RONALD STUART PRATT TIRSP

JH9E20018D1C25178

HUB

Certify to Brake Rule 3.2015/2

NZHVB Rule Schedule 5

NH

Brake Cert No JH 130705
PREC Exempt No HUB13/207

GVM = 32000kg
RSS Switched on Dual tyres

EBS Control - warning lamp must illuminate when ignition switched on
Must extinguish immediately ~~CR~~ when vehicle reaches 15kph.

NH

09/08/2013

439732

NZ TRANSPORT AGENCY
WAKA KOTAHI

NATIONAL OFFICE
[illegible]
Private Bag [illegible]
Wellington 6[illegible]
New Zealand
T [illegible]
F [illegible]
www.nzta.govt.nz

Exemption: HVB13/207

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 Trailers Ltd, 5 Axle Full Trailer**
VIN/Chassis: **7A9E20018D1023178**

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 postion 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 17th day of June 2013

Jackie Hartley
Administrator (Assessments)

GOUGH Transpecs

Statement of Design Compliance

S.O.D.C. number: JH130708

For Heavy vehicle brake specification
(Schedule 5) of HV Brake Rule 32015/2

Vehicle details:

Make:	DOMETT T&T
Model:	E2001
VIN#:	7A9E20018D1023178
Chassis#:	1178
GCM (kgs):	N/A
GVM (kgs):	32000
Wheelbase (mm):	7320
Axle test report #:	TDB0855
Type:	5AFT DRUM BRAKE

Component Details:

	Front	**Rear**
Lever length (mm):	127	127
Brake chamber size:	TSE24S	TSE2430GC
Tyre size:	265 70 R 19.5	265 70 R 19.5
Drawing number: (for component reference)	1124	
Brake calculation#:	TP 50850	

I declare that I am a Heavy Vehicle Specialist Certifier – Engineer and I hold a current valid appointment. I certify that this vehicle component design and this certification comply in all respects with the Land Transport Rule: ***Vehicle Standards Compliance 2002;*** *my Deed of Appointment and applicable requirements. To the best of my knowledge the information contained in this certificate is true and correct.*

Date: 10 July 2013

LT400 No = 439732

Name: John Hirst (HVEK)
Certifier ID: JEH

I, Ron Pratt, certify that the braking system has been assembled and programmed*) to the requirements of this Design Certificate.

Signed: **Dated:** 9/8/2013

*) Programmed according to WABCO's End of Line protocol requirements where applicable and that the air suspension parameter pressures suit the suspension design.

GOUGH Transpecs

Statement of Design Compliance

S.O.D.C. number: JH130708

For Heavy vehicle brake specification
(Schedule 5) of HV Brake Rule 32015/2

Vehicle details:

Make:	DOMETT T&T
Model:	E2001
VIN#:	7A9E20018D1023178
Chassis#:	1178
GCM (kgs):	N/A
GVM (kgs):	32000
Wheelbase (mm):	7320
Axle test report #:	TDB0855
Type:	5AFT DRUM BRAKE

Component Details:

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Date: 10 July 2013

Name: John Hirst (HVEK)
Certifier ID: JEH

I; ....., certify that the braking system has been assembled and programmed*) to the requirements of this Design Certificate.

Signed: **Dated:**

*) Programmed according to WABCO's End of Line protocol requirements where applicable and that the air suspension parameter pressures suit the suspension design.

NOTICE TO VEHICLE OPERATOR

THIS VEHICLE HAS A BRAKE SYSTEM WHICH HAS BEEN DESIGNED AND FITTED IN ACCORDANCE WITH THE NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015: SCHEDULE 5.
IF THIS VEHICLE IS OPERATED IN CONJUNCTION WITH NON-CODED VEHICLES, THERE MAY BE OPERATIONAL FACTORS WHICH NEED TO BE TAKEN INTO CONSIDERATION.

PLEASE REFER TO THE CERTIFIER FOR FURTHER INFORMATION.

EXCERPT FROM NZ HEAVY VEHICLE BRAKE RULE 32015

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 the rule : and
(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 a person or organisation appointed to carry out specialist inspection and certification of heavy vehicle brakes.

10.5 **Responsibilities of manufactures and retailers**

A person may manufacture, stock, or offer for sale a brake or its components. Intended for fitting to a vehicle to be used on New Zealand roads, only if that brake or component:

(a) complies with this Rule: and
(b) does not prevent a repair to a vehicle, its structure, systems, components and equipment from complying with this Rule.

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 Land Transport Safety Authority if dissatisfied with a Compliance issue. (refer LTNZ Deed Of Appointment Para 47.4) NZTA **Helpdesk 0800 699 000**

R S Pratt (TRSP HVEK)

NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an **E**lectronic **B**rake **S**ystem.

