

# 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 <small>(PRINT IN CAPS)</small>	ID
JOHN HIRST	JEH

Vehicle Registration*	VIN/Chassis Number
	<b>7A9E25010E1023318</b>

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

**HVEK**

Description of Work

**CERTIFY TO SCHEDULE 5**

Code/Standard/Rule Certified to	Component Load Rating(s)
<b>HVBR 32015/3</b>	<b>N/A</b>
General Drawing Number(s)	
<b>N/A</b>	

Supporting Documents

**BRAKE CODE CERTIFICATE - JH141205**

**OptiTurn EXEMPTION N/A**

Special Conditions\*

**WARNING LAMP MUST ILLUMINATE WHEN IGNITION IS SWITCHED ON & THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE SPEED EXCEEDS 7 KPH**

Certification Expiry Date <small>(if applicable)</small>	or	Hubodometer Reading <small>(whichever comes first)</small>
<b>N/A</b>		<input type="text"/>

**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

**JEH**

Date

**5-Dec-14**

Number

**493251**

CoF Vehicle Inspector ID	CoF Vehicle Inspector Signature	Date

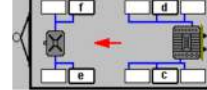
All fields excluding those marked with \* must be completed before this certificate can be accepted.

# WABCO

## START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2014-07-11	Serial number	437000527800H
Serial number (modulator)	000000031359		
Fingerprint Customer EOL / Customer Development / Flash Program	W041610 / 2014-12-05 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

<b>WABCO</b>		<b>TRAILER EBS-E</b>		GGVS/ADR TUEH TB 2007 - 019.00 TDB0749			
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT T&T			GIO	Pin1	Pin3	Pin4
TYP TYPE TYPE	5AFT (STOCK)			1	---	---	---
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E25010E1023318			2	---	---	---
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51025A			3	ALS2	ALS2	---
POLRADZÄHNEZÄHL. 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	4	---	---	---
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	X	Lenkachse Steering axle Essieu vireur	5	DIAG	DIAG	DIAG
	Zwillingsbereifung Twin Tire Monte jumelle		Kippkritisches Fahrzeug Critical Trailer Vehicule critique	6	---	---	---
Subsystems	SB	I/O	24N	7	---	---	---



Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	OK
EBS pressure test	Not tested	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 T&T	Vehicle ident. no	7A9E25010E1023318
Vehicle type	5AFT (STOCK)	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	J HIRST	<b>Signature</b>	
Date	2014-12-05 10:00:05 a.m.		

<b>Vehicle ident. no</b>		7A9E25010E1023318	
<b>Configuration of the lifting axle valves</b>			
Lifting axle 1	LACV	Lifting axle 2	LACV
<b>Braking pressures</b>			
Predominance CAN	0.0	Predominance pm	0.0
<b>Distance Axles / Tread width</b>			
Tread width	2.04	Second axle - Additional axle	5.5
Coupling head - First axle	2.9	Additional axle - Fourth axle	1.3
First axle - Second axle	1.3	Fourth axle - Fifth axle	1.3
<b>Diverse</b>		<b>Tire circumf. [mm]</b>	
X	Warning lamp goes out after 2 seconds (ECE-R13)	Tire circumference Axle c-d	2650
-	Warning lamp goes out at v > 7 km/h	Tire circumference Axle e-f	2650
		<b>CAN messages</b>	
		X	EBS23 Standard
		-	EBS23 group bit
		-	EBS22 no output of total axle load
		-	RGE22 no output for single axle loads
-	Indicate service moment via lamp	X	Support 12V CAN Bus
Service interval (km)	0		
<b>TEBS function selection</b>			
<b>Standard functions</b>			
-	Speed switch1 (ISS1)	-	Demand pressure sensor on R/R (DPS-RR)
-	Speed switch2 (ISS2)	-	Output emergency brake light (EBA)
-	Lifting axle control1 (ILS1)	-	Trailer Safety Brake (TSB)
-	Lifting axle control2 (ILS2)	-	Generic Operating Hour Counter (GOHC)
X	External axle load sensor e-f (ALS2)	-	ELM (ELM)
-	Traction help (TH)	-	External ECAS (eECAS)
-	Lifting axle forced lowering (FL)	-	Bounce Control (relaxation function) (TR-SW)
-	Wear final value (LWI)	-	Brake release function (BR-SW)
X	Diagnosis / Telematic system GIO5 (DIAG)	-	Lifting/Lowering button (LF-SW/LW-SW)
-	Road finisher brake / Trailer extending control (FB)	-	Normal level button (NL-SW)
X	Stop light power supply (24N)	-	Shut-off switch Level control (LC-SW)
-	Unloading level (D-SW)	-	Freely configurable digital function (FKD-I)
-	Normal level 4 (FN4-SW)	-	- with output (FKD-O)
		-	Freely configurable analogue function (FKA-I)
		-	- with output (FKA-O)
		-	Freely configurable function 1 (FCF1)
		-	Freely configurable function 2 (FCF2)
		-	Immobilizer (IM)
		-	- Output for buzzer (IM-SU)
		-	Forklift operation (FLC)
<b>Special functions</b>		<b>Subsystems</b>	
-	Traction help with res. press. maint. (TH+)	-	IVTM (IVTM)
-	OptiTurn / OptiLoad (MH)	-	Remote control unit (RCU)
-	OptiTurn / OptiLoad plus (MH+)	-	Control box (RCB)
-	External axle load sensor c-d (ALS1)	X	SmartBoard (SB)
-	Second ext. axle load sensor c-d (S-ALS1)	-	Telematic system (TS)
-	External demand pressure sensor (DPS)	-	ELEX (ELEX)
-	ABS active signal (ABS-O)		
-	RSS active signal (ABS-O)		
-	Speed signal (V-S)		
-	Steady positive voltage 1 (24V-O1)		
-	Steady positive voltage 2 (24V-O2)		
-	Tilt alert (Tilt warning) (TW)		
-	Steering axle lock (SAC)		



