



TRANSPORT AGENCY

Heavy Vehicle Specialist Certificate

11.01.2013
Heavy Vehicle Specialist Certificate

Chris Currie

CHRIS CURRIE

CJC

7A9D35015D1023211

✓

HUEK

CARRY OUT COMPLIANCE OF VEHICLE TO THE NZ HEAVY VEHICLE
Brake Rule

Roll Stability Function Activated

Vehicle Category:

Commercial load carriers

HUBNZ32015/2 SCHED 5.

General Braking Requirements

30000 KG.

N/A

Supporting Documents

Brake Design Certificate - JH13R27.

Special Conditions:

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

Certification Expiry Date:

or Hubodometer Reading (whichever comes first)

N/A

Declaration

Designated Driver's Name:

I declare that I have carried out the Heavy Vehicle Specialist
Function required by the Heavy Vehicle Specialist valid certificate and
that the vehicle complies with the requirements of the
certification issued under the Heavy Vehicle
Brake Rule. The vehicle is subject to the Heavy Vehicle
Brake Rule and is compliant to the best of my
knowledge and belief. I declare that the Certificate is true
and correct.

In the presence of:
Name: _____
Title: _____
Date: _____

Date: 29.01.2013 Number: 458172

1. I declare that the Heavy Vehicle Specialist
Function has been carried out correctly.
2. I declare that the Heavy Vehicle
Brake Rule has been followed.
3. I declare that the Heavy Vehicle
Brake Rule has been followed.

* 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	2013-08-13	Serial number	897001464800C
Serial number (modulator)	000000022870		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2014-01-29 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO**TRAILER EBS-E**GGVS/ADR TUEH TB 2007 - 019.00
HXS 380 x 220

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT			GIO	Pin1	Pin3	Pin4
TYP TYPE	4AFT TIPPER			1	---	---	---
FAHRZEUG-IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9D35015D1023211			2	---	---	---
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP50942A			3	ALS2	ALS2	---
POLRADZAHNEZAHL c d i e f POLE WHEEL TEETH c d i e f DENTS ROUE DENTEE c d i e f	100	100	ABS-System ABS-System Système ABS	4	---	---	---
RSS RSS RSS	Einfachbereifung Single Tyre Monte simple	X	Lenkachse Steering axle Essieu Vireur	5	DIAG	DIAG	DIAG
Zwillingsbereifung Twin Tyre Monte jumelle	X	Kippbares Fahrzeug Critical Trailer/ Véhicule critique		6	---	---	---
Subsystems	---	I/O	24N	7	---	---	---
	pm (bar)	6.5	pm (bar)	0.7	2.0	---	6.5
ACHSE AXLE ESSIEU							
1	1500	0.8	1.9	7500	4.8	0.4	1.4
2	1500	0.8	1.9	7500	4.8	0.4	1.4
3	1250	0.6	1.2	7500	4.8	0.3	1.5
4	1250	0.6	1.2	7500	4.8	0.3	1.5
5	0	---	---	0	---	---	---

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

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

Manufacturer	DOMETT	Vehicle ident. no	7A9D35015D1023211
Vehicle type	4AFT TIPPER	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tested by	Chris Clarke		
Date	2014-01-29 7:33:08 p.m.	Signature	

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

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 (V6.13.06.12).
 -the functional characteristics of our products
 as well as the data of the brake out of the test
 approval 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 recommend to do a braking harmonisation!
 WABCOPBrake V6.13.06.12 db 12.06.2013

distribution: DOMETT
 7A9D35015D1023211
 SODC: JH131207
 PREV: HVB13/484

vehicle manufacturer: DOMETT
 trailer model : 4AFT TIPPER
 trailer type : 4-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS E
 TRISTOP 3+4: 24/30
 265/70 R 19,5

axle 1 + 2 + 3 + 4 : Hendrickson, HXS 15 x 8.625, 04F108,

		unladen	laden
total mass	P in kg	5500	30000
axle 1	P1 in kg	1500	7500
axle 2	P2 in kg	1500	7500
axle 3	P3 in kg	1250	7500
axle 4	P4 in kg	1250	7500
wheel base	E in mm	4600 - 4600	
centre of gravity height	h in mm	1250	2070

