NZ TRANSPORT AGENCY
WAKA KOTAHI

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)*: RON PRATT

ID: TRSP

Vehicle registration *(optional)*:

VIN/chassis number: 7A9E20010G1023521

Make: DOMETT TRAILERS

Component being certified:

- [ ] Chassis
- [ ] Load anchorage
- [ ] Log bolsters
- [ ] Towing connection
- [X] Brakes
- [ ] SRT
- [ ] PSV stability
- [ ] PSV rollover
- [ ] Swept path
- [ ] PBS

Model *(optional)*:

Certification category: HVEK

Description of work: CERTIFY TO SCHEDULE 5 OF LTR 32015/3

Code/standard/rule certified to: LTR 32015/3

Component load rating(s): 32 Tonnes GVM (35 Tonnes (Group ratings)) RSS Switched on dual tires

General drawing number(s): N/A

Supporting documents:
BRAKE CODE CERTIFICATE JH160903
BRAKE CALCULATION # TP51444

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)*: N/A

or Hubodometer reading *(whichever comes first)*:

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: R L Pratt

Inspector's name *(PRINT IN CAPS)*:

ID number:

Date: 10-Sep-16

Number: 564970

CoF vehicle inspector ID:

CoF vehicle inspector signature:

Date:

All fields are mandatory unless otherwise stated.

GOUGH Transpecs

Statement of Design Compliance

S.O.D.C. number: JH160903

For Heavy vehicle brake specification
(Schedule 5) of HV Brake Rule 32015/3

Vehicle details:

Make:	DOMETT TRAILERS
Model:	E2001
VIN#:	7A9E20010G1023521
Chassis#:	1521
GCM (kgs):	N/A
GVM (kgs):	32,000
Wheelbase (mm):	7500
Axle test report #:	TDB 0749 (SAF 2619 Air bag)
Type:	5AFT DISC BRAKE

Component Details:

	Front	**Rear**
Lever length (mm):	69	69
Brake chamber size:	TSE:20HSCLD65	TSE:1416HTLD64 (14HSCLD64)
Tyre size:	265 70 R 19.5	265 70 R 19.5
Drawing number: (for component reference)	1521	
Brake calculation#:	TP 51444	
Brake system:	WABCO TEBS-E (Multi-volt)	

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 Sept 2016

Name: John Hirst (HVEK)
Certifier ID: JEH

LT 400 No = 564970

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

Signed: **Dated:** 12-9-2016

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

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HEAVY VEHICLE BRAKE RULE
32015/3 WORKSHEET
(PROCEDURE DOCUMENTATION SHEET-PDS)
&
CONFIRMATION OF COMPLIANCE

CERTIFICATE NO. JH160903

CUSOMER NAME DOMETT TRUCK & TRAILER

CUSTOMER ORDER NO. 4633 **DATE RECEIVED** 10-Sep-16

VEHICLE TYPE CURTAINSIDE

VIN/ CHASSIS NO. 7A9E20010G1023521

BRIEF SPECIFICATION AS CERTIFIED TO SCHEDULE 5

BRAKE VALVES	MAKE	TYPE
PRIMARY RELAY	WABCO	480 102 080 0
SECONDARY RELAY	WABCO	480 207 202 0
YARD RELEASE VALVE	WABCO	971 002 900 0
PARK BRAKE VALVE	WABCO	971 002 900 0

SUSP. VALVES [WABCO]	FRONT	REAR
CONTROL	441 044 101 0	N/A
DISTANCE SENSOR	464 008 011 0	464 008 011 0

OTHER VALVES:

MAKE:	WABCO	TYPE:	461 513 002 0	SETTING:	5.5 Bar
MAKE:		TYPE:		SETTING:	
MAKE:		TYPE:		SETTING:	
MAKE:		TYPE:		SETTING:	

BRAKE CHAMBERS:	AXLE 1 & 2	AXLE 3 & 4	AXLE 5
MAKE	TSE	TSE	TSE
SIZE	20HSCLD65	1416HTLD64	14HSCLD64
MAX STROKE (mm)	65	64	64
SLACK LENGTH (mm)	69	69	69
DRUM TYPE:	N/A	N/A	N/A
		OR	
BRAKE CALIPER:	SBW 1937	SBW 1937	SBW 1937

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 #: TP51444

COMMENTS:

EBS, SPECIAL CONDITIONS APPLY. SEE INSTRUCTIONS ON LT400 #

SALES ORDER #: SO484095 **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:

BRAKE CALCULATION TP51444 USES THE TSE1424HTLD TO DETERMINE THE SERVICE BRAKE PERFORMANCE & THE TSE1616HTLD64 TO MEASURE THE PARK BRAKE PERFORMANCE OF AXLES 3 & 4. THE ACTUAL CHAMBER USED (TSE1416HTLD64) IS NOT AVAILABLE IN THE WABCO BRAKE CALCULATOR.