# START-UP PROTOCOL

Vehicle ident. no

7A9E25010E1023318

ISS	On (km/h)	Off (km/h)	Level inverted	RTR Pulse	Cable break detection	Light	Valve
ISS 1	15	10	-	X	-	-	X
ISS 2	15	10	-	X	-	-	X

### Automatic lifting axle control

	Lift (Bar)	Lower (Bar)	Lift (km/h)	Lifting axle function (OptiTurn/OptiLoad) interrupted with parking brake engaged	Valve
Lifting axle 1	0.0	0.0	0	Lower with ignition off	X
Lifting axle 2	0.0			Tag axle residual pressure control	-
				Residual pressure Tag axle (bar)	0.5

### Lifting axle control with OptiLoad or Forklift detection

Raise lifting axle 1 (bar)	0.0	Raise lifting axle 2 (bar)	0.0	X	Mechanical switch
Lower lifting axle 1 (bar)	0.0	Lower lifting axle 2 (bar)	0.0	-	Proximity switch

### Forced lowering lifting axle

X	Button	-	Switch	-	Activation via SmartBoard
X				X	All lifting axles
				-	Only 2nd lifting axle

### Automatic wheelbase control Switch level detection

- +24v only		- Ground only		X	Ground and +24v
- Continuous actuation					

### Traction help

- Traction help automatic with curve detection
- Traction help with ignition on
- Only partial-/full-load

	End at (km/h)	Pressure limitation (bar)	Duration (s)
Traction help	30	0.0	0
- Off-road traction help	30	0.0	0
Activation	X	Button	-
		-	Button and brake
			-
			Only brake

### OptiTurn

- Underspeed		- Curve detection with partial/full load	End at (km/h)	30
- Curve detection		- Via SmartBoard	Pressure limitation (bar)	0.0

### - OptiLoad

Start (km/h)	0	Activate with	Automatic at speed
Pressure limitation (bar)	0.0		- Only at partial-/full-load
Second lifting axle charact.	-		- Manually via button

### Level control

Speed at which adjustment to normal level is triggered automatically (RTR)	15	X	Dead-man switch (continuous button actuation)
	-	Normal level 2	-
		Normal level 3	Normal level 4/unloading level
Front axle	0	0	0
Rear axle	0	0	0
Speed on (km/h)		60	
Speed off (km/h)		40	10
Activation via	-	Smartboard	-
		Remote control unit	-
		Smartboard	
-		Separate lifting/lowering left/right via remote control unit	
-		Level control shut-off via SmartBoard	
Unloading level switch	X	Mechanical	-
		Proximity switch	-
		Proximity switch with separate switch	

Vehicle ident. no

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## ECAS special parameter

Control delay	
Control delay when stopped (s)	1
Control delay when driving (s)	60
Control delay at stand-by (s)	15
Stop time for normal level control with lift/lower button (s)	2.0

## Tolerances

Tolerance front axle (mm)	10
Tolerance rear axle (mm)	10
Permissible right/left deviation rear axle (mm)	20
Maximum deviation right/left or front/rear outside the levels during the lifting/lowering process (s)	50

## Lowering

Lower onto buffer	X
Lower to lower calibrated level	-

## Lifting axle offset

Lifting axle offset	-
Reference of normal level	
To the lowest normal level	-
To the currently selected normal level	X

## Standby operation

Trailer battery installed	-
Activation of standby-mode	
X By pressing Stop button	
- Automatically with ignition off	
Tolerance in Standby (mm)	20
Standby time (h/min)	0/00

Normal level height increase when lifting axle is raised(mm)	0
Normal level height increase with traction help/OptiTurn/OptiLoad (mm)	0

## Plausibility

Limit plausibility check during the lowering process at the front axle (mm)	20
Limit plausibility check during the lowering process at the rear axle (mm)	20
Period plausibility check (s)	30

## ECAS with eTASC / Rotary slide valve

After ignition, actual level is same as nominal level	-
No level control at a standstill	-
Manual lifting / lowering (eTASC)	-

## Other functions

Tire deflection compensation (25mm when fully laden)	X
Front (mm)	25
Rear (mm)	25
Normal level control with reduction in bellows pressure differences (only ECAS 2 point control)	-
Permissible bellows pressure	12.0
Vehicle speed up to which manual height changes are permitted (km/h)	10

## Green ECAS warning lamp

Installed - as LED	-
Behaviour upon faults	
Flashes 4 times after ignition on	-
Flashes permanently	X

## Immobilizer

Buzzer output	X Permanent	- Periodic
Connected Components	X Valve (buzzer)	- Light
Emergency release function		-
Unlock only with engaged parking brake		X

## Proximity switch

Switching threshold (µA)	600
--------------------------	-----

## Steering axle lock

As of speed	30	After reverse driving, disable up to speed (km/h)	10
Level inverted	-	Activation via switch	-
with raised lifting axle	X	Reverse detection via ELEX	X

Vehicle ident. no

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### Road finisher brake / Trailer Extending Control

- Without load-dependent braking pressure (LSV) Pressure test pm (bar) 1.5
- Pressure adjustment with hand brake lever Function active until (km/h) 10
- Actuation only via SmartBoard (no switch required)

