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)*: JOHN HIRST

ID: JEH

Vehicle registration *(optional)*:

VIN/chassis number: 7A9D35012G1023526

Make: DOMETT

Model *(optional)*:

Certification category: HVEK

Component being certified:

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

Description of work:

CERTIFY TO SCHEDULE 5 OF LTR 32015/3

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

General drawing number(s): N/A

Component load rating(s):

28 Tonnes GVM
(32 Tonnes (Group ratings))
RSS Switched on Dual Tyres

Supporting documents:

BRAKE CODE CERTIFICATE JH160915
BRAKE CALCULATION # TP51501

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 S Pratt

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

ID number: TRSP

Date: 23-Sep-16

Number: 564992

CoF vehicle inspector ID | CoF vehicle inspector signature | Date

All fields are mandatory unless otherwise stated.

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Statement of Design Compliance

S.O.D.C. number: JH160915

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

Vehicle details:

Make:	DOMETT TRAILERS LTD.
Model:	D3501
VIN#:	7A9D40012G1023526
Chassis#:	1526
GCM (kgs):	N/A
GVM (kgs):	28,000
Wheelbase (mm):	4242
Axle test report #:	(SAF DISC) TDB0749
Suspension:	SAF NG-IU28-ZI9 (Bag Ø = 300 mm)

Component Details:

	Axle 1 & 2	**Axle 3 & 4**
Lever length (mm):	69	69
Brake chamber size:	TSE: 20HSCLD65	TSE: 1416HTLD64
Tyre size:	265 70 R 19.5	265 70 R 19.5
Drawing number: (for component reference)	1526	
Brake calculation#:	TP 51501	
Brake system:	WABCO T-EBS MV: ECU FACING FORWARD	

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: 23 Sept 2016

Name: John Hirst (HVEK)
Certifier ID: LT400
No=564992
I, Ron Pratt..., certify that the braking system has been assembled and programmed*) to the requirements of this Design Certificate.

Signed:R S PRATT **Dated:26/09/2016**

*) 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.

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

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CLIENT

BUILDER:	DOMETT TRUCK & TRAILER
ADDRESS:	70 WHAKAKAKE STREET, TAURIKO, TAURANGA
END USER:	FULTON HOGAN LTD

VEHICLE DETAILS

VEHICLE TYPE:	TIPPER	**CERT #**	JH160915
YEAR:	2016	**MODEL:**	D3501
MAKE:	DOMETT	**CHASSIS #:**	1526
VIN #:	7A9D40012G1023526		
GVM (t):	28	**REGO:**	N/A
BODY TYPE	3		

GROUP RATINGS (t)	**FRONT**	**REAR**
	16	16
WHEEL BASE (M):	4.242	
	DECK HEIGHT (M)	**MAX HEIGHT (M)**
	1	2.2
COG (M):	1.469	

	FRONT	**REAR**	**TOTAL**
TARE (t):	3.3	2.8	6.1
	FRONT	**REAR**	
TYRE SIZE:	265 70 R 19.5	265 70 R 19.5	
	FRONT	**REAR**	
AXLE SPACING (M):	1.266	1.266	
	MAKE	**MODEL**	**TEST REPORT**
AXLE:	SAF	INTRADISC	TDB0749

BRAKE DETAILS

		AXLE 1 & 2	**AXLE 3 & 4**	**AXLE 5**
AXLE SERIAL NUMBERS:	1	N/A		
	2	N/A		
	3	N/A		
	4	N/A		
	5	N/A		

BRAKE DETAILS

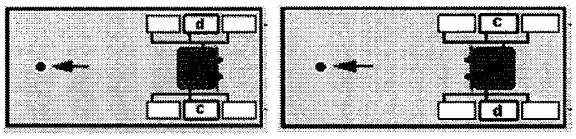
CHAMBERS	AXLE 1 & 2	AXLE 3 & 4	AXLE 5
BRAND:	TSE	TSE	N/A
SIZE/MODEL:	20HSCLD65	1416HTLD64	N/A
MAX STROKE (mm):	65	64	N/A
SPRINGBRAKE FORCE (Kn):	N/A	6.16	N/A
HOLDOFF PRESSURE (Bar):	N/A	4.5	N/A
SLACK LENGTH (mm):	69	69	N/A
BRAKE CALIPER:	SBW 1937	SBW 1937	N/A
LINING MATERIAL:	JURID 539	JURID 539	N/A

