

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
7A9E25019F1023416

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 - CJC153400

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

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
18-Sep-15 525300

CoF Vehicle Inspector ID CoF Vehicle Inspector Signature Date

All fields excluding those marked with * must be completed before this certificate can be accepted.

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 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!
 WABCO Brake V6 14.04.20 db 08.07.2014

distribution: DOMETT
 7A9E25019F1023416
 SODC: JH150830
 LT400: CJC 525300

vehicle manufacturer: DOMETT
 trailer model : 5AFT STOCK
 trailer type : 5-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS
 TRISTOP 3+4: T.16/24
 265/70 R 19,5

axle 1 + 2 + 3 + 4 + 5 : Assali Stefen, ELSA 195 LE, 361-0071-04 ext05 ECE,

		unladen	laden
total mass	P in kg	10200	35200
axle 1	P1 in kg	2400	8000
axle 2	P2 in kg	2400	8000
axle 3	P3 in kg	1800	6400
axle 4	P4 in kg	1800	6400
axle 5	P5 in kg	1800	6400
wheel base	E in mm	6215 - 6215	
centre of gravity height	h in mm	1050	2238

	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.16/24	T.16/24	16.
lever length	74	74	74	74	74
brake factor	20.26	20.26	20.26	20.26	20.26
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	2.3	2.3	2.2	2.2	2.2
chamber pressure (rdyn max) pH at z=22,5%bar	2.3	2.3	2.2	2.2	2.2
chamber press. (servo) pcha at pm6,5bar bar	6.3	6.3	4.8	4.8	4.8
piston force ThA at pm6,5bar N	7318	7318	4769	4769	4769
brake force (rdyn min) T lad. at pm6,5bar N	52325	52325	34015	34015	34015
brake force (rdyn max) T lad. at pm6,5bar N	52325	52325	34015	34015	34015
brake force within 1 % rolling friction proportion %	21.7	21.7	18.9	18.9	18.9

braking rate z laden 0.599 for rdyn min
 z = sum (TR)/PRmax 0.599 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 20HSCLD65

axle 2:

valve 1: 480 207 0.. 0 WABCO or 480 207 2.. 0
 EBS relay valve

brake cylinder: Meritor 20HSCLD65

axle 3:

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

brake cylinder: Meritor 1624HTLD64

axle 4:

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

brake cylinder: Meritor 1624HTLD64

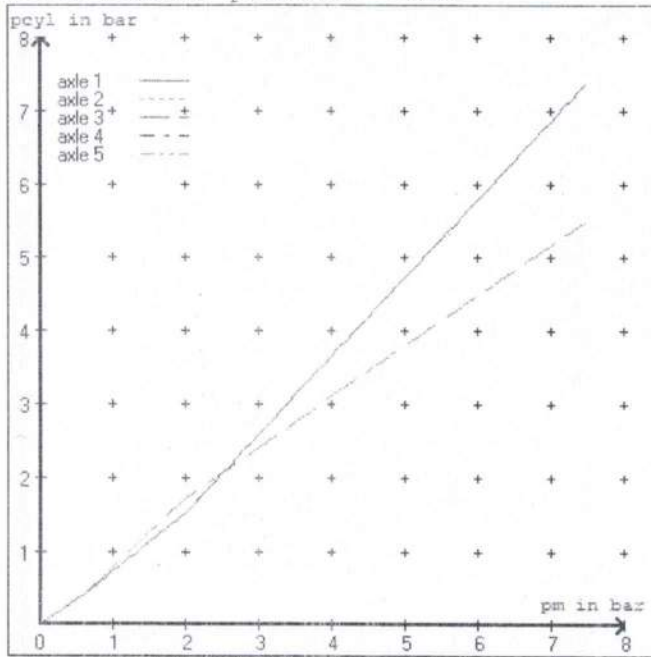
axle 5:

