

Heavy Vehicle Specialist Certificate

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) <i>CHRIS COOPER</i>	ID <i>GC</i>
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Vehicle Registration*	VIN/Chassis Number <table border="1" style="width:100%; text-align:center"> <tr> <td>7</td><td>A</td><td>9</td><td>E</td><td>3</td><td>1</td><td>0</td><td>1</td><td>0</td><td>E</td><td>1</td><td>0</td><td>2</td><td>3</td><td>2</td><td>9</td><td>2</td> </tr> </table>	7	A	9	E	3	1	0	1	0	E	1	0	2	3	2	9	2
7	A	9	E	3	1	0	1	0	E	1	0	2	3	2	9	2		

Component being certified:

<input type="checkbox"/> Chassis Modification	<input type="checkbox"/> Load Anchorage	<input type="checkbox"/> Log Bolsters
<input type="checkbox"/> Towing Connection	<input checked="" type="checkbox"/> Brakes	<input type="checkbox"/> SRT
<input type="checkbox"/> PSV Stability	<input type="checkbox"/> PSV Rollover	<input type="checkbox"/> Swept Path
<input type="checkbox"/> PBS		

Certification Category
HUEK

Description of Work

CARRY OUT COMPLIANCE TO THE NZ HEAVY VEHICLE BRAKE RULE

Roll STABILITY FUNCTION ACTIVATED

Code/Standard/Rule Certified to
HUEK 3005/3 & 4005

Component Load Rating(s)
31000KG

General Drawing Number(s)
N/A

Supporting Documents

BASE DESIGN CERTIFICATE - JH KIASI9

CERTAIN EXEMPTION - HMYREK/318

Special Conditions*

WARNING LAMP MUST ILLUMINATE WHEN IGNITION SWITCHED ON THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE EXCEEDS 7KPH.

Certification Expiry Date (if applicable)
N/A

or Hubodometer Reading (whichever comes first)

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Declaration

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

Designer's ID (if different from inspector below)

Inspector's Signature


Inspector's Name (PRINT IN CAPS) ID Number

_____	<table border="1" style="width:100%; text-align:center"> <tr> <td> </td><td> </td><td> </td><td> </td> </tr> </table>				

Date Number

<i>10.10.2014</i>	487875
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CoF Vehicle Inspector ID

CoF Vehicle Inspector Signature

Date

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

Don't Worry

HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH140819

CUSTOMER NAME DOMETT TRAILERS LTD

CUSTOMER ORDER No. 4227 DATE RECEIVED Aug 14

VEHICLE TYPE 5 AXLE FULL TRAILER

REG No. CHASSIS No. 7A9E31010E1023292

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 18HSCLD65	65 mm	69 mm
3&4	TSE 1416HTLD64	64 mm	69 mm
5	TSE 14HSCLD64	64 mm	69 mm
BRAKE SYSTEM:		WABCO EBS : RSS ACTIVATED	
# TEST POINTS FITTED:		3 <u>4</u> 5 7	
FRICITION LINING:		<u>OEM</u>	Aftermarket
(All) Lining Brand		JURID 539	
EBS CONTROL: SPECIAL CONDITIONS APPLY – SEE INSTRUCTION ON LT400:			
VALVES: AS PER BRAKE CALCULATION TP 51102 & SO1557925			
TYRE SIZE: 265 70 R 19.5			
NOTES			
PACKING SLIP NO.	SO1557921	PROCESS TIME:	1
BRAKE CALC #TP51102			
OPTITURN EXEMPTION REF: HMRE14/318			
COMPLETION DATE : 22 nd Aug 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: 22nd Aug 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



NZ TRANSPORT AGENCY
WAKA KOTAHI

NATIONAL OFFICE

50 Victoria Street
Private Bag 6995
Wellington 6141
New Zealand

T 64 4 894 5400
F 64 4 894 6100

www.nzta.govt.nz

Exemption: HMRE14/318
(Reissue)

**EXEMPTION FROM SPECIFIED REQUIREMENTS OF LAND TRANSPORT RULES:
Heavy Vehicles 2004 and Vehicle Dimensions and Mass 2002**

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 requirements listed in Schedule 2, subject to the conditions specified in Schedule 3.

