

Must be presented to a Transport Service Delivery Agent  
Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's or Manufacturing Inspecting Organisation's Name (PRINT IN CAPS)  
**RONALD STUART PRATT**

ID  
**TRSP**

Vehicle Registration\*

VIN/Chassis Number  
**7A9B35019E1023301**

Component being certified:

- Chassis Modification
- Load Anchorage
- Log Bolsters
- Towing Connection
- Brakes
- SRT
- PSV Stability
- PSV Rollover
- Swept Path
- PBS

Certification Category  
**HVEK**

Description of Work  
**INSPECTION AND CERTIFICATION TO BRAKE RULE 32015/3**

Code/Standard/Rule Certified to  
**NZHVB RULE Schedule 5**

Component Load Rating(s)  
**GVM: 32,000 Kg**

General Drawing Number(s)  
**Domett 4270**

**RSS Switched on Dual Tyres**

Supporting Documents  
**Brake Cert Number: JH141023**  
**Hend DM EBSe 5AFT**

Special Conditions\*  
**EBS Control - Warning Lamp must illuminate when ignition switched on, and extinguish immediately, or when vehicle reaches 7 kph**

Certification Expiry Date (if applicable)  
**n/a**

or Hubodometer Reading (whichever comes first)  
**n/a**

**Declaration**

I the undersigned, declare that I am the Heavy Vehicle Specialist Inspector identified and I hold a current valid appointment. I certify that the above mentioned vehicle component's design, manufacture and installation, and this certification complies in all respects with the Land Transport Rule: Vehicle Standards Compliance 2002 and my Appointment. To the best of my knowledge the information contained in the Certificate is true and correct.

Designer's ID (if different from inspector below)  
**n/a**

Inspector's Signature  
*RS Pratt*

Inspector's Name (PRINT IN CAPS) ID Number  
**RONALD STUART PRATT TRSP**

Date  
**20/10/2014**

Number  
**485831**

CoF Vehicle Inspector ID

CoF Vehicle Inspector Signature

Date

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





# Statement of Design Compliance

**S.O.D.C. number: JH141023**

For Heavy vehicle brake specification  
(Schedule 5) of HV BRAKE RULE 32015/3

### Vehicle details:

<b>Make:</b>	DOMETT TRAILERS
<b>Model:</b>	3501
<b>VIN#:</b>	7A9E35019E1023301
<b>Chassis#</b>	1301
<b>GCM (kgs):</b>	N/A
<b>GVM (kgs):</b>	32,000
<b>Wheelbase (mm):</b>	5300
<b>Axle test report #:</b>	HXS 380x220 (HT230 Suspension)
<b>Type:</b>	5AFT DRUM BRAKE

### Component Details:

	<b>Front</b>	<b>Rear</b>
<b>Lever length (mm):</b>	152	140
<b>Brake chamber size:</b>	TSE:24S	TSE:240GC
<b>Tyre size:</b>	265 70 R 19.5	265 70 R 19.5
<b>Drawing number:</b>	1301	
(for component reference)		
<b>Brake calculation#:</b>	TP 51116	
<b>OptiTurn exemption#:</b>	N/A	

*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:** 17 Oct 2014

**Name:** John Hirst (HVEK)  
**Certifier ID:** JEH

LF400 No = 485831

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

**Signed:**

**Dated:** 20/10/2014

\*) 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.

**HVBR WORKSHEET**  
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH141023

CUSTOMER NAME

DOMETT TRAILERS LTD

CUSTOMER ORDER No.

4270

DATE RECEIVED

Sept 14

VEHICLE TYPE

5 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9E35019E1023301

**BRIEF SPECIFICATION AS CERTIFIED TO HVBR**

**BRAKE CHAMBERS:**

<u>Ax #</u>	<u>Make/model</u>	<u>Max stroke</u>	<u>Lever length</u>
1&2	TSE 24S	67 mm	152 mm
3&4	TSE 2430GC	64 mm	140 mm
5	TSE 2430GC	67 mm	140 mm

**BRAKE SYSTEM:**

WABCO EBS : RSS ACTIVATED

# TEST POINTS FITTED:

3 4 5 7

**FRICITION LINING:**

OEM

Aftermarket

(All) Lining Brand

ABEX 3030-197

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

VALVES: AS PER BRAKE CALCULATION TP51116 & SO1563044

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO1563044

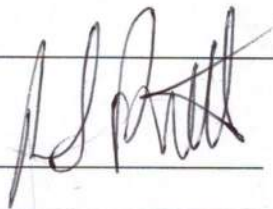
PROCESS TIME:

1

BRAKE CALC #TP51116

COMPLETION DATE : 17<sup>th</sup> October 2014

SIGNATURE (pp.):



# Statement of Compliance with the New Zealand Heavy Brake Rule

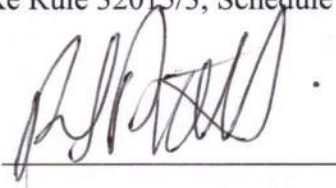
Documentation required supporting Statements of Compliance with the New Zealand Heavy Brake Rule, to be made available to the Statutory Authority on request, must include all calculations and test reports.

## Confirmation of compliance

I confirm that the vehicle identified on page 1 of this Statement of Compliance complies with all relevant requirements of the current New Zealand Heavy Vehicle Brake Rule 32015/3, Schedule 5.

Date: 17<sup>th</sup> October 2014

Signed (pp.):



## Certifier's identification

Name: J E Hirst

Phone (bus): (09) 980 7300

Fax (bus): (09) 980 7306

Postal address: Transport Specialties, Cnr Kerrs & Ash Roads

Wiri, Auckland, PO Box 98 971 Manukau City 2241

Position: JEH

## Confirmation of continued compliance of modification

I confirm the brake system of the vehicle identified on page 1 of this Statement of Compliance as modified by myself, continues to comply with all the relevant requirements of the current New Zealand Heavy Vehicle Brake Rule 32015/3, Schedule 5.