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 32015/3, SCHEDULE 5.

DATE: 10-Sep-16 **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 32015/3 SCHEDULE 5.

DATE: 12/09/2016 **SIGNED:**

NAME: Kaidan Clarke

CERTIFIERS ID: KLC **POSITION:** HVEK

PHONE (BUS): 021947707 **FAX (BUS):**

COMMENTS:
CT400 - 564970

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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**

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

GOUGH Transpecs

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 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.

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

GOUGH Transpecs

P.O.Box 98-971

South Auckland Mail Centre

John Hirst (JEH)

DATE:	10-Sep-16	BRAKE SYSTEM:	WABCO T- EBS E
CERT. NO:	JH160903	BRAKE CALCULATION #:	TP51444
VIN / CHASSIS:	7A9E20010G1023521		

	Make	Model	Max stroke (mm)
BRAKE CHAMBERS Ax 1 & 2	TSE	20HSCLD65	65
BRAKE CHAMBERS Ax 3 & 4	TSE	1416HTLD64	64
BRAKE CHAMBERS Ax 5	TSE	14HSCLD64	64
SLACK LENGTH FRONT (mm):	69	TYRE SIZE FRONT:	265 70 R 19.5
SLACK LENGTH REAR (mm):	69	TYRE SIZE REAR:	265 70 R 19.5
		LINING MATERIAL FRONT:	JURID 539
		LINING MATERIAL REAR:	JURID 539

THIS VEHICLE COMPLIES WITH THE NZ

HEAVY VEHICLE BRAKE RULE 32015/3, SCHEDULE 5

PDS INFORMATION REQUIRED FOR FULL TRAILERS TO COMPLY WITH THE NZ HVBR 32015/3

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GOUGH TWL TRANSPORT WHOLESALE

CLIENT

BUILDER:	DOMETT TRUCK & TRAILER
ADDRESS:	70 WHAKAKAKE STREET, TAURANGA
END USER:	GT NICHOLS

VEHICLE DETAILS

VEHICLE TYPE:	CURTAINSIDE	**CERT #**	JH160903
YEAR:	2016	**MODEL:**	E2001
MAKE:	DOMETT	**CHASSIS #:**	1521
VIN #:	7A9E20010G1023521		
GVM (t):	32	**REGO:**	N/A
BODY TYPE	1		

GROUP RATINGS (t)	**FRONT**	**REAR**
	16	19

WHEEL BASE (M):	7.5	

	DECK HEIGHT (M)	**MAX HEIGHT (M)**
	1.09	4.25
COG (M):	2.069	

	FRONT	**REAR**	**TOTAL**
TARE (t):	3.14	4.08	7.22

	FRONT	**REAR**
TYRE SIZE:	265 70 R 19.5	265 70 R 19.5
AXLE SPACING (M):	1.31	2.51

	MAKE	**MODEL**	**TEST REPORT**
AXLE:	SAF INTRADISC	DISC	TDB0749

BRAKE DETAILS

	AXLE 1 & 2	**AXLE 3 & 4**	**AXLE 5**
AXLE SERIAL NUMBERS:			
1	PLEASE COMPLETE		
2	PLEASE COMPLETE		
3	PLEASE COMPLETE		
4	PLEASE COMPLETE		
5	PLEASE COMPLETE		

BRAKE DETAILS

CHAMBERS	AXLE 1 & 2	AXLE 3 & 4	AXLE 5
BRAND:	TSE	TSE	TSE
SIZE/MODEL:	20HSCLD65	1416HTLD64	14HSCLD64
MAX STROKE (mm):	65	64	64
SPRINGBRAKE FORCE (Kn):	N/A	6.16	N/A
HOLDOFF PRESSURE (Bar):	N/A	4.5	N/A
SLACK LENGTH (mm):	69	69	69
BRAKE CALIPER:	SBW 1937	SBW 1937	SBW 1937
LINING MATERIAL:	JURID 539	JURID 539	JURID 539

