

Heavy vehicle specialist inspector's or manufacturing inspecting organisation's name (PRINT IN CAPS)	ID
<b>CHRIS CLARKE</b>	<b>CJC</b>

Vehicle registration (optional)	VIN/chassis number
	<b>7A9E3501XJ1023804</b>

Make <b>DOMETT TRAILERS</b>	Component being certified:	<input type="checkbox"/> Chassis	<input type="checkbox"/> Load anchorage
Model (optional)	<input type="checkbox"/> Log bolsters	<input type="checkbox"/> Towing connection	<input checked="" type="checkbox"/> Brakes
Certification category <b>HVEK</b>	<input type="checkbox"/> SRT	<input type="checkbox"/> PSV stability	<input type="checkbox"/> PSV rollover
	<input type="checkbox"/> Swept path	<input type="checkbox"/> PBS	

Description of work

**CERTIFY TO SCHEDULE 5 OF LTR 32015/4**

**RSS ON: TWIN TYRES / SUPER SINGLES      SIZE = 265 70 R 19.5**

Code/standard/rule certified to <b>LTR 32015/4</b>	Component load rating(s) <b>32 Tonnes GVM</b>
General drawing number(s) <b>N/A</b>	<b>35 Tonnes (Group ratings)</b>

Supporting documents

**BRAKE CODE CERTIFICATE    JH181211**

**BRAKE CALCULATION #      TP51817**

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) <b>N/A [UNLESS MODIFIED]</b>	or	Hubodometer reading (whichever comes first)
		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

**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

**19-Dec-18**      **664992**

CoF vehicle inspector ID (if applicable)	CoF vehicle inspector signature (if applicable)	Date

All fields are mandatory unless otherwise stated.

# WABCO START-UP LOG

System	Trailer EBS-E	WABCO part number	480 102 084 0
Production date	2018-07-19	Serial number	437005702800A
Serial number (modulator)	000000506318		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2018-12-20 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

<b>WABCO</b>		<b>TRAILER EBS-E</b>		GGVS/ADR TUEH TB 2007 - 019.00 TDB0749			
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT TRAILERS			GIO	Pin1	Pin3	Pin4
TYP TYPE TYPE	5AFT TIPPER			1	24V-O1	---	---
VEHICLE IDENT. NUMBER CHASSIS NUMBER NUMERO DE CHASSIS	7A9E3501XJ1023804			2	---	---	---
BREMSENRECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51817A			3	ALS2	ALS2	---
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	4	---	---	---
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	Lenkachse Steering axle Essieu directeur		5	DIAG	DIAG	DIAG
	Zwillingsbereifung Twin Tire Monte jumelée	Rippstrichliches Fahrzeug Critical Trailer Véhicule critique		6	---	---	---
Subsystems	SB	I/O	24N	7	---	---	---

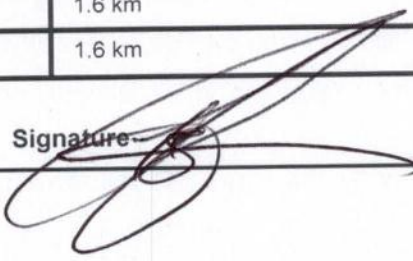
ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.6		2.0		---		6.5		TYP TYPE	(mm)	(mm)	(bar)	
	+	-	+	-	+	-	+	-	+	-	+	-	1.0	Pz					
1	1670	0.7	2.4	8000	5.1	0.4	1.5	---	6.5	-	20	65	69	505	4758				
2	1670	0.7	2.4	8000	5.1	0.4	1.5	---	6.5	-	20	65	69	505	4758				
3	1150	0.4	1.4	6350	3.9	0.3	1.6	---	4.3	-	14 / 16	64	69	485	2561				
4	1150	0.4	1.4	6350	3.9	0.3	1.6	---	4.3	-	14 / 16	64	69	485	2561				
5	1150	0.4	1.4	6350	3.9	0.3	1.6	---	4.3	-	14	64	69	485	2561				

## TEBS-E

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light 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 test	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 TRAILERS	Vehicle ident. no	7A9E3501XJ1023804
Vehicle type	5AFT TIPPER	Odometer reading	1.6 km
next Service	0 km	Trip reading	1.6 km
Tester	Chris Clarke	Signature 	
Date	2018-12-20 7:27:36 a.m.		

