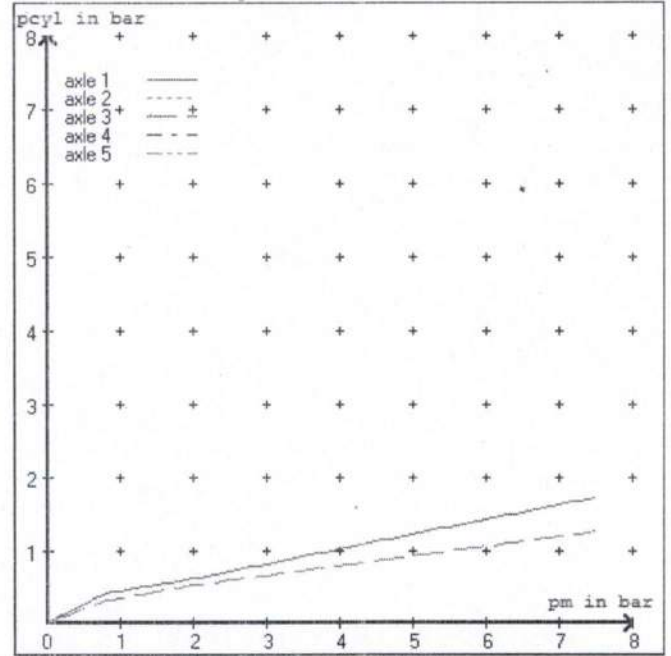
brake cylinder: Meritor 14HSCLD64

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	2.5	2.5	2.5	2.5
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	0.8

