



Heavy Vehicle Specialist Certificate

Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's Name (with title)

CHRIS CLARKE

ID

CTC

Vehicle Identification

VIN / Chassis Number

7A9D30010D1023099

Component being certified:

Chassis Modification:

Load Anchorage

Log Bolsters

Certification Category

Towing Connection

✓ Brakes

SRT

HUEK

Description of Work

CARRY OUT SET UP OF TRAILER EBS SYSTEM.

Roll STABILITY FUNCTION (RSS) ACTIVATED + TESTED AS PER STARTUP PROTOCOL.

Core Status of Vehicle

HUBJZ 32015/2 SCHEDS.

Component Load Rating(s)

28000 KG.

General Drawings Number(s)

N/A

Supporting Documents

Brake Design Certificate - JH130301
PREV EXEMPTION REF - HUB13/038

*Special Conditions

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

Certification Expiry Date (if applicable)

N/A

or

Hubodometer Reading (where applicable)

Declaration

I the undersigned, declare that I am the Heavy Vehicle Specialist Inspector identified above and I hold a current valid appointment to certify that the above mentioned vehicle component is safely manufactured and installed, and this declaration complies in all respects with the Land Transport Rule Vehicle Standards Compliance 2002 and my Deed of Appointment. To the best of my knowledge the information contained in this Certificate is true and correct.

Designer's ID (if certified by a manufacturer)

Inspector's / Delegate's Signature

Delegate's Name (if applicable)

Date

02-03-2013

Number

428590

COF Vehicle Inspector

COF Vehicle Inspector Signature

Date

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

NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an Electronic Brake System.

To comply with the New Zealand Heavy Vehicle Brake RULE, 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.

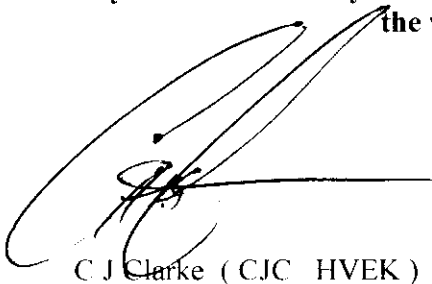
The trailer ABS/EBS warning light on the towing vehicle dashboard must illuminate when the ignition is switched on and extinguish when the vehicle is in motion.

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.

NB:

If this vehicle is fitted with mechanical (spring) suspension, the load sense valving has been adjusted to suit exactly the performance of the original springs. In event of replacement being required, original equipment springs **must** be fitted to ensure correct ongoing operation. Fitment of non genuine springs can affect operation and therefore, compliance.

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



C.J. Clarke (CJC HVEK)

NOTICE TO VEHICLE OPERATOR

THIS VEHICLE HAS A BRAKE SYSTEM WHICH HAS BEEN DESIGNED AND FITTED IN ACCORDANCE WITH THE NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015: SCHEDULE 5.

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

PLEASE REFER TO THE CERTIFIER FOR FURTHER INFORMATION.

EXCERPT FROM NZ HEAVY VEHICLE BRAKE RULE 32015

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 the rule : and*
- (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 a person or organisation appointed to carry out specialist inspection and certification of heavy vehicle brakes.*

10.5 Responsibilities of manufactures and retailers

A person may manufacture, stock, or offer for sale a brake or its components. Intended for fitting to a vehicle to be used on New Zealand roads, only if that brake or component:

- (a) complies with this Rule: and*
- (b) does not prevent a repair to a vehicle, its structure, systems, components and equipment from complying with this Rule.*

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 Land Transport Safety Authority if dissatisfied with a Compliance issue. (Refer LTNZ Deed Of Appointment Para 47.4) NZTA Helpdesk 0800 699 000*


C.J. Clarke (CJC HVEK)



NZ TRANSPORT AGENCY
WAKA KOTAHI

NATIONAL OFFICE

50 Victoria Street
Private Bag 6995
Wellington 6141
New Zealand
T 64 4 894 5400
F 64 4 894 6100

www.nzta.govt.nz

Exemption: HVB13/038

**EXEMPTION FROM SPECIFIED REQUIREMENTS OF LAND TRANSPORT RULE:
Heavy-vehicle Brakes 2006, Rule 32015**

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 section of Land Transport Rule: Heavy-vehicle Brakes 2006 (the Rule) listed in Schedule 2, subject to the conditions specified in Schedule 3.