To comply with the New Zealand Heavy Vehicle Brake RULE, 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.

NB;

If this vehicle is fitted with mechanical (spring) suspension, the load sense valving has been adjusted to suit exactly the performance of the original springs. In event of replacement being required, original equipment springs **must** be fitted to ensure correct ongoing operation. Fitment of non genuine springs can affect operation and therefore, compliance.

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

R S Pratt (TRSP HVEK)

WABCO START-UP PROTOCOL

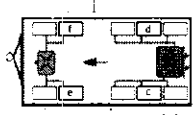
System	Trailer EBS-E	**WABCO part number**	480 102 080 0
Production date	2013-02-12	**Serial number**	897001119300N
Serial number (modulator)	000000020122		
Fingerprint Customer EOL / Customer Development / Flash Program	W033869 / 2013-08-09 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
TDB0855

HERSTELLER / MANUFACTURER / CONSTRUCTEUR	DOMETT T&T
TYP / TYPE / TYPE	5AFT C/SIDE
FAHRZEUG-IDENTNR / CHASSIS NUMBER / NUMERO DE CHASSIS	7A9E20018D1023178
BREMSBERECHNUNGS-NR / BRAKE CALCULATION NO / CALCUL DE FREINAGE NO	TP50850A
POLRADZAHNEZAHL c-d | e-f / POLE WHEEL TEETH c-d | e-f / DENTS ROUE DENTEE c-d | e-f	80 80
ABS-System / ABS-System / Systeme ABS	4S/3M
RSS Einfachbereifung / Single Tyre / Monte simple	
RSS Lenkachse / Steering axle / Essieu viseur	
RSS Zwillingsbereifung / Twin Tyre / Monte jumelee	X
Kippkritisches Fahrzeug / Critical Trailer / Vehicule critique	
Subsystems ---	I/O 24N