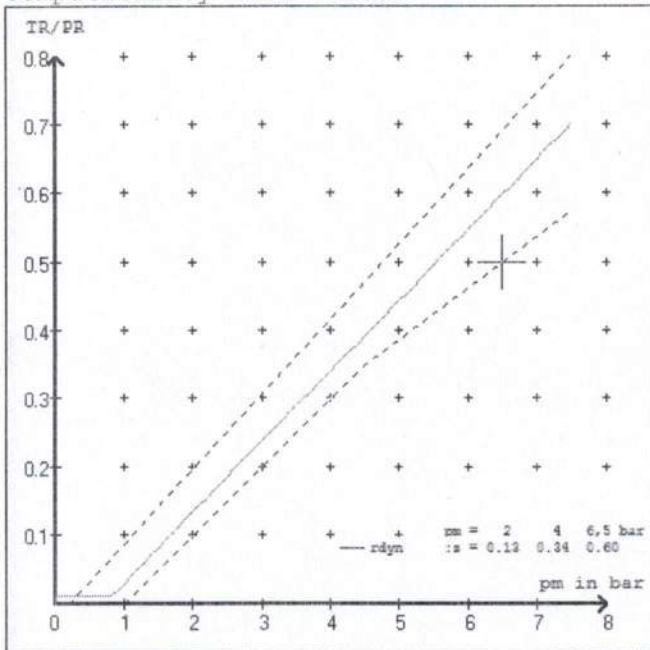
brake chamber pressure laden



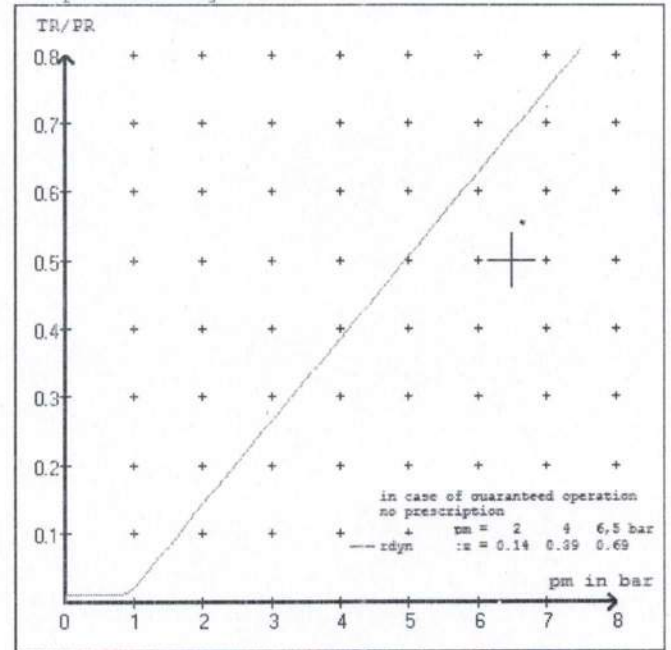
brake chamber pressure unladen



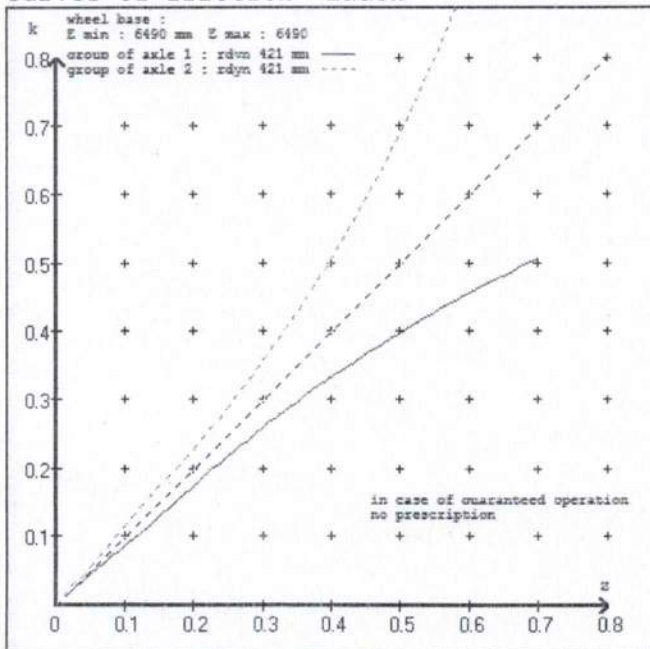
compatibility band laden



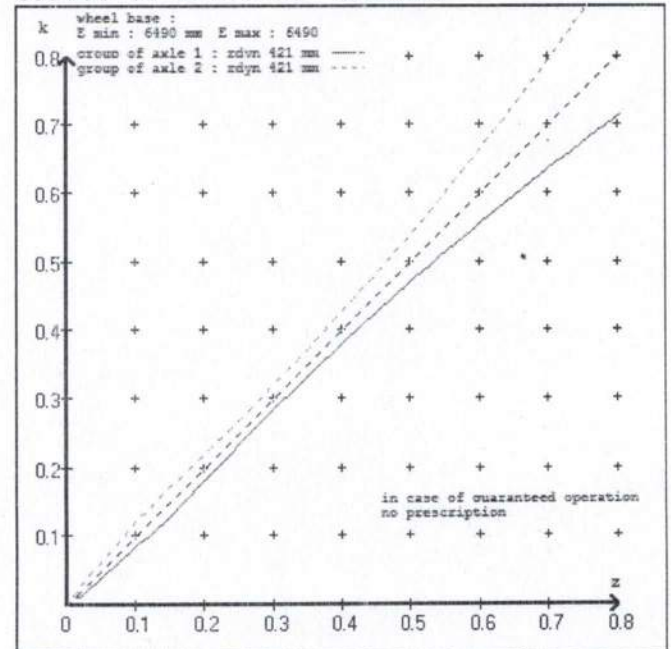
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT
 trailer model : 5AFT STOCK
 trailer type : 5-axle-full-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter 20. (Meritor) lever length 69 mm
 axle 2 : 2 x type/diameter 20. (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 :
 971 002 ... 0 WABCO EBS emergency 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: DOMETT
 trailer model : 5AFT STOCK
 trailer type : 5-axle-full-trailer
 brake calculation no. : GenNZ 50075A

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	1330	to be	1.5	8000	to be	0.4	1.4	6.1	
2	1330	entered by the vehicle manufact.	1.5	8000	entered by the vehicle manufact.	0.4	1.4	6.1	
3	1010		1.1	6400		0.3	1.4	4.6	
4	1010		1.1	6400		0.3	1.4	4.6	
5	1010		1.1	6400		0.3	1.4	4.6	

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 pcy1	axle load pcy1	axle load pcy1	axle load pcy1	axle load pcy1
1330 1.5	1330 1.5	1010 1.1	1010 1.1	1010 1.1
1830 1.8	1830 1.8	1510 1.4	1510 1.4	1510 1.4
2330 2.2	2330 2.2	2010 1.7	2010 1.7	2010 1.7
2830 2.5	2830 2.5	2510 2.1	2510 2.1	2510 2.1
3330 2.9	3330 2.9	3010 2.4	3010 2.4	3010 2.4
3830 3.2	3830 3.2	3510 2.7	3510 2.7	3510 2.7
4330 3.6	4330 3.6	4010 3.0	4010 3.0	4010 3.0
4830 3.9	4830 3.9	4510 3.4	4510 3.4	4510 3.4
8000 6.1	8000 6.1	6400 4.6	6400 4.6	6400 4.6