Schedule 1: Vehicle Details:

Make/Model: **Domett Truck & Trailer Ltd, 4 axle full-trailer**
VIN/Chassis: **7A9D30010D1023099**

Schedule 2: Exempted Requirement:

2.3(9) The parking brake of a vehicle, whether or not it is being operated as a combination vehicle, must be able to be applied by the driver from the normal driving position using one control only.

Schedule 3: Conditions of this Exemption:

- 1) The vehicle must be fitted with a Wabco park-release emergency valve (PREV), Part Number: 971 002 900 0.
- 2) The vehicle must be fitted with the Wabco PREV name plate, Part Number 971 002 103 4, adjacent to the PREV.
- 3) The vehicle must still be fitted with a parking brake that complies with all parking brake requirements in the Rule other than the requirement in Clause 2.3(9) of the Rule.
- 4) The installation of the PREV must be approved in writing by Gough Transpecs or an NZ Transport Agency appointed HVEK certifier acting on behalf of, and under instruction from, Gough Transpecs; Gough Transpecs must keep a written record of all approvals.
- 5) The HVEK certifier in 4) must be fully trained in end of line procedures for Wabco electronically controlled braking systems.
- 6) Gough Transpecs must provide full operator training in the use of the PREV and furnish the operator with full written operating instructions for the PREV.
- 7) The vehicle must not be modified in any way while operating under this exemption.
- 8) This original exemption must be kept by Gough Transpecs.
- 9) A copy of this exemption (printed on a silver WABCO sticker) must be affixed to the exempted vehicle as close to the WABCO PREV as possible.
- 10) The sticker in 9) must be legible and include all printed areas of this original exemption letter.
- 11) This exemption can be revoked at any time in writing by the NZ Transport Agency.

Signed at Wellington this 18th day of February 2013

Jackie Hartley
Administrator (Assessments)

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

distribution: DOMETT
 7A9D30010D1023099
 SODC: JH130301
 HVB12/038

please note!

This brake calculation is made under consideration of
 -the legal prescriptions mentioned above in the version valid at the time of making the program (V6.12.08.27).
 -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 V6.12.08.27 db 30.08.2012

vehicle manufacturer: DOMETT
 trailer model : 4AFT TIPPER
 trailer type : 4-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 : SAF, PAN 19-1, TDB 0749 ECE,

		unladen	laden
total mass	P in kg	5600	28000
axle 1	P1 in kg	1500	7000
axle 2	P2 in kg	1500	7000
axle 3	P3 in kg	1300	7000
axle 4	P4 in kg	1300	7000
wheel base	E in mm	5600 - 5600	
centre of gravity height	h in mm	1140	2377

	axle 1	axle 2	axle 3	axle 4
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 122.1	BZ 122.1	BZ 119.6	BZ 119.6
brake chamber manufacturer	Meritor	Meritor	Meritor	Meritor
chamber size	14.	14.	T.14/16	T.14/16
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	2.5	2.5	2.0	2.0
chamber pressure(rdyn max)pH at z=22,5%bar	2.5	2.5	2.0	2.0
chamber press.(servo)pcha at pm6,5bar bar	6.6	6.6	4.4	4.4
piston force ThA at pm6,5bar N	6389	6389	4185	4185
brake force(rdyn min)T lad. at pm6,5bar N	48318	48318	31658	31658
brake force(rdyn max)T lad. at pm6,5bar N	48318	48318	31658	31658
brake force within 1 % rolling friction proportion %	25.0	25.0	25.0	25.0

braking rate z laden 0.582 for rdyn min
 z = sum (TR)/PRmax 0.582 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 14HSCLD64

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 14HSCLD64

axle 3:

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

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

brake cylinder: Meritor 1416HTLD64

axle 4:

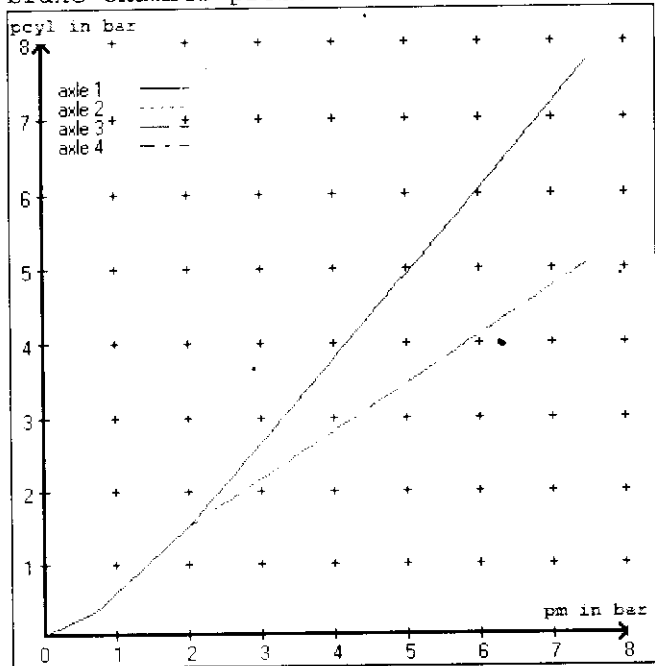
valve 1: 971 092 ... 0 WABCO
EBS emergency valve

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

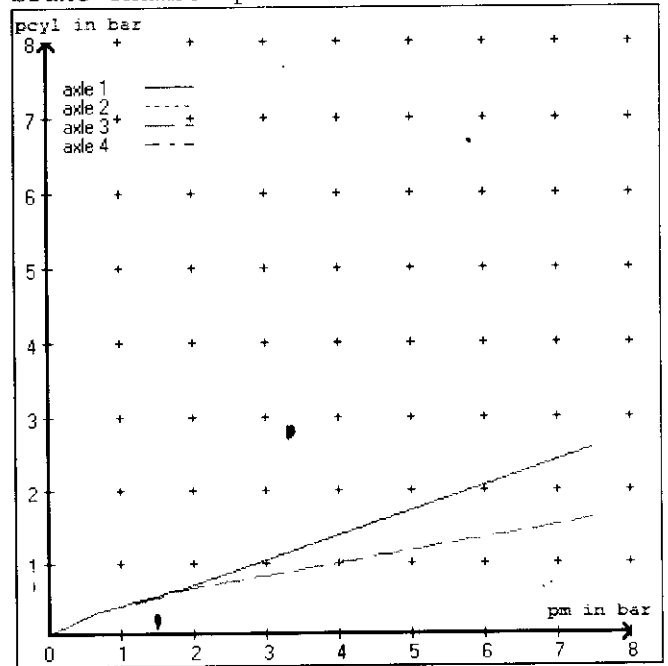
brake cylinder: Meritor 1416HTLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4
at pm 3.6 bar =>	pcha in bar :	3.3	3.3	2.5	2.5
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4
at pm 1.2 bar =>	pcha in bar :	0.8	0.8	0.8	0.8