		axle 1	axle 2	axle 3	axle 4
		manually	manually	manually	manually
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		BC 0029.0BC	0029.0BC	0051.0BC	0051.0
brake chamber manufacturer		WABCO	WABCO	WABCO	WABCO
chamber size		24	24	24/30	24/30
lever length	lBh in mm	165	165	140	140
brake factor	[-]	8.70	8.70	8.70	8.70
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	20.0	20.0	20.0	20.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%bar	2.1	2.1	1.9	1.9
chamber pressure(rdyn max)pH at z=22,5%bar	2.1	2.1	1.9	1.9
chamber press.(servo)pcha at pm6,5bar bar	6.0	6.0	4.0	4.0
piston force ThA at pm6,5bar N	8408	8408	5621	5621
brake force(rdyn min)T lad. at pm6,5bar N	57247	57247	32434	32434
brake force(rdyn max)T lad. at pm6,5bar N	57247	57247	32434	32434
brake force within 1 % rolling friction proportion	%	26.9	26.9	23.1
				23.1

braking rate z laden	0.609	for rdyn min
z = sum (TR)/PRmax	0.609	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
EBS emergency valve

WABCO

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

WABCO or 480 207 2.. 0

brake cylinder: WABCO 423 106 90. 0 / 423 106 96x 0

axle 2:

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

WABCO

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

WABCO or 480 207 2.. 0

brake cylinder: WABCO 423 106 90. 0 / 423 106 96x 0

axle 3:

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

WABCO

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

WABCO

brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

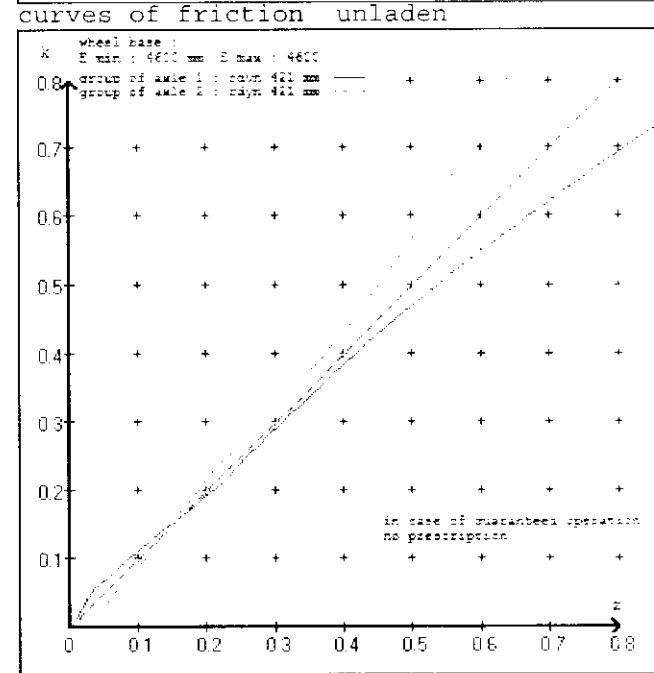
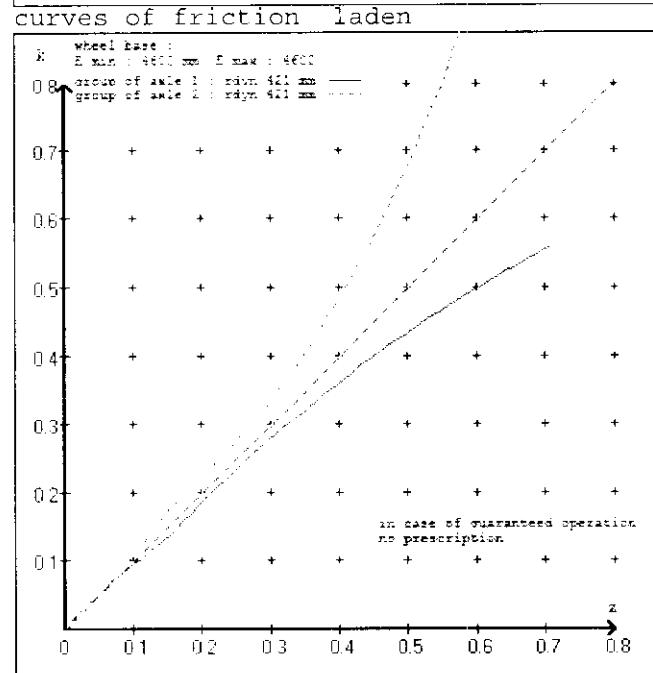
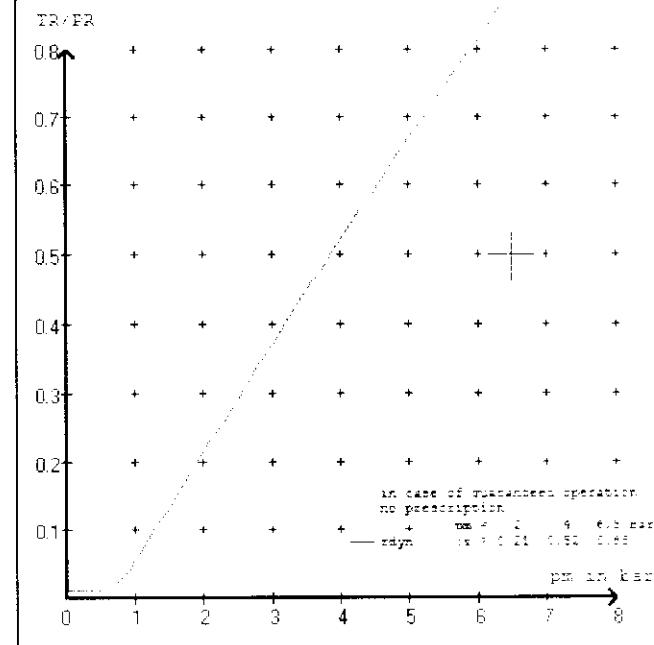
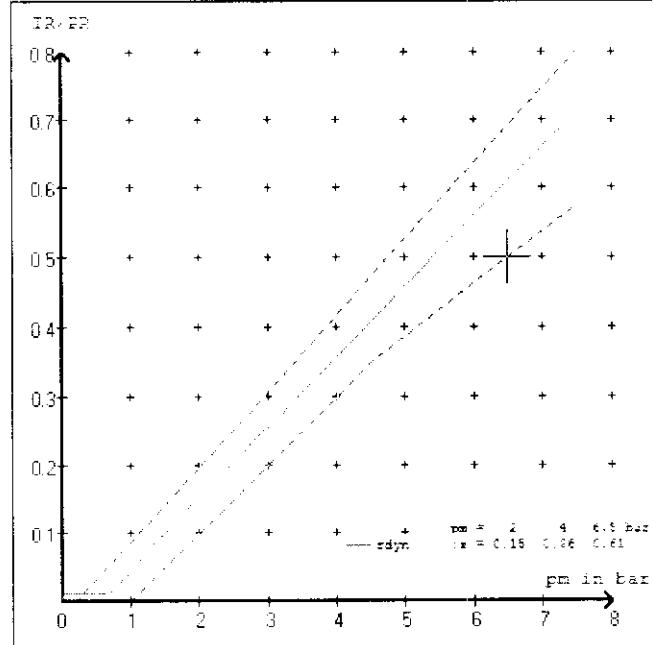
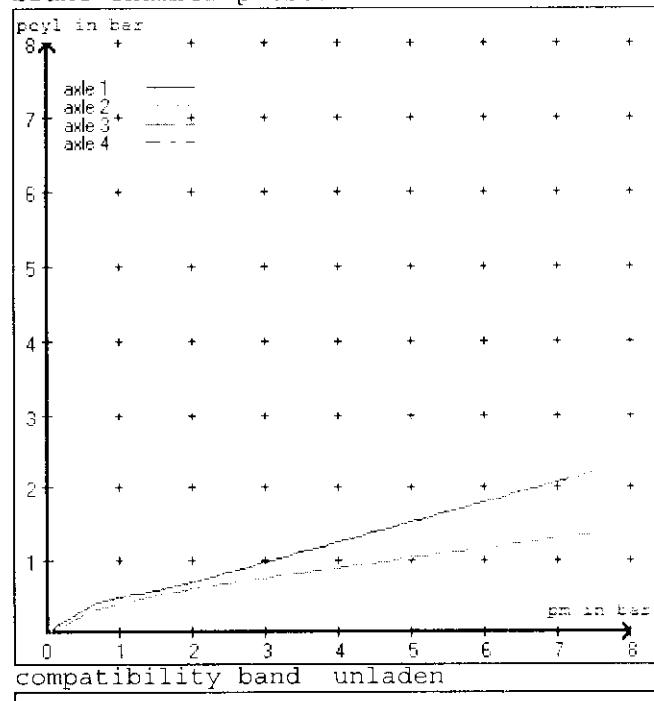
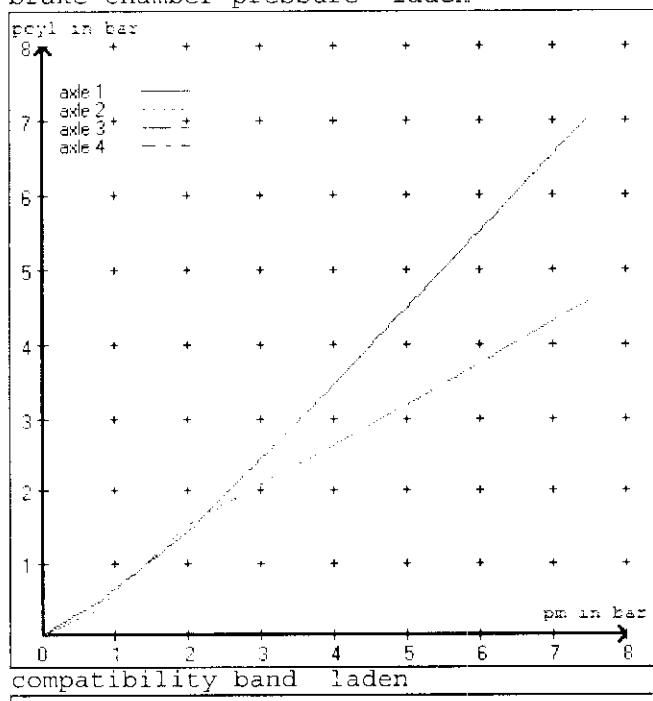
axle 4:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