Switch

X Mechanical switch

- Proximity switch

- Proximity switch and separate switch

- Road finisher brake, Deactivation unloading level during road finisher operation

- Trailer Extending Control, only brake rear aggregate

Level recognition

X Ground only

- +24v only (with resistance cable)

### Trailer Safety Brake

- Tank truck/Container truck X Tipper - Function can be deactivated with SmartBoard or Trailer Remote Control
- Input signal Proximity switch
- Pressure 3.0 - Display via separate warning lamp

### Emergency brake light output

- Actuation permanent X Actuation periodic
- LED installed 3 Frequency (Hz)

### Bounce Control

- Activation only via SmartBoard (no push-button required)

### Brake release function

- Activation only via SmartBoard
- For wood hauling trailers up to 5km/h

### Freely configurable digital function (GIO-FKD)

Function name

Input

If switch

and speed

- opens

X greater than

X closes

- less than  
15 km/h

Function

after (s)

180

- Switch output

- Invert output

- Save event

Connected Components

X Valve

- Light

Duration of function

for (s)

180

or until speed

30 km/h

X exceeds

- drops below

### Freely configurable analogue function (GIO-FKA)

Function name

Input

When input voltage

and speed

Voltage

3.5

X exceeds

X greater than

- drops below

- less than

15 km/h

Function

after (s)

180

- Switch output

- Invert output

- Save event

Connected Components

X Valve

- Light

Duration of function

for (s)

180

or until speed

30 km/h

X exceeds

- drops below

### Connected Components

	Valve	Light	Cable break detection	No standby
ABS active signal	X	-	X	
RSS active signal	X	-	X	
Steady positive voltage 1			X	-
Steady positive voltage 2			X	-
Speed signal			X	



## START-UP PROTOCOL

Vehicle ident. no

7A9E25010E1023318

### Operating Hour Counter

Service name		-	Display with ABS lamp
Service interval	0	-	Display via external signal light
Input signal	Internal signal	X	Service interval can be reset
Signal name	---	-	Service interval can be changed
Conditions	Active	Threshold value (V)	3.5

### Tilt alert (Tilt warning)

Maximum permissible tilt angle (degree)	2	Connected Components
-	Display only via SmartBoard (no output required!)	X Valve
		- Light

**WABCO****TRAILER EBS-E**GGVS/ADR TUEH TB 2007 - 019.0X  
TDB0749

HERSTELLER MANUFACTURER CONSTRUCTEUR	<b>DOMETT T&amp;T</b>		
TYP TYPE TYPE	<b>5AFT (STOCK)</b>		
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	<b>7A9E25010E1023318</b>		
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	<b>TP51025A</b>		
POLRADZÄHNEZAHL c-d   e-f POLE WHEEL TEETH c-d   e-f DENTS ROUE DENTÉE c-d   e-f	<b>90</b>	<b>90</b>	ABS-System ABS system Système ABS <b>4S/3M</b>
RSS RSS RSS	Einfachbereifung Single Tire Monte simple <b>X</b>	Lenkachse Steering axle Essieu viraur	
	Zwillingsbereifung Twin Tire Monte jumelée	Kippkritisches Fahrzeug Critical Trailer Véhicule critique	
Subsystems	<b>SB</b>	<b>I/O</b>	<b>24N</b>

GIO	Pin1	Pin3	Pin4
1	---	---	---
2	---	---	---
3	<b>ALS2</b>	<b>ALS2</b>	---
4	---	---	---
5	<b>DIAG</b>	<b>DIAG</b>	<b>DIAG</b>
6	---	---	---
7	---	---	---



ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.8	2.0	---	6.5	TYP TYPE	(mm)	(mm)	(bar)	
	H (kg)				H (kg)									1.0	Pz
															TR (daN)
1	1340	0.6	1.6	7500	4.9	0.4	1.3	---	6.3	-	18	65	69	510	4402
2	1340	0.6	1.6	7500	4.9	0.4	1.3	---	6.3	-	18	65	69	510	4402
3	1000	0.4	1.0	6000	3.9	0.3	1.3	---	4.0	-	14 / 16	64	69	501	2463
4	1000	0.4	1.0	6000	3.9	0.3	1.3	---	4.0	-	14 / 16	64	69	501	2463
5	1000	0.4	1.0	6000	3.9	0.3	1.3	---	4.0	-	14	64	69	501	2463



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

distribution: DOMETT T&T  
 7A9E25010E1023318  
 JH141205 - LT400: 493251

please note!

This brake calculation is made under consideration of  
 -the legal precriptions mentioned above in the version valid at the time of making the program (V6.13.11.12).  
 -the functional characteristics of our products as well as the data of the brake out of the test approvals of the axle manufacturers, and  
 -the other vehicle data included in the brake calculation.  
 Please check whether these data correspond to the actual vehicle data. Our conditions of delivery apply (particularly section 9.0).  
 In any case we commend to do a braking harmonisation!  
 WABCOBrake V6.13.11.12 db 20.02.2014

vehicle manufacturer: DOMETT T&T  
 trailer model : 5AFT (STOCK)  
 trailer type : 5-axle-full-trailer  
 remarks : air / hydraulic / VA suspension  
 WABCO TRAILER - EBS E  
 TRISTOP 3+4: T.14/24  
 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	5680	33000
axle 1	P1 in kg	1340	7500
axle 2	P2 in kg	1340	7500
axle 3	P3 in kg	1000	6000
axle 4	P4 in kg	1000	6000
axle 5	P5 in kg	1000	6000
wheel base	E in mm	7400 - 7400	
centre of gravity height	h in mm	1050	2490

