

# 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) **JOHN HIRST** ID **VEH**

Vehicle Registration\* VIN/Chassis Number **7A9E2501XE1023309**

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 **NZ4VB2 32015 | 3** Component Load Rating(s) **N/A**

General Drawing Number(s) **N/A**

Supporting Documents  
**BRAKE CODE CERTIFICATE JH141048**

Special Conditions\*  
**WARNING LAMP MUST ILLUMINATE WHEN THE IGNITION IS SWITCHED ON & THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE SPEED EXCEEDS 7 KM/H**

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  
 Inspector's Name (PRINT IN CAPS) **JOHN HIRST** ID Number **JEH**  
 Date **28.10.14** Number **488681**

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	2014-07-18	Serial number	437000719200L
Serial number (modulator)	000000032611		
Fingerprint Customer EOL / Customer Development / Flash Program	W041610 / 2014-10-28 ; 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			GIO	Pin1	Pin3	Pin4
TYP TYPE TYPE	5AFT STOCK			1	ILS1	---	ILS1
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E2501XE1023309			2	eTASC	---	eTASC
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51159A			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	---	MH	LS1
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	Lenkachse Steering axle Essieu vireur	4S/3M	5	DIAG	DIAG	DIAG
	Zwillingsbereifung Twin Tire Monte jumelle	X	Kippkritisches Fahrzeug Critical Trailer Véhicule critique	6	---	---	---
Subsystems	---	I/O	24N	7	---	---	---

	280 mm	
--	--------	--

ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.7		2.0		---		6.5		TYP TYPE	(mm)	(mm)	(bar)	
	↓ (kg)	⊗	⊗	⊗	↓ (kg)	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	1.0				Pz	
1	1400	0.5	2.2	7500	4.8	0.4	1.4	---	6.6	-	18	65	69	491	4445				
2	1400	0.5	2.2	7500	4.8	0.4	1.4	---	6.6	-	18	65	69	491	4445				
3	1300	0.5	1.6	6000	3.7	0.3	1.4	---	4.1	-	14 / 16	64	69	482	2432				
4	1300	0.5	1.6	6000	3.7	0.3	1.4	---	4.1	-	14 / 16	64	69	482	2432				
5	1300	0.5	1.6	6000	3.7	0.3	1.4	---	4.1	1	14	64	69	482	2432				

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	OK
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	7A9E2501XE1023309
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	2014-10-28 6:48:26 p.m.		

<b>Vehicle ident. no</b>		7A9E2501XE1023309	
<b>Configuration of the lifting axle valves</b>			
Lifting axle 1	LACV-IC	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	4.3
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		- Support 12V CAN Bus	
Service interval (km)	0		
<b>TEBS function selection</b>			
<b>Standard functions</b>			
<ul style="list-style-type: none"> <li>- Speed switch1 (ISS1)</li> <li>- Speed switch2 (ISS2)</li> <li>X Lifting axle control1 (ILS1)</li> <li>- Lifting axle control2 (ILS2)</li> <li>X External axle load sensor e-f (ALS2)</li> <li>- Traction help (TH)</li> <li>- Lifting axle forced lowering (FL)</li> <li>- Wear final value (LWI)</li> <li>X Diagnosis / Telematic system GIO5 (DIAG)</li> <li>- Road finisher brake / Trailer extending control (FB)</li> <li>X Stop light power supply (24N)</li> <li>- Unloading level (D-SW)</li> <li>- Normal level 4 (FN4-SW)</li> </ul>			
<b>Special functions</b>			
<ul style="list-style-type: none"> <li>- Traction help with res. press. maint. (TH+)</li> <li>X OptiTurn / OptiLoad (MH)</li> <li>- OptiTurn / OptiLoad plus (MH+)</li> <li>- External axle load sensor c-d (ALS1)</li> <li>- Second ext. axle load sensor c-d (S-ALS1)</li> <li>- External demand pressure sensor (DPS)</li> <li>- ABS active signal (ABS-O)</li> <li>- RSS active signal (ABS-O)</li> <li>- Speed signal (V-S)</li> <li>- Steady positive voltage 1 (24V-O1)</li> <li>- Steady positive voltage 2 (24V-O2)</li> <li>- Tilt alert (Tilt warning) (TW)</li> <li>- Steering axle lock (SAC)</li> </ul>			
		<ul style="list-style-type: none"> <li>- Demand pressure sensor on R/R (DPS-RR)</li> <li>- Output emergency brake light (EBA)</li> <li>- Trailer Safety Brake (TSB)</li> <li>- Generic Operating Hour Counter (GOHC)</li> <li>- ELM (ELM)</li> <li>- External ECAS (eECAS)</li> <li>- Bounce Control (relaxation function) (TR-SW)</li> <li>- Brake release function (BR-SW)</li> <li>- Lifting/Lowering button (LF-SW/LW-SW)</li> <li>- Normal level button (NL-SW)</li> <li>- Shut-off switch Level control (LC-SW)</li> <li>- Freely configurable digital function (FKD-I) <ul style="list-style-type: none"> <li>- with output (FKD-O)</li> </ul> </li> <li>- Freely configurable analogue function (FKA-I) <ul style="list-style-type: none"> <li>- with output (FKA-O)</li> </ul> </li> <li>- Freely configurable function 1 (FCF1)</li> <li>- Freely configurable function 2 (FCF2)</li> <li>- Immobilizer (IM) <ul style="list-style-type: none"> <li>- Output for buzzer (IM-SU)</li> </ul> </li> <li>- Forklift operation (FLC)</li> </ul>	
		<b>Subsystems</b>	
		<ul style="list-style-type: none"> <li>- IVTM (IVTM)</li> <li>- Remote control unit (RCU)</li> <li>- Control box (RCB)</li> <li>- SmartBoard (SB)</li> <li>- Telematic system (TS)</li> <li>- ELEX (ELEX)</li> </ul>	



# START-UP PROTOCOL

Vehicle ident. no

7A9E2501XE1023309

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	0.3	3.7	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
X	Curve detection	-	Via SmartBoard	Pressure limitation (bar)	3.4

### OptiLoad

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

### Level control

Speed at which adjustment to normal level is triggered automatically (RTR)	5	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

7A9E2501XE1023309

## ECAS special parameter

Control delay	
Control delay when stopped (s)	5
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	
- By pressing Stop button	
X 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)	X

## Other functions

Tire deflection compensation (25mm when fully laden)	-
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

7A9E2501XE1023309

### 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

Input signal Proximity switch

Pressure 3.0

- Function can be deactivated with SmartBoard or Trailer Remote Control

- Display via separate warning lamp

### Emergency brake light output

- Actuation permanent

- LED installed

X Actuation periodic

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

7A9E2501XE1023309

### 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</b>		
TYP TYPE TYPE	<b>5AFT STOCK</b>		
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	<b>7A9E2501XE1023309</b>		
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	<b>TP51159A</b>		
POLRADZÄHNEZAHN 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		Lenkachse Steering axle Essieu viraur
	Zwillingsbereifung Twin Tire Monte jumelée	<b>X</b>	Kippkritisches Fahrzeug Critical Trailer Véhicule critique
Subsystems	---	I/O	<b>24N</b>

GIO	Pin1	Pin3	Pin4
1	ILS1	---	ILS1
2	eTASC	---	eTASC
3	ALS2	ALS2	---
4	---	---	LS1
5	DIAG	DIAG	DIAG
6	---	---	---
7	---	---	---



ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.7	2.0	---	6.5	TYP TYPE	(mm)	(mm)	(bar)	
	H (kg)				H (kg)				pz	1.0				Pz	
	TR (daN)														
1	1400	0.5	2.2	7500	4.8	0.4	1.4	---	6.6	-	18	65	69	491	4445
2	1400	0.5	2.2	7500	4.8	0.4	1.4	---	6.6	-	18	65	69	491	4445
3	1300	0.5	1.6	6000	3.7	0.3	1.4	---	4.1	-	14 / 16	64	69	482	2432
4	1300	0.5	1.6	6000	3.7	0.3	1.4	---	4.1	-	14 / 16	64	69	482	2432
5	1300	0.5	1.6	6000	3.7	0.3	1.4	---	4.1	1	14	64	69	482	2432



Exemption: HMRE14/392

**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, 5 Axle Full Trailer**  
VIN/Chassis: **7A9E2501XE1023309**

**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) The vehicle must not be modified in any way while operating under this exemption.
- 3) This original exemption must be kept by Gough Transpecs.
- 4) A copy of this exemption including the OptiTurn function (printed on a silver WABCO sticker) must be affixed to the exempted vehicle.
- 5) The sticker in 4) must be legible and include all printed areas of this original exemption letter.
- 6) This exemption can be revoked at any time in writing by the NZ Transport Agency.