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 = 25.5 % Fe
axle 2	(rdyn 421 mm)	T = 25.5 % Fe
axle 3	(rdyn 421 mm)	T = 17.5 % Fe
axle 4	(rdyn 421 mm)	T = 17.5 % Fe
axle 5	(rdyn 421 mm)	T = 17.5 % 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 = 7071 N
axle2	ThA = 7071 N
axle3	ThA = 4385 N
axle4	ThA = 4385 N
axle5	ThA = 4385 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 = 41837 N
axle 2	(rdyn 421 mm)	T = 41837 N
axle 3	(rdyn 421 mm)	T = 25928 N
axle 4	(rdyn 421 mm)	T = 25928 N
axle 5	(rdyn 421 mm)	T = 25928 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)	0.60	(hot)braking 0.47
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required braking rate (items 1.5.3 and 1.7.2 to annex 11)		>= 0,4 and >= 0,6*E (0.36)
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axle 1	(rdyn 421 mm)	T = 41837 N
axle 2	(rdyn 421 mm)	T = 41837 N
axle 3	(rdyn 421 mm)	T = 25928 N
axle 4	(rdyn 421 mm)	T = 25928 N
axle 5	(rdyn 421 mm)	T = 25928 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)	0.60	(hot)braking 0.47
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required braking rate (items 1.5.3 and 1.7.2 to annex 11)		>= 0,4 and >= 0,6*E (0.36)
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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
$iFb = lBh * \eta * C * rBt / (rBn * rstat)$			
	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	0.289	
$zf = \sum (Tf) / P + 0,01$			

Test of the frictional connection required by the parking brake

minimum wheelbase/minimum supporting width min Ef necessary
to fulfil the regulations

$$\min Ef = E * (1 - PR/P + zferf * h/E) / (1 - zferf / (fzul * nf/ng))$$

$$\min Ef = 5131 \text{ mm for } E = 6490 \text{ mm}$$

$$\min Ef = 5131 \text{ mm for } E = 6490 \text{ mm}$$

- 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 = 2497 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)

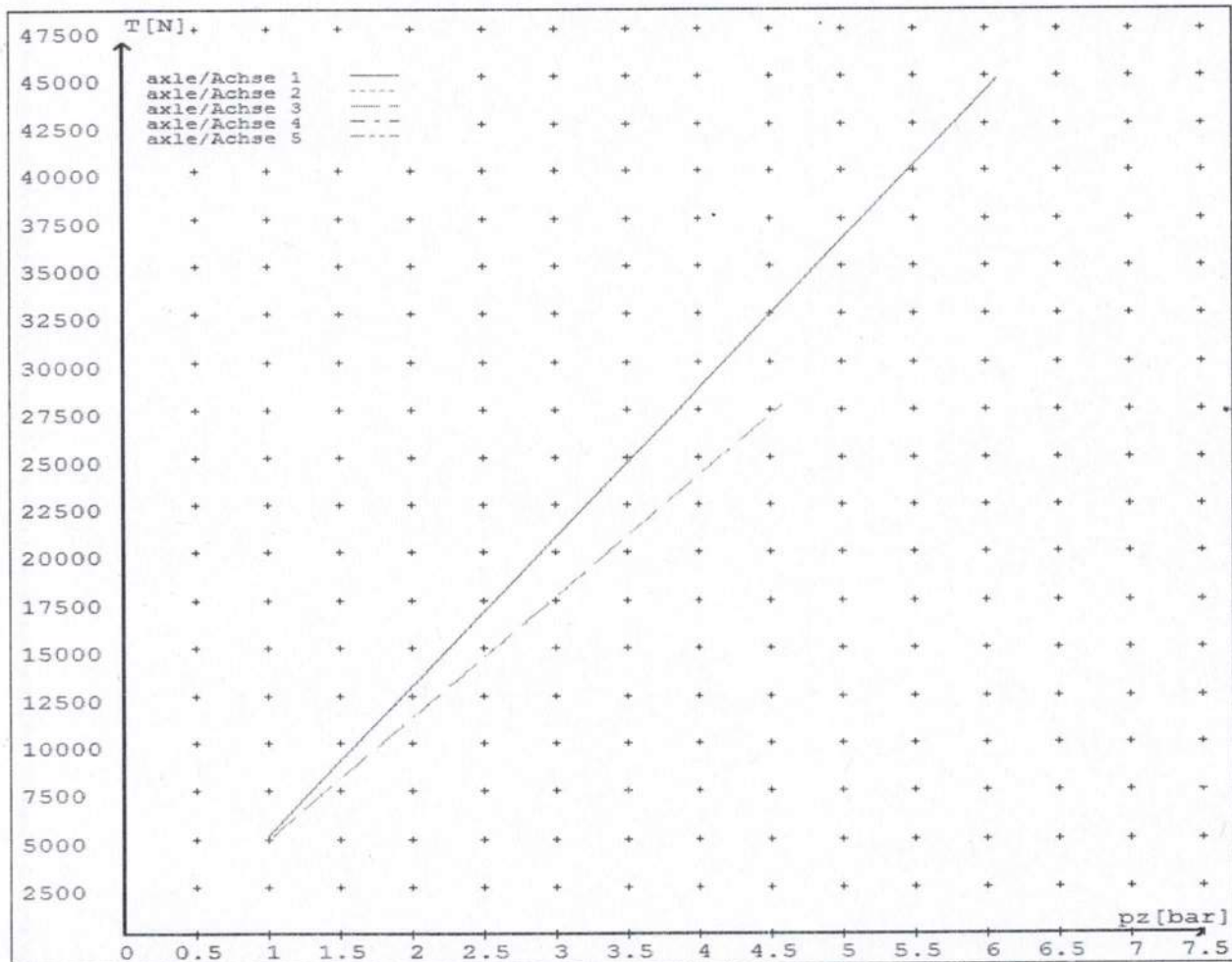
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	5087	
	6.1	44792	
axle 2	1.0	5087	
	6.1	44792	
axle 3	1.0		4892
	4.6		27687
axle 4	1.0		4892
	4.6		27687
axle 5	1.0		4892
	4.6		27687