		<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	1.9	1.9	1.9	
chamber pressure(rdyn max)pH at z=22,5%bar	2.4	2.4	1.9	1.9	1.9	
chamber press.(servo)pcha at pm6,5bar bar	6.3	6.3	4.0	4.0	4.0	
piston force ThA at pm6,5bar N	6735	6735	3784	3784	3784	
brake force(rdyn min)T lad. at pm6,5bar N	50977	50977	28531	28531	28531	
brake force(rdyn max)T lad. at pm6,5bar N	50977	50977	28531	28531	28531	
brake force within 1 % rolling friction proportion	%	21.2	21.2	19.2	19.2	19.2

braking rate z laden 0.579 for rdyn min  
 z = sum (TR)/PRmax 0.579 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    18HSCLD64

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    18HSCLD64

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:

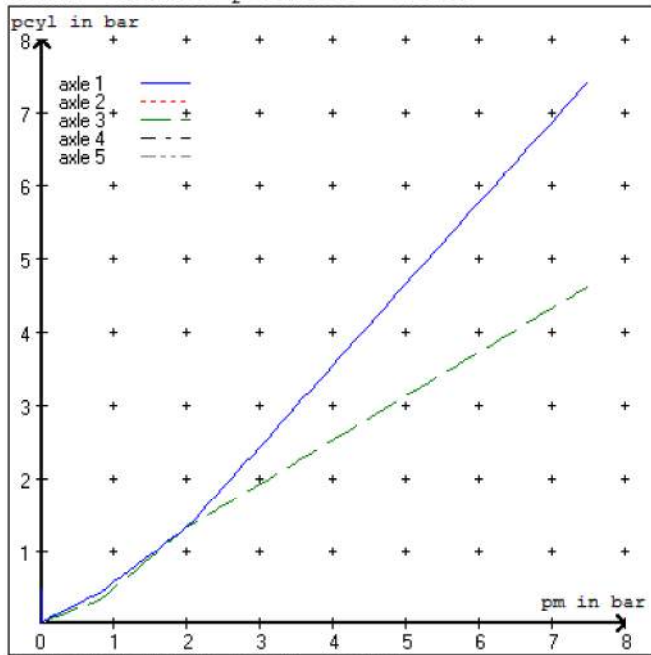
valve 1: 971 002 ... 0 WABCO  
EBS emergency valve

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

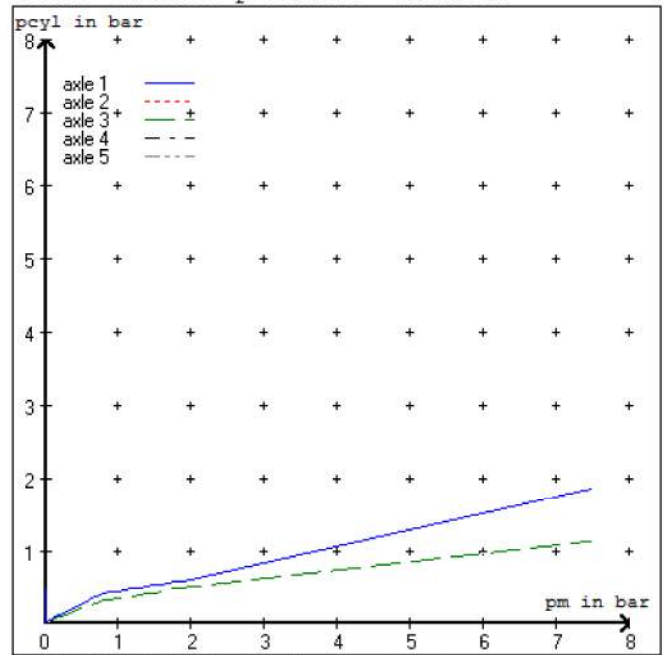
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.7 bar =>	pcha in bar :	3.2	3.2	2.3	2.3	2.3	2.3
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	0.7	0.7	0.7	0.7