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

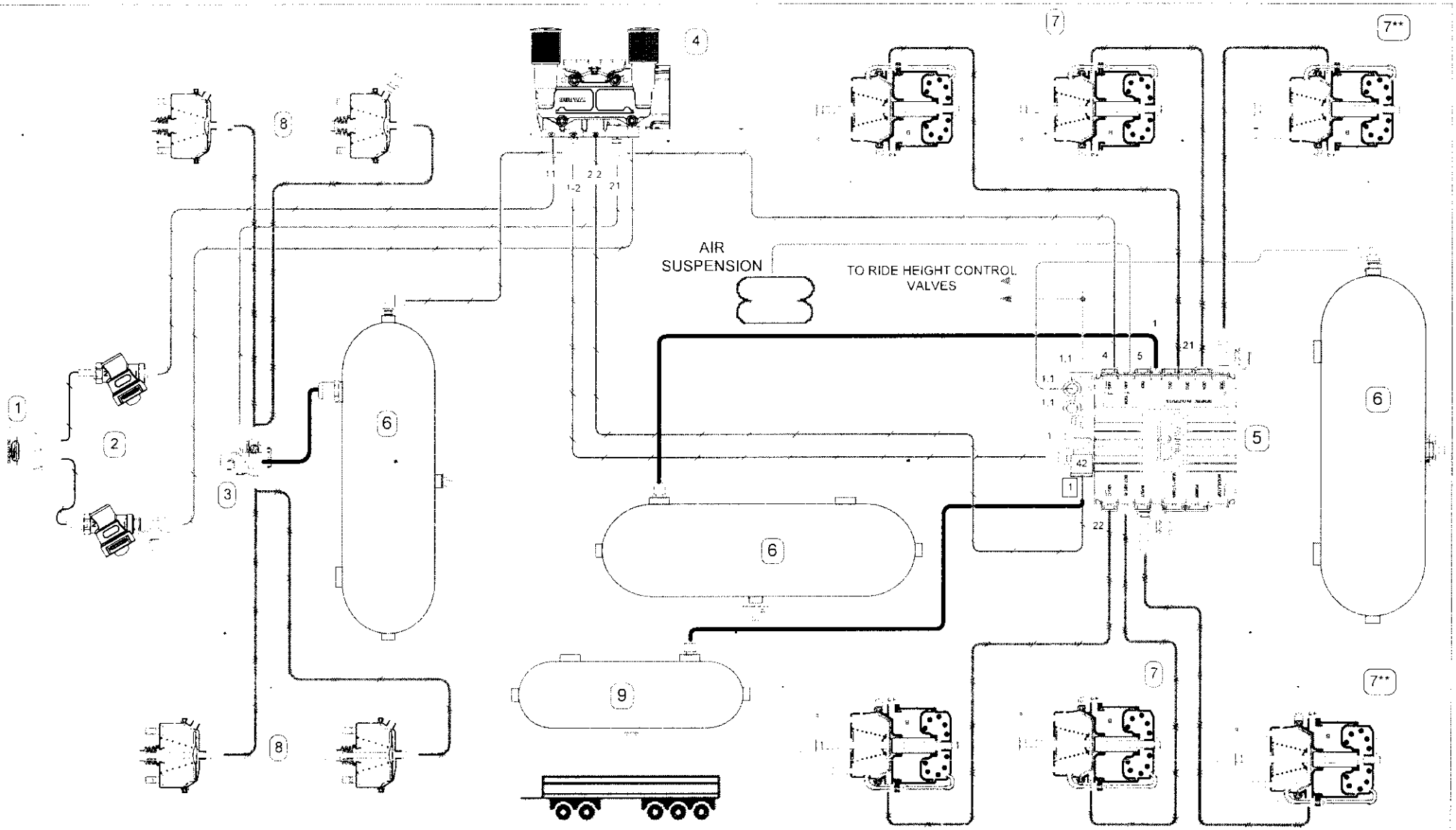


AXLE / ESSIEU	pm (bar)		6.5	pm (bar)		0.7	2.0	---	6.5			(bar)		
	(kg)			(kg)					pz		TYP / TYPE	(mm)	(mm)	1.0 TR (daN)	Pz
1	1700	0.7	2.2	7500	4.8	0.4	1.5	---	6.1	-	24	67	127	485	3964
2	1700	0.7	2.2	7500	4.8	0.4	1.5	---	6.1	-	24	67	127	485	3964
3	1400	0.5	1.7	6600	4.3	0.4	1.5	---	4.7	-	24 / 30	64	127	531	3067
4	1400	0.5	1.7	6600	4.3	0.4	1.5	---	4.7	-	24 / 30	64	127	531	3067
5	1400	0.5	1.7	6600	4.3	0.4	1.5	---	4.7	-	24	67	127	478	3001

Diagnostic memory	OK	**Warning lamp control**	OK
Parameter setting	carried out	**Stop light power supply**	Not OK
EBS pressure test	OK	**Lifting axle test**	Not tested
Redundancy test	OK	**ECAS distance sensor calibrat.on**	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**	7A9E20018D1023178
Vehicle type	5AFT C/SIDE	**Odometer reading**	0.0 km
next Service	0 km	**Trip reading**	0.0 km
Tested by	Ron Pratt		
Date	2013-08-09 9:52:21 a.m.	**Signature**	



Domett T&T

DOM5AXFULL/EBS
7A9E20018D1023178

GOUGH Transpecs

WABCO

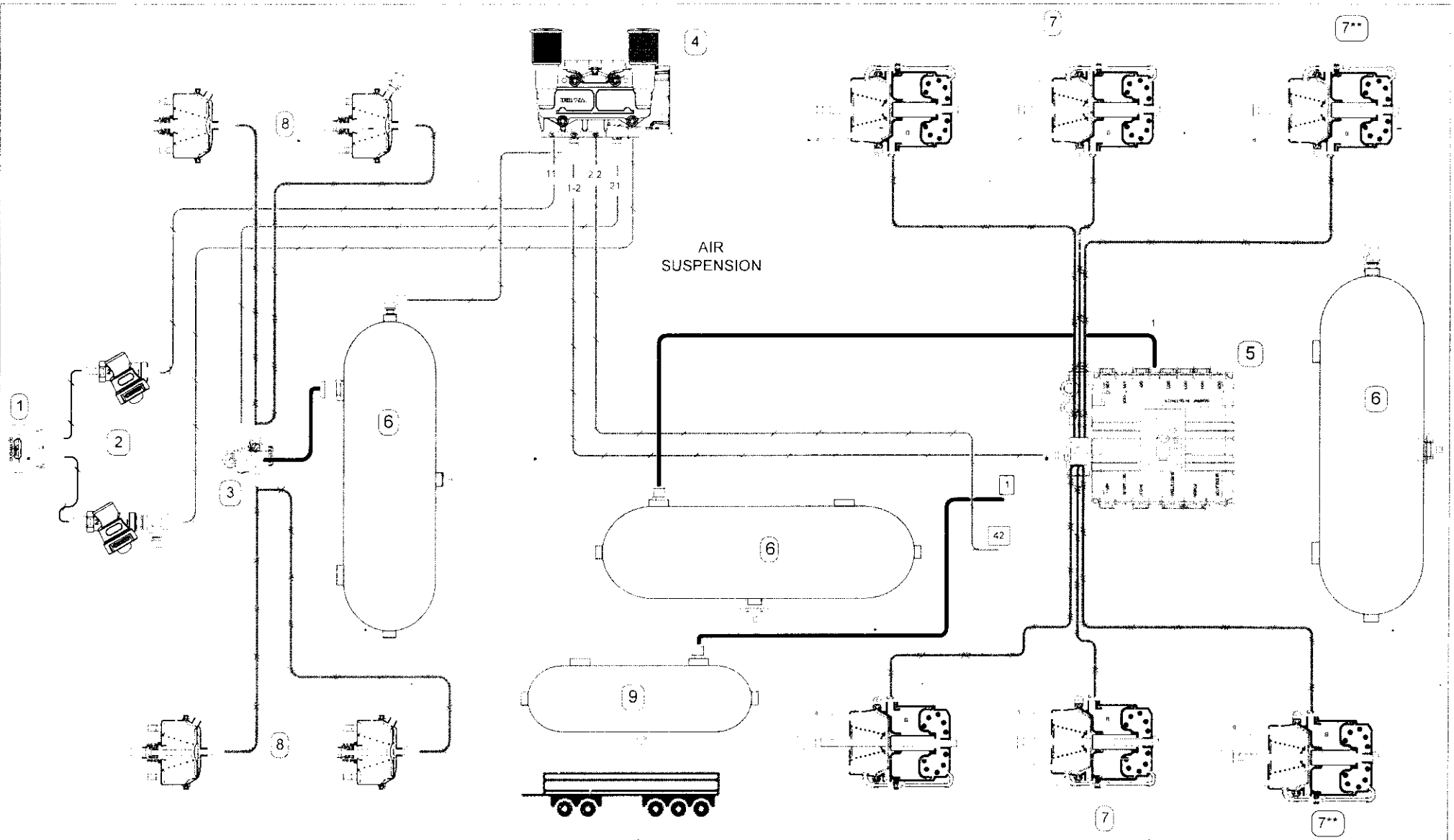
SIZE	SPEC REFERANCE	MODEL NUMBER	REV
A4	1124	E2001	1