Signed at Wellington this 20th day of October 2014



Jackie Hartley  
Administrator (Assessments)

C.O.G CALCULATOR DOMETT CHASSIS: 1023309

Max Height  
4.25

U/L CoG  
1.05

Tare Weight  
9

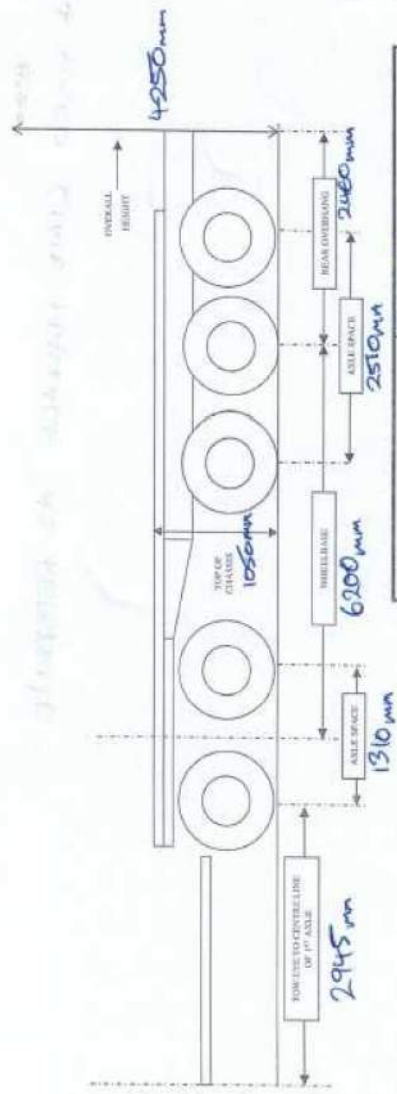
GVM  
32

Body Type  
5

C.O.G = 2.315

DIMENSIONS TO BE ENTERED IN METRES  
WEIGHTS TO BE ENTERED IN TONNES

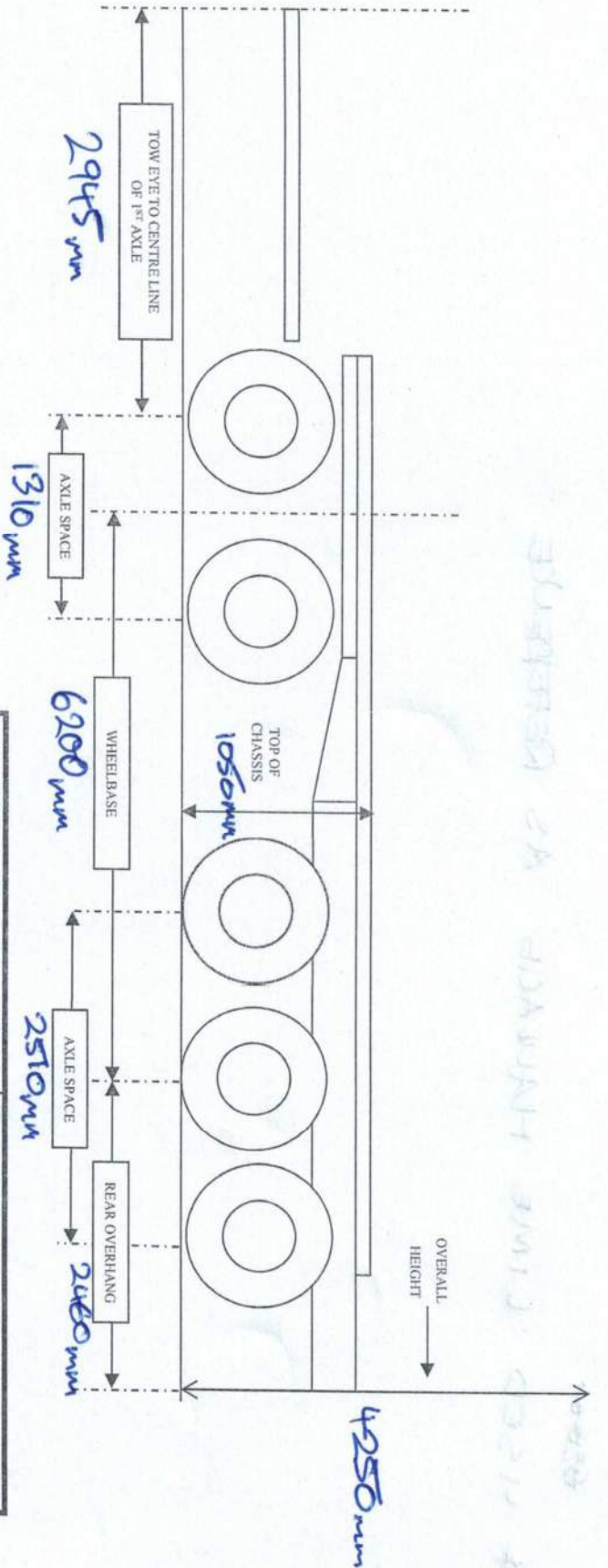
- Body Type  
 1 = C SIDER  
 2 = FLAT DECK  
 3 = Uniform Density (Tipper)  
 4 = TANKER  
 5 = STOCK



ORDER NUMBER 4290  
 VIN NUMBER TAEE250X1013309  
 ABS  WITH  
 EBS  OPTITURN  
 LSV   
 VOLTAGE: 12V 24V 24/110 Volt  
 PRIME MOVER MAKE Fuso

MAKE	DOMETT
MODEL	B2501
CHASSIS NO.	1309
TYPE	5 AXLE Full TRAILER
BODY TYPE	LIVESTOCK
GVM	32000
TARE WEIGHT FRONT	22-720 kg
TARE WEIGHT REAR	2320 kg
AXLE TYPE/MAKE	INTRADISC SIKRE 9014
AXLE TEST REPORT NUMBER	
SUSPENSION	INTRADISC 1028/2005PE-68A
BRAKE CHAMBER SIZES	
TYRE SIZE	265/70 R19.5

⚠️ Windows needs your current c



ORDER NUMBER 4290

Vin NUMBER 7A9E2501XE1013309

ABS  WITH

EBS  OPTITURN

LSV

VOLTAGE: 12V 24V MultiVolt

PRIME MOVER MAKE Fuso

MAKE	<u>DOMETT</u>
MODEL	<u>E2501</u>
CHASSIS NO.	<u>1309</u>
TYPE	<u>5 AXLE Full TRAILER</u>
BODY TYPE	<u>LIVESTOCK</u>
GVM	<u>32000</u>
TARE WEIGHT FRONT	<u>N2-720 kg</u>
TARE WEIGHT REAR	<u>N3120 kg</u>
AXLE TYPE/MAKE	<u>INTRADISC SKRZ 9019W</u>
AXLE TEST REPORT NUMBER	<u>INTRADISC 1U28/2005RZ-68A</u>
SUSPENSION	
BRAKE CHAMBER SIZES	
TYRE SIZE	<u>265/70 R19.5</u>



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

distribution: DOMETT  
 7A9E2501XE1023309  
 JH141048 - LT400: 488681  
 OPTI: HMRE14/392

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 STOCK  
 trailer type : 5-axle-full-trailer  
 remarks : air / hydraulic / VA suspension  
 WABCO TRAILER - EBS  
 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	6700	33000
axle 1	P1 in kg	1400	7500
axle 2	P2 in kg	1400	7500
axle 3	P3 in kg	1300	6000
axle 4	P4 in kg	1300	6000
axle 5	P5 in kg	1300	6000
wheel base	E in mm	6200 - 6200	
centre of gravity height	h in mm	1050	2315

	<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
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	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	6.6	6.6	4.1	4.1	4.1
piston force ThA at pm6,5bar N	7072	7072	3884	3884	3884
brake force(rdyn min)T lad. at pm6,5bar N	53528	53528	29288	29288	29288
brake force(rdyn max)T lad. at pm6,5bar N	53528	53528	29288	29288	29288
brake force within 1 % rolling friction proportion	%	21.2	19.2	19.2	19.2

braking rate z laden 0.602 for rdyn min  
 z = sum (TR)/PRmax 0.602 for rdyn max

Trailer may only be operated in combination with trucks/tractors with ISO 7638 supply (5 or 7 polar).