Date: \_\_\_\_\_

Signed: \_\_\_\_\_

Certifier's identification: JEH

Name:

Phone (bus): (09) 980 7300

Fax (bus): (09) 980 7306

Postal address: Transport Specialties Ltd

Cnr Kerrs & Ash Roads, Wiri, Auckland

PO Box 98 971, Manukau City 2241



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

<b>CUSTOMER</b> DOMETT TRUCK & TRAILER LTD (JH141023)
--

<b>ADDRESS</b> HEWLETTS ROAD, MT MAUNGANUI
---

<b>YEAR</b> 2014	<b>MAKE</b> Domett
<b>MODEL</b> E3501	<b>FULL TRAILER/SEMI</b> Full
<b>CHASIS NUMBER</b> 1301	<b>VIN</b> 7A9E35019E1023301
<b>GVM</b> 32 000 KGS	<b>REG</b>

<b>TARE TOTAL</b> 6700 KGS (EST)	
<b>FRONT</b> 3300 KGS	<b>REAR</b> 3400 KGS
<b>SPLIT REQUIRED FOR FULL TRAILERS ONLY</b>	

<b>CONFIGURATION</b> 5 AXLE TIPPING TRAILER	
<b>AXLE SPACING</b>	<b>FRONT</b> 1310 mm <b>REAR</b> 2510 mm
<b>MAXIMUM WEIGHT FOR 1<sup>ST</sup> TO LAST SPREAD</b> 29 000KGS	

<b>AXLE MAKE/MODEL</b> HENDRICKSON HXS 380x220
---

<b>S-CAM RADIUS</b>	<b>EFFICIENCY</b>
<b>DRUM RADIUS</b>	100Nm PRESSURE

**OR**

<b>PRESS IN/TORQUE OUT 100Nm</b> 30 kPa Front : 30 kPa Rear
<b>PRESS IN/TORQUE OUT WITH 650kPa @ Pm</b> 12.5 kNm Front : 7.1 kNm Rear



P.O.Box 98-971

South Auckland Mail Centre

J.HIRST (JEH)

DATE

17-Oct-14

BRAKE SYSTEM

12/24V EBS

CERT. NO.

JH141023

OptiTturn EXEMPTION

N/A

VIN / CHASSIS

7A9E35019E1023301

BRAKE CHAMBERS FRONT TSE24S Max stroke = 67 mm

BRAKE CHAMBERS REAR TSE2430GC Max stroke = 64

SLACK LENGTH FRONT

152 mm

TYRE SIZE FRONT

265 70 R 19.5

SLACK LENGTH REAR

140mm

TYRE SIZE REAR

265 70 R 19.5

THIS VEHICLE COMPLIES WITH THE NZ

LINING MATERIAL FRONT

ABEX 3030-197

HVBR 32015/3 - SCHEDULE 5

LINING MATERIAL REAR

ABEX 3030-197

CHAMBER SIZE	FRONT TSE24S	REAR TSE2430GC
SPRINGBRAKE FORCE	FRONT	REAR 6.6 kN
SPRINGBRAKE HOLDOFF PRESSURE	FRONT	REAR 490 kPa

SLACK LENGTH FRONT 152 mm	LINING MATERIAL
SLACK LENGTH REAR 140 mm	ABEX 3030-197

SUSPENSION TYPE REACTIVE/NON REACTIVE	
FRONT	NON REACTIVE (HT230 AIR BAG)
REAR	NON REACTIVE (HT230 AIR BAG)

TYRE SIZE	FRONT 265 70 R 19.5	REAR 265 70 R 19.5
WHEELBASE	5.3 M	
UNLADEN COG	1.253 M	
LOADED COG FROM SRT – FULL TRAILERS ONLY	2.051 M	
OVERALL HEIGHT	3.273 M	

BRAKE VALVES WABCO EBS E VERSION	
PRIMARY RELAY 480 102 0.. 0	CRACK PRESS N/A
SECONDARY RELAY 480 207 202 0	CRACK PRESS N/A
SPRING BRAKE RELAY N/A	ANTI COMPOUND YES/NO YES (VIA PEM)
LOCKED RATIO N/A	LOAD SENSE VALVE N/A
PARK BRAKE	971 002 900 0
OTHER VALVES	
SMARTBOARD	

AIR TANKS TO STANDARD?	EN 286-2/SAE J10
SIZE FRONT	46 LTR
SIZE REAR	46 & 25 LTR
AUXILIARY WITH PROTECTION	YES – VIA P.E.M.

**TEST POINT FITTED?**

FRONT CHAMBER

YES

REAR CHAMBER

YES

TANK

YES : Pressure monitored in ecu

RATIO/LSV NO.1 IN

N/A

RATIO/LSV NO.1 OUT

N/A

RATIO/LSV NO.2 IN

N/A

RATIO/LSV NO.2 OUT

N/A

DUOMATIC CONNECTIONS COLOUR CODED?

YES

- NOTES:-
- TEST POINT AT CONTROL LINE FILTER
- BRAKE CALC : TP51116
- FRONT TSE CHAMBERS – 24S @ 152 mm
- REAR TSE CHAMBERS – 2430GC (24S) @ 140 mm
- SODC: JH141023
- LT400: TRSP .....



# WABCO START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2014-02-27	Serial number	437000143500C
Serial number (modulator)	000000027418		
Fingerprint Customer EOL / Customer Development / Flash Program	W033869 / 2014-10-20 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

## WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00  
HXS 15\*8.625

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT			GIO	Pin1	Pin3	Pin4
TYP TYPE TYPE	5AFT TIPPER			1	---	---	---
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E35019E1023301			2	---	---	---
BREMSEBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51116A			3	ALS2	ALS2	---
POLRADZÄHNEZAHL c-d   e-f POLE WHEEL TEETH c-d   e-f DENTS ROUE D'ENTEE c-d   e-f	100	100	ABS-System ABS system Systeme ABS	4	---	---	---
			4S/3M	5	DIAG	DIAG	DIAG
RSS RSS RSS	Einachsberereitung Single Tire Monte simple		Lenkachse Steering axle Essieu vitreur	6	---	---	---
	Zwillingsberereitung Twin Tire Monte jumelle	X	Kippritisches Fahrzeug Critical Trailer Véhicule critique	7	---	---	---
Subsystems	SB	I/O	24N				

ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.7		2.0		---		6.5		TYP TYPE	(mm)	(mm)	(bar)	
	H (kg)	⊗	⊗	⊗	H (kg)	⊗	⊗	⊗	---	⊗	---	---	---	1.0				Pz	
																			TR (daN)
1	1650	0.9	2.3	7250	4.6	0.3	1.2	---	6.5	-	24	67	152	564	4538				
2	1650	0.9	2.3	7250	4.6	0.3	1.2	---	6.5	-	24	67	152	564	4538				
3	1140	0.5	1.3	6600	4.1	0.3	1.3	---	4.1	-	24 / 30	64	140	576	2583				
4	1140	0.6	1.3	6600	4.1	0.3	1.3	---	4.1	-	24 / 30	64	140	576	2583				
5	1140	0.6	1.3	6600	4.1	0.3	1.3	---	4.1	-	24 / 30	64	140	518	2581				

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 TEBS	Not tested
Signal inputs	Not tested	Tag axle test	Not tested

Diagnostic memory ELEX	Not tested	Signal outputs ELEX	Not tested
TailGUARDlight	Not tested	TailGUARD	Not tested

Manufacturer	DOMETT	Vehicle ident. no	7A9E35019E1023301
Vehicle type	5AFT TIPPER	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	Ron Pratt	Signature	
Date	2014-10-20 12:20:48 p.m.		

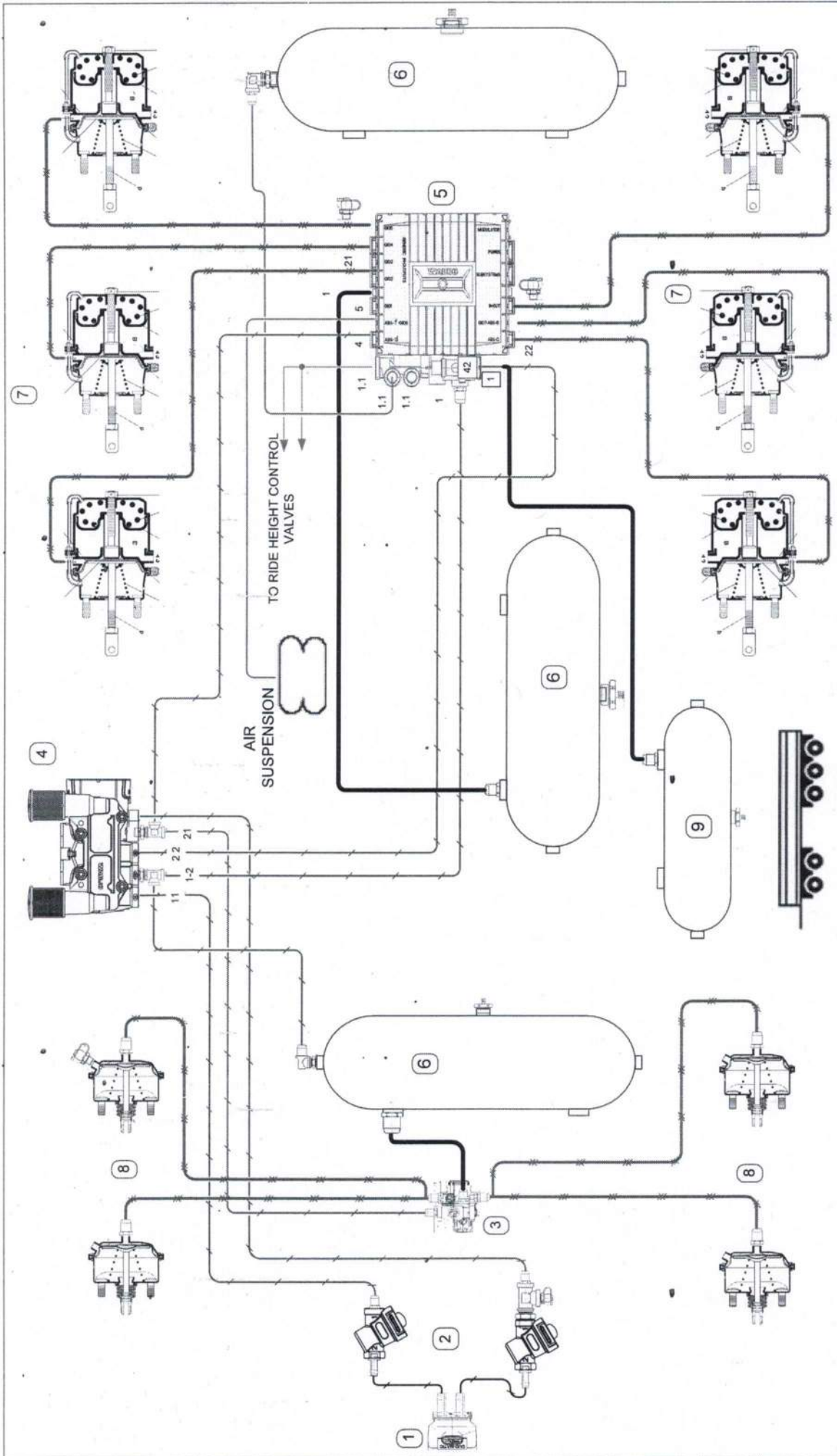
# WABCO

## TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.0X  
HXS 15\*8.625

HERSTELLER MANUFACTURER CONSTRUCTEUR		DOMETT						GIO		Pin1		Pin3		Pin4																	
TYP TYPE TYPE		5AFT TIPPER						1		---		---		---																	
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS		7A9E35019E1023301						2		---		---		---																	
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL. DE FREINAGE NO.		TP51116A						3		ALS2		ALS2		---																	
POLRADZÄHNEZAHL. c-d   e-f POLE WHEEL TEETH c-d   e-f DENTS ROUE DENTÉE c-d   e-f		100		100		ABS-System ABS system Système ABS		4		---		---		---																	
RSS RSS RSS		Einfachbereifung Single Tire Monte simple		X		Lenkachse Steering axle Essieu virEUR		5		DIAG		DIAG		DIAG																	
Zwillingsbereifung Twin Tire Monte jumelle		X				Kippkritisches Fahrzeug Critical Trailer Véhicule critique		6		---		---		---																	
Subsystems		SB		I/O		24N		7		---		---		---																	
		pm (bar)		6.5		pm (bar)		0.7		2.0		---		6.5		TYP TYPE		(mm)		(mm)		(bar)		1.0		Pz					
ACHSE AKLE ESSEU																pz															
1		1650		0.9		2.3		7250		4.6		0.3		1.2		---		6.5		-		24 / 30		64		140		576		2583	
2		1650		0.9		2.3		7250		4.6		0.3		1.2		---		6.5		-		24 / 30		64		140		576		2583	
3		1140		0.6		1.3		6600		4.1		0.3		1.3		---		4.1		-		24 / 30		64		140		576		2583	
4		1140		0.6		1.3		6600		4.1		0.3		1.3		---		4.1		-		24 / 30		64		140		576		2583	
5		1140		0.6		1.3		6600		4.1		0.3		1.3		---		4.1		-		24 / 30		64		140		518		2581	





ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION	PIPING LEGEND:
1	1	452 804 001 0	Wabco Duo-Matic coupling	9	1		24.5 Ltr Air Tank	3/8" Rubber
2	2	432 500 020 0	Wabco control line filter	10				3/8" Rubber
3	1	480 207 202 0	Wabco EBS 3" modulator	11				1/2" Rubber
4	1	971 002 800 0	Wabco PREV	12				15mm Nylon
5	1	480 102 0..0	Wabco TEBS - E (premium)					12mm Nylon
6	3		46 Ltr Air tank					8mm Nylon
7	4	2430GC@127mm	TSE Spring brake chamber					8mm Nylon
8	4	24S@152mm	TSE Service brake chamber					8mm Nylon

**Domett T&T**

DOM5AXFULL/EBS  
7A9E35019E1023301

SIZE: A4  
SCALE: A4

SPEC REFERENCE: 1301

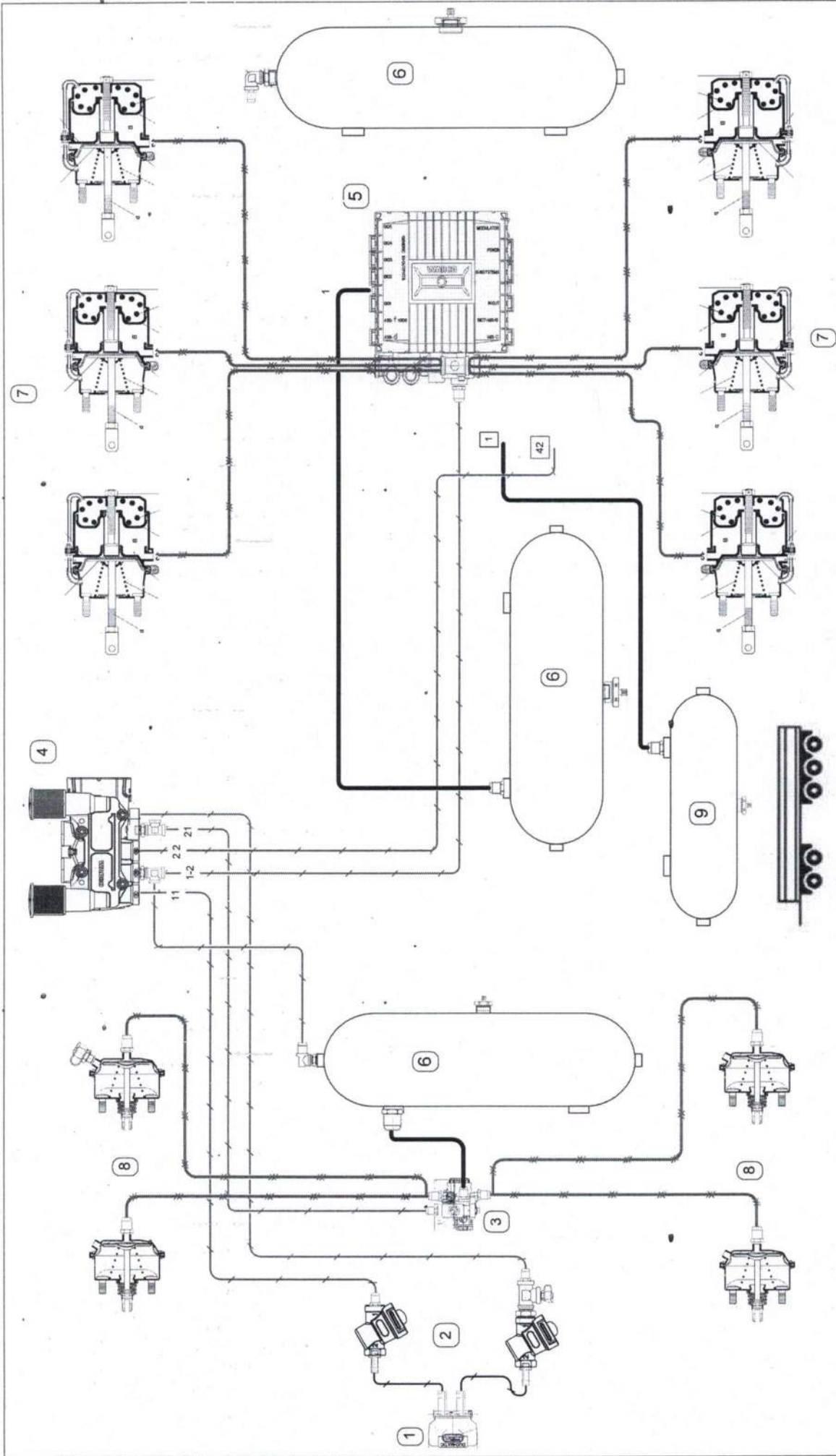
MODEL NUMBER: E3501

REV: 1

SERVICE LINES

**GOUGH Transpecs**

**WABCO**  
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ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION	PIPING LEGEND:
1	1	452 804 001 0	Wabco Duo-Matic coupling	9	1		24.5 Ltr Air Tank	3/8" Rubber
2	2	432 500 020 0	Wabco control line filter	10				3/8" Rubber
3	1	480 207 202 0	Wabco EBS 3 <sup>rd</sup> modulator	11				1/2" Rubber
4	1	971 002 800 0	Wabco PREV	12				15mm Nylon
5	1	480 102 0...0	Wabco TEBS - E (premium)					12mm Nylon
6	3		46 Ltr Air tank					8mm Nylon
7	6	2430CC@127mm	TSE Spring brake chamber					8mm Nylon
8	4	24S@152mm	TSE Service brake chamber					8mm Nylon