BRAKE VALVES	MAKE	PART#	CRACK / SETTING
SERVICE RELAY 1ST:	WABCO	480 102 080 0	N/A
SERVICE RELAY 2ND:	WABCO	480 207 202 0	N/A
RATIO VALVE:	N/A	N/A	N/A
YARD RELEASE:	WABCO	971 002 900 0	N/A
			ANTI-COMPOUND
PARK BRAKE	WABCO	971 002 900 0	YES

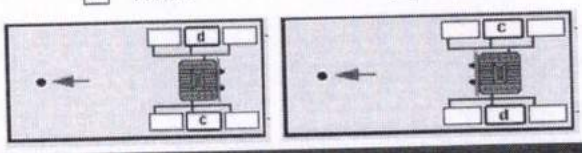
HEIGHT CONTROL: ☐ Electronic ☑ Pneumatic

SMART BOARD:	446 192 110 0
LIFT AXLE:	N/A
ETASC:	N/A

SUSPENSION TYPE: ☐ Reactive ☑ Non-Reactive

MAKE:	SAF	SAF
MODEL:	NG-IU28-ZI9-19W-68A	NG-IU28-ZI9-19W-68A
BELLOW SIZE (mm):	300 (2619V)	300 (2619V)

ECU DIRECTION: ☑ FRONT ☐ REAR



AIR TANKS

AIR TANKS STANDARD:	SAE J10 / EN 286-2	
BRAKE CAPACITY (Ltr):	46	71
SUSP. CAPACITY (Ltr):	N/A	46
AUXILLARY/ PROTECTED:	YES (VIA P.E.M. 461/513/002/0)	

AIR LINES & TEST POINTS

TEST POINTS			
FRONT CHAMBER:	YES	**RATIO IN (Bar):**	N/A
REAR CHAMBER:	YES (@ECU)	**RATIO OUT (Bar):**	N/A
TANK:	YES (@ ECU)	**CONTROL LINE:**	YES
DUOMATIC COLOUR CODED:	YES		
CLEARED ON SEMI:	N/A		
SENSORS ON AXLES:	2 + 4		

ELECTRONIC HEIGHT SENSOR CALIBRATION

	TIMER TICKS: F / R	MILLIMETRE: F / R
UPPER LEVEL:	N/A	N/A
NORMAL LEVEL:	N/A	N/A
LOWER LEVEL:	N/A	N/A

	MODULATOR 2.1	MODULATOR 2.2	RELAY VALVE
RESPONSE TIME (m/s):			

DECLARATION

I UNDERSTAND AND DECLARE THAT I AM THE CERTIFIER IDENTIFIED BELOW AND HOLD A CURRENT VALID APPOINTMENT. I CERTIFY THAT AT THE TIME OF INSPECTION THE ABOVE MENTIONED VEHICLE COMPONENT DESIGN AND THIS CERTIFICATION COMPLIES IN ALL RESPECTS WITH THE LAND TRANSPORT RULE VEHICLE STANDARDS COMPLIANCE 2002 AND MY DEED OF APPOINTMENT. TO THE BEST OF MY KNOWLEDGE THE INFORMATION CONTAINED IN THIS CERTIFICATE IS TRUE AND CORRECT.

NEW ZEALAND HEAVY VECHLE BRAKE RULE 32015 /3, SCHEDULE 5.