SCALE | SERVICE LINES

ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	1	452 804 001 0	Wabco Duo-Matic coupling	9	1	9534	24.5 Ltr Air Tank
2	2	432 500 020 0	Wabco control line filter	10			
3	1	480 207 202 0	Wabco EBS 3/2 modulator	11			
4	1	971 002 903 0	Wabco PREV	12			
5	1	480 102 0.. 0	Wabco TEBS – E (premium)				
6	3	12113P	46 Ltr Air tank				
7	6	2430GC@127mm	TSE Spring brake chamber	7**	2	24S@127mm	**ALTERNATIVE
8	4	24S@127mm	TSE Service brake chamber				

PIPING LEGEND

- 3/8" Rubber
- 3/8" Rubber
- 1/2" Rubber
- 15mm Nylon
- 12mm Nylon
- 8mm Nylon
- 8mm Nylon
- 8mm Nylon



Domett T&T

GOUGH Transpecs

DOM5AXFULL/EBS
7A9E20018D1023178

WABCO

SIZE	SPEC REFERANCE	MODEL NUMBER	REV
A4	1124	E2001	1
SCALE	PARK LINES		

ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	1	452 804 001 0	Wabco Duo-Matic coupling	9	1	9534	24.5 Ltr Air Tank
2	2	432 503 020 0	Wabco control line filter	10			
3	1	480 207 202 0	Wabco EBS 3rd modulator	11			
4	1	971 002 900 0	Wabco PREV	12			
5	1	480 102 0.. 0	Wabco TEBS – E (premium)				
6	3	12113P	46 Ltr Air tank				
7	4	2430GC@127mm	TSE Spring brake chamber	7**	2	24S@127mm	**ALTERNATIVE
8	4	24S@127mm	TSE Service brake chamber				

PIPING LEGEND

- 3/8" Rubber
- 3/8" Rubber
- 1/2" Rubber
- 15mm Nylon
- 12mm Nylon
- 8mm Nylon
- 8mm Nylon
- 8mm Nylon

WABCO

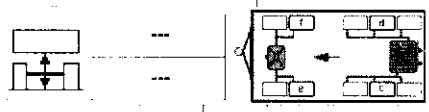
TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
TDB0855

HERSTELLER / MANUFACTURER / CONSTRUCTEUR	DOMETT T&T
TYP / TYPE / TYPE	5AFT C/SIDE
FAHRZEUG IDENTNR / CHASSIS NUMBER / NUMERO DE CHASSIS	7A9E20018D1023178
BREMSBERECHNUNGS-NR / BRAKE CALCULATION NO / CALCUL DE FREINAGE NO	TP50850A
POLRADZAHNEZAHL c-d | e-f / POLE WHEEL TEETH c-d | e-f / DENTS ROUE DENTEE c-d | e-f	80 | 80
ABS-System / ABS-System / Système ABS	4S/3M
RSS T / RSS / RSS — Einfachbereifung / Single Tyre / Monte simple	
Lenkachse / Steering axle / Essieu vireur	
Zwillingsbereifung / Twin Tyre / Monte jumelee	X
Kippkritisches Fahrzeug / Critical Trailer / Véhicule critique	