Schedule 1: Vehicle Details:

Make/Model: **Domett Trailers, 5 Axle Split Tipper**
VIN/Chassis: **7A9E31010E1023292**

Schedule 2: Exempted Requirements:

Heavy Vehicles 2004, Rule 31002

- Section 3.5(2)

Vehicle Dimensions & Mass 2002 Rule 41001

- Section 4.2(7)

Schedule 3: Conditions of this Exemption:

- 1) The Wabco OptiTurn function of the TEBS-E system is to be activated.
- 2) System not to operate when the tipping body is in the raised position or in the process of being raised or lowered.
- 3) The vehicle must not be modified in any way while operating under this exemption.
- 4) This original exemption must be kept by Gough Transpecs.
- 5) A copy of this exemption including the OptiTurn function (printed on a silver WABCO sticker) must be affixed to the exempted vehicle.
- 6) The sticker in 5) must be legible and include all printed areas of this original exemption letter.
- 7) This exemption can be revoked at any time in writing by the NZ Transport Agency.

Signed at Wellington this 26th day of September 2014

Jackie Hartley
Administrator (Assessments)

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

distribution: DOMETT
7A9E31010E1023292
SODC: JH140819

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 08.07.2014

vehicle manufacturer: DOMETT
trailer model : 5AFT SPLIT TIPPER
trailer type : 5-axle-full-trailer
remarks : air / hydraulic / VA suspension
WABCO TRAILER - EBS E
TRISTOP 3+4: T.14/16
265/70 R 19,5

axle 1 + 2 + 3 + 4 + 5 : SAF, SBW 1937, TDB 0749 ECE,

		<u>unladen</u>	<u>laden</u>
total mass	P in kg	7780	34000
axle 1	P1 in kg	1880	7250
axle 2	P2 in kg	1880	7250
axle 3	P3 in kg	1340	6500
axle 4	P4 in kg	1340	6500
axle 5	P5 in kg	1340	6500
wheel base	E in mm	5975 - 5975	
centre of gravity height	h in mm	1205	2368

	<u>axle 1</u>	<u>axle 2</u>	<u>axle 3</u>	<u>axle 4</u>	<u>axle 5</u>
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	18.	18.	T.14/16	T.14/16	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	2.4	2.4	2.0	2.0	2.0
chamber pressure(rdyn max)pH at z=22,5%bar	2.4	2.4	2.0	2.0	2.0
chamber press.(servo)pcha at pm6,5bar bar	6.7	6.7	4.2	4.2	4.2
piston force ThA at pm6,5bar N	7185	7185	3984	3984	3984
brake force(rdyn min)T lad. at pm6,5bar N	54354	54354	30094	30094	30094
brake force(rdyn max)T lad. at pm6,5bar N	54354	54354	30094	30094	30094
brake force within 1 % rolling friction proportion %	21.2	21.2	19.2	19.2	19.2

braking rate z laden 0.597 for rdyn min
z = sum (TR)/PRmax 0.597 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 18HSCLD65

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 18HSCLD65

axle 3:

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

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

brake cylinder: Meritor 1416HTLD64

axle 4:

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

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

brake cylinder: Meritor 1416HTLD64

axle 5:

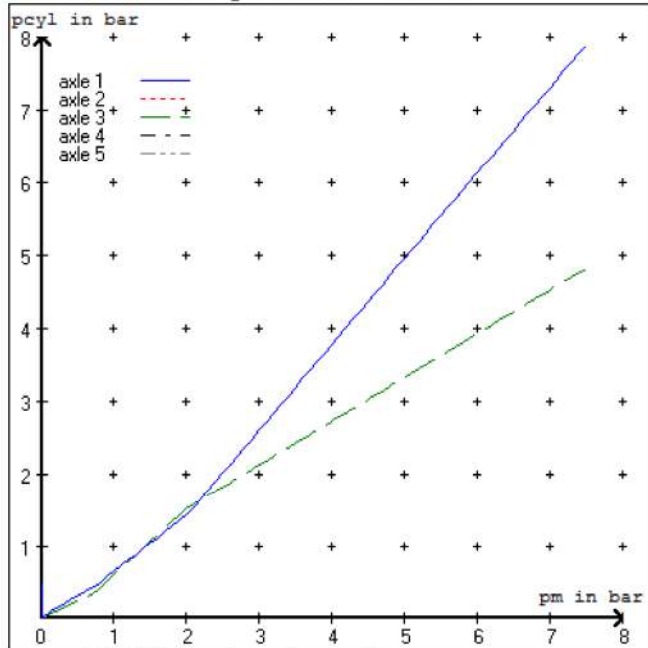
valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