brake diagram :

maximum pressure: 8.5 bar

axle 1:

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

valve 2: 480 207 0.. 0                    WABCO        or 480 207 2.. 0  
          EBS relay valve

brake cylinder: Meritor    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

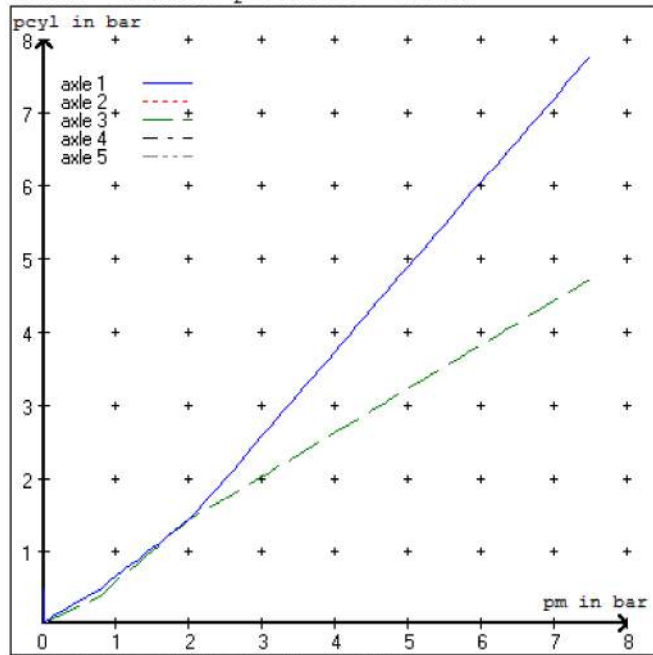
valve 2: 480 102 ... 0 WABCO  
EBS trailer modulator

brake cylinder: Meritor 14HSCLD64

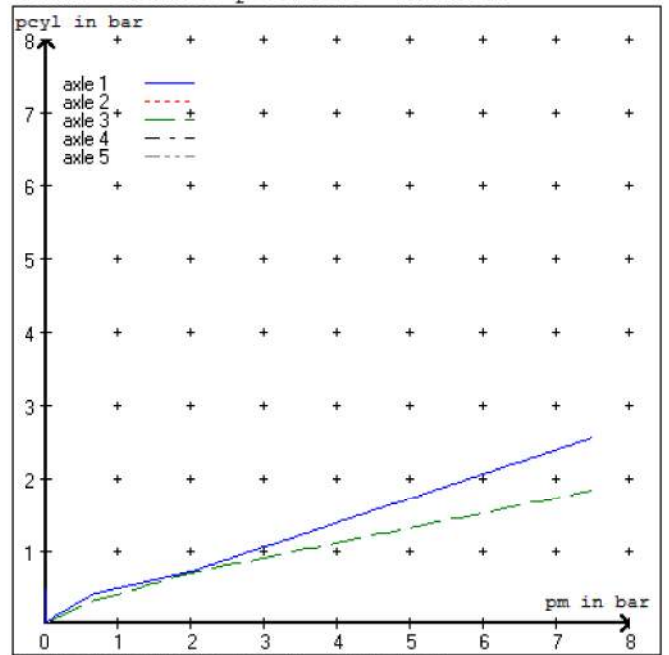
test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.6 bar =>	pcha in bar :	3.2	3.2	2.3	2.3	2.3	2.3
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 1.2 bar =>	pcha in bar :	0.8	0.8	0.7	0.7	0.7	0.7