Subsystems --- I/O 24N

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



	pm (bar)		6.5	pm (bar)		0.7	2.0	---	6.5						(bar) 1.0	Pz
ACHSE / AXLE / ESSIEU	(kg)			(kg)					pz		TYP / TYPE	(mm)	(mm)	TR (daN)		
1	1700	0.7	2.2	7500	4.8	0.4	1.5	---	6.1	-	24	67	127	485	3964	
2	1700	0.7	2.2	7500	4.8	0.4	1.5	---	6.1	-	24	67	127	485	3964	
3	1400	0.5	1.7	6600	4.3	0.4	1.5	---	4.7	-	24 / 30	64	127	531	3067	
4	1400	0.5	1.7	6600	4.3	0.4	1.5	---	4.7	-	24 / 30	64	127	531	3067	
5	1400	0.5	1.7	6600	4.3	0.4	1.5	---	4.7	-	24	67	127	478	3001	

GOUGH Transpecs

P.O.Box 98-971 South Auckland Mail Centre

J.HIRST (JEH)

DATE	10-Jul-13	BRAKE SYSTEM	WABCO EBS-E
CERT. NO.	JH130708	PREV EXEMPTION	HVB13/207
VIN / CHASSIS	7A9E20018D1023178		
BRAKE CHAMBERS FRONT	24S TSE (Max stroke = 67mm)		
BRAKE CHAMBERS REAR	2430GC TSE (Max stroke = 64mm)		
SLACK LENGTH FRONT	127 mm	TYRE SIZE FRONT	265 70 R 19.5
SLACK LENGTH REAR	127 mm	TYRE SIZE REAR	265 70 R 19.5
THIS VEHICLE COMPLIES WITH THE NZ		LINING MATERIAL FRONT	ROR 685 AF
HVBR 32015/2 - SCHEDULE 5		LINING MATERIAL REAR	ROR 685 AF

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

distribution: DOMETT T&T
7A9E20018D1023178
SODC: JH130708
PREV: HVB13/207

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 (V6.13.06.12).
-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 : 5AFT C/SIDE
trailer type : 5-axle-full-trailer
remarks : air / hydraulic / VA suspension
WABCO TRAILER - EBS
TRISTOP 3+4: 24/30
265/70 R 19,5

axle 1 + 2 + 3 + 4 + 5 : Assali Stefen, B (350x200), TDB 0855 ECE,

		unladen	laden
total mass	P in kg	7600	34800
axle 1	P1 in kg	1700	7500
axle 2	P2 in kg	1700	7500
axle 3	P3 in kg	1400	6600
axle 4	P4 in kg	1400	6600
axle 5	P5 in kg	1400	6600
wheel base	E in mm	7320 - 7320	
centre of gravity height	h in mm	1090	2050

		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		BC 0029.0	BC 0029.0	BC 0051.0	BC 0051.0	BC 0029.0
brake chamber manufacturer		WABCO	WABCO	WABCO	WABCO	WABCO
chamber size		24	24	24/30	24/30	24
lever length	lBh in mm	127	127	127	127	127
brake factor	[-]	9.10	9.10	9.10	9.10	9.10
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	25.0	25.0	25.0	25.0	25.0
calculation:						
chamber pressure(rdyn min)	pH at z=22,5%bar	2.3	2.3	2.1	2.1	2.1
chamber pressure(rdyn max)	pH at z=22,5%bar	2.3	2.3	2.1	2.1	2.1
chamber press.(servo)	pcha at pm6,5bar bar	6.1	6.1	4.7	4.7	4.7
piston force	ThA at pm6,5bar N	8554	8554	6649	6649	6509
brake force(rdyn min)	T lad. at pm6,5bar N	46619	46619	36069	36069	35301
brake force(rdyn max)	T lad. at pm6,5bar N	46619	46619	36069	36069	35301
brake force within 1 % rolling friction proportion	%	19.9	19.9	20.2	20.2	19.9

braking rate z laden 0.588 for rdyn min
z = sum (TR)/PRmax 0.588 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: WABCO 423 106 90. 0 / 423 106 96x 0