**HEAVY VEHICLE BRAKE RULE  
32015/4 WORKSHEET  
(PROCEDURE DOCUMENTATION SHEET-PDS)  
&  
CONFIRMATION OF COMPLIANCE**

CERTIFICATE NO. **JH181211**

CUSTOMER NAME **DOMETT TRAILERS LTD**

CUSTOMER ORDER NO. **5805** DATE RECEIVED **19-Dec-18**

VEHICLE TYPE **TIPPER**

VIN/ CHASSIS NO. **7 A 9 E 3 5 0 1 X J 1 0 2 3 8 0 4**

**BRIEF SPECIFICATION AS CERTIFIED TO SCHEDULE 5**

<u>BRAKE VALVES</u>	<u>MAKE</u>	<u>TYPE</u>
PRIMARY RELAY	WABCO	480 102 08. 0
SECONDARY RELAY	WABCO	480 207 202 0
YARD RELEASE VALVE	WABCO	971 002 900 0
PARK BRAKE VALVE	WABCO	971 002 900 0
<u>SUSP. VALVES [WABCO]</u>	<u>FRONT</u>	<u>REAR</u>
CONTROL	441 044 101 0	N/A
DISTANCE SENSOR	464 008 011 0	464/008/011/0

**OTHER VALVES:**

<b>MAKE:</b> <u>WABCO</u>	<b>TYPE:</b> <u>461 513 002 0</u>	<b>SETTING:</b> <u>5.5 Bar</u>
<b>MAKE:</b> <u>WABCO</u>	<b>TYPE:</b> <u>446 192 110 0</u>	<b>SETTING:</b> <u>SMARTBOARD</u>
<b>MAKE:</b> <u>WABCO</u>	<b>TYPE:</b> <u>463 084 050 0</u>	<b>SETTING:</b> <u>LACV [12V]</u>
<b>MAKE:</b> <u>WABCO</u>	<b>TYPE:</b> <u>446 290 700 0</u>	<b>SETTING:</b> <u>OPTILINK</u>

**BRAKE CHAMBERS:**

	<b>AXLE 1 &amp; 2</b>	<b>AXLE 3 &amp; 4</b>	<b>AXLE 5</b>
<b>MAKE</b>	TSE	TSE	TSE
<b>SIZE</b>	20HSCLD65	1416HTLD64	14HSCLD64
<b>MAX STROKE (mm)</b>	65	64	64
<b>SLACK LENGTH (mm)</b>	69	69	69

**DRUM TYPE:**

N/A	N/A	N/A
-----	-----	-----

**OR****BRAKE CALIPER:**

SBW1937	SBW1937	SBW1937
---------	---------	---------

**FRICTION MATERIAL:** OEM AFTERMARKET**LINING BRAND****AXLE 1 & 2****AXLE 3 & 4****AXLE 5**

JURID 539

JURID 539

JURID 539

**OTHERS:****TYRES:****FRONT**

265 70 R 19.5

**REAR**

265 70 R 19.5

**BRAKE CALCULATION #:**

TP51817

**COMMENTS:**

EBS, SPECIAL CONDITIONS APPLY. SEE INSTRUCTIONS ON LT400 #

**SALES ORDER #:**

SO1382326

**PROCESS TIME:**

1 Hour

**TRAILERS EQUIPPED WITH PREV: THE PARK BRAKE PERFORMANCE MUST BE**

MEASURED BY PULLING THE RED ACTUATION KNOB ON THE PREV VALVE WHEN

THE AXLES - EQUIPPED WITH SPRING BRAKES - ARE IN THE BRAKE ROLLERS. THE

PARK BRAKE IN THE CAB **MUST NOT** BE APPLIED.**NOTES:****CHAMBERS & PARK BRAKE PERFORMANCE:**REFER TO BRAKE CALCULATION TP51817:  $z = 0.29 @ 96377 (N)$  for 35 050 kgs GVMFRONT FRICTION ( $\mu$ ) = 0.5

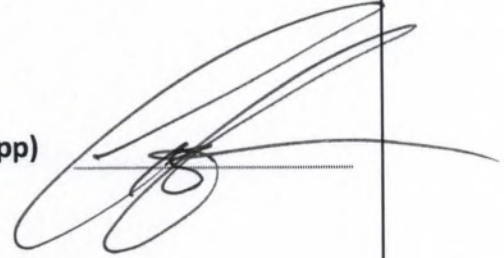
\*\*LIFT AXLE PARAMETERS TO BE SET AT SIGN-OFF\*\*