DATE: 10-Sep-16

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

SODC SIGNED: _____ **NAME & ID:** Ron Pratt

Kaidan Clarke

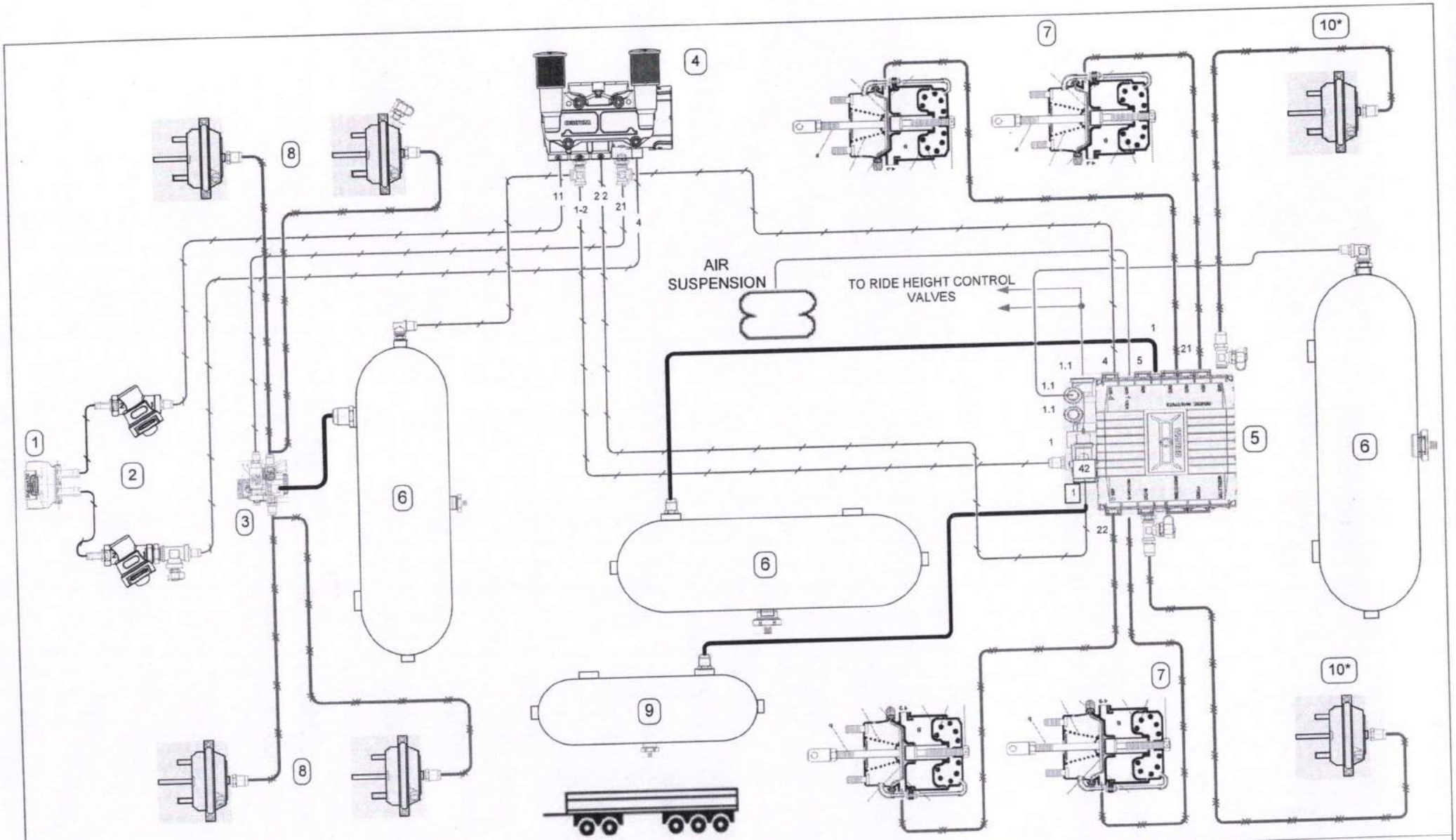
KLC

PHONE (BUS): (09) 980 7300

FAX: (09) 980 7306

POSTAL ADDRESS: P.O. Box 98-971, Manukau 2241

New Zealand



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WABCO

Domett T&T

DOM/5AXLE/TRAILERKIT
7A9E20010G1023521

SIZE	SPEC REFERANCE	MODEL NUMBER	REV
A4	1521	E2001	1

SCALE | SERVICE LINES

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	452 804 001 0	WABCO Duo-Matic coupling
2	2	432 500 020 0	WABCO control line filter
3	1	480 207 202 0	WABCO EBS 3rd modulator
4	1	971 002 900 0	WABCO PREV
5	1	480 102 080 0	WABCO TEBS – E (premium)
6	3		46 Ltr Air tank
7	6	1416HTLD64	TSE Spring brake chamber
8	4	20HSCLD65	TSE Service brake chamber
9	1		25 Ltr Air Tank
10*	2	14HSCLD64	TSE SERVICE BRAKE CHAMBER
11			
12			