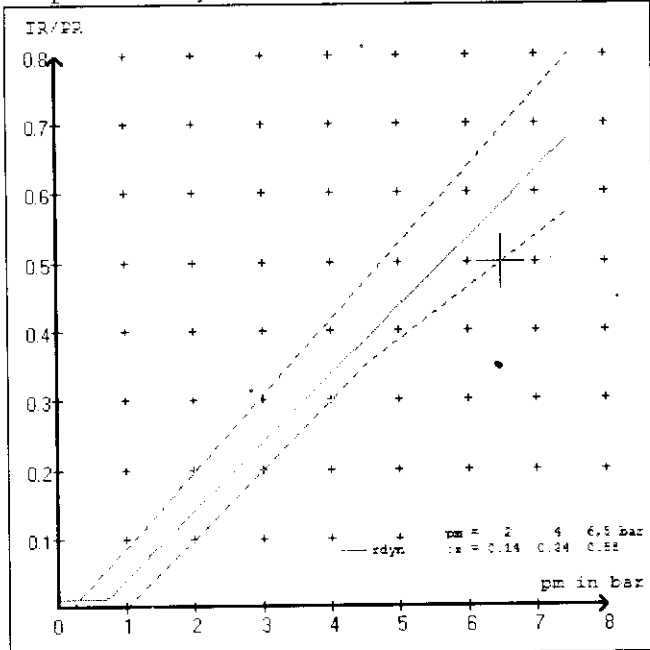
brake chamber pressure laden



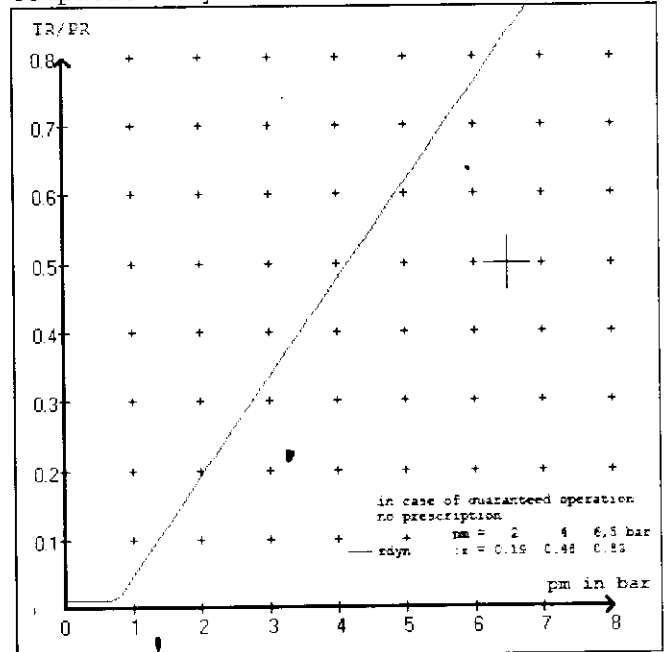
brake chamber pressure unladen



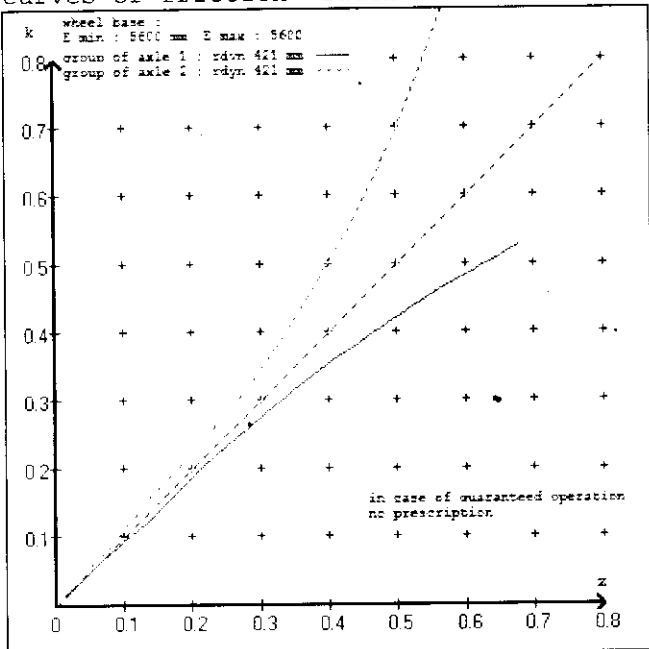
compatibility band laden



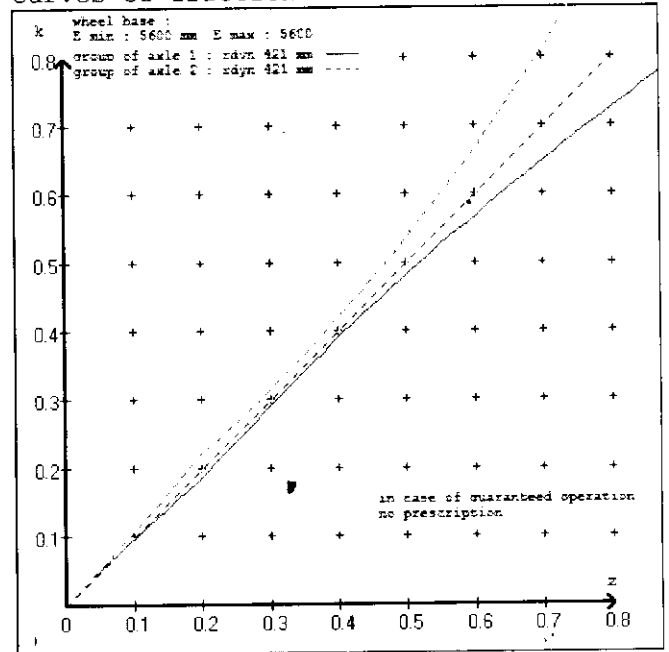
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT
 trailer model : 4AFT TIPPER
 trailer type : 4-axle-full-trailer

brake chamber and lever length :

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

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.. 0 WABCO EBS trailer modulator

EBS input data

=====
 vehicle manufacturer: DOMETT
 trailer model : 4AFT TIPPER
 trailer type : 4-axle-full-trailer
 brake calculation no. : TP 50780A