**CONFORMATION OF COMPLIANCE**

*I CONFIRM THAT THE VEHICLE IDENTIFIED IN PAGES 1 AND 2 OF THIS CONFORMATION OF COMPLIANCE COMPLIES WITH ALL RELEVANT REQUIREMENTS OF THE CURRENT NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015/4, SCHEDULE 5.*

**DATE:** 19-Dec-18

**SIGNED: (pp)**



**NAME & ID:** J HIRST (JEH)

**PHONE (BUS):** 09 980 7300

**FAX (BUS)** 09 980 7306

**POSTAL ADDRESS:**

TRANSPORT SPECIALTIES LTD  
PO BOX 98-971,  
MANUKAU CITY,  
MANUKAU 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 RELIVANT REQUIREMENTS OF THE CURRENT NEW ZEALAND HEAVY BRAKE RULE 32015/4 SCHEDULE 5.*

**DATE:**

**SIGNED:**

**NAME:**

**CERTIFIERS ID:**

**POSITION:**

**PHONE (BUS):**

**FAX (BUS):**

**COMMENTS:**

---

---

---

---

**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 32015/4.***

***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 32015/4. 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***

(p.p.).....  
(J.Hirst (JEH) HVEK)

**NOTICE TO VEHICLE OPERATOR**

This trailer is equipped with an Electronic Brake System.

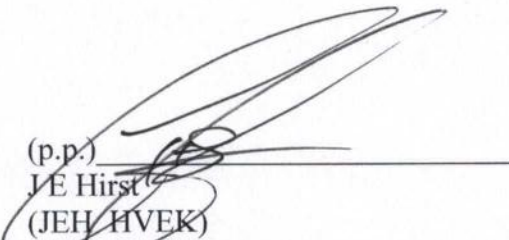
To comply with the New Zealand Heavy Vehicle Brake Rule 32015/4, it must be used only in conjunction with a truck/tractor equipped with a 5 or 7 pin ABS/EBS power supply socket.

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.**

  
(p.p.)  
J.E. Hirst  
(JEH/HVEK)  
(09 980 7300)

**NOTICE TO VEHICLE OPERATOR**

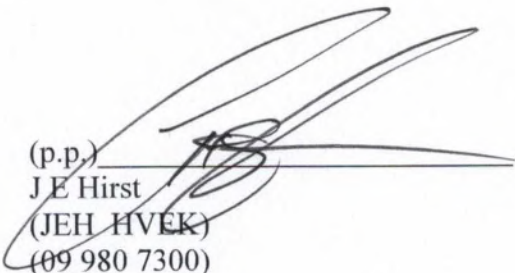
**WABCO Park Release Emergency Valve**  
**(PREV)**

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 32015/4.

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.**

  
(p.p.)  
J E Hirst  
(JEH HVEK)  
(09 980 7300)



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

distribution: DOMETT TRAILERS  
 7A9E3501XJ1023804  
 SODC: JH181211  
 LT400: CJC 664992

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 03.11.2017

vehicle manufacturer: DOMETT TRAILERS  
 trailer model : 5AFT TIPPER  
 trailer type : 5-axle-full-trailer  
 remarks : air / hydraulic / VA suspension  
 WABCO TRAILER - EBS E  
 TRISTOP 3+4: T.14/24 [TSE1416HTLD64 ACTUALLY USED -  
 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	6790	35050
axle 1	P1 in kg	1670	8000
axle 2	P2 in kg	1670	8000
axle 3	P3 in kg	1150	6350
axle 4	P4 in kg	1150	6350
axle 5	P5 in kg	1150	6350
wheel base	E in mm	5300 - 5300	
centre of gravity height	h in mm	1005	1850

		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		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	6.5	6.5	4.3	4.3	4.3
piston force ThA at pm6,5bar N	7564	7564	4085	4085	4085
brake force(rdyn min)T lad. at pm6,5bar N	57295	57295	30837	30837	30837
brake force(rdyn max)T lad. at pm6,5bar N	57295	57295	30837	30837	30837
brake force within 1 % rolling friction proportion %	22.3	22.3	18.5	18.5	18.5

braking rate z laden 0.602 for rdyn min  
 z = sum (TR)/PRmax 0.602 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:

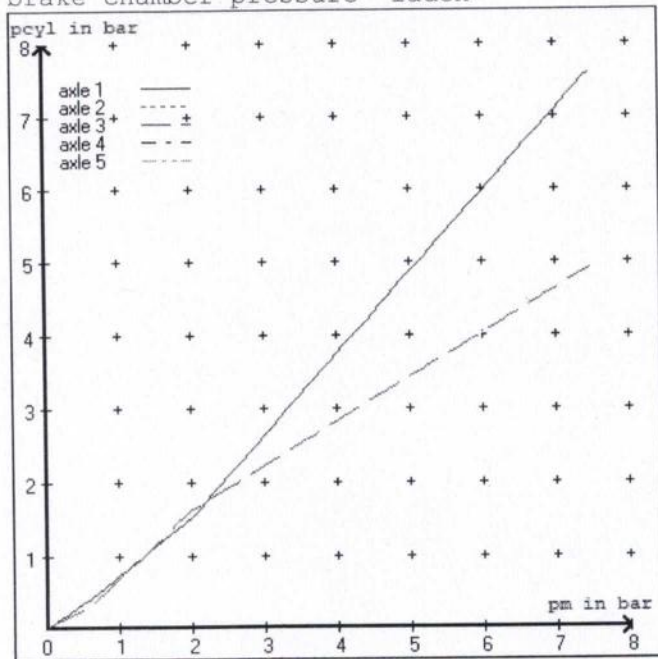
valve 1: 971 002 ... 0 WABCO  
EBS emergency valve

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

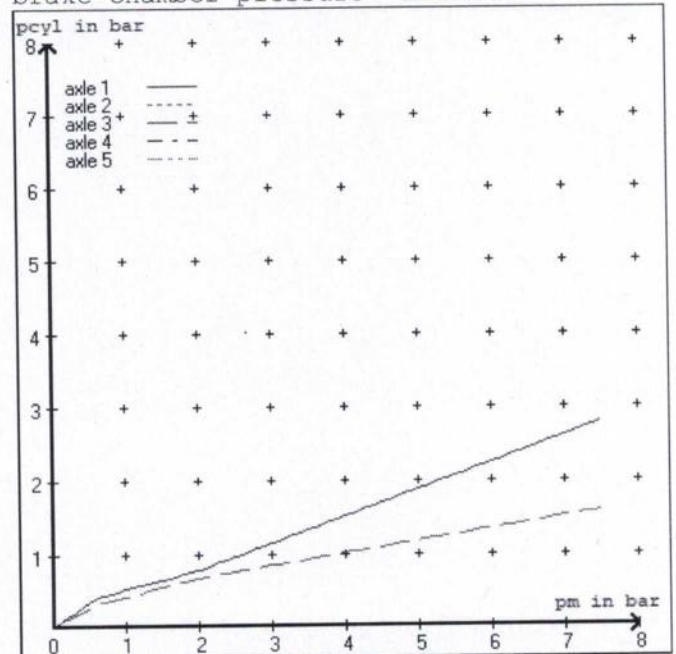
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.5 bar =>	pcha in bar :	3.1	3.1	2.5	2.5	2.5	
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	0.8	0.8	0.8	