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

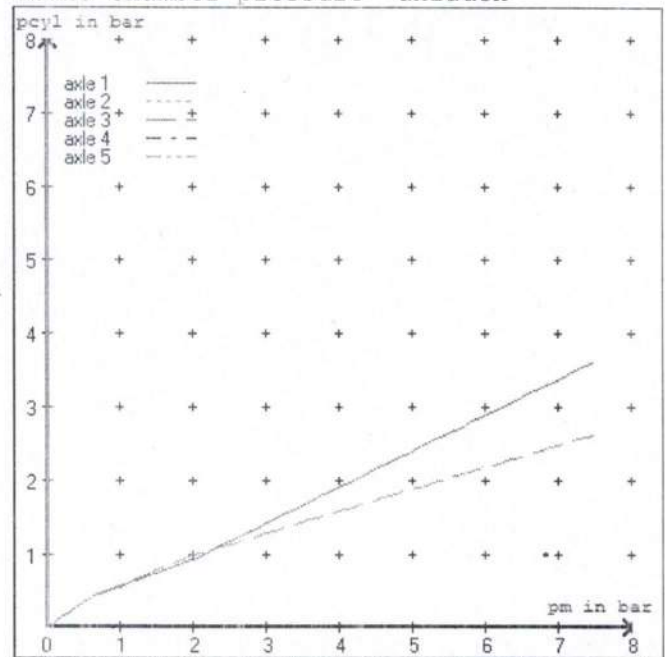
brake cylinder: Meritor 16HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.5 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 1.1 bar =>	pcha in bar :	0.8	0.8	0.9	0.9	0.9	