test type III (zIII = 0.30) for rdyn min : axle1 axle2 axle3 axle4
at pm 3.4 bar => pcha in bar : 2.9 2.9 2.3 2.3
test type III (zIII = 0.06) for rdyn min : axle1 axle2 axle3 axle4
at pm 1.1 bar => pcha in bar : 0.7 0.7 0.7 0.7

brake chamber pressure 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	24	(WABCO)	lever length	165 mm
axle 2 :	2 x type/diameter	24	(WABCO)	lever length	165 mm
axle 3 :	2 x type/diameter	24/30	(WABCO)	lever length	140 mm
axle 4 :	2 x type/diameter	24/30	(WABCO)	lever length	140 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 50942A

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	1500	to be entered by the vehicle manufact.	1.9	7500	to be entered by the vehicle manufact.	0.4	1.4	6.0
2	1500		1.9	7500		0.4	1.4	6.0
3	1250		1.2	7500		0.3	1.5	4.0
4	1250		1.2	7500		0.3	1.5	4.0
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	1.9	1250	1.2
2000	2.2	1750	1.4
2500	2.6	2250	1.6
3000	2.9	2750	1.9
3500	3.3	3250	2.1
4000	3.6	3750	2.3
4500	3.9	4250	2.5
5000	4.3	4750	2.8
7500	6.0	7500	4.0

data sheet to ECE vehicle type-approval certificate concerning braking equipment: according to ECE R13 annex 11

axle 1 : reference axle: HendricksonINTRAAAX	brake lining: Abex 3030-197
test report : 04F108	date : 08/25/04
axle 2 : reference axle: HendricksonINTRAAAX	brake lining: Abex 3030-197
test report : 04F108	date : 08/25/04
axle 3 : reference axle: HendricksonINTRAAAX	brake lining: Abex 3030-197
test report : 04F108	date : 08/25/04
axle 4 : reference axle: HendricksonINTRAAAX	brake lining: Abex 3030-197
test report : 04F108	date : 08/25/04

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 = 25.4 % Fe
axle 2	(rdyn 421 mm)	T = 25.4 % Fe
axle 3	(rdyn 421 mm)	T = 17.5 % Fe
axle 4	(rdyn 421 mm)	T = 17.5 % Fe

