

Heavy Vehicle Specialist Certificate

Must be presented to a CoF (Heavy) Inspecting Organisation
Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's or Manufacturing Inspecting Organisation's Name (PRINT IN CAPS)	ID
Chris Clarke	CJC

Vehicle Registration*	VIN/Chassis Number
	7A9D50024F1023435

Component being certified:

<input type="checkbox"/> Chassis	<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

ROLL STABILTY FUNCTION ACTIVATED

Code/Standard/Rule Certified to	Component Load Rating(s)
HVBR 32015/3 Schedule 5	42000KG
General Drawing Number(s)	
N/A	

Supporting Documents

BRAKE RULE CERTIFICATE - CJC153498

Special Conditions*

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

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

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

CHRIS CLARKE **CJC**

Date Number

27-Nov-15 **531398**


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	2015-02-09	Serial number	437001173400C
Serial number (modulator)	000000037357		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2015-11-27 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

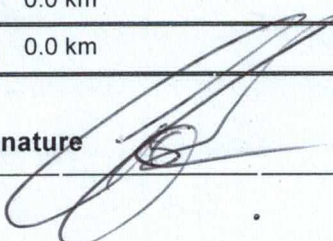
WABCO		TRAILER EBS-E		GGVS/ADR TUEH TB 2007 - 019.00 TDB0678											
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT TRAILERS			GIO	Pin1	Pin3	Pin4								
TYP TYPE TYPE	4AS SKELL			1	24V-O1	---	---								
FAHRZEUG IDENT.NR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9D50024F1023435			2	---	---	---								
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51381S			3	SAC	RDL	---								
POLRADZAHNEZAHL c-d e-f POLE WHEEL TEETH c-d e-f DENTS ROUE DENTEE c-d e-f	90	90	ABS-System ABS system Système ABS	4	---	---	---								
			4S/3M	5	DIAG	DIAG	DIAG								
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	X	Lenkachse Steering axle Essieu vireur	6	---	---	---								
	Zwillingsbereifung Twin Tire Monte jumelé		Kippkritisches Fahrzeug Critical Trailer Vehicule critique	7	---	---	---								
Subsystems	SB	I/O	24N												
ACHSE AXLE ESSIEU	pm (bar)		6.5	pm (bar)		0.6	2.0	---	6.5	TYP TYPE	(mm)	(mm)	(bar)	Pz	
	pz												1.0		
1	1150	0.3	1.8	6500	4.0	0.3	1.6	---	5.6	-	14 / 16	64	69	415	2869
2	1150	0.3	1.8	6500	4.0	0.3	1.6	---	5.6	-	14 / 16	64	69	415	2869
3	1150	0.3	1.8	6500	4.0	0.3	1.6	---	5.6	-	14	64	69	415	2869
4	1150	0.3	1.8	6500	4.0	0.3	1.6	---	5.6	-	14	64	69	415	2869
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---

TEBS-E

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	OK
EBS pressure test	OK	Lifting axle test	Not tested
Redundancy test	OK	ECAS height sensor calibration	Not tested
ABS sensor assignment	OK	Height sensor axle load	Not tested
RTR check	Not tested	Leak test	Not tested
Immobilizer test	Not tested	Signal outputs	Not tested
Signal inputs	Not tested	Tag axle test	Not tested

Electronic Extension Module

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

Manufacturer	DOMETT TRAILERS	Vehicle ident. no	7A9D50024F1023435
Vehicle type	4AS SKELL	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	Chris Clarke		
Date	2015-11-27 9:31:30 a.m.		

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

distribution: DOMETT TRAILERS
 7A9D50024F1023435
 SODC: JH151128
 LT400: 531398

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 TRAILERS
 trailer model : 4AS SKELL
 trailer type : 4-axle-semi-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS E
 TRISTOP 1+2: T.14/24 (TSE1416HTLD64 ACTUALLY FITTED
 -SEE PAGE 7 FOR PERFORMANCE DATA)
 355/50 R 22,5

axle 1 + 2 + 3 + 4 : SAF, SBW 1937, TDB 0678 ECE,

		<u>unladen</u>		<u>laden</u>	
total mass	P in kg	5600	- 6000	42000	- 42000
king-pin	PS kg	1000	- 1400	16000	- 16000
axle 1	P1 in kg		1150		6500
axle 2	P2 in kg		1150		6500
axle 3	P3 in kg		1150		6500
axle 4	P4 in kg		1150		6500
total axle mass	PR in kg		4600		26000
wheel base	E in mm	9200	- 9200		
centre of gravity height	h in mm		1285		2505
K-factor		Kv min	1.8513	Kc min	1.0257
K-factor		Kv max	1.8525	Kc max	1.0257