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: WABCO 423 106 90. 0 / 423 106 96x 0

axle 3:
  valve 1: 971 002 ... 0 WABCO
  EBS emergency valve

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

  brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

axle 4:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

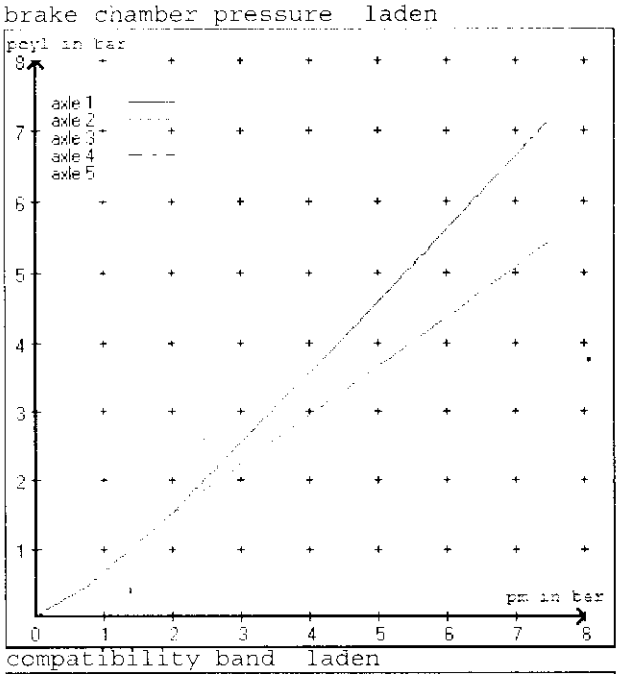
axle 5:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

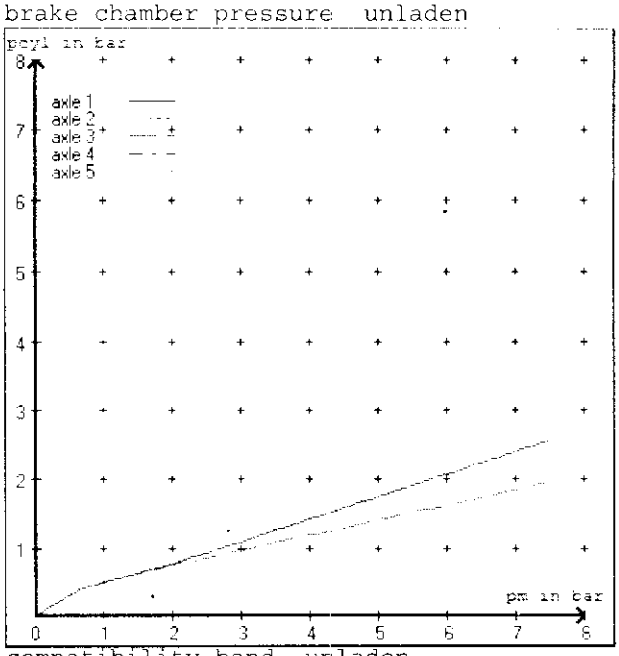
brake cylinder: WABCO 423 106 90. 0 / 423 106 96x 0

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	2.6	2.6	2.6
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	0.8	0.8	0.8