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

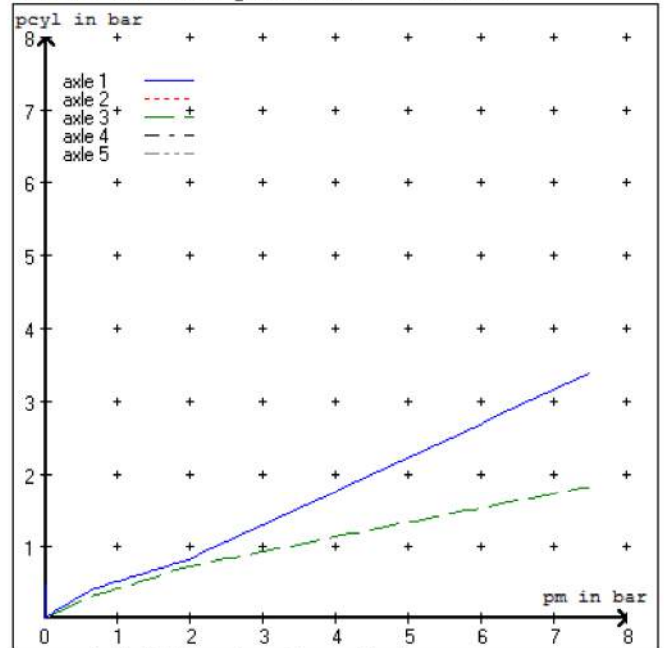
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.6 bar =>	pcha in bar :	3.2	3.2	2.4	2.4	2.4	2.4
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	0.8