PIPING LEGEND:

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

WABCO START-UP PROTOCOL

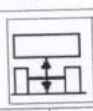
System	Trailer EBS-E	**WABCO part number**	480 102 084 0
Production date	2016-05-13	**Serial number**	437002401700E
Serial number (modulator)	000000000885		
Fingerprint Customer EOL / Customer Development / Flash Program	W511289 / 2016-09-12 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

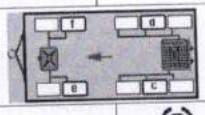
WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
TDB0749

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT TRAILERS
TYP TYPE TYPE	5AFT C/SIDE
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E20010G1023521
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51444A
POLRADZÄHNEZAHL 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	—
RSS RSS RSS — Zwillingsbereifung Twin Tire Monte jumelée	X
Lenkachse Steering axle Essieu virreur	—
Kippkritisches Fahrzeug Critical Trailer Véhicule critique	—
Subsystems	SB / 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)		0.8	2.0	---	6.5					(bar) 1.0	Pz
ACHSE AXLE ESSIEU	(kg)			(kg)					pz		TYP TYPE	(mm)	(mm)	TR (daN)	
1	1600	0.6	1.6	8000	5.0	0.4	1.4	---	5.8	-	20	65	69	505	4217
2	1600	0.6	1.6	8000	5.0	0.4	1.4	---	5.8	-	20	65	69	505	4217
3	1400	0.4	1.4	6400	4.0	0.3	1.4	---	4.9	-	14 / 16	64	69	485	2939
4	1400	0.4	1.4	6400	4.0	0.3	1.4	---	4.9	-	14 / 16	64	69	485	2939
5	1400	0.4	1.4	6400	4.0	0.3	1.4	---	4.9	-	14	64	69	485	2939

TEBS-E

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**	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**	7A9E20010G1023521
Vehicle type	5AFT C/SIDE	**Odometer reading**	0.0 km
next Service	0 km	**Trip reading**	0.0 km
Tester	kaidan clarke		
Date	2016-09-12 9:02:38 a.m.	**Signature**	

WABCO

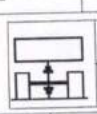
TRAILER EBS-E

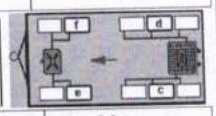
GGVS/ADR TUEH TB 2007 - 019.0X
TDB0749

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT TRAILERS
TYP TYPE TYPE	5AFT C/SIDE
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E20010G1023521
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51444A

POLRADZÄHNEZAHL 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 vireur		
Zwillingsbereifung Twin Tire Monte jumelée	X	Kippkritisches Fahrzeug Critical Trailer Véhicule critique		
Subsystems	SB		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)		0.8	2.0	---	6.5					(bar) 1.0	Pz
ACHSE AXLE ESSIEU	(kg)			(kg)					pz		TYP TYPE	(mm)	(mm)	TR (daN)	
1	1600	0.6	1.6	8000	5.0	0.4	1.4	---	5.8	-	20	65	69	505	4217
2	1600	0.6	1.6	8000	5.0	0.4	1.4	---	5.8	-	20	65	69	505	4217
3	1400	0.4	1.4	6400	4.0	0.3	1.4	---	4.9	-	14 / 16	64	69	485	2939
4	1400	0.4	1.4	6400	4.0	0.3	1.4	---	4.9	-	14 / 16	64	69	485	2939
5	1400	0.4	1.4	6400	4.0	0.3	1.4	---	4.9	-	14	64	69	485	2939

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

distribution: DOMETT TRAILERS
7A9E20010G1023521
SODC: JH160903
LT400: TRSP ... ...