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

axle 1	(sp = 71 mm)	s = 50 mm
axle 2	(sp = 71 mm)	s = 50 mm
axle 3	(sp = 63 mm)	s = 42 mm
axle 4	(sp = 63 mm)	s = 42 mm

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

axle1	ThA = 8408 N
axle2	ThA = 8408 N
axle3	ThA = 5621 N
axle4	ThA = 5621 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 = 59917 N
axle 2	(rdyn 421 mm)	T = 59917 N
axle 3	(rdyn 421 mm)	T = 34137 N
axle 4	(rdyn 421 mm)	T = 34137 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) 0.61 0.64

required braking rate
(items 1.5.3 and 1.7.2 to annex 11) $\geq 0,4$ and
 $\geq 0,6 \star E$ ($0,37$)

axle 1	(rdyn 421 mm)	T = 59917 N
axle 2	(rdyn 421 mm)	T = 59917 N
axle 3	(rdyn 421 mm)	T = 34137 N
axle 4	(rdyn 421 mm)	T = 34137 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) 0.61 0.64

required braking rate $\geq 0,4$ and
(items 1.5.3 and 1.7.2 to annex 11) $\geq 0,6 \star E$ (0,37)

spring parking brake

		axle 3	axle 4
no of TRISTOP-actuators per axle line KDZ		2	2
TRISTOP-actuator type		24/30	24/30
lever length	lBh in mm	140	140
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	6360	6360
sp.brake chamber no 925		376 005 0376 005 0	
sp.brake chamber no 925		376 2.. 0376 2.. 0	
release pressure	pLs in bar	4.9	4.9

calculation:

ratio until road		3.0374	3.0374
iFb = lBh*Eta*C*rBt/(2*rBn*rstat)			
for rstat in mm		401	401
brake force of spring br. Tf in N		37768	37768
Tf = (TFZ*KDZ-2*Co/lBh)*iFb			
braking rate	zf laden	0.267	
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

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

$$\begin{aligned} \text{min Ef} &= 3449 \text{ mm} \quad \text{for } E = 4600 \text{ mm} \\ \text{=====} \\ \text{min Ef} &= 3449 \text{ mm} \quad \text{for } E = 4600 \text{ mm} \\ \text{=====} \end{aligned}$$

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 = 2070 mm height of center of gravity - laden
PR = 15000 kg maximum bogie mass - laden
P = 30000 kg maximum total mass - laden
nf = 2 no. of axle(s) with TRISTOP spring brake actuators
ng = 2 no. of bogie axle(s)

axle manufacturer		axle 1 + 2 + 3 + 4
type of brake		Hendrickson
type of axle		HXS 15 x 8.625
test report no.		INTRAAK
test report of characteristic value		04F108
adm. stat. axle load	Pstat	in kg 10500
tested axle load	Pe	in kg 10500
max. adm. tyre radius	Rezul	in mm 999
adm. cam. torque (6,5 bar)	Czul	in Nm 2020
lining area per brake	AB	in cm ² 1351
no. of brake cylinder	-	2
brakefactor Bf	-	8.70
threshold torque (Co,dec)		in Nm 20
date		08/25/04
brake lining		Abex 3030-197
cam torque	Ce	in Nm 1480
brake force	TeIII	in daN 5220
stroke	seIII	in mm 46
tested tyre radius	Re	in mm 516
tested lever length	le	in mm 152
threshold torque (Co,e)		in Nm 9