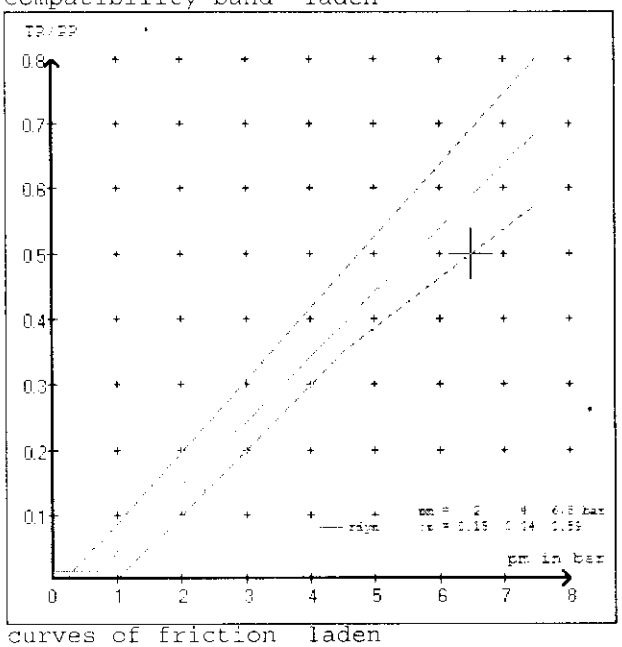
brake chamber pressure laden



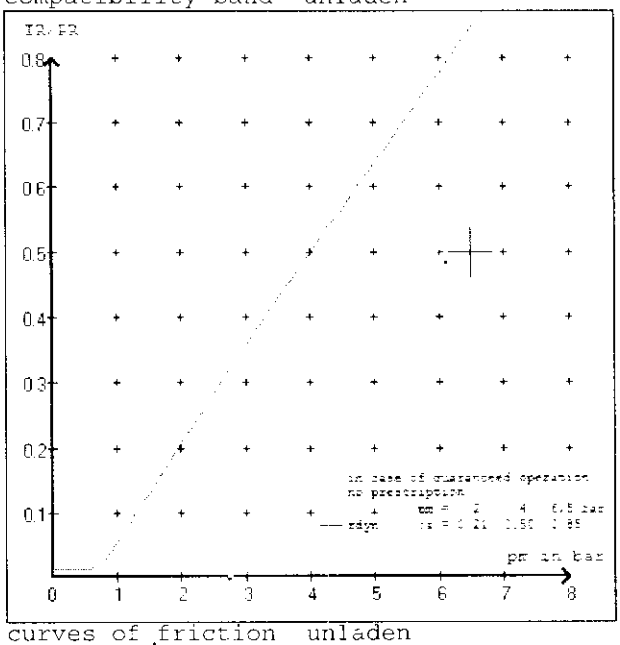
brake chamber pressure unladen



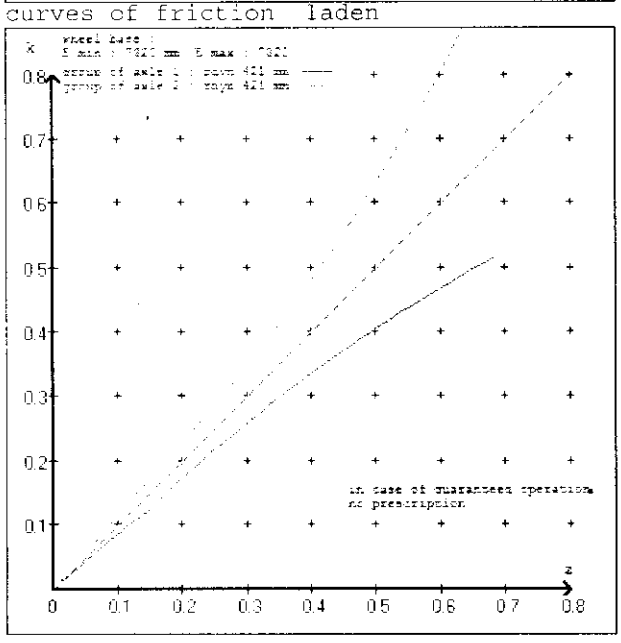
compatibility band laden



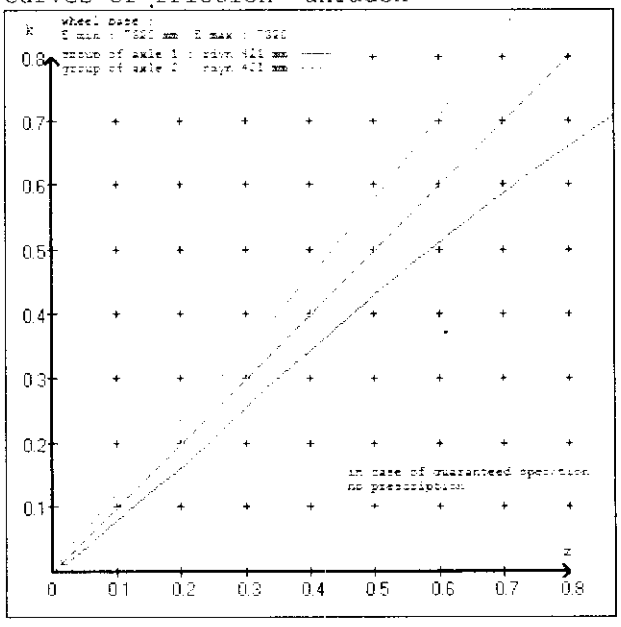
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT T&T
trailer model : 5AFT C/SIDE
trailer type : 5-axle-full-trailer

brake chamber and lever length :

axle 1 :	2 x type/diameter	24	(WABCO)	lever length 127 mm
axle 2 :	2 x type/diameter	24	(WABCO)	lever length 127 mm
axle 3 :	2 x type/diameter	24/30	(WABCO)	lever length 127 mm
axle 4 :	2 x type/diameter	24/30	(WABCO)	lever length 127 mm
axle 5 :	2 x type/diameter	24	(WABCO)	lever length 127 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 T&T
trailer model : 5AFT C/SIDE
trailer type : 5-axle-full-trailer
brake calculation no. : TP 50850A

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	1700	to be	2.2	7500	to be	0.4	1.5	6.1
2	1700	entered by	2.2	7500	entered by	0.4	1.5	6.1
3	1400	the vehicle	1.7	6600	the vehicle	0.4	1.5	4.7
4	1400	manufact.	1.7	6600	manufact.	0.4	1.5	4.7
5	1400		1.7	6600		0.4	1.5	4.7