		<u>axle 1</u>	<u>axle 2</u>	<u>axle 3</u>	<u>axle 4</u>
no. of combined axles		1	1	1	1
no. of brake chambers per axle line	KDZ	2	2	2	2
The power output corresponds to		BZ 119.6	BZ 119.6	BZ 122.1	BZ 122.1
brake chamber manufacturer		Meritor	Meritor	Meritor	Meritor
chamber size		T.14/24	T.14/24	14.	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	449	449	449	449
dyn. rolling radius	rdyn max in mm	449	449	449	449
threshold torque	Co Nm	6.0	6.0	6.0	6.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%bar	2.2	2.2	2.2	2.2
chamber pressure(rdyn max)pH at z=22,5%bar	2.2	2.2	2.2	2.2
chamber press.(servo)pcha at pm6,5bar bar	5.6	5.6	5.6	5.6
piston force ThA at pm6,5bar N	5387	5387	5387	5387
brake force(rdyn min)T lad. at pm6,5bar N	38198	38198	38198	38198
brake force(rdyn max)T lad. at pm6,5bar N	38198	38198	38198	38198
brake force within 1 % rolling friction proportion %	25.0	25.0	25.0	25.0

braking rate z laden 0.599 for rdyn min
 z = sum (TR)/PRmax 0.599 for rdyn max

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

brake diagram : 841 701 050 0

maximum pressure: 8.5 bar

axle 1:

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

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

brake cylinder: Meritor 1424HTLD64

axle 2:

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

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

brake cylinder: Meritor 1424HTLD64

axle 3:

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

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

brake cylinder: Meritor 14HSCLD64

axle 4:

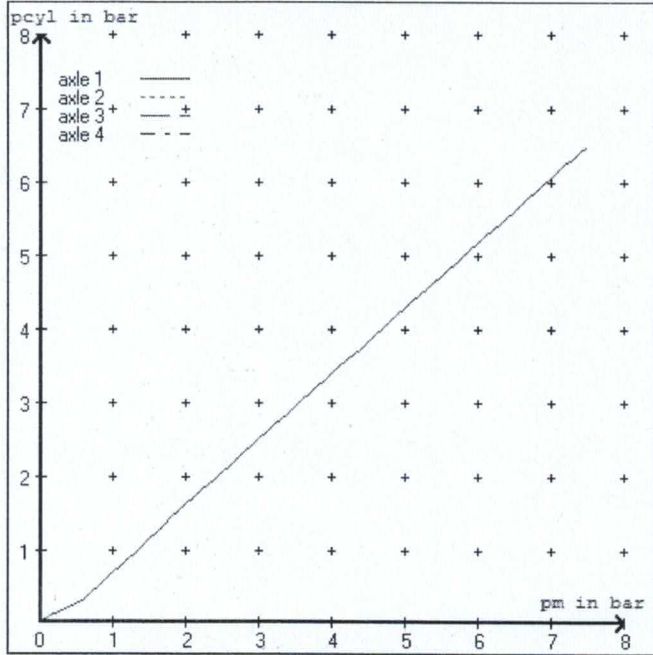
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

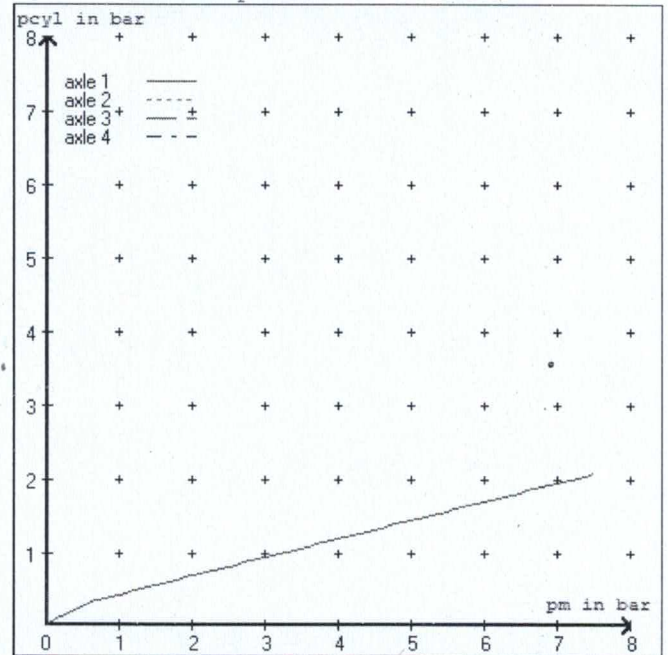
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 3.5 bar =>	pcha in bar :	2.9	2.9	2.9	2.9	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 1.1 bar =>	pcha in bar :	0.8	0.8	0.8	0.8	