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 20.04.2016

vehicle manufacturer: DOMETT TRAILERS
trailer model : 5AFT C/SIDE
trailer type : 5-axle-full-trailer
remarks : air / hydraulic / VA suspension
WABCO TRAILER - EBS
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	7400	35200
axle 1	P1 in kg	1600	8000
axle 2	P2 in kg	1600	8000
axle 3	P3 in kg	1400	6400
axle 4	P4 in kg	1400	6400
axle 5	P5 in kg	1400	6400
wheel base	E in mm	7500 - 7500	
centre of gravity height	h in mm	1090	2069

		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	2.1	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	5.8	5.8	4.9	4.9	4.9
piston force ThA at pm6,5bar	N	6702	6702	4686	4686	4686
brake force(rdyn min)T lad. at pm6,5bar	N	50778	50778	35386	35386	35386
brake force(rdyn max)T lad. at pm6,5bar	N	50778	50778	35386	35386	35386
brake force within 1 % rolling friction proportion	%	22.3	22.3	18.5	18.5	18.5

braking rate z laden
z = sum (TR)/PRmax

0.602 for rdyn min
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

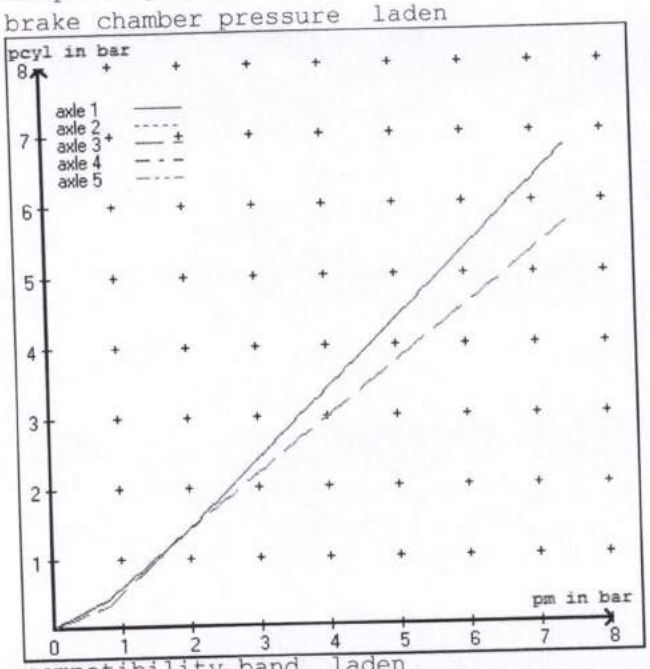
axle 5:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

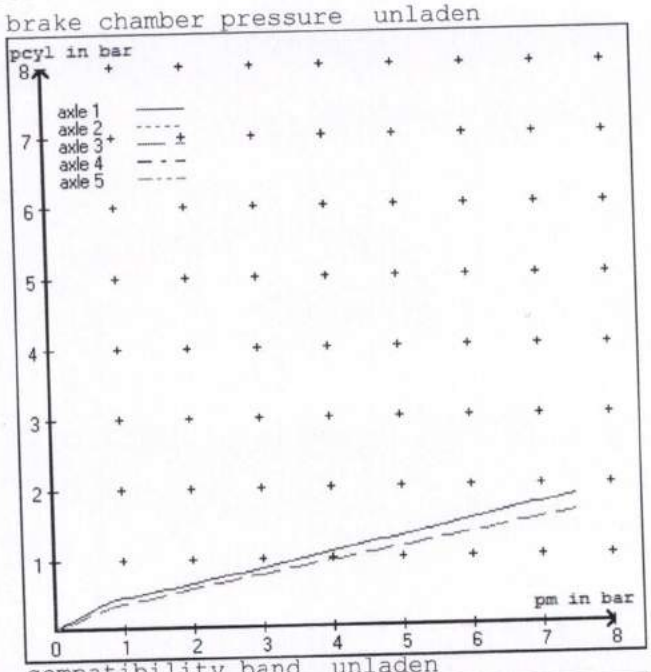
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.6 bar =>	pcha in bar :	3.0	3.0	2.6	2.6	2.6	
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	