**Domett T&T**

DOMSAXFULL/EBS  
7A9E35019E1023301

SIZE: A4  
SCALE: A4

SPEC REFERENCE: 1301

MODEL NUMBER: E3501

REV: 1

PARK LINES

**GOUGH Transpex**

**WABCO**  
Copyright Transpex 2010  
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trailer (full, semi-, centre-axle) with air brake system acc. to UN/ECE-R.13.11

distribution: DOMETT  
 7A9E35019E1023301  
 SODC: JH141023  
 AXLE 5 EQUIPPED WITH 24/30

please note!

This brake calculation is made under consideration of  
 -the legal prescriptions mentioned above in the version valid  
 at the time of making the program (V6.14.04.20).  
 -the functional characteristics of our products  
 as well as the data of the brake out of the test  
 approvals of the axle manufacturers, and  
 -the other vehicle data included in the brake calculation.  
 Please check whether these data correspond to the actual vehicle data.  
 Our conditions of delivery apply (particularly section 9.0).  
 In any case we commend to do a braking harmonisation!  
 WABCOBrake V6.14.04.20 db 08.07.2014

vehicle manufacturer: DOMETT  
 trailer model : 5AFT TIPPER  
 trailer type : 5-axle-full-trailer  
 remarks : air / hydraulic / VA suspension  
 WABCO TRAILER - EBS E  
 TRISTOP 3+4: 24/30  
 265/70 R 19,5

axle 1 + 2 + 3 + 4 + 5 : Hendrickson, HXS 15"x8.625",

		unladen	laden
total mass	P in kg	6720	34300
axle 1	P1 in kg	1650	7250
axle 2	P2 in kg	1650	7250
axle 3	P3 in kg	1140	6600
axle 4	P4 in kg	1140	6600
axle 5	P5 in kg	1140	6600
wheel base	E in mm	5300 - 5300	
centre of gravity height	h in mm	1253	2051

	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 0069.1BC	0069.1BC	0051.0BC	0051.0BC	0069.1
brake chamber manufacturer	BPW	BPW	WABCO	WABCO	BPW
chamber size	24.	24.	24/30	24/30	24.
lever length lbh in mm	152	152	140	140	140
brake factor [-]	8.70	8.70	8.70	8.70	8.70
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	3.0	3.0	3.0	3.0	3.0

calculation:

chamber pressure (rdyn min) pH at z=22,5%bar	2.0	2.0	1.7	1.7	1.7
chamber pressure (rdyn max) pH at z=22,5%bar	2.0	2.0	1.7	1.7	1.7
chamber press. (servo) pcha at pm6,5bar bar	6.5	6.5	4.1	4.1	4.1
piston force ThA at pm6,5bar N	9386	9386	5768	5768	5764
brake force (rdyn min) T lad. at pm6,5bar N	59549	59549	33897	33897	33875
brake force (rdyn max) T lad. at pm6,5bar N	59549	59549	33897	33897	33875
brake force within 1 % rolling friction proportion %	21.1	21.1	19.2	19.2	19.4

braking rate z laden 0.656 for rdyn min  
 z = sum (TR)/PRmax 0.656 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: BPW 05.444.15...

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: BPW 05.444.15...

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:

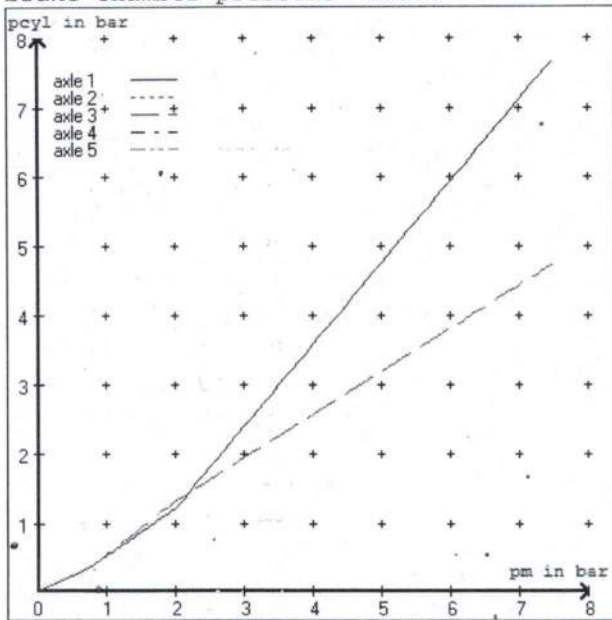
valve 1: 971 002 ... 0 WABCO  
EBS emergency valve

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

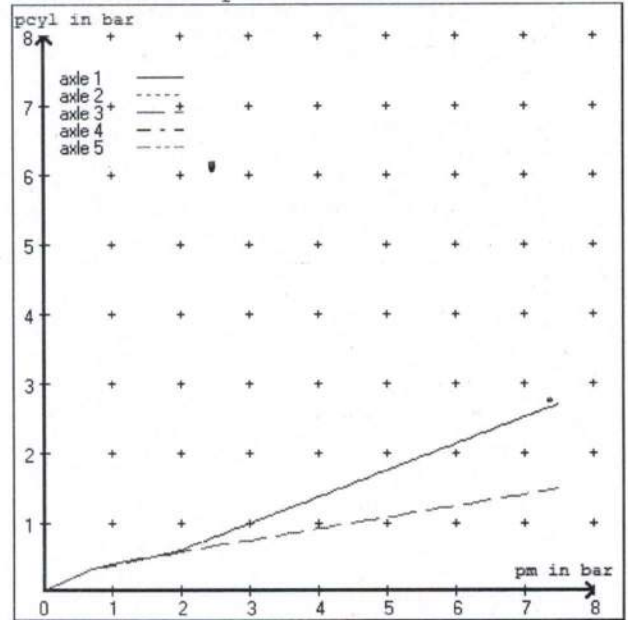
brake cylinder: BPW 05.444.15...