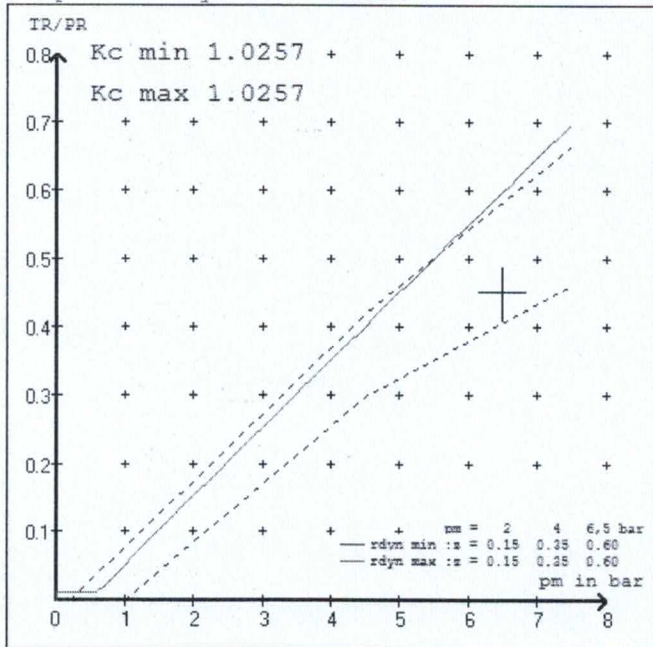
brake chamber pressure laden



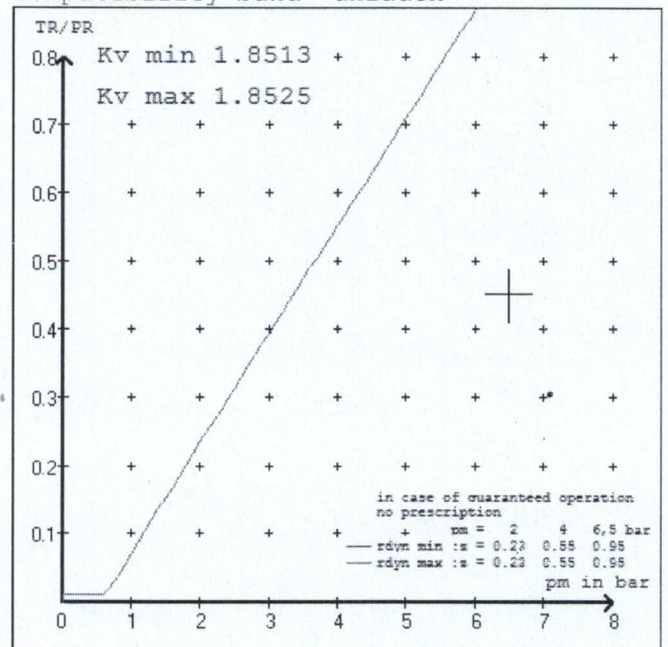
brake chamber pressure unladen



compatibility band laden



compatibility band unladen



in case of guaranteed operation
no prescription

rdyn min	z = 0.15	0.35	0.60
rdyn max	z = 0.23	0.55	0.95

vehicle manufacturer: DOMETT TRAILERS
 trailer model : 4AS SKELL
 trailer type : 4-axle-semi-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter T.14/24 (Meritor) lever length 69 mm
 axle 2 : 2 x type/diameter T.14/24 (Meritor) lever length 69 mm
 axle 3 : 2 x type/diameter 14. (Meritor) lever length 69 mm
 axle 4 : 2 x type/diameter 14. (Meritor) lever length 69 mm

brake diagram : 841 701 050 0

valve :

971 002 ... 0 WABCO EBS emergency valve
 480 102 ... 0 WABCO EBS trailer modulator
 480 207 0.. 0 WABCO EBS relay valve or 480 207 2.. 0