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 = 0.580

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	1500	to be	2.2	7000	to be	0.3	1.5	6.6	
2	1500	entered by the vehicle manufact.	2.2	7000	entered by the vehicle manufact.	0.3	1.5	6.6	
3	1300		1.4	7000		0.3	1.5	4.4	
4	1300		1.4	7000		0.3	1.5	4.4	
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.

axle 1		axle 2		axle 3		axle 4	
axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl
1500	2.2	1500	2.2	1300	1.4	1300	1.4
2000	2.6	2000	2.6	1800	1.7	1800	1.7
2500	3.0	2500	3.0	2300	1.9	2300	1.9
3000	3.4	3000	3.4	2800	2.2	2800	2.2
3500	3.8	3500	3.8	3300	2.5	3300	2.5
4000	4.2	4000	4.2	3800	2.7	3800	2.7
4500	4.6	4500	4.6	4300	3.0	4300	3.0
5000	5.0	5000	5.0	4800	3.2	4800	3.2
7000	6.6	7000	6.6	7000	4.4	7000	4.4

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 : 13.10.2008
axle 2	: reference axle: SAF	SBW 1937-...	brake lining: Jurid 539
	test report :	TDB 0749 ECE	date : 13.10.2008
axle 3	: reference axle: SAF	SBW 1937-...	brake lining: Jurid 539
	test report :	TDB 0749 ECE	date : 13.10.2008
axle 4	: reference axle: SAF	SBW 1937-...	brake lining: Jurid 539
	test report :	TDB 0749 ECE	date : 13.10.2008

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 = 23.6 % Fe
axle 2	(rdyn 421 mm)	T = 23.6 % Fe
axle 3	(rdyn 421 mm)	T = 17.6 % Fe
axle 4	(rdyn 421 mm)	T = 17.6 % Fe

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

axle 1	(sp = 57 mm)	s = 39 mm
axle 2	(sp = 57 mm)	s = 39 mm
axle 3	(sp = 56 mm)	s = 39 mm
axle 4	(sp = 56 mm)	s = 39 mm

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

axle1	ThA = 6389 N
axle2	ThA = 6389 N
axle3	ThA = 4185 N
axle4	ThA = 4185 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 = 38032 N
axle 2	(rdyn 421 mm)	T = 38032 N
axle 3	(rdyn 421 mm)	T = 24974 N
axle 4	(rdyn 421 mm)	T = 24974 N

	basic test	type III
	of subject	(calculated)
	trailer (E)	residual
braking rate of the vehicle		(hot)braking
(item 4.3.2 to appendix 2 to annex 11)	0.58	0.46

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

axle 1	(rdyn 421 mm)	T = 38032 N
axle 2	(rdyn 421 mm)	T = 38032 N
axle 3	(rdyn 421 mm)	T = 24974 N
axle 4	(rdyn 421 mm)	T = 24974 N

	basic test	type III
	of subject	(calculated)
	trailer (E)	residual
braking rate of the vehicle		(hot)braking
(item 4.3.2 to appendix 2 to annex 11)	0.58	0.46

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 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	4.8	4.8

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	0.361	
$zf = \text{sum}(Tf) / P + 0,01$			

Test of the frictional connection required by the parking brake

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

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

min Ef = 4165 mm for E = 5600 mm
 =====
 min Ef = 4165 mm for E = 5600 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 = 2377 mm height of center of gravity - laden
 PR = 14000 kg maximum bogie mass - laden
 P = 28000 kg maximum total mass - laden
 nf = 2 no. of axle(s) with TRISTOP spring brake actuators
 ng = 2 no. of bogie axle(s)