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.4 bar =>	pcha in bar :	2.8	2.8	2.2	2.2	2.2	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 1.2 bar =>	pcha in bar :	0.6	0.6	0.7	0.7	0.7	

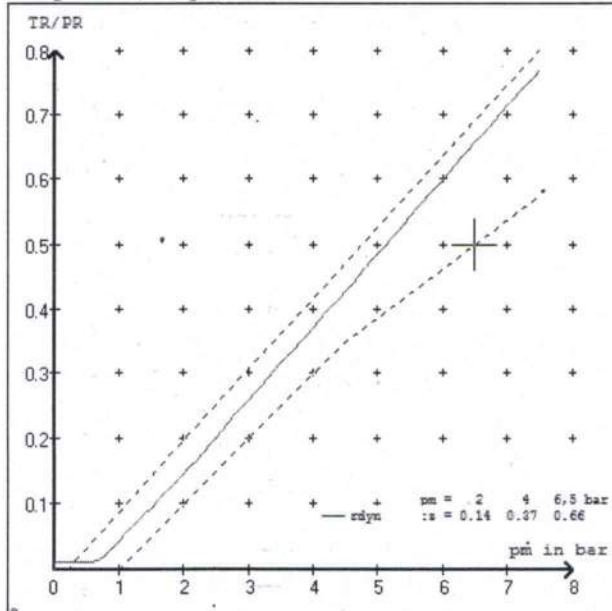
brake chamber pressure laden



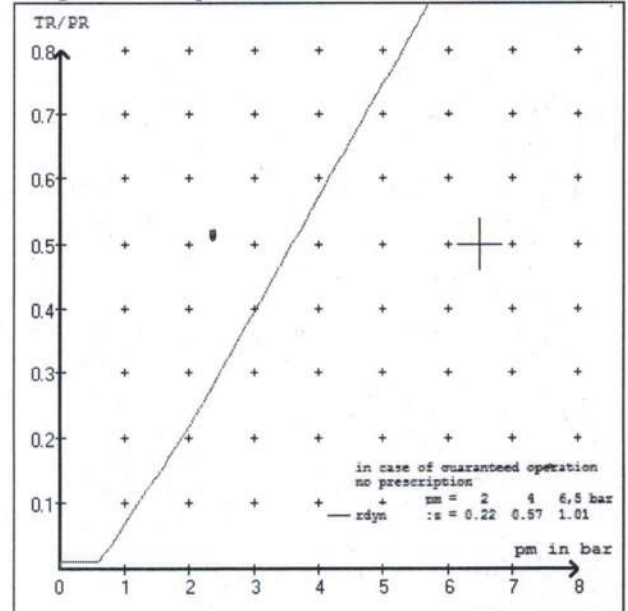
brake chamber pressure unladen



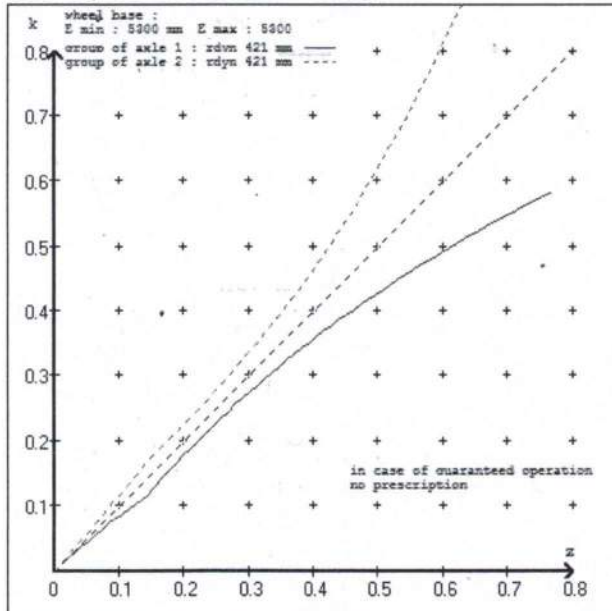
compatibility band laden



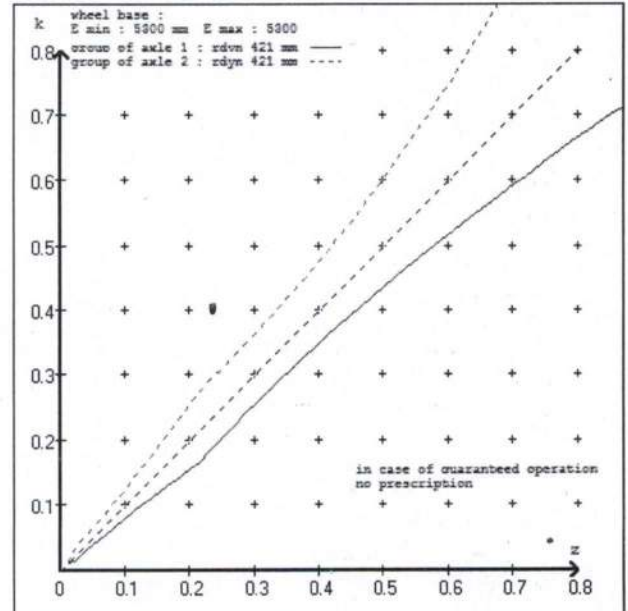
compatibility band unladen



curves of friction laden



curves of friction unladen



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

brake chamber and lever length .:

axle 1 : 2 x type/diameter 24. (BPW) lever length 152 mm  
 axle 2 : 2 x type/diameter 24. (BPW) lever length 152 mm  
 axle 3 : 2 x type/diameter 24/30 (WABCO) lever length 140 mm  
 axle 4 : 2 x type/diameter 24/30 (WABCO) lever length 140 mm  
 axle 5 : 2 x type/diameter 24. (BPW) lever length 140 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  
 trailer model : SAFT TIPPER  
 trailer type : 5-axle-full-trailer  
 brake calculation no. : TP 51116A