EBS input data

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vehicle manufacturer: DOMETT TRAILERS
 trailer model : 4AS SKELL
 trailer type : 4-axle-semi-trailer
 brake calculation no. : TP 51381S

tire circumference main axle : 2825 for rdyn max
 tire circumference auxiliary axle : 2825 for rdyn max

assignment pm / deceleration z: pm 0.6 bar z = 0.010
 (laden condition) 2.0 bar z = 0.150
 6.5 bar z = 0.600

control pressure pm		6,5		control pressure pm		0.6	2.0	6.5
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden		
1	1150	to be	1.8	6500	to be	0.3	1.6	5.6
2	1150	entered by the vehicle manufact.	1.8	6500	entered by the vehicle manufact.	0.3	1.6	5.6
3	1150		1.8	6500		0.3	1.6	5.6
4	1150		1.8	6500		0.3	1.6	5.6
5	0		0,0	0		0,0	0,0	0,0

The unladen values indicated in the above table are values for the basic parameter set. Higher unladen axle loads and liftaxles are automatically recognized and do not require separate adjustment. The above unladen axle loads must not be fallen below.

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axle 1	axle 2	axle 3	axle 4
axle load pcy1	axle load pcy1	axle load pcy1	axle load pcy1
1150	1.8	1150	1.8
1650	2.2	1650	2.2
2150	2.5	2150	2.5
2650	2.9	2650	2.9
3150	3.2	3150	3.2
3650	3.6	3650	3.6
4150	3.9	4150	3.9
4650	4.3	4650	4.3
6500	5.6	6500	5.6

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 0678 ECE	date : 20130927 27.09.2013
axle 2 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0678 ECE	date : 20130927 27.09.2013
axle 3 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0678 ECE	date : 20130927 27.09.2013
axle 4 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0678 ECE	date : 20130927 27.09.2013

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

axle 1	(rdyn 449 mm)	T = 19.1 % Fe
axle 2	(rdyn 449 mm)	T = 19.1 % Fe
axle 3	(rdyn 449 mm)	T = 19.1 % Fe
axle 4	(rdyn 449 mm)	T = 19.1 % Fe

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

axle 1	(sp = 56 mm)	s = 48 mm
axle 2	(sp = 56 mm)	s = 48 mm
axle 3	(sp = 56 mm)	s = 48 mm
axle 4	(sp = 56 mm)	s = 48 mm

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

axle1	ThA = 5387 N
axle2	ThA = 5387 N
axle3	ThA = 5387 N
axle4	ThA = 5387 N

calc. residual (hot) braking force in N
(item 4.3.1.4 of appendix 2 to annex 11)

axle 1	(rdyn 449 mm)	T = 31242 N
axle 2	(rdyn 449 mm)	T = 31242 N
axle 3	(rdyn 449 mm)	T = 31242 N
axle 4	(rdyn 449 mm)	T = 31242 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)

0.60 0.49

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

>= 0,4 and
>= 0,6*E (0.36)

axle 1	(rdyn 449 mm)	T = 31242 N
axle 2	(rdyn 449 mm)	T = 31242 N
axle 3	(rdyn 449 mm)	T = 31242 N
axle 4	(rdyn 449 mm)	T = 31242 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)

0.60 0.49

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

>= 0,4 and
>= 0,6*E (0.36)

spring parking brake

	<u>axle 1</u>	<u>axle 2</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	432	432
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	3.6827	3.6827
$iFb = lBh \cdot \eta \cdot C \cdot rBt / (rBn \cdot rstat)$		
for rstat in mm	432	432
brake force of spring br. Tf in N	44730	44730
$Tf = (TFZ \cdot KDZ - 2 \cdot Co / lBh) \cdot iFb$		
braking rate zf laden	0.361	
$zf = \sum (Tf) / P + 0,01$		

Test of the frictional connection required by the parking brake

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

$$\min Ef = E \cdot (1 - PR/P + zferf \cdot h/E) / (1 - zferf / (fzul \cdot nf/ng))$$

min Ef = 7192 mm for E = 9200 mm

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min Ef = 7192 mm for E = 9200 mm

=====

min Ef =	minimum distance between front axle(s) (trailer) or support (semitraile
	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 = 2505 mm	height of center of gravity - laden
PR = 26000 kg	maximum bogie mass - laden
P = 42000 kg	maximum total mass - laden
nf = 2	no. of axle(s) with TRISTOP spring brake actuators
ng = 4	no. of bogie axle(s)