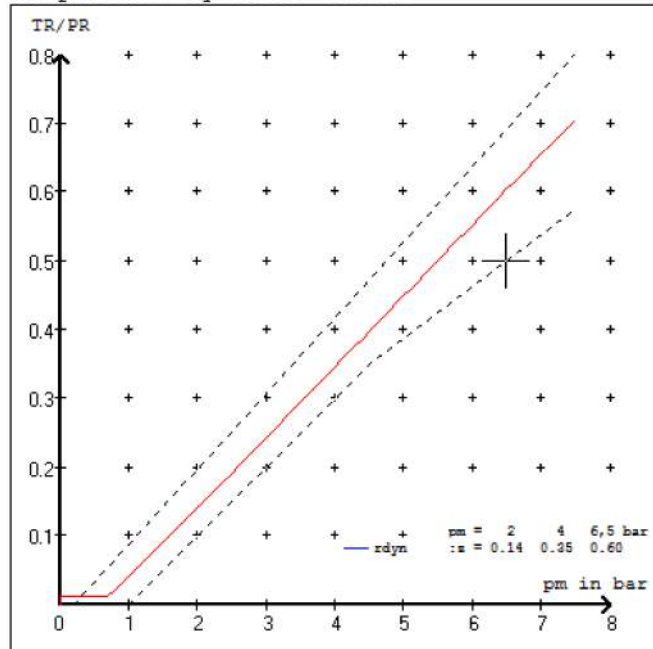
brake chamber pressure laden



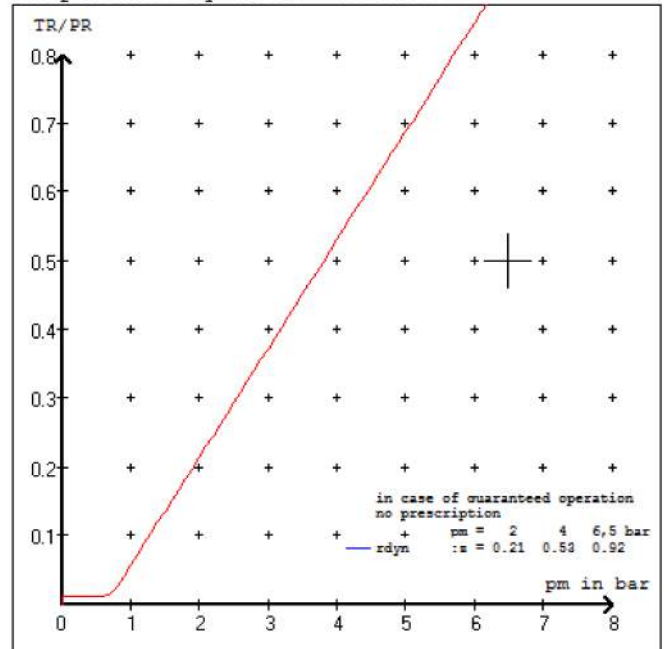
brake chamber pressure unladen



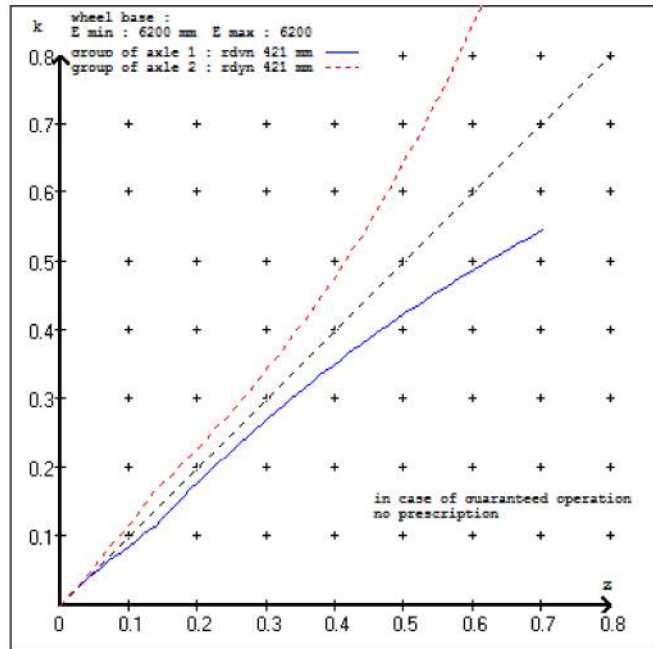
compatibility band laden



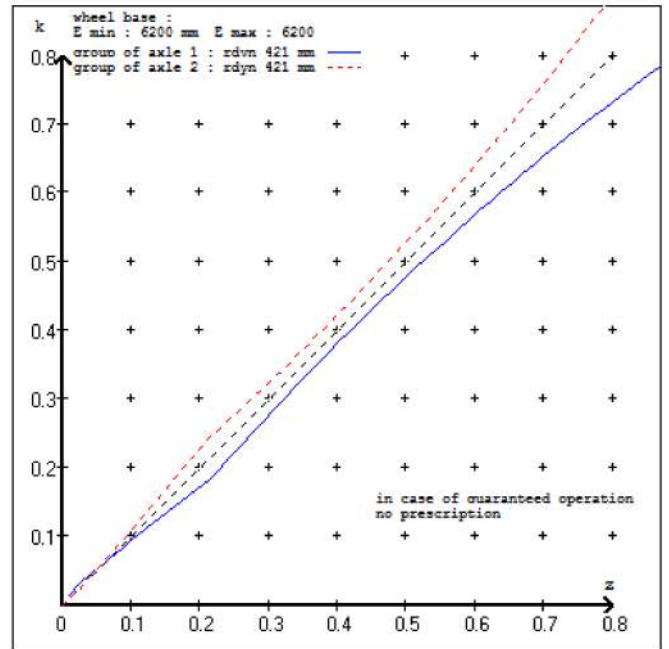
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT  
 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  
 trailer model : 5AFT STOCK  
 trailer type : 5-axle-full-trailer  
 brake calculation no. : TP 51159A

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	1400	to be	2.2	7500	to be	0.4	1.4	6.6
2	1400	entered by the vehicle manufact.	2.2	7500	entered by the vehicle manufact.	0.4	1.4	6.6
3	1300		1.6	6000		0.3	1.4	4.1
4	1300		1.6	6000		0.3	1.4	4.1
5	1300		1.6	6000		0.3	1.4	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	axle load	axle load	axle load	axle load
pcyl	pcyl	pcyl	pcyl	pcyl
1400	1400	1300	1300	1300
2.2	2.2	1.6	1.6	1.6
1900	1900	1800	1800	1800
2.6	2.6	1.9	1.9	1.9
2400	2400	2300	2300	2300
2.9	2.9	2.1	2.1	2.1
2900	2900	2800	2800	2800
3.3	3.3	2.4	2.4	2.4
3400	3400	3300	3300	3300
3.6	3.6	2.7	2.7	2.7
3900	3900	3800	3800	3800
4.0	4.0	2.9	2.9	2.9
4400	4400	4300	4300	4300
4.4	4.4	3.2	3.2	3.2
4900	4900	4800	4800	4800
4.7	4.7	3.5	3.5	3.5
7500	7500	6000	6000	6000
6.6	6.6	4.1	4.1	4.1

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
axle 5 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 20130930 30.09.2013

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 = 24.6 % Fe
axle 2	(rdyn 421 mm)	T = 24.6 % 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 = 56 mm)	s = 39 mm
axle 4	(sp = 56 mm)	s = 39 mm
axle 5	(sp = 56 mm)	s = 39 mm

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

axle1	ThA = 7072 N
axle2	ThA = 7072 N
axle3	ThA = 3884 N
axle4	ThA = 3884 N
axle5	ThA = 3884 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 = 41792 N
axle 2	(rdyn 421 mm)	T = 41792 N
axle 3	(rdyn 421 mm)	T = 22950 N
axle 4	(rdyn 421 mm)	T = 22950 N
axle 5	(rdyn 421 mm)	T = 22950 N

	basic test	type III
	of subject	(calculated)
braking rate of the vehicle	trailer (E)	residual
(item 4.3.2 to appendix 2 to annex 11)	0.60	(hot)braking
		0.47

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.36)

axle 1	(rdyn 421 mm)	T = 41792 N
axle 2	(rdyn 421 mm)	T = 41792 N
axle 3	(rdyn 421 mm)	T = 22950 N
axle 4	(rdyn 421 mm)	T = 22950 N
axle 5	(rdyn 421 mm)	T = 22950 N

	basic test	type III
	of subject	(calculated)
braking rate of the vehicle	trailer (E)	residual
(item 4.3.2 to appendix 2 to annex 11)	0.60	(hot)braking
		0.47

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.36)