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 = 0.650

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	2.3	7250	to be	0.3	1.2	6.5	
2	1650	entered by	2.3	7250	entered by	0.3	1.2	6.5	
3	1140	the vehicle	1.3	6600	the vehicle	0.3	1.3	4.1	
4	1140	manufact.	1.3	6600	manufact.	0.3	1.3	4.1	
5	1140		1.3	6600		0.3	1.3	4.1	

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
1650 2.3	1650 2.3	1140 1.3	1140 1.3	1140 1.3
2150 2.7	2150 2.7	1640 1.6	1640 1.6	1640 1.6
2650 3.0	2650 3.0	2140 1.8	2140 1.8	2140 1.8
3150 3.4	3150 3.4	2640 2.1	2640 2.1	2640 2.1
3650 3.8	3650 3.8	3140 2.3	3140 2.3	3140 2.3
4150 4.2	4150 4.2	3640 2.6	3640 2.6	3640 2.6
4650 4.5	4650 4.5	4140 2.8	4140 2.8	4140 2.8
5150 4.9	5150 4.9	4640 3.1	4640 3.1	4640 3.1
7250 6.5	7250 6.5	6600 4.1	6600 4.1	6600 4.1



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

axle 1 : reference axle: HendricksonINTRAAX	brake lining: Abex 3030-197
test report :	date : 08/25/04
axle 2 : reference axle: HendricksonINTRAAX	brake lining: Abex 3030-197
test report :	date : 08/25/04
axle 3 : reference axle: HendricksonINTRAAX	brake lining: Abex 3030-197
test report :	date : 08/25/04
axle 4 : reference axle: HendricksonINTRAAX	brake lining: Abex 3030-197
test report :	date : 08/25/04*
axle 5 : reference axle: HendricksonINTRAAX	brake lining: Abex 3030-197
test report :	date : 08/25/04

calc. verific. of residual (hot) braking force type III  
(item 4.2.1 of appendix 2 to annex 11)

axle 1	(rdyn 421 mm)	T = 23.9 % Fe
axle 2	(rdyn 421 mm)	T = 23.9 % Fe
axle 3	(rdyn 421 mm)	T = 16.9 % Fe
axle 4	(rdyn 421 mm)	T = 16.9 % Fe
axle 5	(rdyn 421 mm)	T = 16.4 % Fe

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

axle 1	(sp = 74 mm)	s = 46 mm
axle 2	(sp = 74 mm)	s = 46 mm
axle 3	(sp = 63 mm)	s = 42 mm
axle 4	(sp = 63 mm)	s = 42 mm
axle 5	(sp = 72 mm)	s = 42 mm

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

axle1	ThA = 9386 N
axle2	ThA = 9386 N
axle3	ThA = 5768 N
axle4	ThA = 5768 N
axle5	ThA = 5764 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 = 61150 N
axle 2	(rdyn 421 mm)	T = 61150 N
axle 3	(rdyn 421 mm)	T = 34807 N
axle 4	(rdyn 421 mm)	T = 34807 N
axle 5	(rdyn 421 mm)	T = 34784 N

basic test	type III
of subject	(calculated)
trailer (E)	residual
	(hot)braking

braking rate of the vehicle  
(item 4.3.2 to appendix 2 to annex 11)

0.66      0.67

required braking rate  
(items 1.5.3 and 1.7.2 to annex 11)

>= 0,4 and  
>= 0,6\*E (0.39)

axle 1	(rdyn 421 mm)	T = 61150 N
axle 2	(rdyn 421 mm)	T = 61150 N
axle 3	(rdyn 421 mm)	T = 34807 N
axle 4	(rdyn 421 mm)	T = 34807 N
axle 5	(rdyn 421 mm)	T = 34784 N

basic test	type III
of subject	(calculated)
trailer (E)	residual
	(hot)braking

braking rate of the vehicle  
(item 4.3.2 to appendix 2 to annex 11)

0.66      0.67

required braking rate  
(items 1.5.3 and 1.7.2 to annex 11)

>= 0,4 and  
>= 0,6\*E (0.39)

spring parking brake

		<u>axle 3</u>	<u>axle 4</u>
no of TRISTOP-actuators per axle line KDZ		2	2
TRISTOP-actuator type		24/30	24/30
lever length	lBh in mm	140	140
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 0376 005 0	376 005 0376 005 0
sp.brake chamber no 925 ... ..		376 2.. 0376 2.. 0	376 2.. 0376 2.. 0
release pressure	pLs in bar	4.9	4.9

calculation:

ratio until road		3.0374	3.0374
$iFb = lBh * \eta * C * rBt / (2 * rBn * rstat)$	for rstat in mm	401	401
brake force of spring br. Tf in N		38506	38506
$Tf = (TFZ * KDZ - 2 * Co / lBh) * iFb$			
braking rate	zf laden	0.239	
$zf = \sum (Tf) / P + 0,01$			

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 = 3939 mm for E = 5300 mm  
 =====  
 min Ef = 3939 mm for E = 5300 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 = 2051 mm height of center of gravity - laden
- PR = 19800 kg maximum bogie mass - laden
- P = 34300 kg maximum total mass - laden
- nf = 2 no. of axle(s) with TRISTOP spring brake actuators
- ng = 3 no. of bogie axle(s)

axle manufacturer	axle 1 + 2 + 3 + 4 + 5
type of brake	Hendrickson
type of axle	HXS 15"x8.625"
test report no.	INTRAAX
test report of characteristic value	
adm. stat. axle load	Pstat in kg 10500
tested axle load	Pe in kg 10500
max. adm. tyre radius	Rezul in mm 999
adm. cam. torque (6,5 bar)	Czul in Nm 2020
lining area per brake	AB in cm <sup>2</sup> 1351
no. of brake cylinder	- 2
brakefactor Bf	- 8.70
threshold torque (Co,dec)	in Nm 3
date	08/25/04
brake lining	Abex 3030-197
cam torque	Ce in Nm 1480
brake force	TeIII in daN 5220
stroke	seIII in mm 46
tested tyre radius	Re in mm 516
tested lever length	le in mm 152
threshold torque (Co,e)	in Nm 20