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
1700	2.2	1700	2.2	1400	1.7	1400	1.7	1400	1.7
2200	2.5	2200	2.5	1900	2.0	1900	2.0	1900	2.0
2700	2.9	2700	2.9	2400	2.3	2400	2.3	2400	2.3
3200	3.2	3200	3.2	2900	2.6	2900	2.6	2900	2.6
3700	3.5	3700	3.5	3400	2.9	3400	2.9	3400	2.9
4200	3.9	4200	3.9	3900	3.1	3900	3.1	3900	3.1
4700	4.2	4700	4.2	4400	3.4	4400	3.4	4400	3.4
5200	4.6	5200	4.6	4900	3.7	4900	3.7	4900	3.7
7500	6.1	7500	6.1	6600	4.7	6600	4.7	6600	4.7

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

axle 1 : reference axle: Assali StefTM / LM / LCe brake lining: ROR 685 AF
test report : TDB 0855 ECE date : 20110721
axle 2 : reference axle: Assali StefTM / LM / LCe brake lining: ROR 685 AF
test report : TDB 0855 ECE date : 20110721
axle 3 : reference axle: Assali StefTM / LM / LCe brake lining: ROR 685 AF
test report : TDB 0855 ECE date : 20110721
axle 4 : reference axle: Assali StefTM / LM / LCe brake lining: ROR 685 AF
test report : TDB 0855 ECE date : 20110721
axle 5 : reference axle: Assali StefTM / LM / LCe brake lining: ROR 685 AF
test report : TDB 0855 ECE date : 20110721

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 = 22.0 % Fe
axle 2	(rdyn 421 mm)	T = 22.0 % Fe
axle 3	(rdyn 421 mm)	T = 18.7 % Fe
axle 4	(rdyn 421 mm)	T = 18.7 % Fe
axle 5	(rdyn 421 mm)	T = 18.1 % Fe

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

axle 1	(sp = 71 mm)	s = 54 mm
axle 2	(sp = 71 mm)	s = 54 mm
axle 3	(sp = 63 mm)	s = 54 mm
axle 4	(sp = 63 mm)	s = 54 mm
axle 5	(sp = 70 mm)	s = 54 mm

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

axle1	ThA = 8554 N
axle2	ThA = 8554 N
axle3	ThA = 6649 N
axle4	ThA = 6649 N
axle5	ThA = 6509 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 = 38587 N
axle 2	(rdyn 421 mm)	T = 38587 N
axle 3	(rdyn 421 mm)	T = 29870 N
axle 4	(rdyn 421 mm)	T = 29870 N
axle 5	(rdyn 421 mm)	T = 29237 N

	basic test of subject trailer (E)	type III (calculated) residual (hot)braking
braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.59	0.49
required braking rate (items 1.5.3 and 1.7.2 to annex 11)		>= 0,4 and >= 0,6*E (0.35)

axle 1	(rdyn 421 mm)	T = 38587 N
axle 2	(rdyn 421 mm)	T = 38587 N
axle 3	(rdyn 421 mm)	T = 29870 N
axle 4	(rdyn 421 mm)	T = 29870 N
axle 5	(rdyn 421 mm)	T = 29237 N

	basic test of subject trailer (E)	type III (calculated) residual (hot)braking
braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.59	0.49
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

		axle 3	axle 4
no of TRISTOP-actuators per axle line	KDZ	2	2
TRISTOP-actuator type		24/30	24/30
lever length	lBh in mm	127	127
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	6360	6360
sp.brake chamber no 925		376 005 0	376 005 0
sp.brake chamber no 925		376 2.. 0	376 2.. 0
release pressure	pLs in bar	4.9	4.9

calculation:

ratio until road		2.8820	2.8820
iFb = lBh*Eta*C*rBt/(2*rBn*rstat)			
for rstat	in mm	401	401
brake force of spring br. Tf	in N	35525	35525
Tf = (TFZ*KDZ-2*Co/lBh)*iFb			

braking rate zf laden 0.218
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 = 5320 mm for E = 7320 mm
==========
min Ef = 5320 mm for E = 7320 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	=	2050 mm	height of center of gravity - laden
PR	=	19800 kg	maximum bogie mass - laden
P	=	34800 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 6.1	4856 39642	
axle 2	1.0 6.1	4856 39642	
axle 3	1.0 4.7		5313 30671
axle 4	1.0 4.7		5313 30671
axle 5	1.0 4.7		4781 30018

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24/	24/	24/30	24/30	24/
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	82	82	64	64	82
Lever length = ...mm Hebellänge = ...mm	127	127	127	127	127