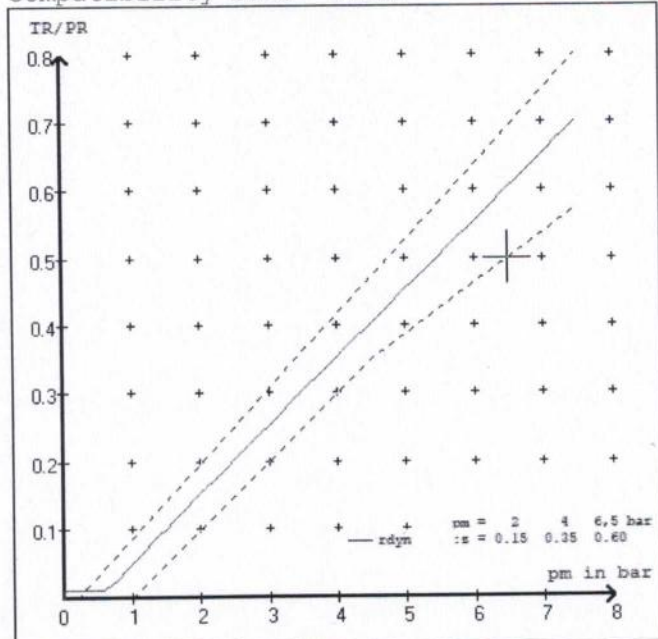
brake chamber pressure laden



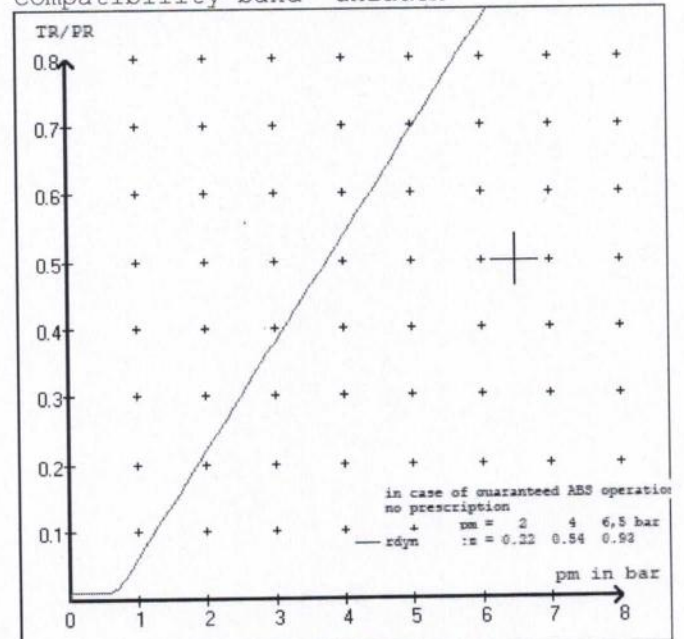
brake chamber pressure unladen



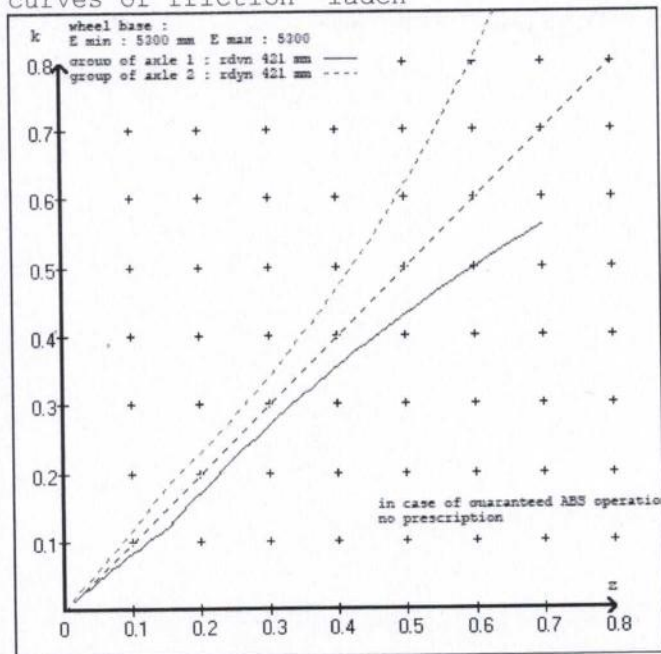
compatibility band laden



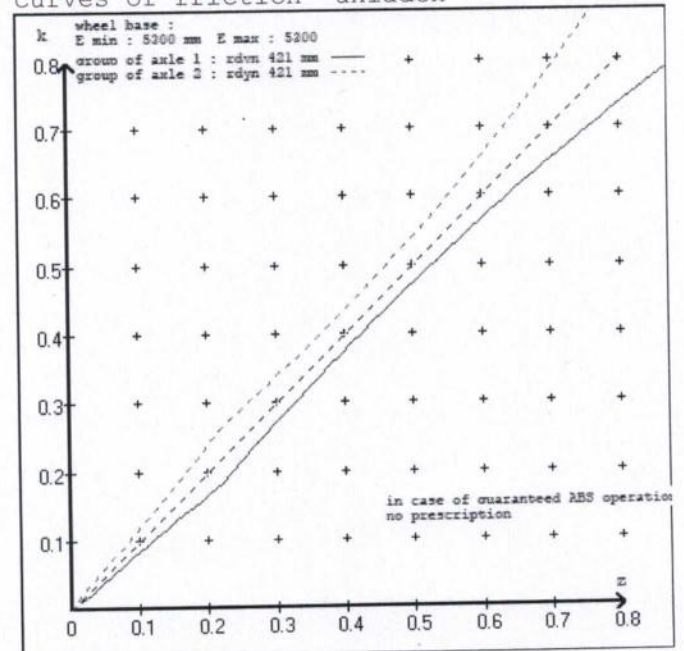
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT TRAILERS  
 trailer model : 5AFT TIPPER  
 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 TRAILERS  
 trailer model : 5AFT TIPPER  
 trailer type : 5-axle-full-trailer  
 brake calculation no. : TP 51817A