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

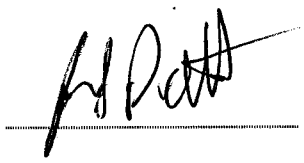
	MODULATOR 2.1	MODULATOR 2.2	RELAY VALVE
RESPONSE TIME (m/s):			

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: 23-Sep-16

SIGNED: 

NAME & ID: J HIRST (JEH)

SODC SIGNED:

NAME & ID: Ron Platt TRSI

PHONE (BUS): (09) 980 7300

FAX: (09) 980 7306

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

New Zealand

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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)

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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)

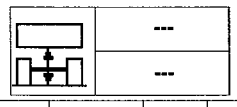
WABCO — TRAILER EBS-E

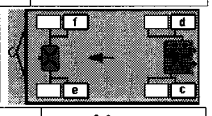
GGVS/ADR TUEH TB 2007 - 019.0X
TDB0749

HERSTELLER / MANUFACTURER / CONSTRUCTEUR	DOMETT TRAILERS
TYP / TYPE / TYPE	4AFT TIPPER
FAHRZEUG IDENTNR. / CHASSIS NUMBER / NUMERO DE CHASSIS	7A9D40012G1023526
BREMSBERECHNUNGS-NR. / BRAKE CALCULATION NO. / CALCUL DE FREINAGE NO.	TP51501A

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		X
	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	---	---	---





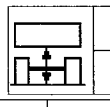
	pm (bar)		6.5	pm (bar)		0.7	2.0	---	6.5					(bar) 1.0	Pz
ACHSE / AXLE / ESSIEU	(kg)			(kg)					pz		TYP / TYPE	(mm)	(mm)	TR (daN)	
1	1650	0.6	2.3	8000	5.0	0.4	1.5	---	6.5	-	20	65	69	506	4766
2	1650	0.6	2.3	8000	5.0	0.4	1.5	---	6.5	-	20	65	69	506	4766
3	1400	0.4	1.6	8000	5.0	0.3	1.7	---	5.1	-	14 / 16	64	69	499	3082
4	1400	0.4	1.6	8000	5.0	0.3	1.7	---	5.1	-	14 / 16	64	69	499	3082
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---

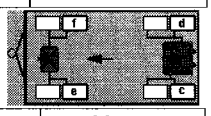
WABCO — TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.0X
TDB0749

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT TRAILERS				
TYP TYPE TYPE	4AFT TIPPER				
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9D40012G1023526				
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51501A				
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		X	
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)		0.7	2.0	---	6.5					(bar) 1.0	Pz
ACHSE AXLE ESSIEU	(kg)			(kg)					pz		TYP TYPE	(mm)	(mm)	TR (daN)	
1	1650	0.6	2.3	8000	5.0	0.4	1.5	---	6.5	-	20	65	69	506	4766
2	1650	0.6	2.3	8000	5.0	0.4	1.5	---	6.5	-	20	65	69	506	4766
3	1400	0.4	1.6	8000	5.0	0.3	1.7	---	5.1	-	14 / 16	64	69	499	3082
4	1400	0.4	1.6	8000	5.0	0.3	1.7	---	5.1	-	14 / 16	64	69	499	3082
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---

WABCO START-UP PROTOCOL

System	Trailer EBS-E	**WABCO part number**	480 102 080 0
Production date	2016-07-07	**Serial number**	437002482300N
Serial number (modulator)	000000056199		
Fingerprint Customer EOL / Customer Development / Flash Program	W033869 / 2016-09-26 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

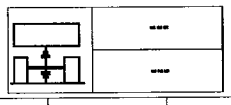
WABCO TRAILER EBS-E

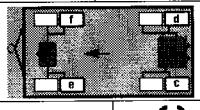
GGVS/ADR TUEH TB 2007 - 019.00
TDB0749

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT TRAILERS
TYP TYPE TYPE	4AFT TIPPER
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9D40012G1023526
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51501A