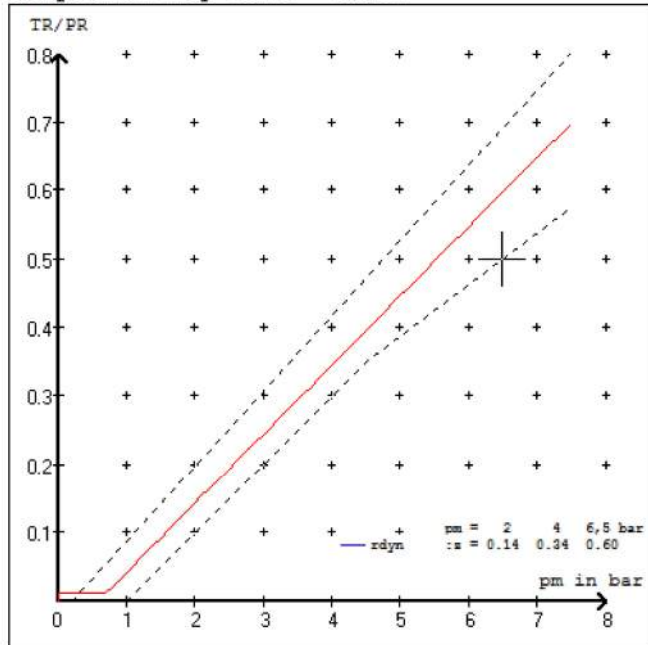
brake chamber pressure laden



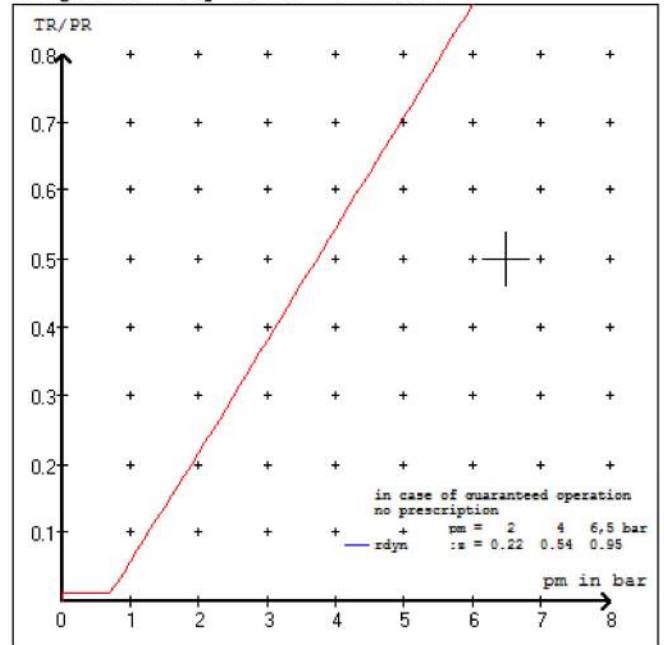
brake chamber pressure unladen



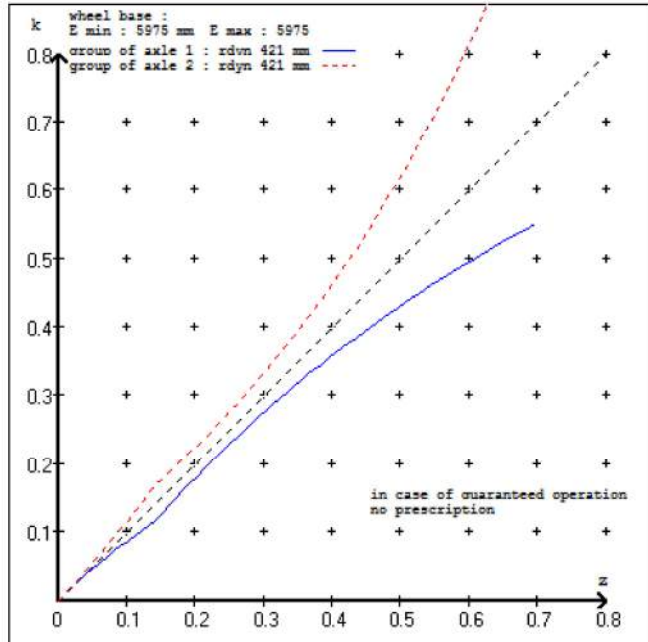
compatibility band laden



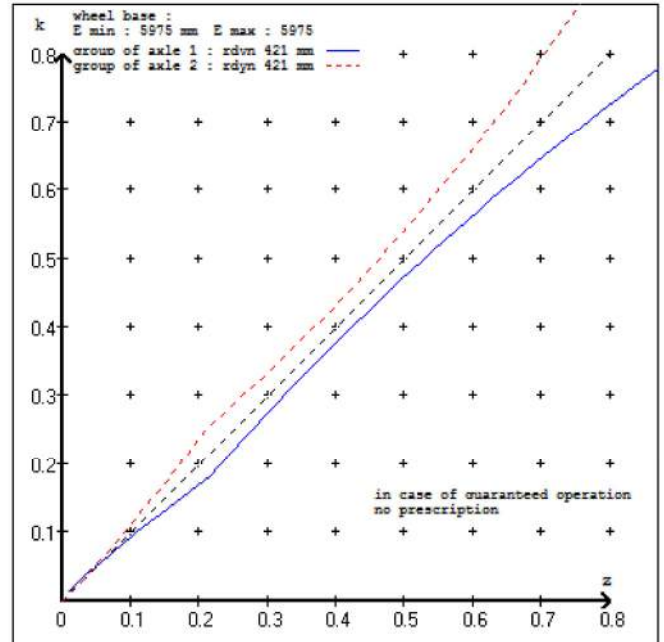
compatibility band unladen



curves of friction laden



curves of friction unladen



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

brake chamber and lever length :

axle 1 : 2 x type/diameter 18. (Meritor) lever length 69 mm
 axle 2 : 2 x type/diameter 18. (Meritor) lever length 69 mm
 axle 3 : 2 x type/diameter T.14/16 (Meritor) lever length 69 mm
 axle 4 : 2 x type/diameter T.14/16 (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
 trailer model : 5AFT SPLIT TIPPER
 trailer type : 5-axle-full-trailer
 brake calculation no. : TP 51102A