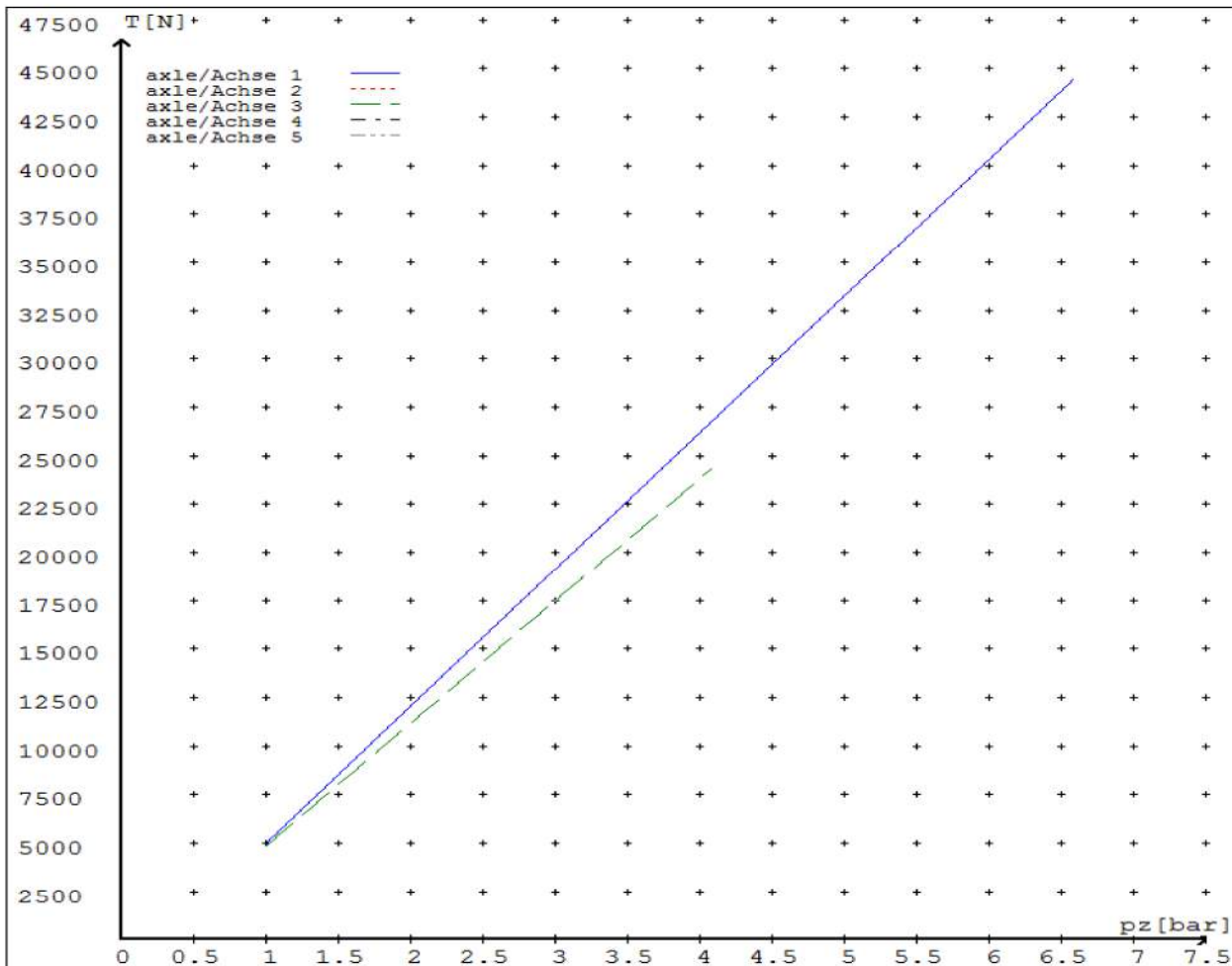
**reference values**

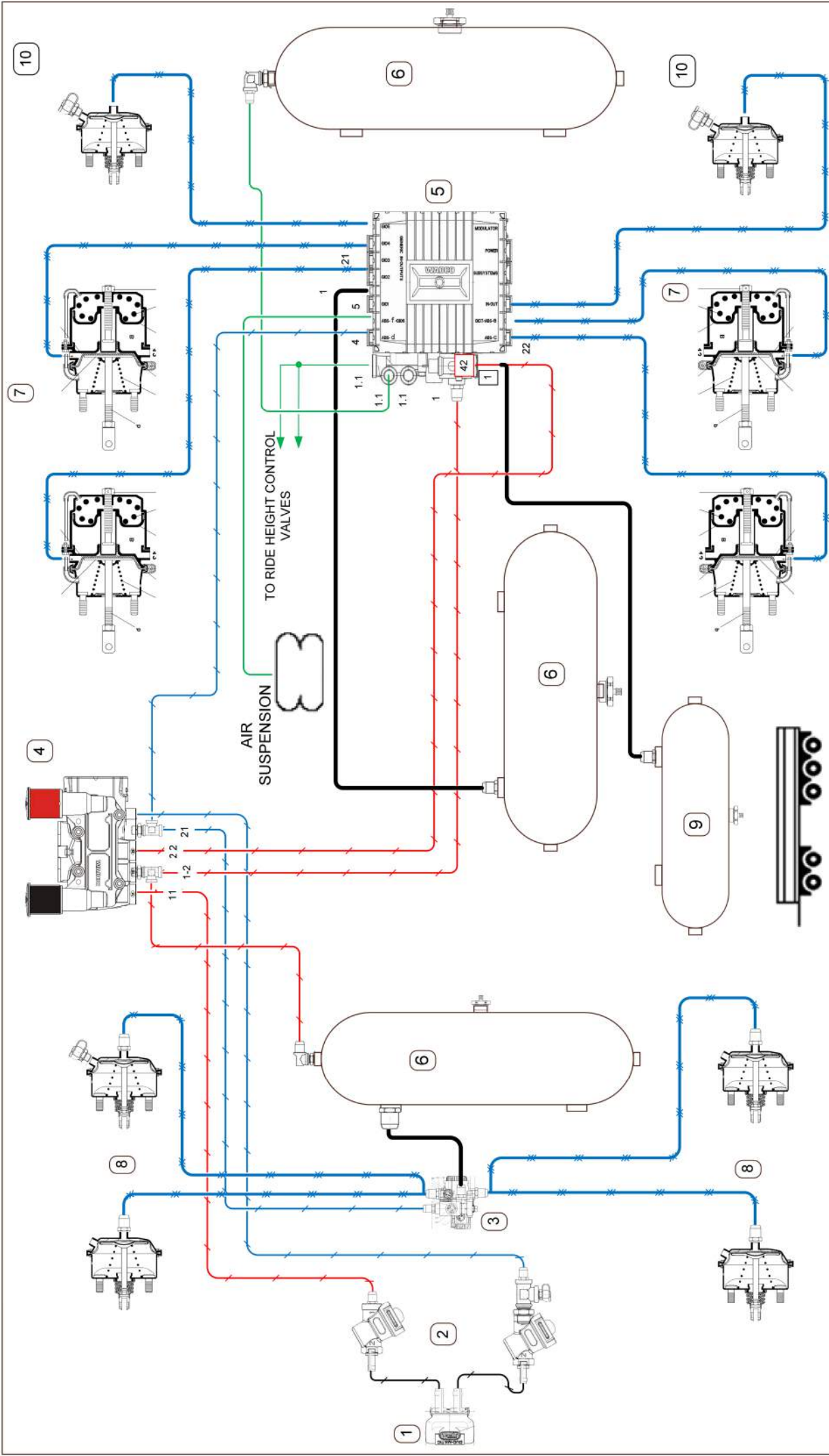
reference values for z = 50% for max rdyn: 421 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0	4912	
	6.6	44458	
axle 2	1.0	4912	
	6.6	44458	
axle 3	1.0		4827
	4.1		24326
axle 4	1.0		4827
	4.1		24326
axle 5	1.0		4827
	4.1		24326

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	64	64	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
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	TSE14HSCLD64	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	6	1416HTLD64	TSE Spring brake chamber				
8	4	18HSCLD65	TSE Service brake chamber				

<b>GOUGH Transpecs</b>		<b>Domett T&amp;T</b>	
DOM5AXFULU/EBS		7A9E2501XE1023309	
SIZE	A4	SPEC REFERENCE	1309
MODEL NUMBER	E2501	REV	1
SCALE		SERVICE LINES	

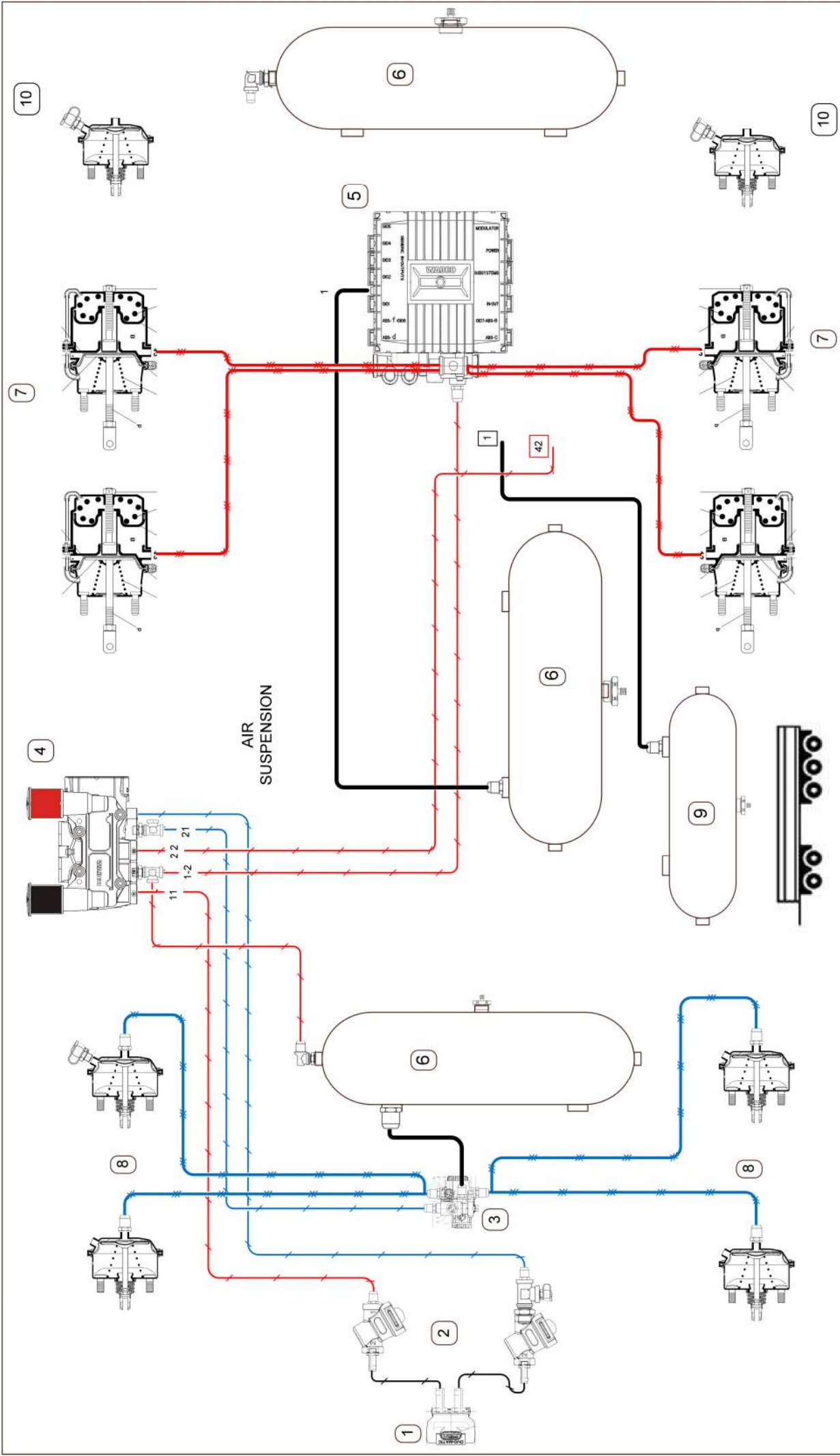
  

<b>WABCO</b>	
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PIPING LEGEND:

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





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				

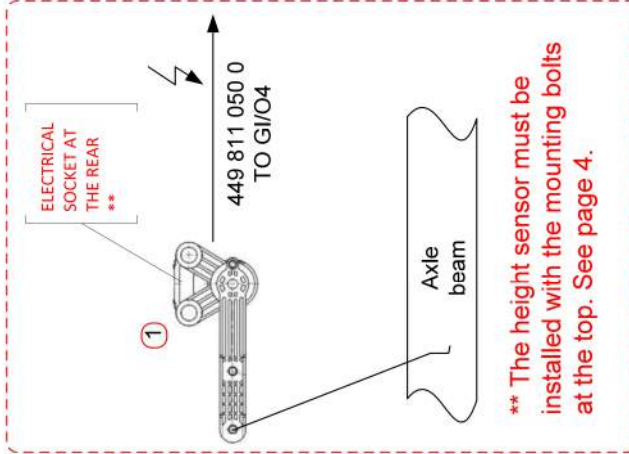
  

<b>Domett T&amp;T</b>	
DOM5AXFULU/EBS 7A9E2501XE1023309	
SIZE A4	SPEC REFERENCE 1309
SCALE	MODEL NUMBER E2501
	REV 1
	PARK LINES

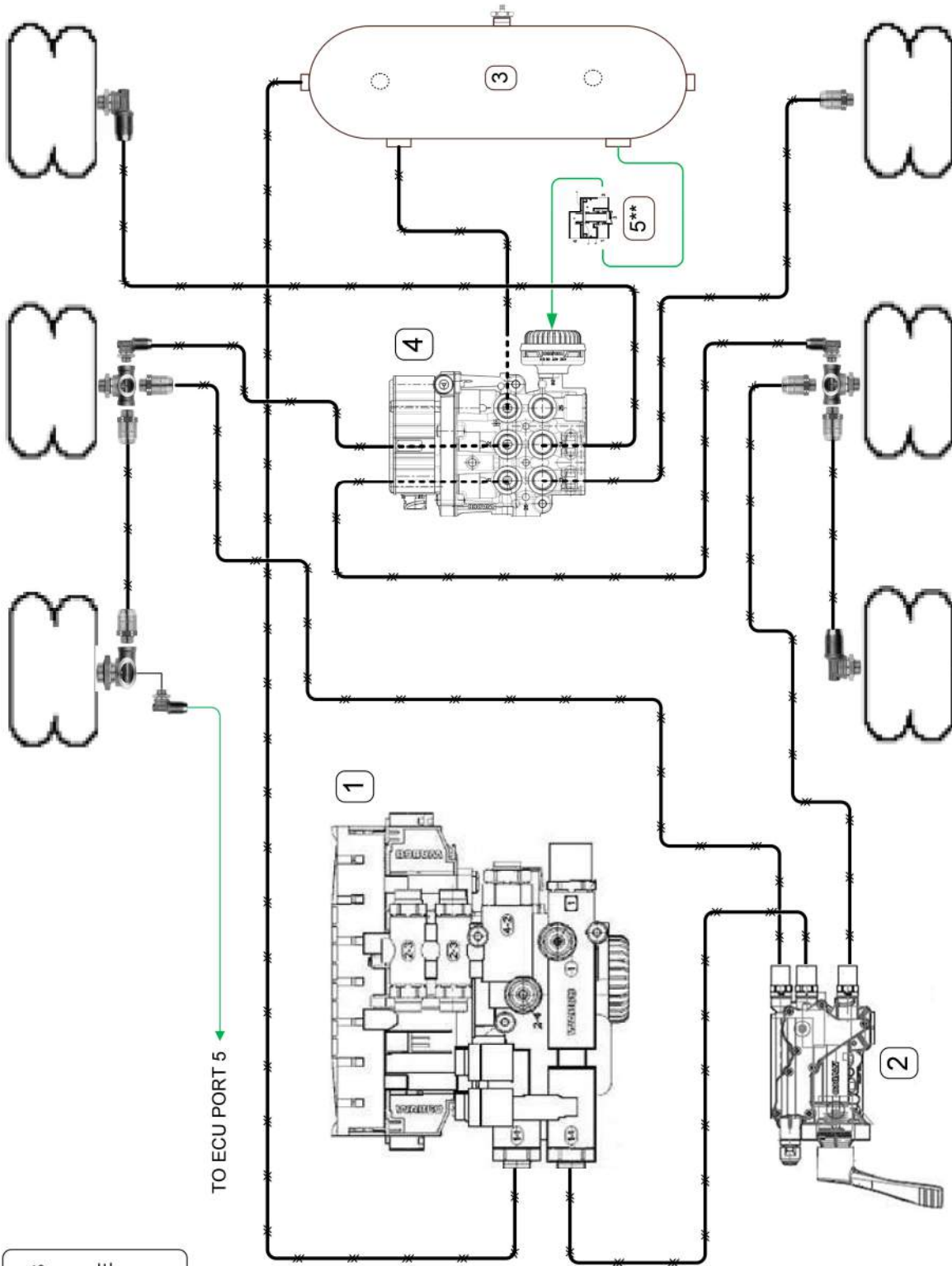
  

<b>GOUGH Transpecs</b>	<b>PIPING LEGEND:</b>
<b>WABCO</b> Copyright Transpecs 2010 All rights reserved	<ul style="list-style-type: none"> <li>— 3/8" Rubber</li> <li>— 3/8" Rubber</li> <li>— 1/2" Rubber</li> <li>— 15mm Nylon</li> <li>— 12mm Nylon</li> <li>— 8mm Nylon</li> <li>— 8mm Nylon</li> <li>— 8mm Nylon</li> </ul>

THE INSTALLATION POSITION OF THE FITTINGS IN THE AIR BAG IS FOR DEMONSTRATION PURPOSES ONLY. THE TRAILER MANUFACTURER CAN ALTER THE POSITION TO SUIT TRAILER / SUSPENSION DESIGN.



5\*\* -- Remove the silencer (see arrow) from 463 084 100 0 and fit the 68ME8/22x1.5. Run 8mm nylon tube, from port 2 of 475 019 000 0, in to this fitting.



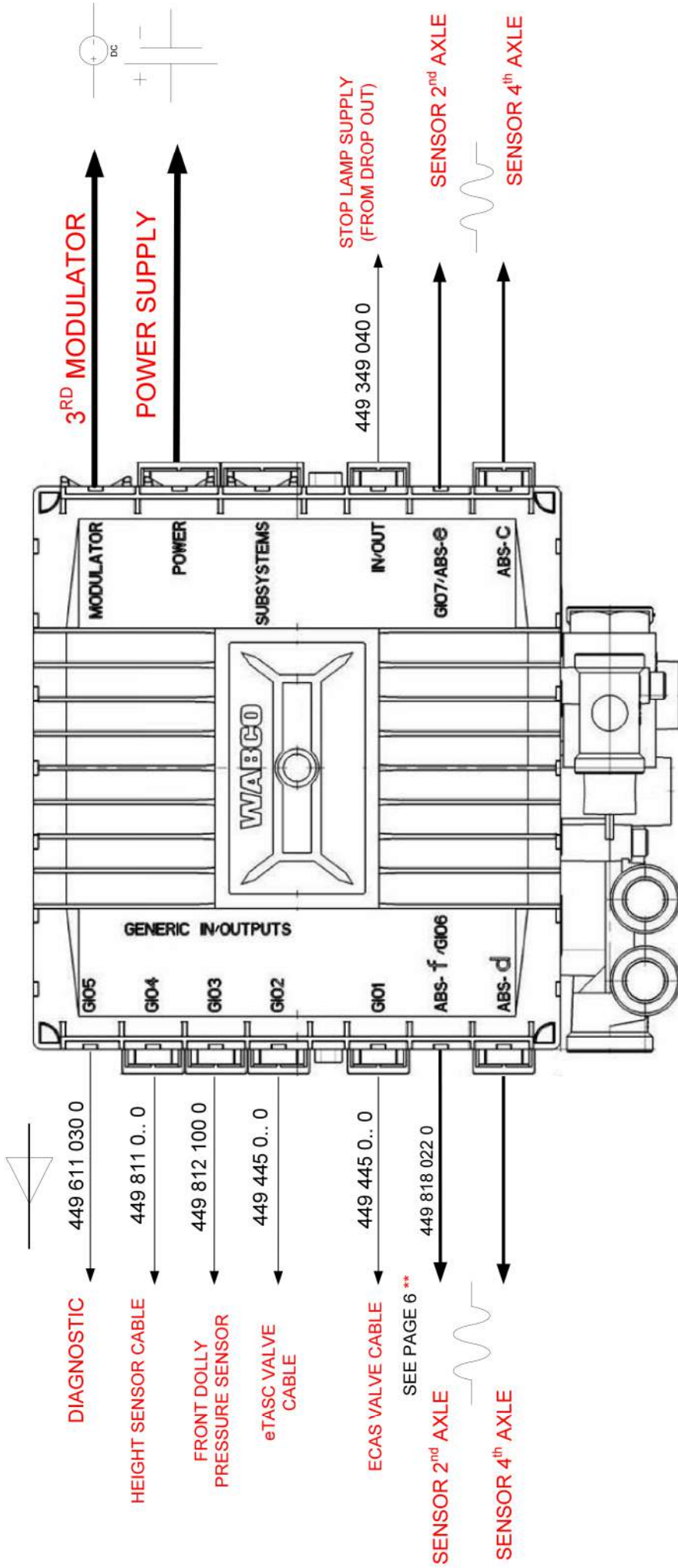
ITEM	QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION	PIPING LEGEND:
1	1	480 102 080 0	WABCO TEBS E (PREMIUM)					3/8" Rubber
2	1	463 090 500 0	e-TASC VALVE					3/8" Rubber
3	1	1211/1259 3P	AIR TANK					12mm Nylon
4	1	463 084 100 0	LACV (IC)					15mm Nylon
5	1	475 019 000 0	WABCO PRESS. LIMITING VALVE					12mm Nylon
								8mm Nylon
								8mm Nylon
								8mm Nylon