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	X	
RSS RSS RSS 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)		0.7	2.0	---	6.5					(bar) 1.0	(bar) Pz
ACHSE AXLE ESSIEU	(kg)			(kg)					pz		TYP TYPE	(mm)	(mm)	TR (daN)	
1	1650	0.6	2.3	8000	5.0	0.4	1.5	---	6.5	-	20	65	69	506	4766
2	1650	0.6	2.3	8000	5.0	0.4	1.5	---	6.5	-	20	65	69	506	4766
3	1400	0.4	1.6	8000	5.0	0.3	1.7	---	5.1	-	14 / 16	64	69	499	3082
4	1400	0.4	1.6	8000	5.0	0.3	1.7	---	5.1	-	14 / 16	64	69	499	3082
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---

TEBS-E

Diagnostic memory	OK	**Warning lamp control**	OK
Parameter setting	carried out	**Stop light power supply**	Not tested
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**	7A9D40012G1023526
Vehicle type	4AFT TIPPER	**Odometer reading**	0.0 km
next Service	0 km	**Trip reading**	0.0 km
Tester	Ron pratt	**Signature**	
Date	2016-09-26 9:13:13 a.m.		

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

CERTIFICATE NO.	JH160915		
CUSOMER NAME	DOMETT TRUCK & TRAILER		
CUSTOMER ORDER NO.	4652	DATE RECEIVED	23-Sep-16
VEHICLE TYPE	TIPPER		
VIN/ CHASSIS NO.	7A9D40012G1023526		

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	N/A
SIZE	20HSCLD65	1416HTLD64	N/A
MAX STROKE (mm)	65	64	N/A
SLACK LENGTH (mm)	69	69	N/A
DRUM TYPE:	N/A	N/A	N/A
		OR	
BRAKE CALIPER:	SBW 1937	SBW 1937	N/A

FRICTION MATERIAL: ☑ OEM ☐ AFTERMARKET

LINING BRAND	AXLE 1 & 2	AXLE 3 & 4	AXLE 5
	JURID 539	JURID 539	N/A

OTHERS:

TYRES:	FRONT	REAR
	265 70 R 19.5	265 70 R 19.5

BRAKE CALCULATION #: TP51501

LT400 NO=564992

COMMENTS:

EBS, SPECIAL CONDITIONS APPLY. SEE INSTRUCTIONS ON LT400 #

SALES ORDER #: SO541719 **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.

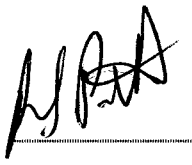
NOTES:

CHAMBERS & PARK BRAKE PERFORMANCE:

BRAKE CALCULATION TP51501 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: **23-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: **SIGNED:**

NAME:

CERTIFIERS ID: **POSITION:**

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

COMMENTS:

GOUGH Transpecs

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

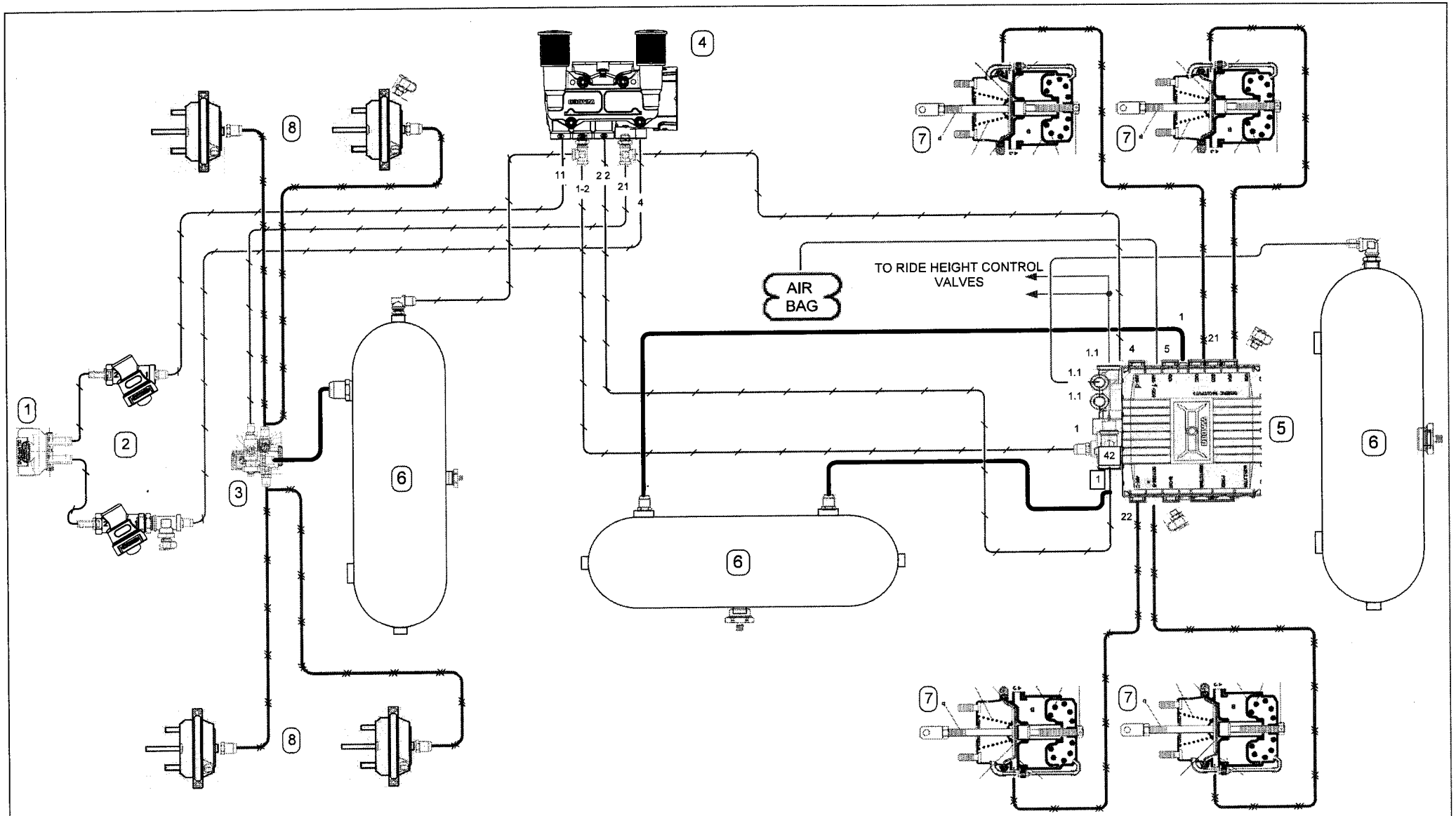
John Hirst (JEH)

DATE:	23-Sep-16	BRAKE SYSTEM:	WABCO T- EBS E
CERT. NO:	JH160915	BRAKE CALCULATION #:	TP51501
VIN / CHASSIS:	7 A 9 D 4 0 0 1 2 G 1 0 2 3 5 2 6		