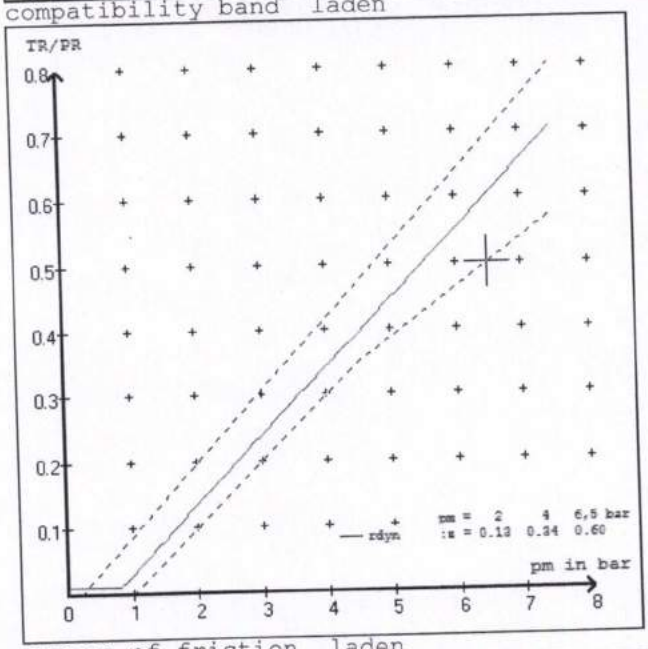
brake chamber pressure laden



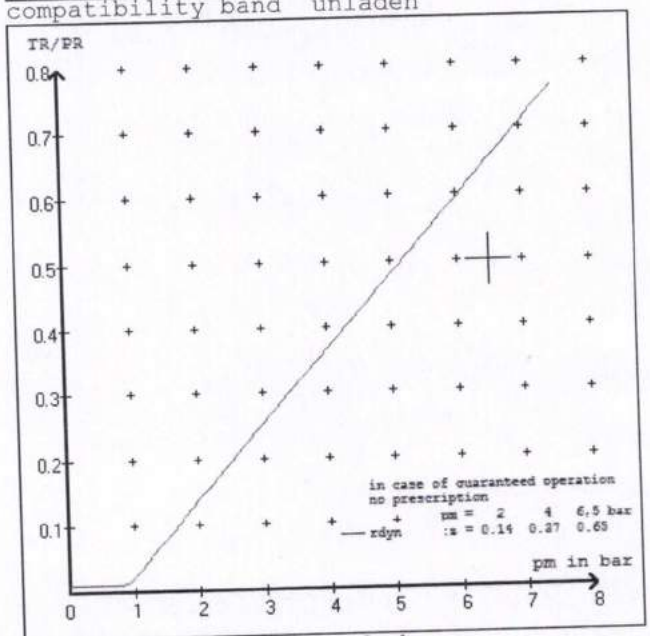
brake chamber pressure unladen



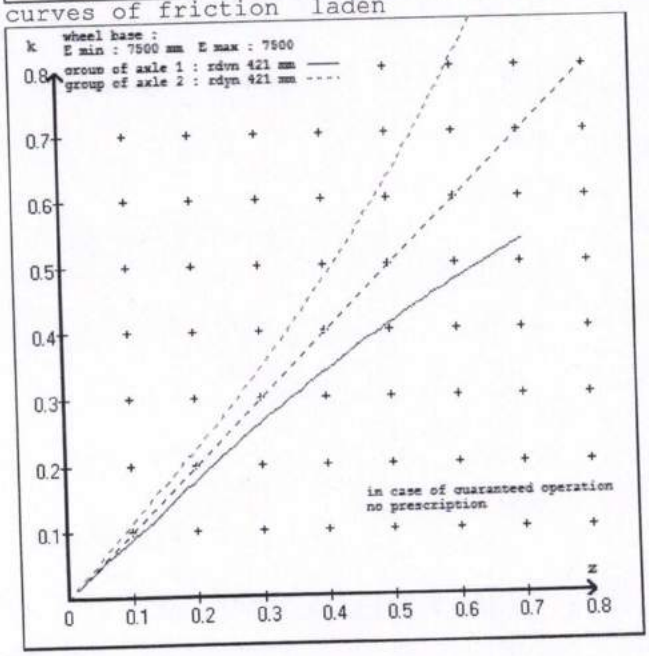
compatibility band laden



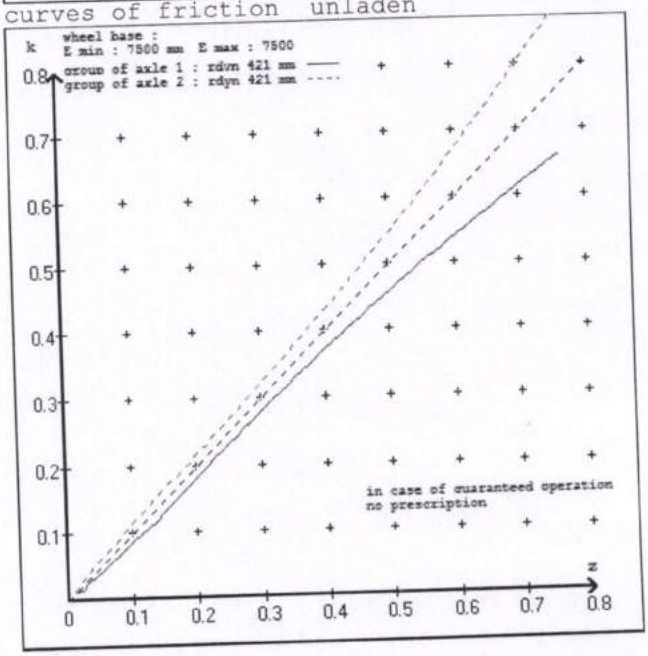
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT TRAILERS
trailer model : 5AFT C/SIDE
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 C/SIDE
trailer type : 5-axle-full-trailer
brake calculation no. : TP 51444A

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	1600	to be entered by the vehicle manufact.	1.6	8000	to be entered by the vehicle manufact.	0.4	1.4	5.8
2	1600		1.6	8000		0.4	1.4	5.8
3	1400		1.4	6400		0.3	1.4	4.9
4	1400		1.4	6400		0.3	1.4	4.9
5	1400		1.4	6400		0.3	1.4	4.9

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
1600	1.6	1600	1.6	1400	1.4	1400	1.4	1400	1.4
2100	1.9	2100	1.9	1900	1.8	1900	1.8	1900	1.8
2600	2.3	2600	2.3	2400	2.1	2400	2.1	2400	2.1
3100	2.6	3100	2.6	2900	2.5	2900	2.5	2900	2.5
3600	2.9	3600	2.9	3400	2.8	3400	2.8	3400	2.8
4100	3.2	4100	3.2	3900	3.2	3900	3.2	3900	3.2
4600	3.6	4600	3.6	4400	3.5	4400	3.5	4400	3.5
5100	3.9	5100	3.9	4900	3.9	4900	3.9	4900	3.9
8000	5.8	8000	5.8	6400	4.9	6400	4.9	6400	4.9

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 = 24.3 % Fe
axle 2	(rdyn 421 mm)	T = 24.3 % Fe
axle 3	(rdyn 421 mm)	T = 18.3 % Fe
axle 4	(rdyn 421 mm)	T = 18.3 % Fe
axle 5	(rdyn 421 mm)	T = 18.3 % Fe