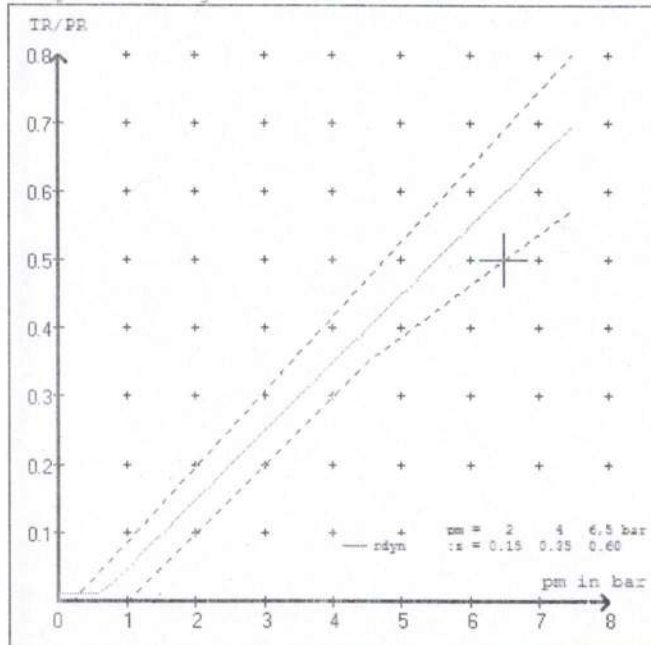
brake chamber pressure laden



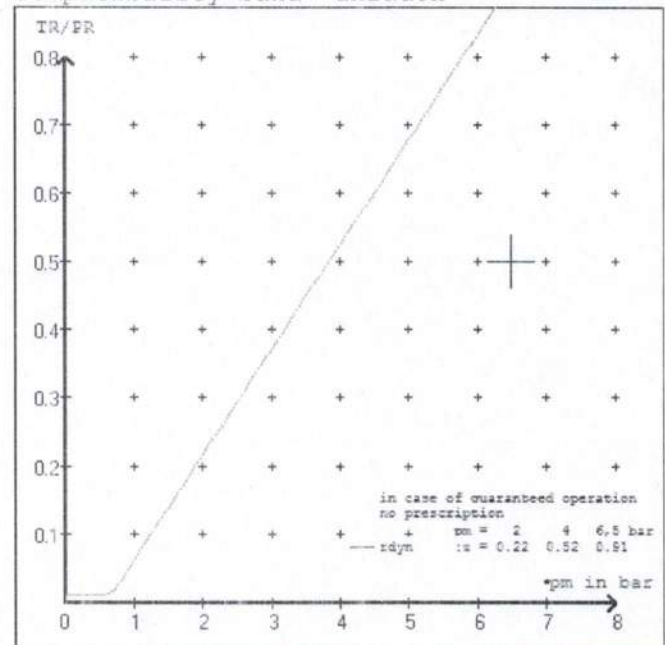
brake chamber pressure unladen



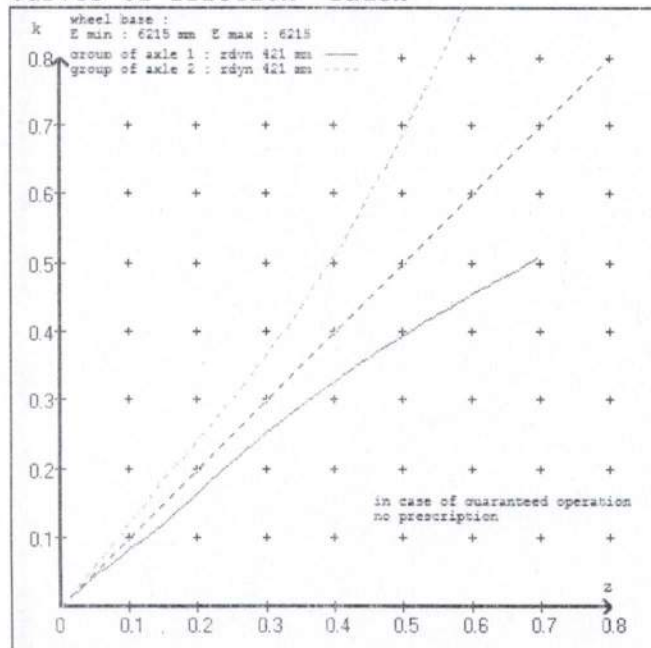
compatibility band laden



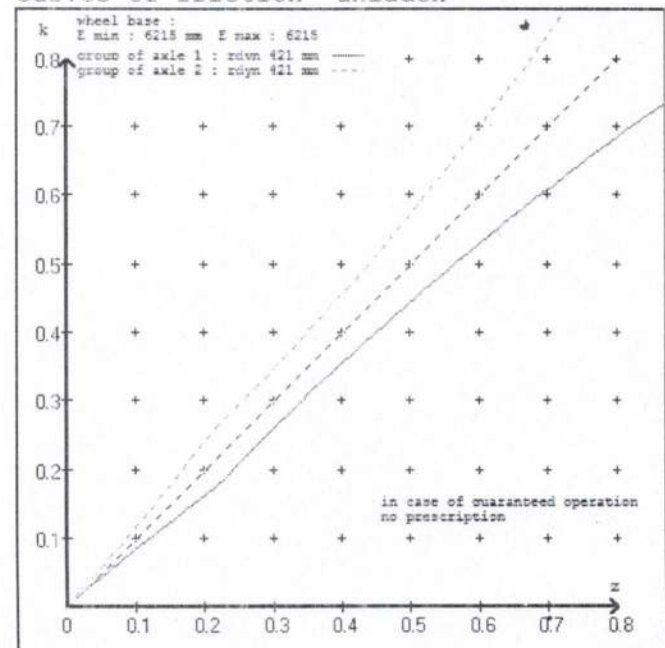
compatibility band unladen



curves of friction laden



curves of friction unladen



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

brake chamber and lever length :

axle 1 : 2 x type/diameter 20. (Meritor) lever length 74 mm
 axle 2 : 2 x type/diameter 20. (Meritor) lever length 74 mm
 axle 3 : 2 x type/diameter T.16/24 (Meritor) lever length 74 mm
 axle 4 : 2 x type/diameter T.16/24 (Meritor) lever length 74 mm
 axle 5 : 2 x type/diameter 16. (Meritor) lever length 74 mm

brake diagram :

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
 trailer model : SAFT STOCK
 trailer type : 5-axle-full-trailer
 brake calculation no. : TP 51321A

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

assignment pm / deceleration z: pm 0.6 bar z = 0.010
 (laden condition) 2.0 bar z = 0.150
 6.5 bar z = 0.600

control pressure pm			6,5	control pressure pm			0.6	2.0	6.5
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden			
1	2400	to be	3.1	8000	to be	0.4	1.5	6.3	
2	2400	entered by the vehicle manufact.	3.1	8000	entered by the vehicle manufact.	0.4	1.5	6.3	
3	1800		2.3	6400		0.4	1.7	4.8	
4	1800		2.3	6400		0.4	1.7	4.8	
5	1800		2.3	6400		0.4	1.7	4.8	