	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	N/A	N/A	N/A

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



Domett T&T

DOM5AXFULL/EBS
7A9D40012G1023526

GOUGH Transpecs

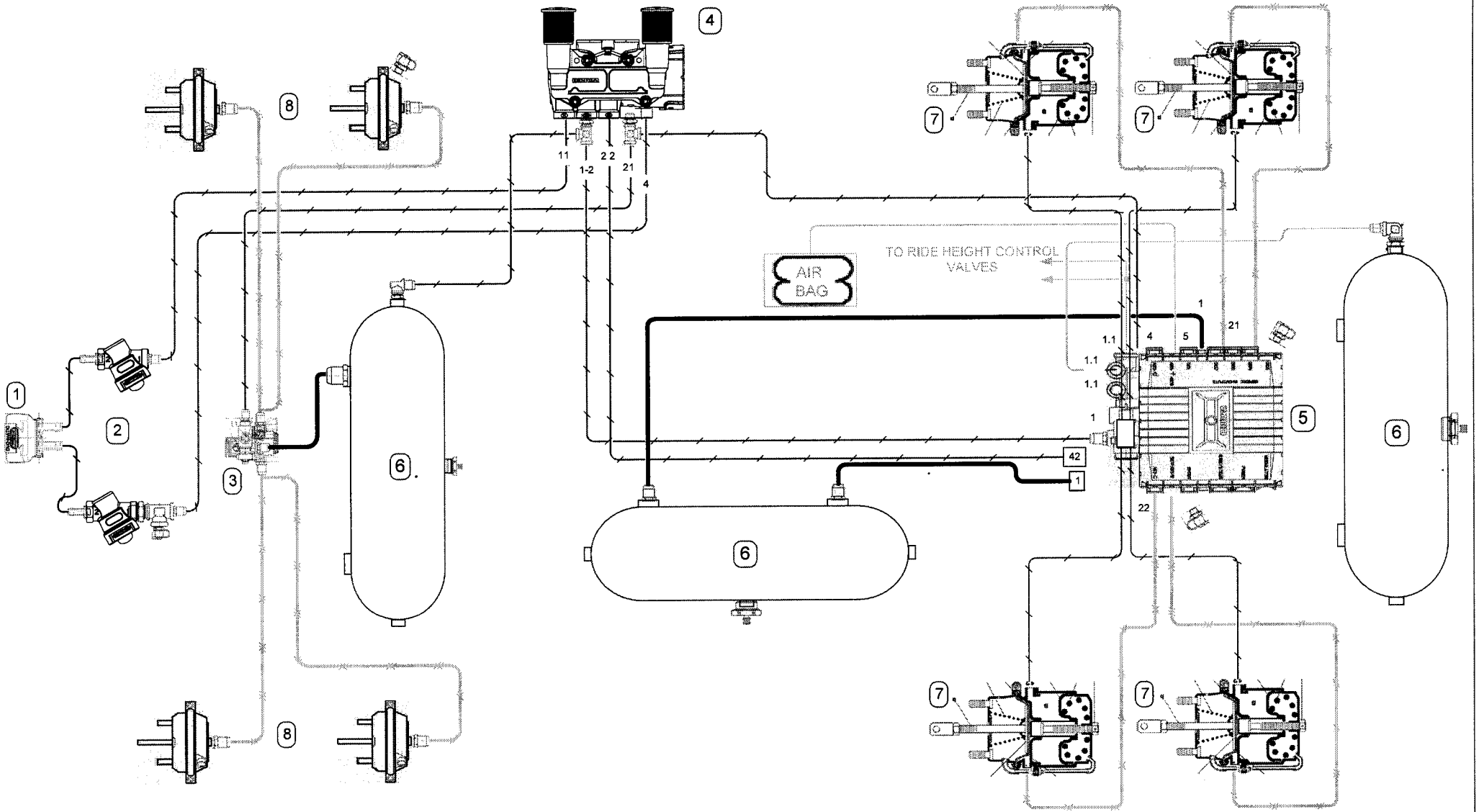
WABCO

SIZE	SPEC REFERANCE	MODEL NUMBER	REV
A4	1526	D3501	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	4	1416HTLD64	TSE Spring brake chamber
8	4	20HSCLD65	TSE Service brake chamber

ITEM	QTY.	PART NO.	DESCRIPTION
9			
10*			
11			
12			

PIPING LEGEND:	
	3/8" Rubber
	3/8" Rubber
	1/2" Rubber
	15mm Nylon
	12mm Nylon
	8mm Nylon
	8mm Nylon
	8mm Nylon



Domett T&T

DOM5AXFULL/EBS
7A9D40012G1023526

GOUGH Transpecs

WABCO

SIZE	SPEC REFERANCE	MODEL NUMBER	REV
A4	1526	D3501	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			
2	2	432 500 020 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	480 102 080 0	Wabco TEBS – E (premium)				
6	3		46 Ltr Air tank				
7	4	1416HTLD64	TSE Spring brake chamber				
8	4	20HSCLD65	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

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

distribution: DOMETT TRAILERS
7A9D40012G1023526
SODC: JH160915
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 : 4AFT TIPPER
trailer type : 4-axle-full-trailer
remarks : air / hydraulic / VA suspension
WABCO TRAILER - EBS E
TRISTOP 3+4: T.14/24 [TSE1416HTLD64 ACTUALLY FITTED - SEE PAGE 7 FOR PERFORMANCE DATA]
265/70 R 19,5