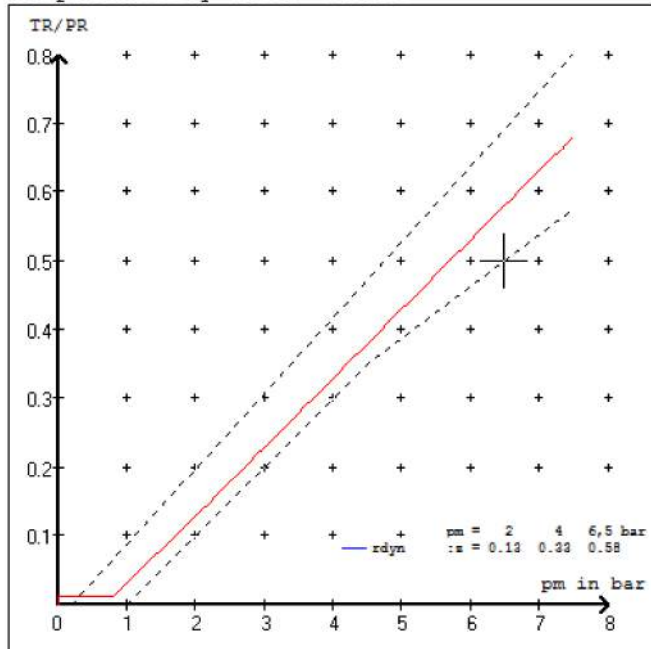
brake chamber pressure laden



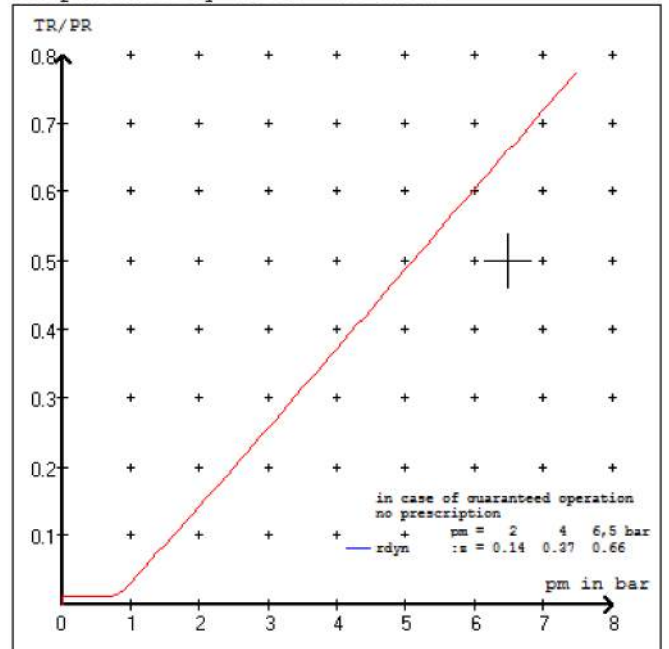
brake chamber pressure unladen



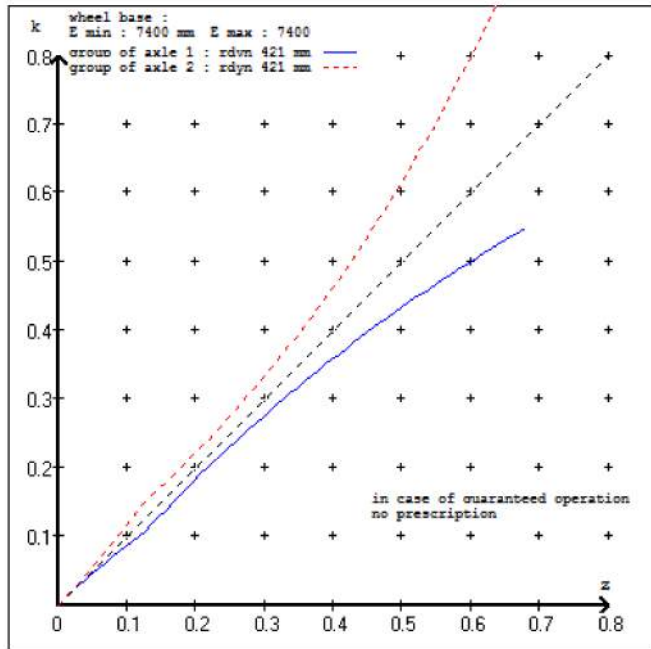
compatibility band laden



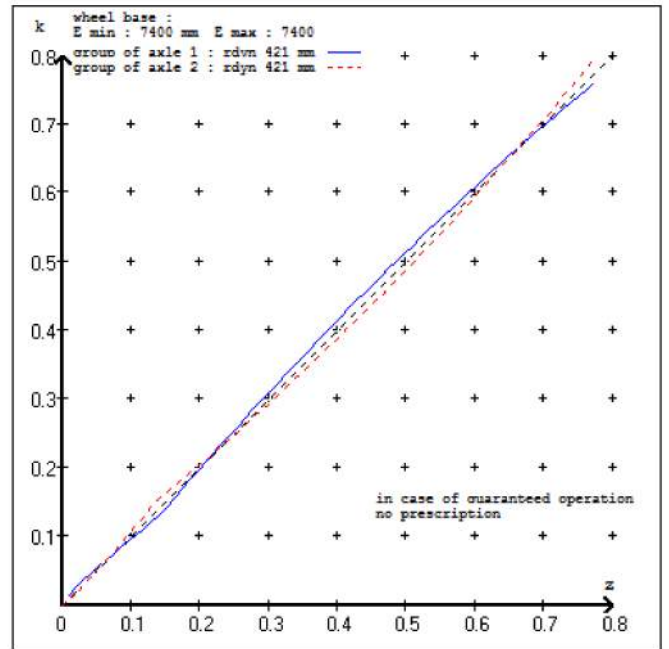
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT T&T  
 trailer model : 5AFT (STOCK)  
 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 T&T  
 trailer model : 5AFT (STOCK)  
 trailer type : 5-axle-full-trailer  
 brake calculation no. : TP 51025A

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 = 0.130  
 6.5 bar z = 0.580

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	1340	to be	1.6	7500	to be	0.4	1.3	6.3
2	1340	entered by the vehicle manufact.	1.6	7500	entered by the vehicle manufact.	0.4	1.3	6.3
3	1000		1.0	6000		0.3	1.3	4.0
4	1000		1.0	6000		0.3	1.3	4.0
5	1000		1.0	6000		0.3	1.3	4.0

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 5
axle load pcyl	axle load pcyl	axle load pcyl	axle load pcyl	axle load pcyl
1340	1340	1000	1000	1000
1840	1840	1500	1500	1500
2340	2340	2000	2000	2000
2840	2840	2500	2500	2500
3340	3340	3000	3000	3000
3840	3840	3500	3500	3500
4340	4340	4000	4000	4000
4840	4840	4500	4500	4500
7500	7500	6000	6000	6000