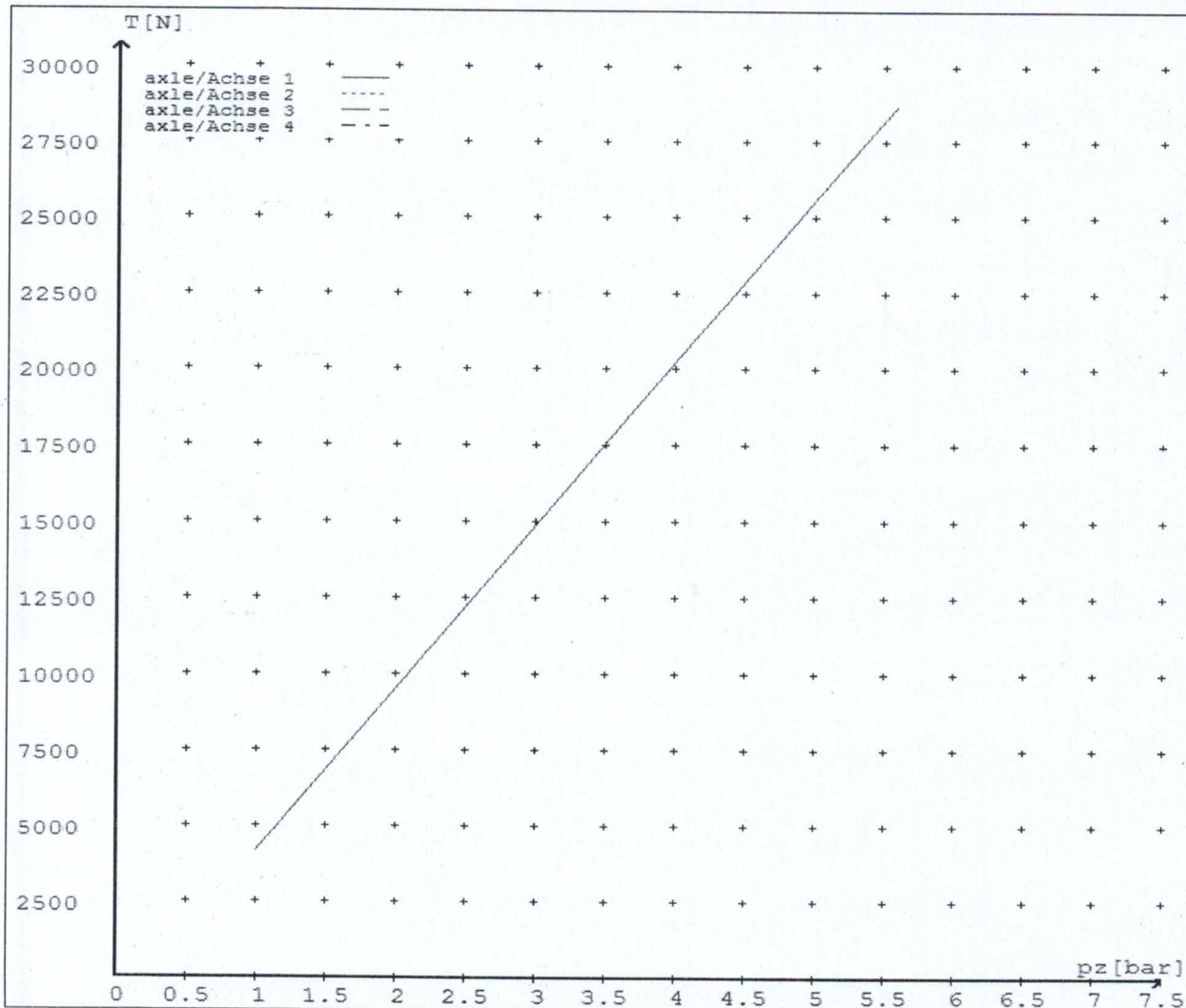
reference values

reference values for z = 45% for max rdyn: 449 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0	4158	
	5.6	28697	
axle 2	1.0	4158	
	5.6	28697	
axle 3	1.0	4158	
	5.6	28697	
axle 4	1.0		4158
	5.6		28697

VIN - no.:

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



HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH151128

CUSTOMER NAME DOMETT TRUCK & TRAILER

CUSTOMER ORDER No. 4485 DATE RECEIVED November 15

VEHICLE TYPE 4 AXLE SEMI TRAILER

REG No. CHASSIS No. 7A9D50024F1023435

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

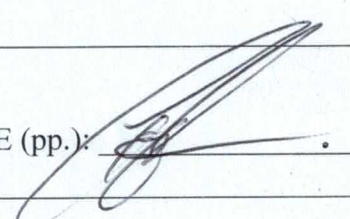
BRAKE CHAMBERS:			
<u>Ax #</u>	<u>Make/model</u>	<u>Max stroke</u>	<u>Lever length</u>
1&2	TSE 1416HTLD64	64 mm	69 mm
3&4	TSE 14HSCLD64	64 mm	69 mm
5			

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:
VALVES: AS PER BRAKE CALCULATION TP 51381, SO188050 & DWG REFERENCE # D5002
TYRE SIZE: 355 50 R 22.5

NOTES
PACKING SLIP NO. SO188050 PROCESS TIME: 1
BRAKE CALCULATION TP51381: TSE 1424HTLD CHAMBERS ARE USED TO DEMONSTRATE THE SERVICE BRAKE PERFORMANCE – TSE1616HTLD64 ARE USED TO DETERMINE THE SERVICE BRAKE PERFORMANCE. TSE1416HTLD64 ARE ACTUALLY FITTED.

COMPLETION DATE : 20th November 2015 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: 20th November 2015

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

NOTICE TO VEHICLE OPERATOR

THIS VEHICLE HAS A BRAKE SYSTEM WHICH HAS BEEN DESIGNED AND FITTED IN ACCORDANCE WITH THE LAND TRANSPORT HEAVY VEHICLE BRAKE RULE 32015/3.

IF THIS VEHICLE IS OPERATED IN CONJUNCTION WITH NON-CERTIFIED VEHICLES, THERE MAY BE OPERATIONAL FACTORS WHICH NEED TO BE TAKEN INTO CONSIDERATION.

PLEASE REFER TO THE CERTIFIER FOR FURTHER INFORMATION.

**EXCERPT FROM LAND TRANSPORT RULE; HEAVY-VEHICLE BRAKES
RULE 32015/3. SECTION 10,**

10.1 RESPONSIBILITIES OF OPERATORS

A person who operates a vehicle must ensure that the vehicle complies with this rule.

10.2 RESPONSIBILITIES OF REPAIRERS

A person who repairs or adjusts a brake must ensure that the repair or adjustment:

- a) does not prevent the vehicle from complying with this rule;
- b) complies with Land Transport Rule: Vehicle Repair 1998.

10.3 RESPONSIBILITIES OF MODIFIERS

A person who modifies a vehicle so as to affect the braking performance of the vehicle must:

- a) ensure that the modification does not prevent the vehicle from complying with this Rule; and
- b) notify the operator that the vehicle must be inspected and, if necessary, certified by person or organisation appointed to carry out specialist inspection and certification of heavy vehicle brakes.

IF YOU ARE UNSURE ABOUT YOUR RESPONSIBILITIES, PLEASE CONTACT THE VEHICLE MANUFACTURER, OR MYSELF.

COMPLAINTS. Complaints and Warranty issues which relate to Brake Certification will be acknowledged within 7 working days and a resolution proposed within 25 working days. Resolution of complaints and Warranty issues is subject to Transpecs Warranty policy. Customers have the right to appeal to the New Zealand Transport Authority if dissatisfied with a Compliance issue. (Refer NZTA Deed Of Appointment Para 47.4) NZTA Helpdesk 0800 699 000

(p.p.).....
(J.Hirst (JEH) HVEK)

NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an Electronic Brake System.

To comply with the New Zealand Heavy Vehicle Brake Rule 32015/3, it must be used only in conjunction with a truck/tractor equipped with a 5 or 7 pin ABS/EBS power supply socket.

Failure to connect to such supply invalidates Brake Rule compliance.

The trailer ABS/EBS warning light on the towing vehicle dashboard must illuminate when the ignition is switched on and extinguish when the vehicle is in motion.

If the light does not illuminate when ignition is switched on, the system must be checked. If the light remains illuminated when the vehicle is in motion, Brake Rule compliance is compromised. Repairs must be made as soon as possible.

If you are unsure of your responsibilities and/or obligations, please contact either the vehicle manufacturer or myself.

(p.p.)
J E Hirst
(JEH HVEK)
(09 980 7300)