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	1880	to be	2.9	7250	to be	0.4	1.4	6.7
2	1880	entered by the vehicle manufact.	2.9	7250	entered by the vehicle manufact.	0.4	1.4	6.7
3	1340		1.6	6500		0.3	1.5	4.2
4	1340		1.6	6500		0.3	1.5	4.2
5	1340		1.6	6500		0.3	1.5	4.2

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 pcy1	axle load pcy1	axle load pcy1	axle load pcy1	axle load pcy1					
1880	2.9	1880	2.9	1340	1.6	1340	1.6	1340	1.6
2380	3.3	2380	3.3	1840	1.9	1840	1.9	1840	1.9
2880	3.6	2880	3.6	2340	2.1	2340	2.1	2340	2.1
3380	4.0	3380	4.0	2840	2.4	2840	2.4	2840	2.4
3880	4.3	3880	4.3	3340	2.6	3340	2.6	3340	2.6
4380	4.7	4380	4.7	3840	2.9	3840	2.9	3840	2.9
4880	5.0	4880	5.0	4340	3.1	4340	3.1	4340	3.1
5380	5.4	5380	5.4	4840	3.4	4840	3.4	4840	3.4
7250	6.7	7250	6.7	6500	4.2	6500	4.2	6500	4.2

spring parking brake

	<u>axle 3</u>	<u>axle 4</u>
no of TRISTOP-actuators per axle line KDZ	2	2
TRISTOP-actuator type	T.14/16	T.14/16
lever length 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	6160	6160
sp.brake chamber no Meritor.....	4	4
release pressure pLs in bar	4.5	4.5

calculation:

ratio until road	3.9674	3.9674
$iF_b = \frac{lBh * \eta * C * r_{Bt}}{r_{Bn} * r_{stat}}$		
for rstat in mm	401	401
brake force of spring br. Tf in N	48188	48188
$T_f = (TFZ * KDZ - 2 * C_o / lBh) * iF_b$		
braking rate zf laden	0.299	
$z_f = \frac{\sum(T_f)}{P} + 0,01$		

Test of the frictional connection required by the parking brake

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

$$\min E_f = E * (1 - \frac{PR}{P} + z_{ferf} * \frac{h}{E}) / (1 - z_{ferf} / (f_{zul} * \frac{n_f}{n_g}))$$

min Ef = 4490 mm for E = 5975 mm

=====

min Ef = 4490 mm for E = 5975 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	=	2368 mm height of center of gravity - laden
PR	=	19500 kg maximum bogie mass - laden
P	=	34000 kg maximum total mass - laden
nf	=	2 no. of axle(s) with TRISTOP spring brake actuators
ng	=	3 no. of bogie axle(s)