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 = 24.7 % Fe
axle 2	(rdyn 421 mm)	T = 24.7 % Fe
axle 3	(rdyn 421 mm)	T = 15.9 % Fe
axle 4	(rdyn 421 mm)	T = 15.9 % Fe
axle 5	(rdyn 421 mm)	T = 15.9 % 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 = 55 mm)	s = 39 mm
axle 4	(sp = 55 mm)	s = 39 mm
axle 5	(sp = 55 mm)	s = 39 mm

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

axle1	ThA = 6735 N
axle2	ThA = 6735 N
axle3	ThA = 3784 N
axle4	ThA = 3784 N
axle5	ThA = 3784 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 = 39813 N
axle 2	(rdyn 421 mm)	T = 39813 N
axle 3	(rdyn 421 mm)	T = 22363 N
axle 4	(rdyn 421 mm)	T = 22363 N
axle 5	(rdyn 421 mm)	T = 22363 N

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	basic test	type III
	of subject trailer (E)	(calculated) residual (hot)braking
	0.58	0.45

required braking rate (items 1.5.3 and 1.7.2 to annex 11)	>= 0,4 and >= 0,6*E (0.35)
--	-------------------------------

axle 1	(rdyn 421 mm)	T = 39813 N
axle 2	(rdyn 421 mm)	T = 39813 N
axle 3	(rdyn 421 mm)	T = 22363 N
axle 4	(rdyn 421 mm)	T = 22363 N
axle 5	(rdyn 421 mm)	T = 22363 N

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	basic test	type III
	of subject trailer (E)	(calculated) residual (hot)braking
	0.58	0.45

required braking rate (items 1.5.3 and 1.7.2 to annex 11)	>= 0,4 and >= 0,6*E (0.35)
--	-------------------------------

spring parking brake

	<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
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	0.308	
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

$$\text{min Ef} = E * (1 - PR/P + zferf * h/E) / (1 - zferf / (fzul * nf/ng))$$

min Ef = 5754 mm    for E = 7400 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        =                    2490 mm height of center of gravity - laden
- PR      =                    18000 kg maximum bogie mass - laden
- P        =                    33000 kg maximum total mass - laden
- nf       =                    2        no. of axle(s) with TRISTOP spring brake actuators
- ng       =                    3        no. of bogie axle(s)