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

		unladen	laden
total mass	P in kg	6100	32000
axle 1	P1 in kg	1650	8000
axle 2	P2 in kg	1650	8000
axle 3	P3 in kg	1400	8000
axle 4	P4 in kg	1400	8000
wheel base	E in mm	4242 - 4242	
centre of gravity height	h in mm	1000	1469

		axle 1	axle 2	axle 3	axle 4
no. of combined axles		1	1	1	1
no. of brake chambers per axle line	KDZ	2	2	2	2
The power output corresponds to		BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6
brake chamber manufacturer		Meritor	Meritor	Meritor	Meritor
chamber size		20.	20.	T.14/24	T.14/24
lever length	lBh in mm	69	69	69	69
brake factor	[-]	23.03	23.03	23.03	23.03
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		2.4	2.4	2.3	2.3
chamber pressure(rdyn max)pH at z=22,5%bar		2.4	2.4	2.3	2.3
chamber press.(servo)pcha at pm6,5bar	bar	6.5	6.5	5.1	5.1
piston force ThA at pm6,5bar	N	7564	7564	4886	4886
brake force(rdyn min)T lad. at pm6,5bar	N	57295	57295	37057	37057
brake force(rdyn max)T lad. at pm6,5bar	N	57295	57295	37057	37057
brake force within 1 % rolling friction proportion	%	27.3	27.3	22.7	22.7

braking rate z laden 0.601 for rdyn min
z = sum (TR)/PRmax 0.601 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

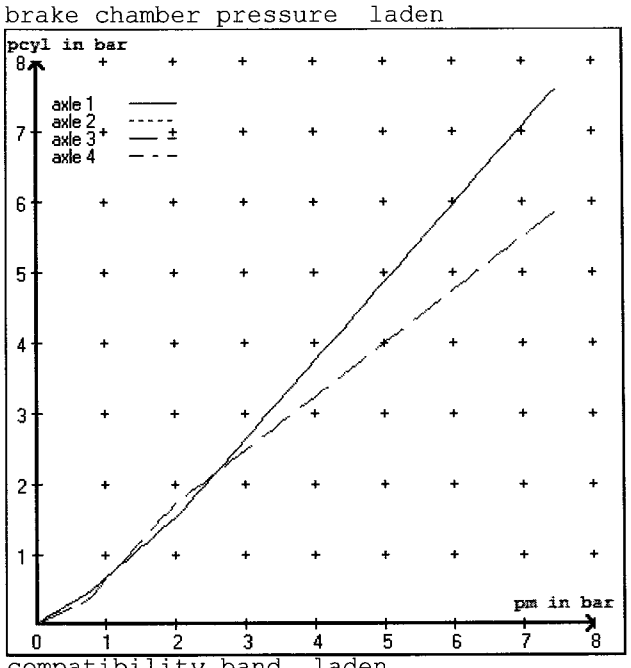
axle 4:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

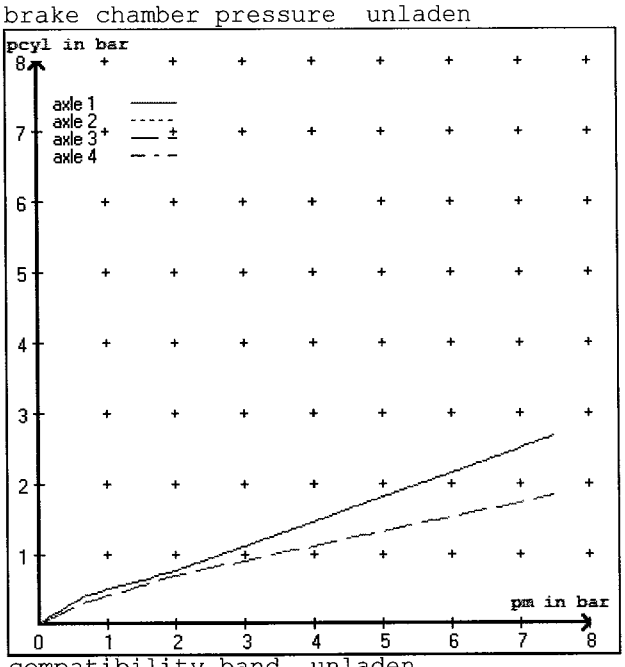
brake cylinder: Meritor 1424HTLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 3.6 bar =>	pcha in bar :	3.2	3.2	2.9	2.9	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 1.2 bar =>	pcha in bar :	0.8	0.8	0.9	0.9	