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
2400	3.1	2400	3.1	1800	2.3	1800	2.3	1800	2.3
2900	3.4	2900	3.4	2300	2.6	2300	2.6	2300	2.6
3400	3.7	3400	3.7	2800	2.8	2800	2.8	2800	2.8
3900	4.0	3900	4.0	3300	3.1	3300	3.1	3300	3.1
4400	4.2	4400	4.2	3800	3.4	3800	3.4	3800	3.4
4900	4.5	4900	4.5	4300	3.7	4300	3.7	4300	3.7
5400	4.8	5400	4.8	4800	3.9	4800	3.9	4800	3.9
5900	5.1	5900	5.1	5300	4.2	5300	4.2	5300	4.2
8000	6.3	8000	6.3	6400	4.8	6400	4.8	6400	4.8

data sheet to ECE vehicle type-approval certificate concerning braking equipment: according to ECE R13 annex 11

axle 1 : reference axle: Assali Stef---/--- ---/K---en	brake lining: ROR8616AF(M13)
test report : 361-0071-04 ext05 ECE	date : 17.06.2011
axle 2 : reference axle: Assali Stef---/--- ---/K---en	brake lining: ROR8616AF(M13)
test report : 361-0071-04 ext05 ECE	date : 17.06.2011
axle 3 : reference axle: Assali Stef---/--- ---/K---en	brake lining: ROR8616AF(M13)
test report : 361-0071-04 ext05 ECE	date : 17.06.2011
axle 4 : reference axle: Assali Stef---/--- ---/K---en	brake lining: ROR8616AF(M13)
test report : 361-0071-04 ext05 ECE	date : 17.06.2011
axle 5 : reference axle: Assali Stef---/--- ---/K---en	brake lining: ROR8616AF(M13)
test report : 361-0071-04 ext05 ECE	date : 17.06.2011

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 = 22.6 % Fe
axle 2 (rdyn 421 mm)	T = 22.6 % Fe
axle 3 (rdyn 421 mm)	T = 17.0 % Fe
axle 4 (rdyn 421 mm)	T = 17.0 % Fe
axle 5 (rdyn 421 mm)	T = 17.0 % Fe

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

axle 1 (sp = 58 mm)	s = 37 mm
axle 2 (sp = 58 mm)	s = 37 mm
axle 3 (sp = 57 mm)	s = 37 mm
axle 4 (sp = 57 mm)	s = 37 mm
axle 5 (sp = 57 mm)	s = 37 mm

average thrust output in N at pm = 6,5 bar (however max. pcha = 7,0 bar)

axle1	ThA = 7318 N
axle2	ThA = 7318 N
axle3	ThA = 4769 N
axle4	ThA = 4769 N
axle5	ThA = 4769 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 = 46498 N
axle 2 (rdyn 421 mm)	T = 46498 N
axle 3 (rdyn 421 mm)	T = 30242 N
axle 4 (rdyn 421 mm)	T = 30242 N
axle 5 (rdyn 421 mm)	T = 30242 N

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	basic test of subject trailer (E)	type III (calculated) residual (hot)braking
	0.60	0.53

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 = 46498 N
axle 2 (rdyn 421 mm)	T = 46498 N
axle 3 (rdyn 421 mm)	T = 30242 N
axle 4 (rdyn 421 mm)	T = 30242 N
axle 5 (rdyn 421 mm)	T = 30242 N

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	basic test of subject trailer (E)	type III (calculated) residual (hot)braking
	0.60	0.53

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

		<u>axle 3</u>	<u>axle 4</u>
no of TRISTOP-actuators per axle line KDZ		2	2
TRISTOP-actuator type		T.16/24	T.16/24
lever length	lBh in mm	74	74
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		3.7388	3.7388
iFb = lBh*Eta*C*rBt/(rBn*rstat)			
	for rstat in mm	401	401
brake force of spring br. Tf in N		56260	56260
Tf = (TFZ*KDZ-2*Co/lBh)*iFb			
braking rate	zf laden	0.336	
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

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

$$\min Ef = 4872 \text{ mm} \quad \text{for } E = 6215 \text{ mm}$$

$$\min Ef = 4872 \text{ mm} \quad \text{for } E = 6215 \text{ mm}$$

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 = 2238 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)