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.14/24	T.14/24	14./
Maximum stroke smax =mm maximaler Hub smax =mm	65	65	64	64	64
Lever length =mm Hebellänge =mm	69.08	69.08	69.08	69.08	69.08



reference values for $z = 0.5$

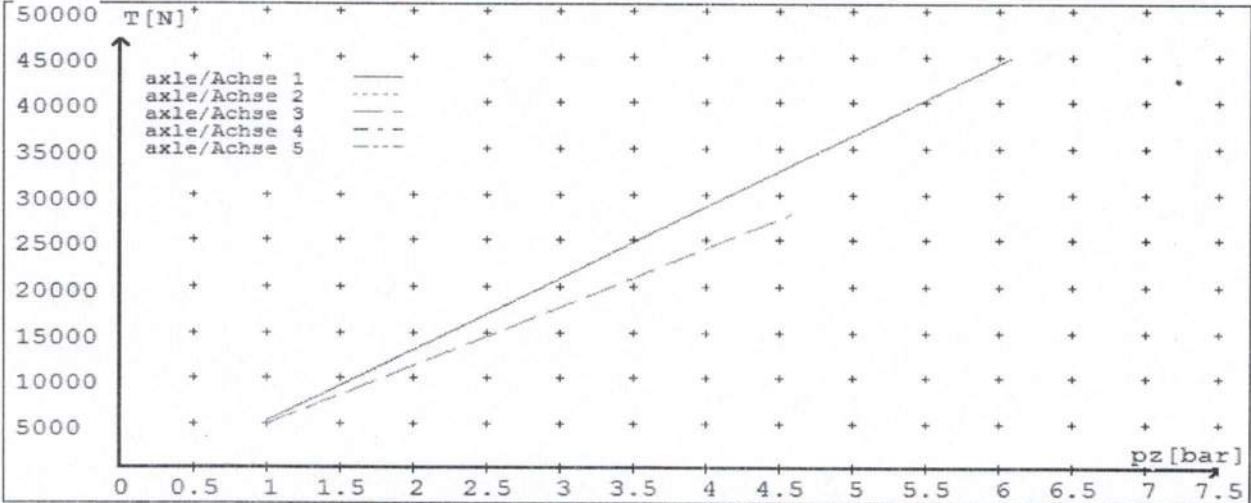
Angabe der Referenzwerte für $z = 0.5$

for max rdyn: 421 mm

für max rdyn: 421 mm

brake calculation no: GenNZ 50075A date 22.08.2015

Bremsberechnung Nr: GenNZ 50075A vom 22.08.2015



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.14/24	T.14/24	14./
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	65	65	64	64	64
Lever length = ...mm Hebellänge = ...mm	69.08	69.08	69.08	69.08	69.08