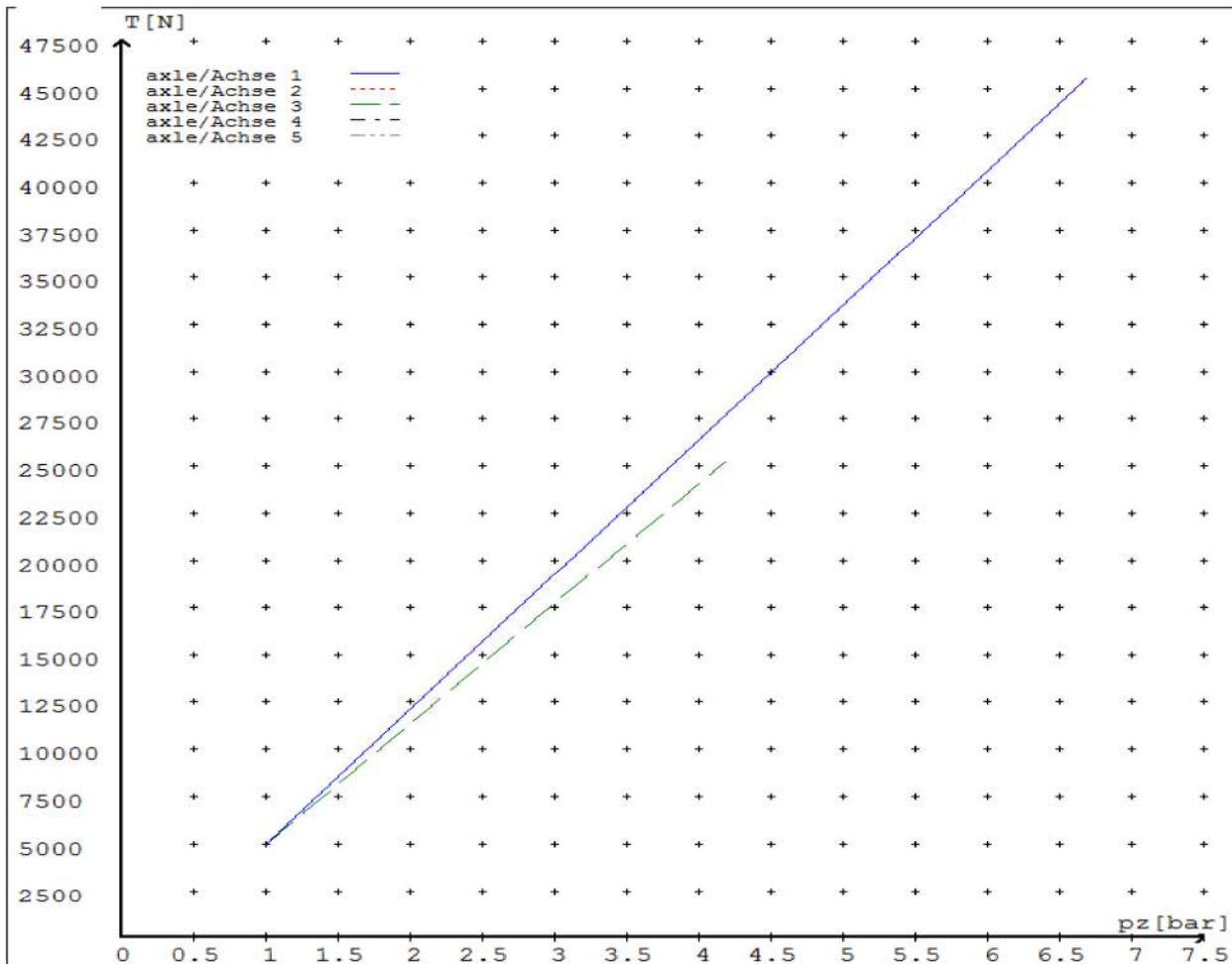
reference values

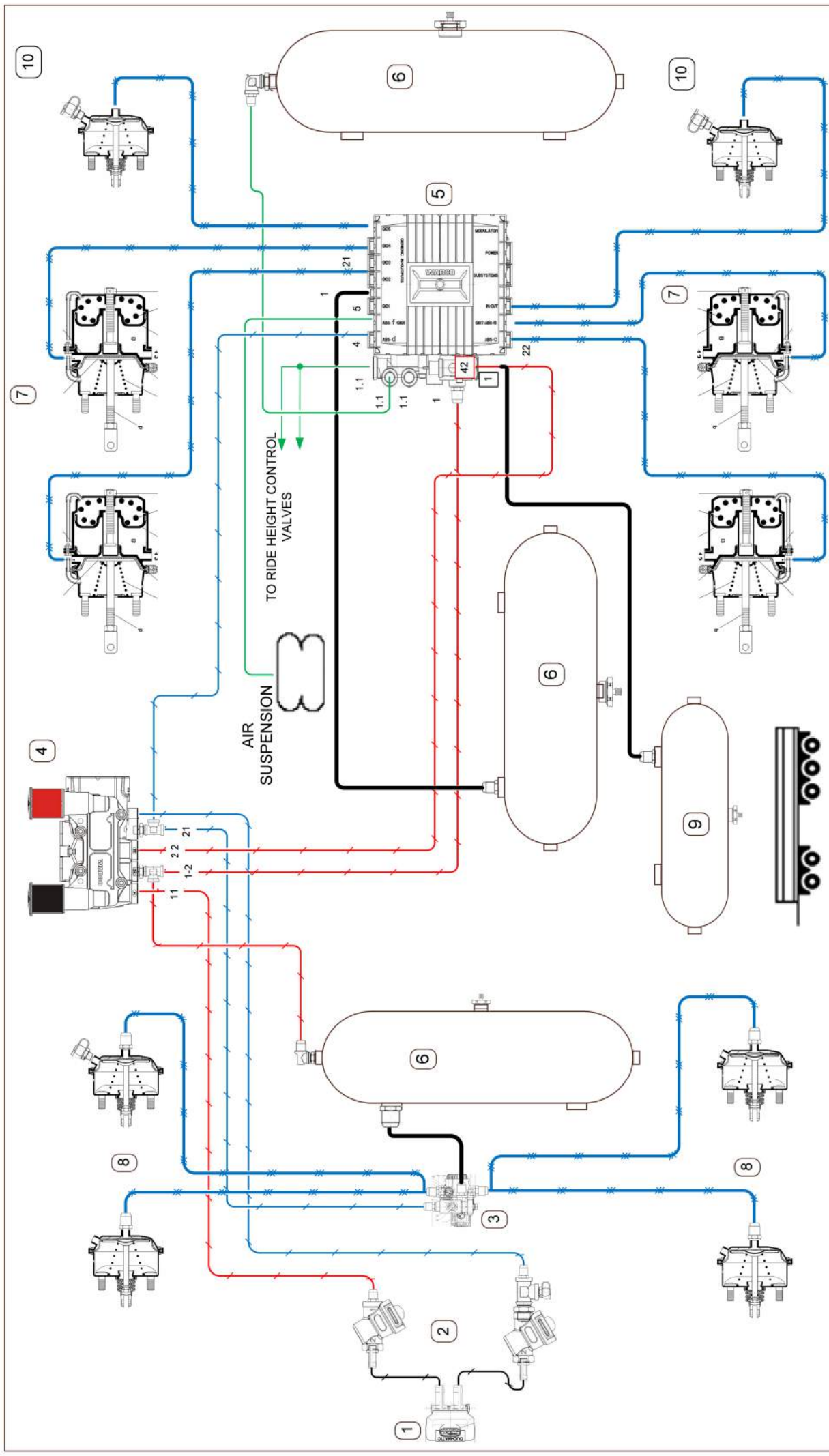
reference values for z = 50% for max rdyn: 421 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0	4932	
	6.7	45522	
axle 2	1.0	4932	
	6.7	45522	
axle 3	1.0		4909
	4.2		25205
axle 4	1.0		4909
	4.2		25205
axle 5	1.0		4909
	4.2		25205

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	18./	18./	T.14/16	T.14/16	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





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	3/8" Rubber	---
2	2	432 500 020 0	Wabco control line filler	10	2	14HSLD64	TSE Service brake chamber	3/8" Rubber	---
3	1	480 207 001 0	Wabco EBS 3" modulator	11				1/2" Rubber	---
4	1	971 002 900 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	1416HTLD64	TSE Spring brake chamber					8mm Nylon	---
8	4	18HSLD65	TSE Service brake chamber					8mm Nylon	---