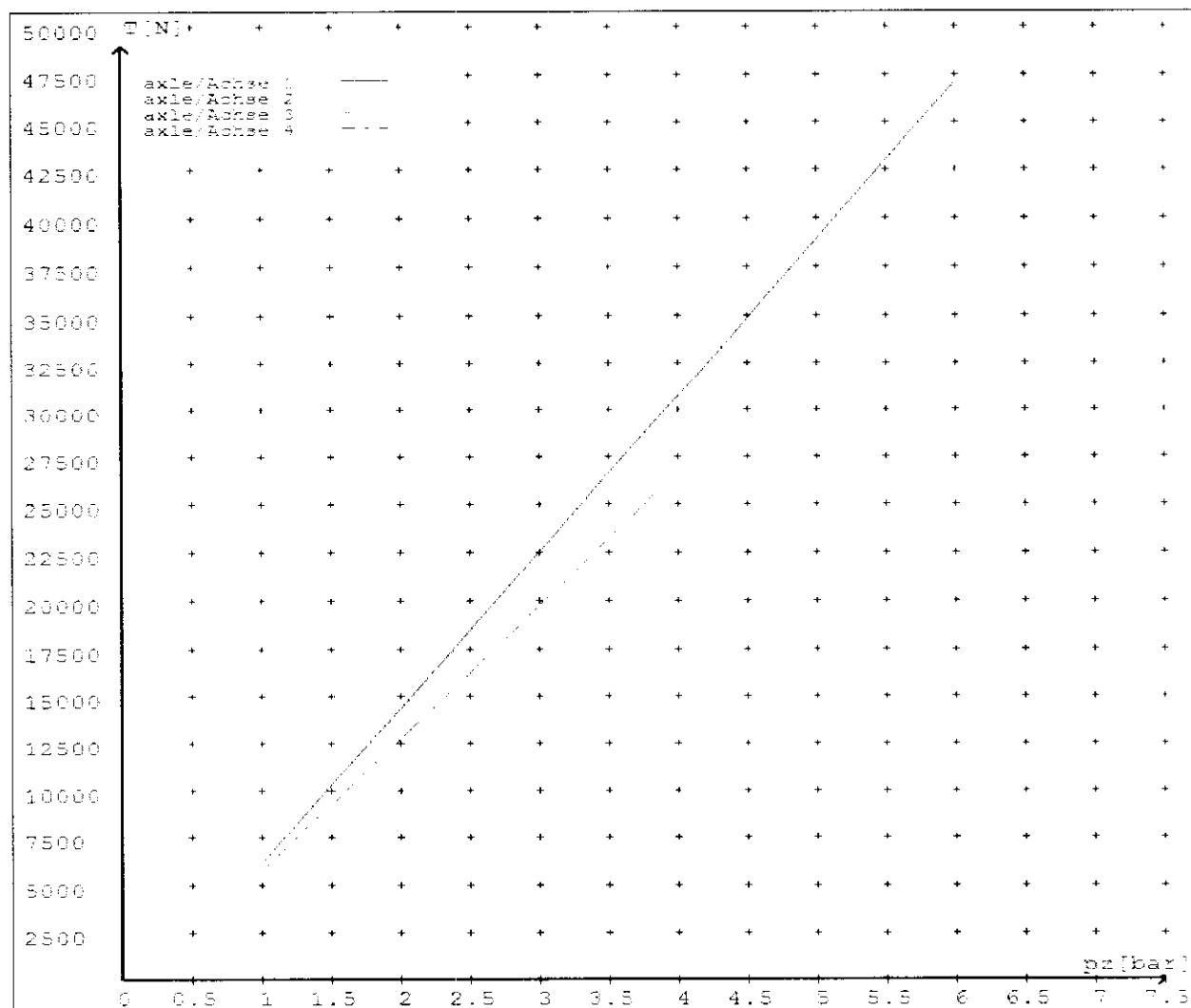
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	6101	
	6.0	47001	
axle 2	1.0	6101	
	6.0	47001	
axle 3	1.0		5707
	4.0		26628
axle 4	1.0		5707
	4.0		26628

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24/	24/	24/30	24/30	/
Maximum stroke smax =mm maximaler Hub smax =mm	67	67	64	64	
lever lengthmm Hebellänge =mm	165	165	140	140	