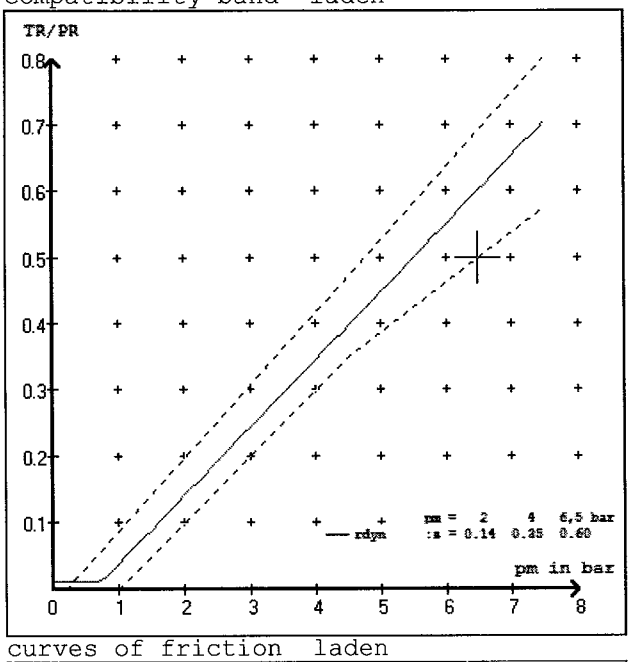
brake chamber pressure laden



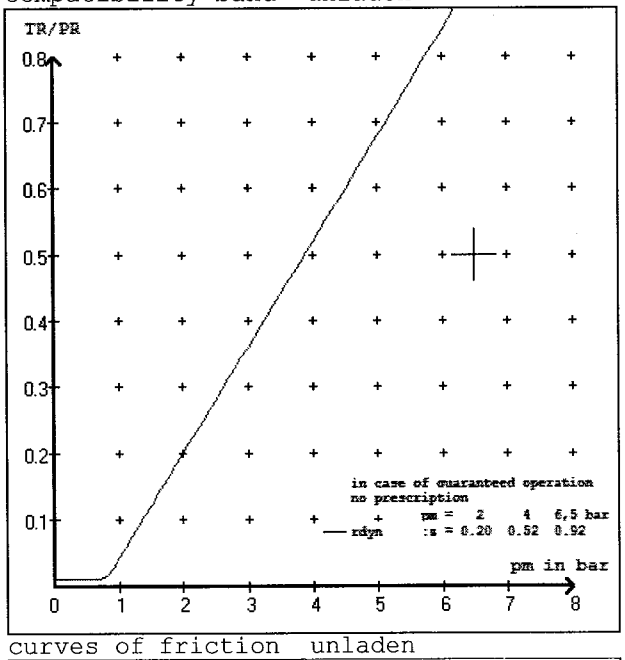
brake chamber pressure unladen



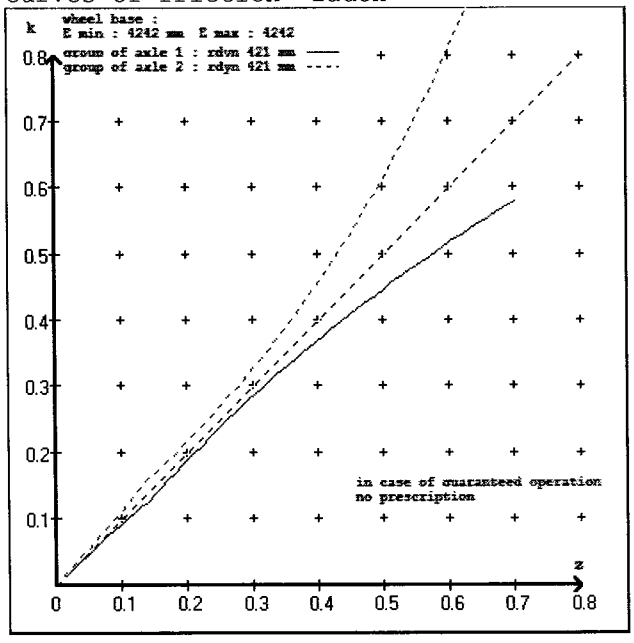
compatibility band laden



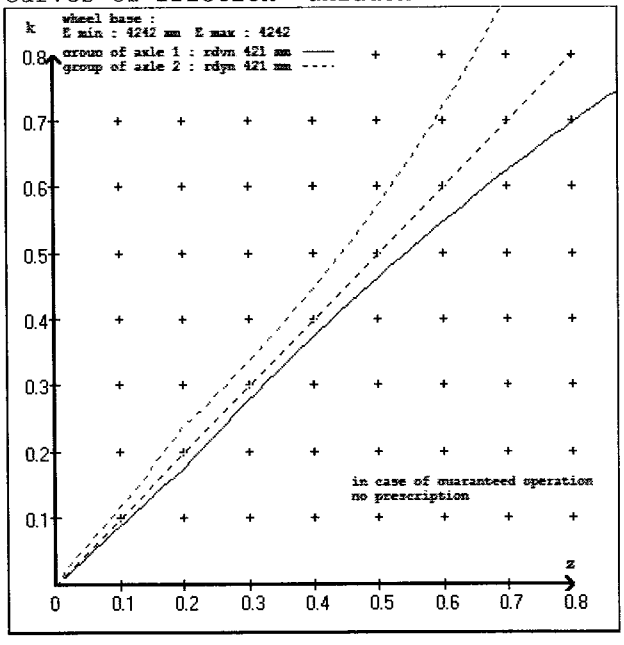
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT TRAILERS
trailer model : 4AFT TIPPER
trailer type : 4-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

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 : 4AFT TIPPER
trailer type : 4-axle-full-trailer
brake calculation no. : TP 51501A

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 = 0.142
6.5 bar z = 0.600

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	1650	to be entered by the vehicle manufact.	2.3	8000	to be entered by the vehicle manufact.	0.4	1.5	6.5
2	1650		2.3	8000		0.4	1.5	6.5
3	1400		1.6	8000		0.3	1.7	5.1
4	1400		1.6	8000		0.3	1.7	5.1
5	0		0,0	0		0,0	0,0	0,0

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 load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl
1650	2.3	1650	2.3	1400	1.6	1400	1.6
2150	2.6	2150	2.6	1900	1.9	1900	1.9
2650	3.0	2650	3.0	2400	2.1	2400	2.1
3150	3.3	3150	3.3	2900	2.4	2900	2.4
3650	3.6	3650	3.6	3400	2.7	3400	2.7
4150	4.0	4150	4.0	3900	2.9	3900	2.9
4650	4.3	4650	4.3	4400	3.2	4400	3.2
5150	4.6	5150	4.6	4900	3.5	4900	3.5
8000	6.5	8000	6.5	8000	5.1	8000	5.1

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

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 = 26.8 % Fe