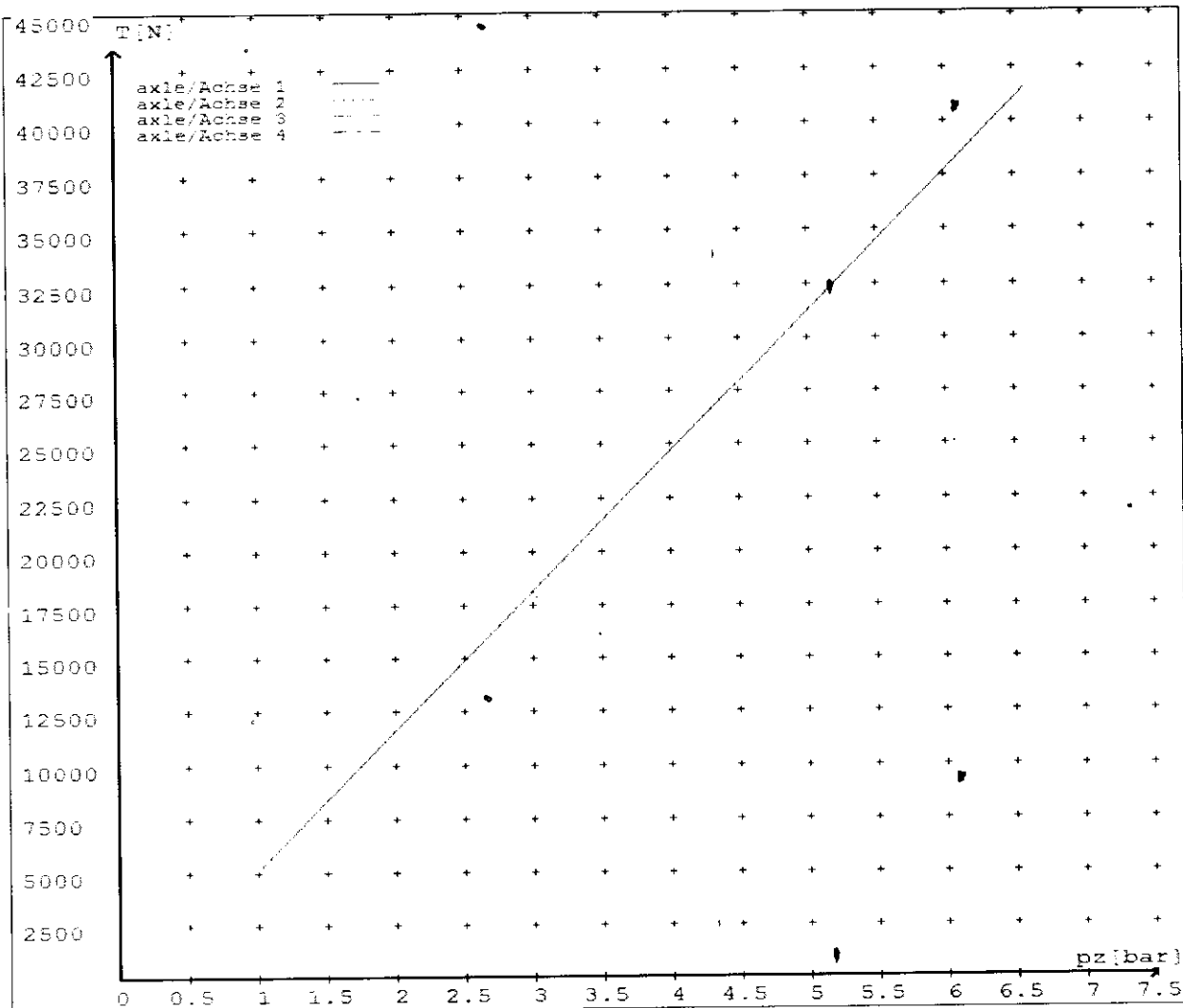
reference values

reference values for z = 50% for max r_{dyn}: 421 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0	5078	
	6.6	41511	
axle 2	1.0	5078	
	6.6	41511	
axle 3	1.0		5078
	4.4		27198
axle 4	1.0		5078
	4.4		27198

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	14./	14./	T.14/16	T.14/16	/
Maximum stroke s _{max} = ...mm maximaler Hub s _{max} =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.

JH130301

CUSTOMER NAME

DOMETT T&F

CUSTOMER ORDER No.

3975

DATE RECEIVED

18.01.13

VEHICLE TYPE

4 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9D30010D1023099

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:

Type: 14HSCLD64 (TSE): Max stroke = 64 mm Lever length = 69 mm
Type: 1416HTLD64 (TSE) : Max stroke = 64 mm Lever length = 69 mm

BRAKE VALVES:

Ratio Valve Setting: EBS CONTROL

Test Points: 3 4 5 7

FRICITION LINING:

(All) Lining Brand

OEM
JURID 539

Aftermarket

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

VALVES: AS PER BRAKE CALCULATION# TP50780

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO1524520

PROCESS TIME:

1

WABCO Brake CALC TP50780: THE MERITOR CHAMBERS ARE THE TSE VARIANT AS DETAILED ABOVE.

COMPLETION DATE : 1st March 2013

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 32015/2, Schedule 5.

Date: 1st March 2013

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 32015/2, 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