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	1670	to be	2.4	8000	to be	0.4	1.5	6.5
2	1670	entered by the vehicle manufact.	2.4	8000	entered by the vehicle manufact.	0.4	1.5	6.5
3	1150		1.4	6350		0.3	1.6	4.3
4	1150		1.4	6350		0.3	1.6	4.3
5	1150		1.4	6350		0.3	1.6	4.3

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	axle load	axle load	axle load	axle load
pcyl	pcyl	pcyl	pcyl	pcyl
1670	1670	1150	1150	1150
2.4	2.4	1.4	1.4	1.4
2170	2170	1650	1650	1650
2.7	2.7	1.7	1.7	1.7
2670	2670	2150	2150	2150
3.0	3.0	2.0	2.0	2.0
3170	3170	2650	2650	2650
3.4	3.4	2.2	2.2	2.2
3670	3670	3150	3150	3150
3.7	3.7	2.5	2.5	2.5
4170	4170	3650	3650	3650
4.0	4.0	2.8	2.8	2.8
4670	4670	4150	4150	4150
4.3	4.3	3.1	3.1	3.1
5170	5170	4650	4650	4650
4.7	4.7	3.4	3.4	3.4
8000	8000	6350	6350	6350
6.5	6.5	4.3	4.3	4.3

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 = 25.9 % Fe
axle 2	(rdyn 421 mm)	T = 25.9 % Fe
axle 3	(rdyn 421 mm)	T = 17.1 % Fe
axle 4	(rdyn 421 mm)	T = 17.1 % Fe
axle 5	(rdyn 421 mm)	T = 17.1 % 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 = 7564 N
axle2	ThA = 7564 N
axle3	ThA = 4085 N
axle4	ThA = 4085 N
axle5	ThA = 4085 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 = 44727 N
axle 2	(rdyn 421 mm)	T = 44727 N
axle 3	(rdyn 421 mm)	T = 24161 N
axle 4	(rdyn 421 mm)	T = 24161 N
axle 5	(rdyn 421 mm)	T = 24161 N

	basic test	type III
	of subject	(calculated)
	trailer (E)	residual
braking rate of the vehicle		(hot)braking
(item 4.3.2 to appendix 2 to annex 11)	0.60	0.47
required braking rate		>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)		>= 0,6*E (0.36)

axle 1	(rdyn 421 mm)	T = 44727 N
axle 2	(rdyn 421 mm)	T = 44727 N
axle 3	(rdyn 421 mm)	T = 24161 N
axle 4	(rdyn 421 mm)	T = 24161 N
axle 5	(rdyn 421 mm)	T = 24161 N

	basic test	type III
	of subject	(calculated)
	trailer (E)	residual
braking rate of the vehicle		(hot)braking
(item 4.3.2 to appendix 2 to annex 11)	0.60	0.47
required braking rate		>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)		>= 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.14/16	T.14/16
lever length	69	69
stat. tyre radius	401	401
	lBh in mm	
	rstat max in mm	
at a stroke of	30	30
min. force of spring brake	6160	6160
sp.brake chamber no Meritor.....	4	4
release pressure	4.8	4.8
	s in mm	
	TFZ in N	
	pLs in bar	

calculation:

ratio until road	3.9674	3.9674
$iFb = lBh \cdot \eta \cdot C \cdot rBt / (rBn \cdot rstat)$		
for rstat in mm	401	401
brake force of spring br. Tf in N	48188	48188
$Tf = (TFZ \cdot KDZ - 2 \cdot Co / lBh) \cdot iFb$		
braking rate	0.290	
zf laden		
$zf = \text{sum}(Tf) / P + 0,01$		

Test of the frictional connection required by the parking brake

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

$$\text{min Ef} = E \cdot (1 - PR/P + zferf \cdot h/E) / (1 - zferf / (fzul \cdot nf/ng))$$

$$\text{min Ef} = 4155 \text{ mm} \quad \text{for } E = 5300 \text{ mm}$$

=====

$$\text{min Ef} = 4155 \text{ mm} \quad \text{for } E = 5300 \text{ mm}$$

=====

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 = 1850 mm height of center of gravity - laden  
PR = 19050 kg maximum bogie mass - laden  
P = 35050 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	5053	
	6.5	47588	
axle 2	1.0	5053	
	6.5	47588	
axle 3	1.0		4856
	4.3		25612
axle 4	1.0		4856
	4.3		25612
axle 5	1.0		4856
	4.3		25612

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