5 Axle F/T (Rear suspension)		DATE	29-10-14
ITEM	SYSTEM	ASS'Y/KIT NUMBER	CHECKED BY NAME
	ECAS		J HIRST
PAGE NO.	1/5		<b>E &amp; OE</b>

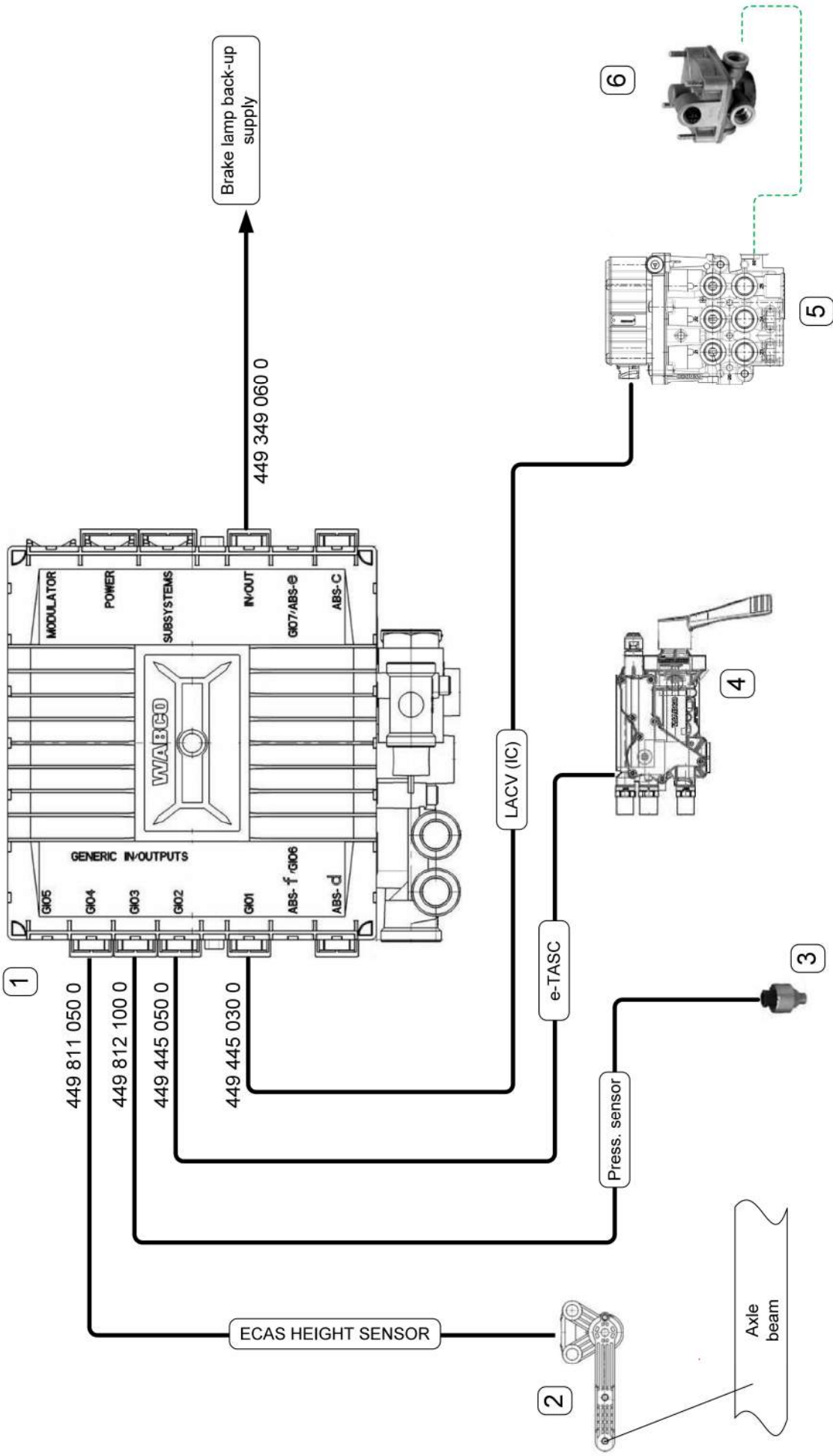
<b>GOUGH Transpecs</b>	
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\*\*Optional extra

<b>GOUGH Transpecs</b>		<b>5 Axle F/T</b>		DATE	29.10.14
		<b>G/I/O Assignment</b>		ASSY/KIT NUMBER	
ITEM	SYSTEM	ECAS		J HIRST	E & OE
PAGE NO.	2/6				CHECKED BY NAME
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ITEM	QTY.	PART NO.	DESCRIPTION
1	1	480 102 080 0	WABCO TEB5 E (PREMIUM)
2	1	441 050 100 0	ECAS HEIGHT SENSOR
3	1	441 044 101 0	FRONT DOLLY PRESS. SENSOR
4	1	463 090 500 0	eTASC
5	1	463 084 100 0	LACV (IC)
6	1	475 019 000 0	PRESSURE LIMIT VALVE

### ECAS - GIO COMPONENT ASSIGNMENT

ITEM	DRAWING NUMBER	ASSY/PRT NUMBER	DATE
	ECAS		29.10.14
PAGE NO.	3/6	J HIRST	E & OE





## 6.6 Installation Distance sensor

### Distance sensor with extension and linkage



Distance sensor 441 050 100 0 is used to both measure the driving level with ECAS vehicles and for determining the axle load with mechanical suspension.

- Install the distance sensor in such a way that the two mounting holes are horizontal and face upward.
- A lever is used for linking the distance sensor lever.
- The maximum excursion of the lever  $\pm 50^\circ$  may not be exceeded.
- The length of the distance sensor lever can be set.
- On vehicles with long compression travel, use a longer lever.
- Use a shorter lever in vehicles with especially short compression travel to obtain more accurate measurements. Here the lever length of the distance sensor should be 100 mm. Lever lengths other than 100 mm must be specified in the parameter settings see chapter 7.1 "Parameter definition with TEBS E Diagnostic Software", page 125, Window *TEBS - LSV* => *Distance sensor Lever length* /mm/.

It is important that the distance sensor moves freely across its operating range, and that the lever can only move in the way intended.

The distance sensor and the lever both have a fastening hole (4 mm) for locking the lever into the optimal position for the driving level.

The linkage for the distance sensor should be fastened so that the lever is horizontal at driving level.