reference values for z = 0.5

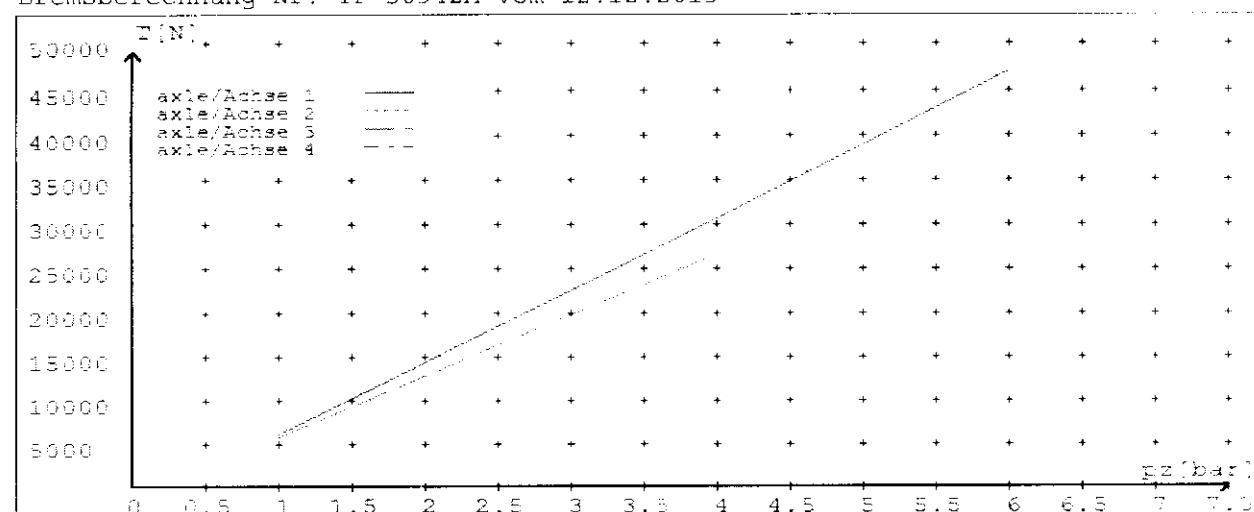
Angabe der Referenzwerte für z = 0.5

brake calculation no: TP 50942A date 12.12.2013

Bremsberechnung Nr: TP 50942A vom 12.12.2013

for max rdyn: 421 mm

für max rdyn: 421 mm



	Axe(s) / Achse(n)				
brake cylinder type (service / parking) Bremzylinder Typ (Betrieb / Fest)	24/	24/	24/30	24/30	/
Maximum stroke s _{max} ... mm maximaler Hub s _{max} ... mm	67	67	64	64	
Lever length ... mm Hebellänge ... mm	165	165	140	140	

HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH131207

CUSTOMER NAME

DOMETT TRUCK & TRAILER LTD

CUSTOMER ORDER No.

4112

DATE RECEIVED

Oct 2013

VEHICLE TYPE

4 AXLE FULL TRAILER

REG No.

CHASSIS No. 7A9D35015D1023211

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:

Type: 24S (TSE): Max stroke = 67 mm Lever length = 165 mm

Type: 2430GC (TSE): Max stroke = 64 mm Lever length = 140 mm

Ratio Valve Setting: EBS CONTROL WITH RSS ACTIVATED

Test Points: 3 4 5 7

FRICITION LINING: OEM Aftermarket

(All) Lining Brand ABEX 3030-197

EBS CONTROL: SPECIAL CONDITIONS APPLY - SEE INSTRUCTION ON LT400

VALVES: AS PER DATA SHEET ATTACHED & SO1544042

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO1544042

PROCESS TIME:

1

WABCOWBrake calculation TP50942: WABCO CHAMBERS ARE TSE

COMPLETION DATE : 13th Dec 2013

SIGNATURE

Statement of Compliance with the New Zealand Heavy Brake Rule

Documentation required to support 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: 13th Dec 2013

Signed:

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

HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH131207

CUSTOMER NAME

DOMETT TRUCK & TRAILER LTD

CUSTOMER ORDER No.

4112

DATE RECEIVED

Oct 2013

VEHICLE TYPE

4 AXLE FULL TRAILER

REG No.

CHASSIS No. 7A9D35015D1023211

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:

Type: 24S (TSE); Max stroke = 67 mm Lever length = 165 mm

Type: 2430GC (TSE); Max stroke = 64 mm Lever length = 140 mm

Ratio Valve Setting: EBS CONTROL WITH RSS ACTIVATED

Test Points: 3 4 5 7

FRiction LINING: OEM Aftermarket

(All) Lining Brand ABEX 3030-197

EBS CONTROL: SPECIAL CONDITIONS APPLY - SEE INSTRUCTION ON LT400

VALVES: AS PER DATA SHEET ATTACHED & SO1544042

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO1544042

PROCESS TIME:

1

WABCO Brake calculation TP50942: WABCO CHAMBERS ARE TSE

COMPLETION DATE : 13th Dec 2013

SIGNATURE

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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