axle 2	(rdyn 421 mm)	T = 26.8 % Fe
axle 3	(rdyn 421 mm)	T = 20.2 % Fe
axle 4	(rdyn 421 mm)	T = 20.2 % 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

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 = 4886 N
axle4	ThA = 4886 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 = 29026 N
axle 4	(rdyn 421 mm)	T = 29026 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 = 44727 N
axle 2	(rdyn 421 mm)	T = 44727 N
axle 3	(rdyn 421 mm)	T = 29026 N
axle 4	(rdyn 421 mm)	T = 29026 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.14/24	T.14/24
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	7605	7605
sp.brake chamber no Meritor.....		4	4
release pressure	pLs in bar	4.8	4.8

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	59654	59654
Tf = (TFZ*KDZ-2*Co/lBh)*iFb			
braking rate	zf laden	0.390	
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 = 3078 mm for E = 4242 mm
==========
min Ef = 3078 mm for E = 4242 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	=	1469 mm	height of center of gravity - laden
PR	=	16000 kg	maximum bogie mass - laden
P	=	32000 kg	maximum total mass - laden
nf	=	2	no. of axle(s) with TRISTOP spring brake actuators
ng	=	2	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 6.5	5061 47667	
axle 2	1.0 6.5	5061 47667	
axle 3	1.0 5.1		4999 30830
axle 4	1.0 5.1		4999 30830

VIN - no.:

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