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

axle 1	(sp = 58 mm)	s = 39 mm
axle 2	(sp = 58 mm)	s = 39 mm
axle 3	(sp = 56 mm)	s = 39 mm
axle 4	(sp = 56 mm)	s = 39 mm
axle 5	(sp = 56 mm)	s = 39 mm

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

axle1	ThA = 6702 N
axle2	ThA = 6702 N
axle3	ThA = 4686 N
axle4	ThA = 4686 N
axle5	ThA = 4686 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 = 39670 N
axle 2	(rdyn 421 mm)	T = 39670 N
axle 3	(rdyn 421 mm)	T = 27691 N
axle 4	(rdyn 421 mm)	T = 27691 N
axle 5	(rdyn 421 mm)	T = 27691 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)	0.60	0.47
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 = 39670 N
axle 2	(rdyn 421 mm)	T = 39670 N
axle 3	(rdyn 421 mm)	T = 27691 N
axle 4	(rdyn 421 mm)	T = 27691 N
axle 5	(rdyn 421 mm)	T = 27691 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)	0.60	0.47
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

		axle 3	axle 4
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	6200	6200
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 = 5708 mm for E = 7500 mm
==========
min Ef = 5708 mm for E = 7500 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	=	2069 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 5.8	5053 42174	
axle 2	1.0 5.8	5053 42174	
axle 3	1.0 4.9		4860 29390
axle 4	1.0 4.9		4860 29390
axle 5	1.0 4.9		4860 29390

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