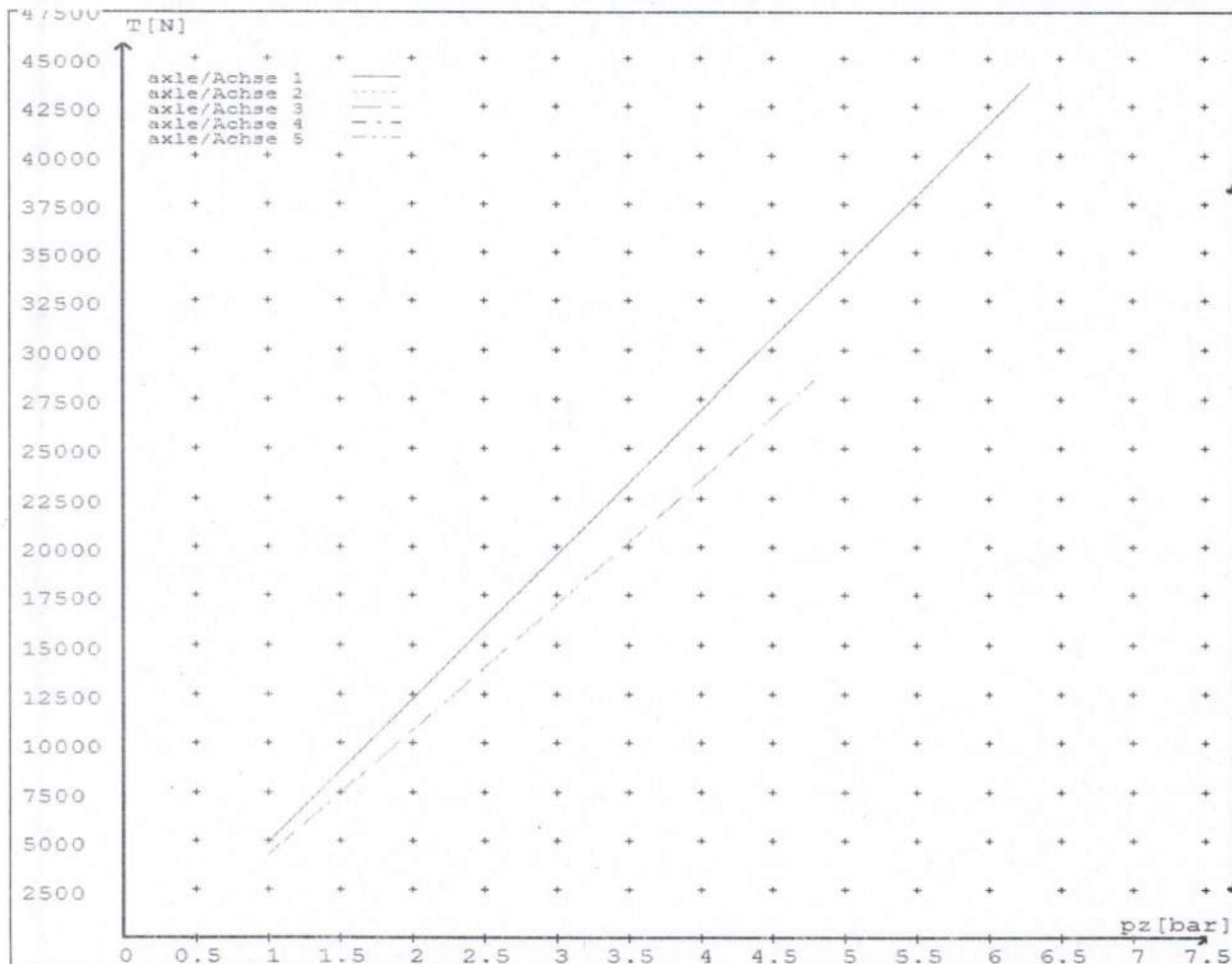
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	4858	
	6.3	43677	
axle 2	1.0	4858	
	6.3	43677	
axle 3	1.0		4198
	4.8		28393
axle 4	1.0		4198
	4.8		28393
axle 5	1.0		4198
	4.8		28393

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.16/24	T.16/24	16./
Maximum stroke smax = ...mm maximaler Hub smax =mm	65	65	64	64	64
Lever length =mm Hebellänge =mm	74	74	74	74	74



HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH150830

CUSTOMER NAME

DOMETT TRAILERS LTD

CUSTOMER ORDER No.