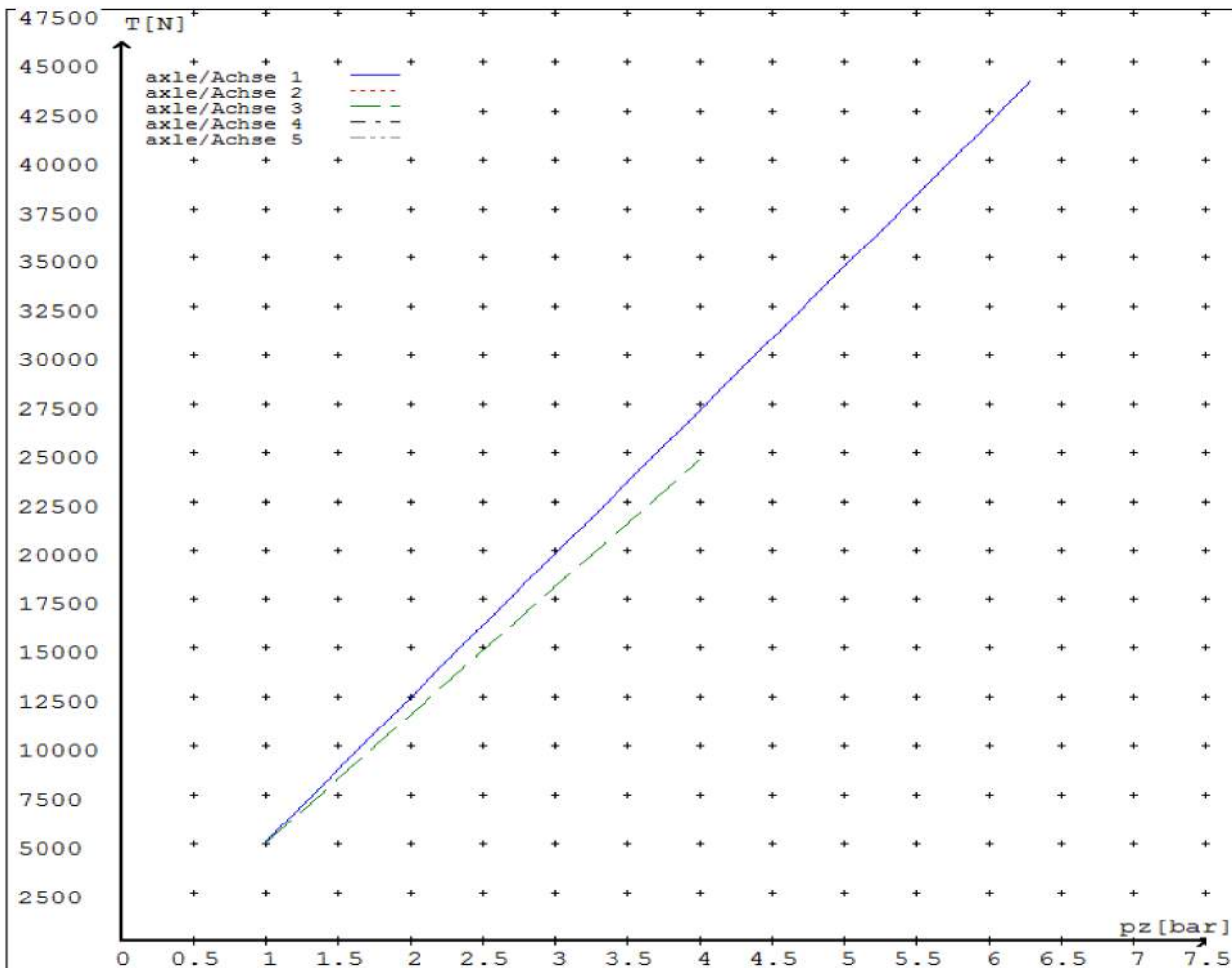
**reference values**

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

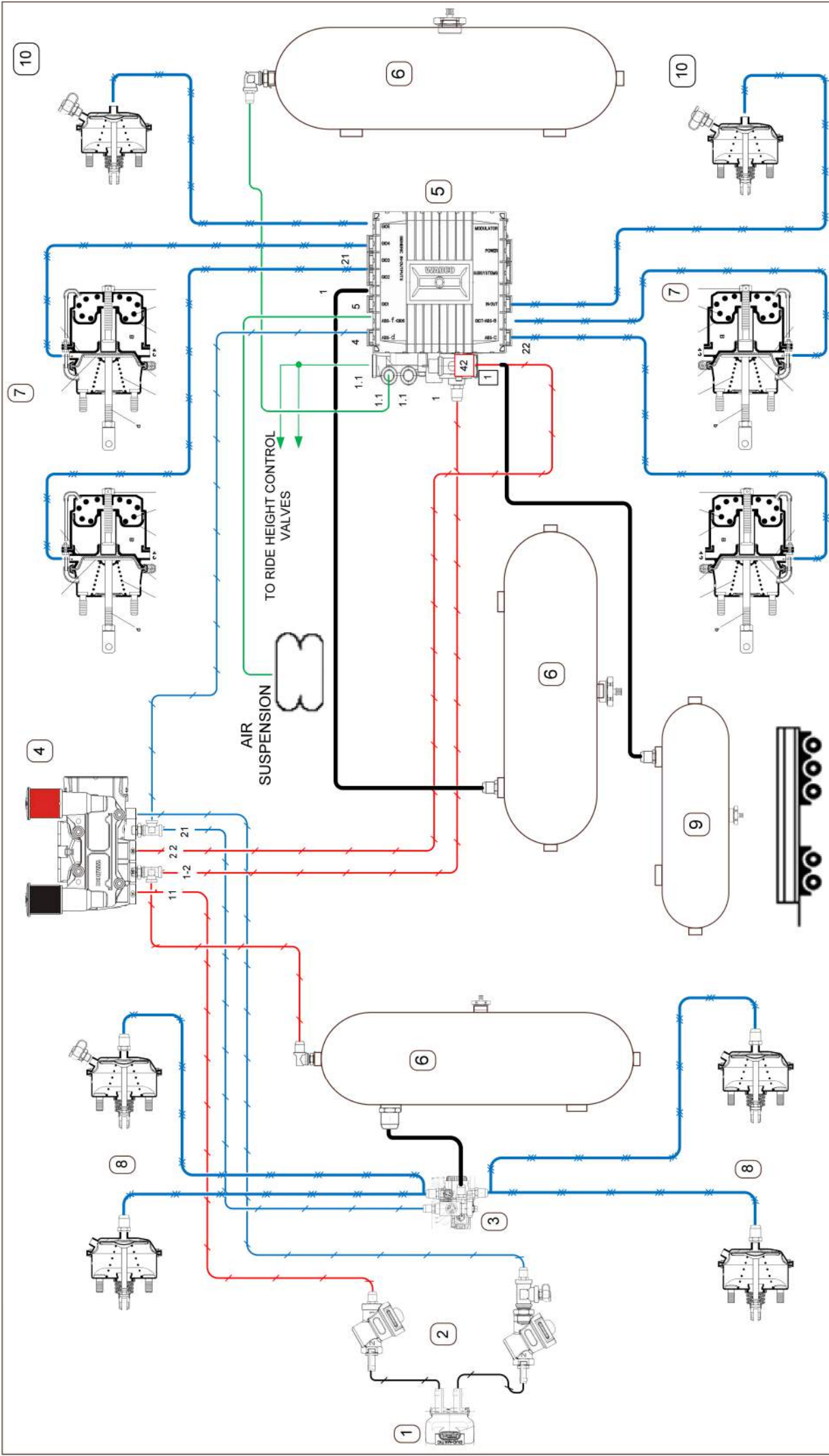
	pz [bar]	T [N]	T [N]
axle 1	1.0	5107	
	6.3	44022	
axle 2	1.0	5107	
	6.3	44022	
axle 3	1.0		5019
	4.0		24638
axle 4	1.0		5019
	4.0		24638
axle 5	1.0		5019
	4.0		24638