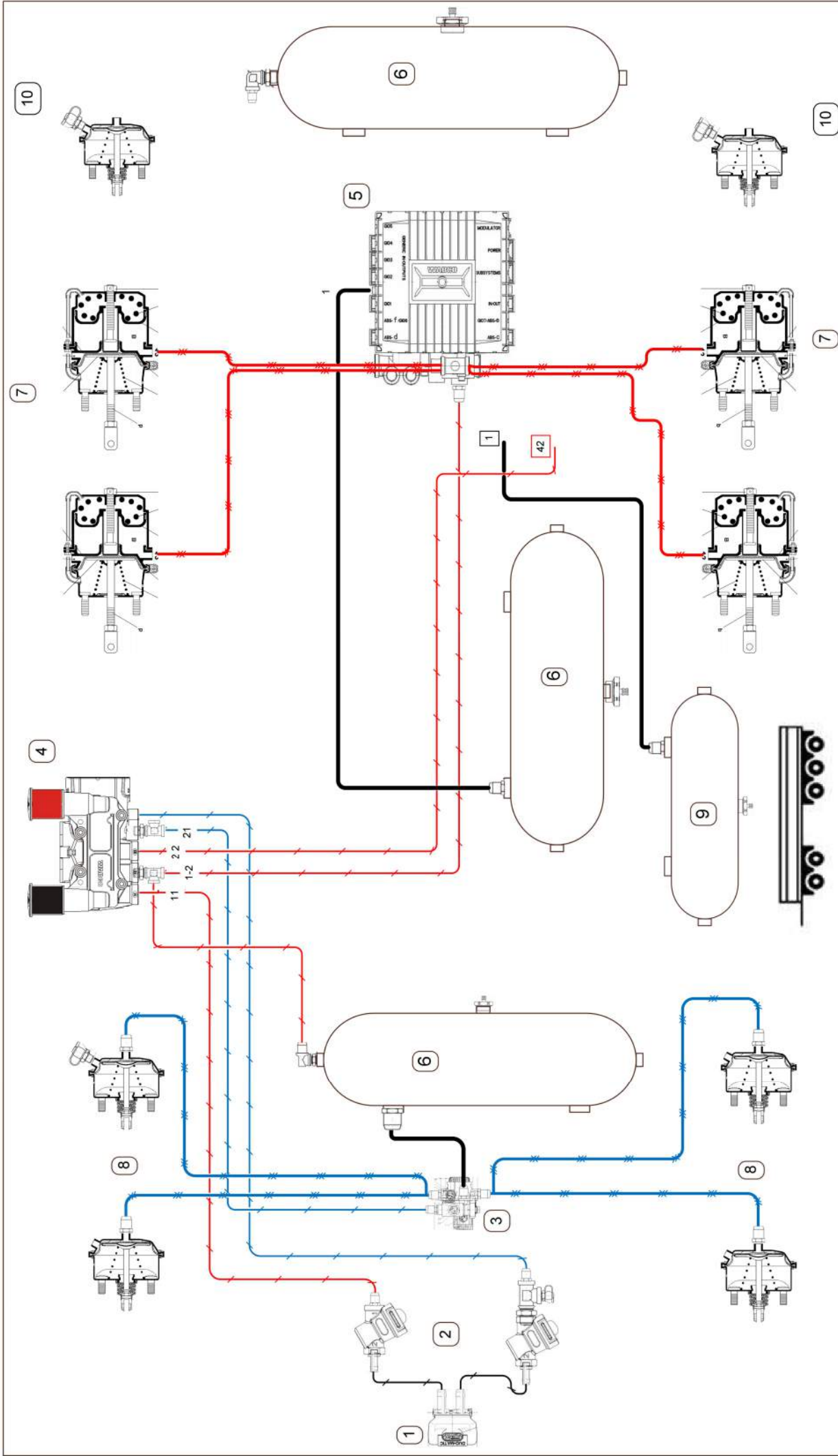
Domett T&T

DOM5AXFULL/EBS
7A9E31010E1023292

GOUGH Transpecs

WABCO
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SIZE	A4	SPEC REFERENCE	1292	MODEL NUMBER	E3101	REV	1
SCALE	SERVICE LINES						



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	3/8" Rubber	1/2" Rubber	15mm Nylon
2	2	432 500 020 0	Wabco control line filler	10	2	14HSLD64	TSE Service brake chamber	12mm Nylon	8mm Nylon	8mm Nylon
3	1	480 207 001 0	Wabco EBS 3rd modulator	11				8mm Nylon		
4	1	971 002 900 0	Wabco PREV	12						
5	1	480 102 0...0	Wabco TEBS - E (premium)							
6	3	1416HTLD64	46 Ltr Air tank							
7	4	18HSLD65	TSE Spring brake chamber							
8	4		TSE Service brake chamber							

Domett T&T

DOM5AXFULU/EBS
7A9E31010E1023292

GOUGH Transpecs

WABCO
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SIZE A4
SPEC REFERENCE 1292
SCALE

MODEL NUMBER E3101
REV 1

PARK LINES