4454

DATE RECEIVED

July 2015

VEHICLE TYPE

5 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9E25019F1023416

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	74 mm
3&4	TSE 1624HTLD64	64 mm	74 mm
5	TSE 16HSCLD64	64 mm	74 mm

BRAKE SYSTEM:

WABCO EBS : RSS ACTIVATED

TEST POINTS FITTED:

3 4 5 7

FRICITION LINING:

(All) Lining Brand

OEM

Aftermarket

ROR8616AF

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

VALVES: AS PER BRAKE CALCULATION TP51321 & SO111141

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO111141

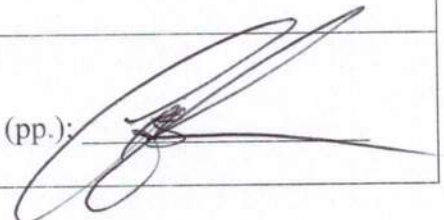
PROCESS TIME:

1

BRAKE CALC #TP51321. THE MERITOR CHAMBERS ARE THE TSE VARIANT.

COMPLETION DATE : 28th August 2015

SIGNATURE (pp.):



Statement of Compliance with the New Zealand Heavy Brake Rule

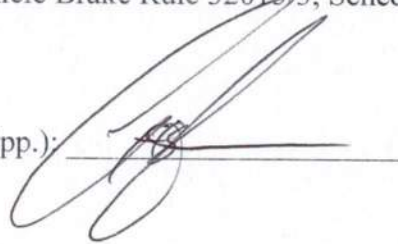
Documentation required supporting Statements of Compliance with the New Zealand Heavy Brake Rule, to be made available to the Statutory Authority on request, must include all calculations and test reports.

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 32015/3, Schedule 5.

Date: 28th August 2015

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 32015/3, 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

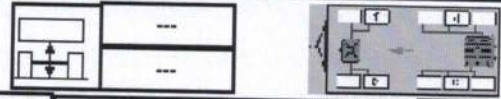
WABCO START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2015-05-13	Serial number	437001419000D
Serial number (modulator)	000000040462		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2015-09-18 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO TRAILER EBS-E

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT		GGVS/ADR TUEH TB 2007 - 019.00 361-0071-04	
TYP TYPE	5AFT STOCK			
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E25019F1023416			
BREMSBERECHNUNG NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51321A			
POLRADZAHNEZAHL 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 virer	Rippkritisches Fahrzeug Critical Trailer Véhicule critique	
	Zwillingsbereifung Twin Tire Monte jumelée	X		
Subsystems	SB	I/O	24N	

GIO	Pin1	Pin3	Pin4
1	24V-O1	---	---
2	---	---	---
3	ALS2	ALS2	---
4	---	---	---
5	DIAG	DIAG	DIAG
6	---	---	---
7	---	---	---



ACHSE AXLE ESSIEU	pm (bar)		pm (bar)				pZ	TYP TYPE	(mm)	(mm)	(bar)				
	1.0	3.1	0.6	2.0	---	6.5					1.0	Pz			
1	2400	1.0	3.1	8000	4.9	0.4	1.5	---	6.3	-	20	65	74	485	4367
2	2400	1.0	3.1	8000	4.9	0.4	1.5	---	6.3	-	20	65	74	485	4367
3	1800	0.8	2.3	6400	3.9	0.4	1.7	---	4.8	-	16 / 24	64	74	419	2839
4	1800	0.8	2.3	6400	3.9	0.4	1.7	---	4.8	-	16 / 24	64	74	419	2839
5	1800	0.8	2.3	6400	3.9	0.4	1.7	---	4.8	-	16	64	74	419	2839

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	Not OK
EBS pressure test	Not tested	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	7A9E25019F1023416
Vehicle type	5AFT STOCK	Odometer reading	30.6 km
next Service	0 km	Trip reading	30.6 km
Tester	Chris Clarke	Signature	
Date	2015-09-18 12:11:14 p.m.		