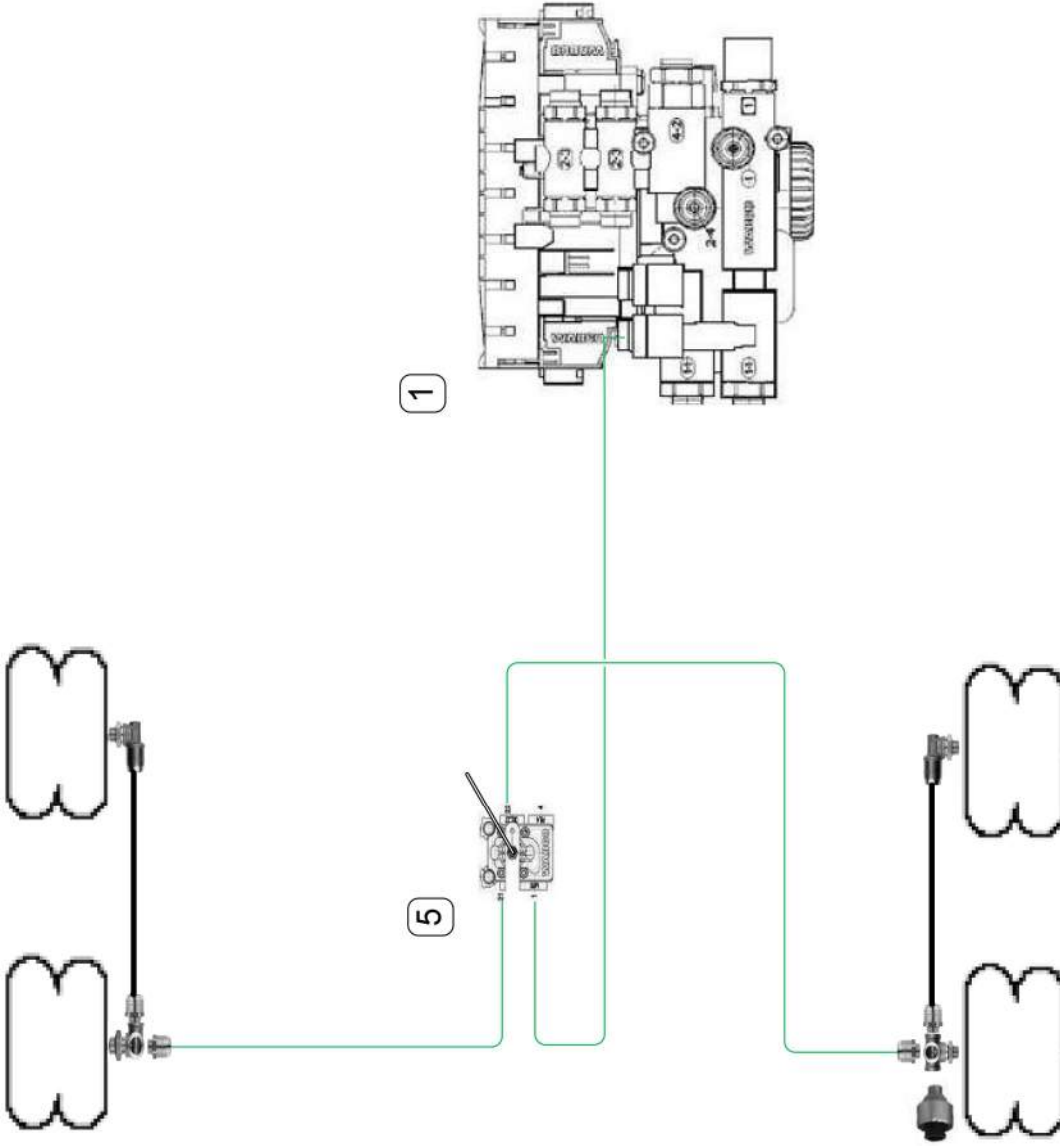
The connection to the axle may be achieved by means of the linkage.

The rubber link of the lever should be connected by a 6 mm rod (solid) to the linkage on the axle.

### ECAS vehicles

#### 1-point control

- Move the distance sensor to the middle of the main axle to prevent damage to the distance sensor when travelling around curves with greater vehicle inclination.



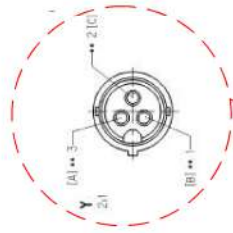
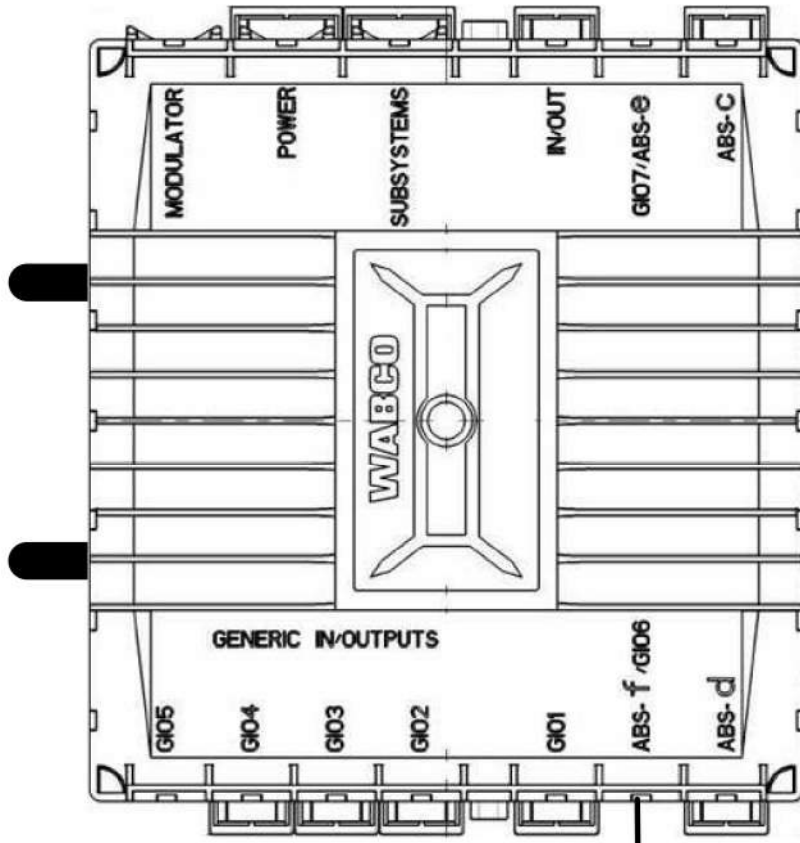
ITEM		QTY.	PART NO.	DESCRIPTION	ITEM	QTY.	PART NO.	DESCRIPTION	PIPING LEGEND:
	1	1	480 102 0 0	WABCO TEBS E (PREMIUM)					3/8" Rubber
	4	1	441 044 101 0	AIR BAG PRESSURE SENSOR					3/8" Rubber
	5	1	464 008 011 0	WABCO H.C.V.					1/2" Rubber
									15mm Nylon
									12mm Nylon
									8mm Nylon
									8mm Nylon
									8mm Nylon

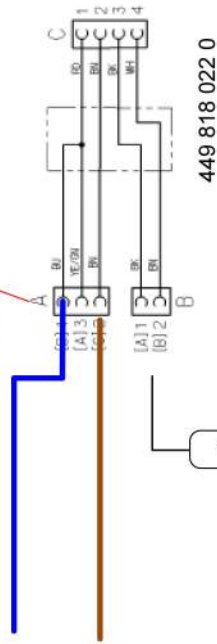
Front Dolly		DATE
ECAS OptiTurn		
ITEM	DRAWING NUMBER	ASSY/KIT NUMBER
	Generic	
PAGE NO:	5/6	J HIRST
		E & OE

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TO HYDRAULIC  
PRESSURE  
SWITCH



Front wheel speed sensor

\*\* OPTIONAL EXTRA

		eTASC with OPTITURN – FULL TRAILER	
		ECAS SUSPENSION DUMP	
ITEM	DRAWING NUMBER	ASSY/KIT NUMBER	DATE
	ECAS		29.10.14
PAGE NO:	6/6	J HIRST	E & OE
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# HVBR WORKSHEET

(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No.

JH141048

CUSTOMER NAME

DOMETT TRAILERS LTD

CUSTOMER ORDER No.

4290

DATE RECEIVED

Aug 14

VEHICLE TYPE

5 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9E2501XE1023309

## 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 & OPTITURN

# 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: 488681

VALVES: AS PER BRAKE CALCULATION TP51159 & SO1564664

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO1564664

PROCESS TIME:

1

BRAKE CALC #TP51159: THE MERITOR CHAMBERS ARE THE TSE VARIANT.  
OPTITURN EXEMPTION REF: HMRE14/392

COMPLETION DATE : 29<sup>th</sup> Oct 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: 29<sup>th</sup> Oct 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