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



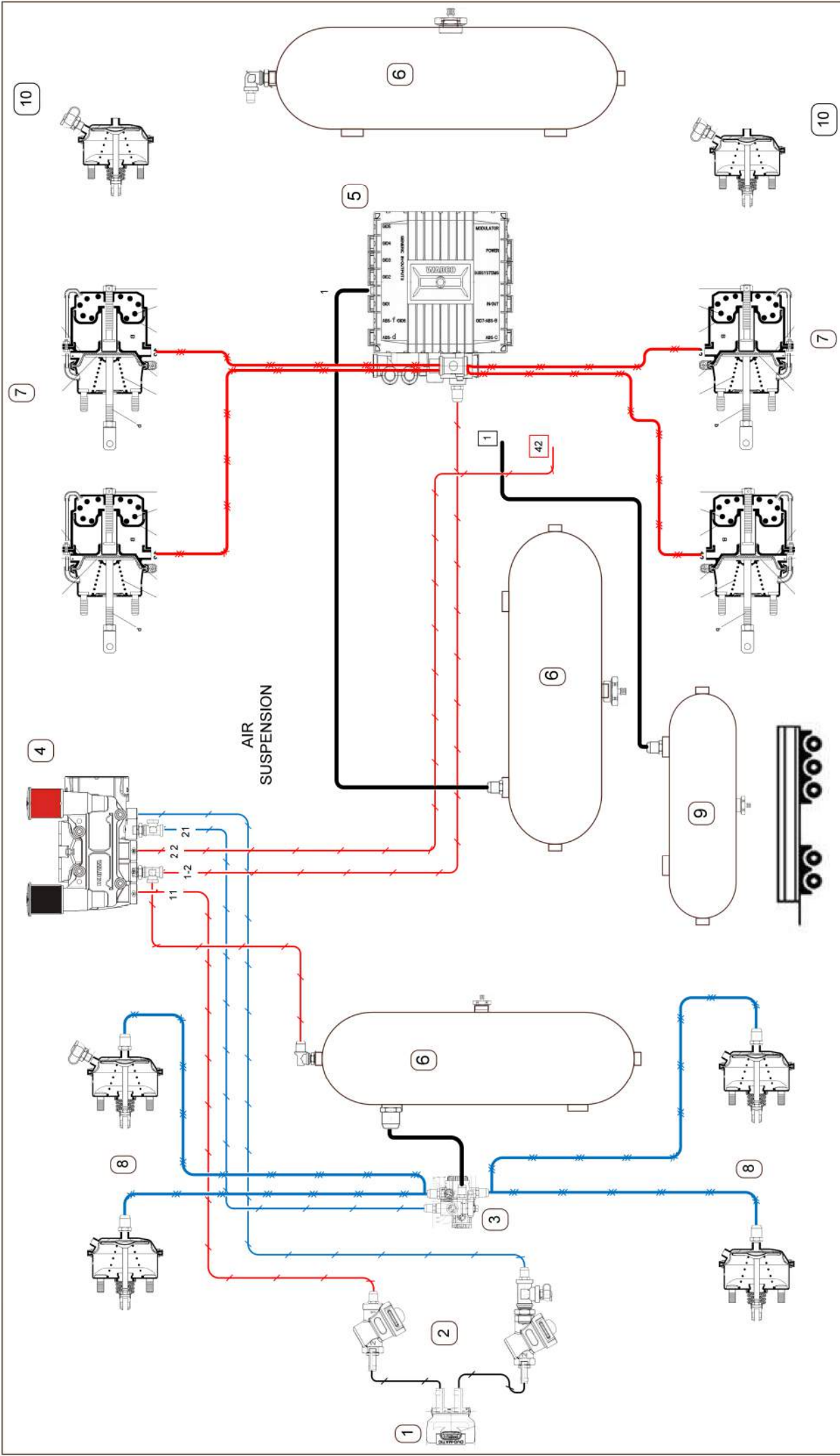




ITEM		QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION	PIPING LEGEND:
1	452 804 001 0	1		Wabco Duo-Matic coupling	9	1	9534	24.5 Ltr Air Tank	3/8" Rubber
2	432 500 020 0	2		Wabco control line filter	10	2	TSE14HSLD64	TSE Service brake chamber	3/8" Rubber
3	480 207 202 0	1		Wabco EBS 3 <sup>rd</sup> modulator	11				1/2" Rubber
4	971 002 900 0	1		Wabco PREV	12				15mm Nylon
5	480 102 0...0	1		Wabco TEBS - E (premium)					12mm Nylon
6		3		46 Ltr Air tank					8mm Nylon
7	1416HTLD64	6		TSE Spring brake chamber					8mm Nylon
8	18HSLD65	4		TSE Service brake chamber					8mm Nylon

<b>GOUGH Transpecs</b> <b>WABCO</b> Copyright Transpecs 2010 All rights reserved		<b>Domett T&amp;T</b> DOM5AXFULL/EBS 7A9E2501	
		SIZE A4 SCALE	SPEC REFERENCE MODEL NUMBER E2501 REV 1



ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION
1	1	452 804 001 0	Wabco Duo-Matic coupling	9	1	9534	24.5 Ltr Air Tank
2	2	432 500 020 0	Wabco control line filter	10	2	14HSCLD64	TSE Service brake chamber
3	1	480 207 202 0	Wabco EBS 3 <sup>rd</sup> modulator	11			
4	1	971 002 900 0	Wabco PREV	12			
5	1	480 102 0...0	Wabco TEBS - E (premium)				
6	3		46 Ltr Air tank				
7	4	1416HTLD64	TSE Spring brake chamber				
8	4	18HSCLD65	TSE Service brake chamber				

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		SIZE A4 SCALE	SPEC REFERENCE MODEL NUMBER E2501
REV 1		PARK LINES	

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

# HVBR WORKSHEET

(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No.

JH141205

CUSTOMER NAME

DOMETT TRAILERS LTD

CUSTOMER ORDER No.

4312

DATE RECEIVED

Dec 14

VEHICLE TYPE

5 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9E25010E1023318

## 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 4 5 7

FRICITION LINING:

OEM

Aftermarket

(All) Lining Brand

JURID 539

EBS CONTROL: SPECIAL CONDITIONS APPLY – SEE INSTRUCTION ON LT400:493251

VALVES: AS PER BRAKE CALCULATION TP 51025 & SO1566162

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO1566162

PROCESS TIME:

1

BRAKE CALC #TP51025

SODC# JH141205

COMPLETION DATE : 5<sup>th</sup> Dec 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: 5<sup>th</sup> Dec 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