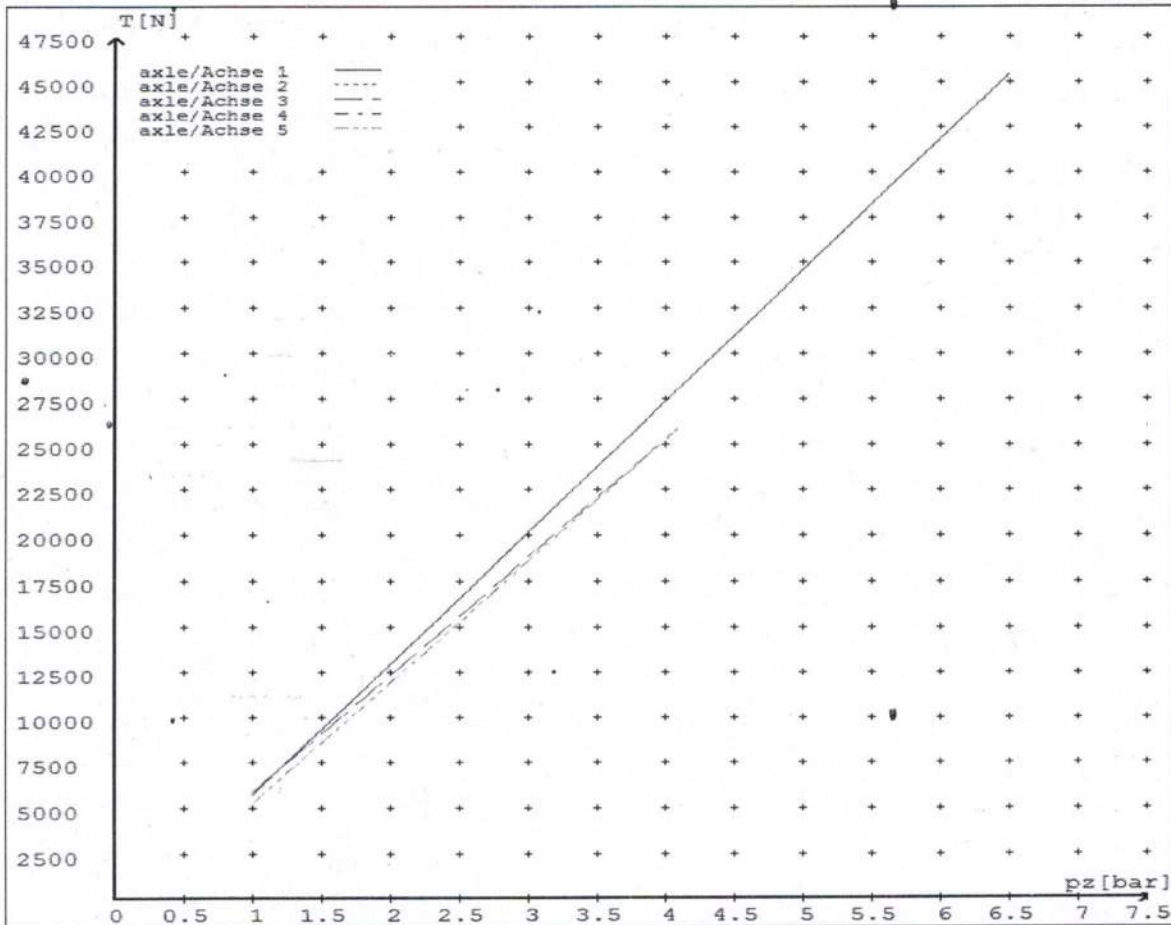
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	5648	
	6.5	45388	
axle 2	1.0	5648	
	6.5	45388	
axle 3	1.0		5766
	4.1		25836
axle 4	1.0		5766
	4.1		25836
axle 5	1.0		5188
	4.1		25819

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	75	75	64	64	75
Lever length = ....mm Hebellänge = ....mm	152	152	140	140	140



reference values for  $z = 0.5$

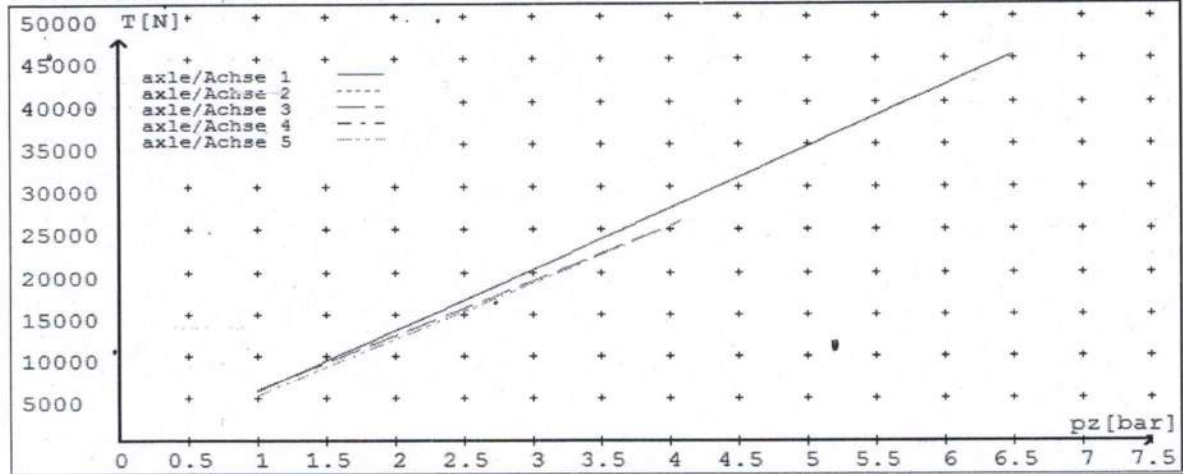
Angabe der Referenzwerte für  $z = 0.5$

brake calculation no: TP 51116A date 09.09.2014

Bremsberechnung Nr: TP 51116A vom 09.09.2014

for max rdyn: 421 mm

für max rdyn: 421 mm



	Axle (s) / Achse (n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24./	24./	24/30	24/30	24./
Maximum stroke $s_{max} = \dots$ mm maximaler Hub $s_{max} = \dots$ mm	75	75	64	64	75
Lever length = $\dots$ mm Hebellänge = $\dots$ mm	152	152	140	140	140