



Heavy Vehicle Specialist Certificate

Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's Name (PRINT IN CAPS)

CHRIS CLARKE

ID

CJC

Vehicle Registration*

VIN / Chassis Number

7A9D35019C1023115

Component being certified:

Chassis Modification

Load Anchorage

Log Bolsters

Certification Category

Towing Connection

✓ Brakes

SRT

HUEK.

Description of Work

CARRY OUT SETUP OF TRAILER EBS SYSTEM.

ROLL STABILITY FUNCTION ACTIVATED AND TESTED AS PER START UP PROTOCOL.

Code/Standard Certified to

Component Load Rating(s)

HUBNZ 32015/2 SCHEDS.

General Drawing Number(s)

300000 KG.

N/A

Supporting Documents

BRAKE DESIGN CERTIFICATE (CJA) 1730

*Special Conditions

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

Certification Expiry Date (if applicable)

or Hubodometer Reading (whichever comes first)

N/A

Declaration

I the undersigned, declare that I am the Heavy Vehicle Specialist Inspector identified above 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 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 (PRINT IN CAPS)

Date

Number

05.01.2013

424270

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	2012-11-08	Serial number	897001009300D
Serial number (modulator)	000000018134		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2013-01-08 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO

TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
HXS 15*8.625

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT T&T			GIO	Pin1	Pin3	Pin4
TYP TYPE TYPE	4AX BULK TIPPER			1	---	---	---
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9D35019D1023115			2	---	---	---
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP50734			3	ALS2	ALS2	---
POURADZÁNEŽAHL c-d e-f POLE WHEEL TETT c-d e-f DENTS ROUE DENTÉE c-d e-f	100	100	ABS-System ABS-System Système ABS	4	---	---	---
			4S/3M	5	DIAG	DIAG	DIAG
RSS RSS RSS	Einfachbereifung Single Tyre Monte simple		Lenkachse Steering axle Essieu vitreur	6	---	---	---
	Zwillingsbereifung Twin Tyre Monte jumelée	X	Kipptisches Fahrzeug Critical Trailer Véhicule critique	7	---	---	---
Subsystems	I/O						

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
														pz				TR (daN)	
1	1500	0.7	1.9	7500	4.7	0.3	1.3	---	6.2	-	24	67	152	622	4491				
2	1500	0.7	1.9	7500	4.7	0.3	1.3	---	6.2	-	24	67	152	622	4491				
3	1150	0.6	1.1	7500	4.7	0.3	1.4	---	4.2	-	24 / 30	64	140	611	2869				
4	1150	0.6	1.1	7500	4.7	0.3	1.4	---	4.2	-	24 / 30	64	140	611	2869				
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---	---	---	---	---

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	Not tested
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 T&T	Vehicle ident. no	7A9D35019D1023115
Vehicle type	4AX BULK TIPPER	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tested by	Chris Clarke		
Date	2013-01-08 7:55:39 a.m.		

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.

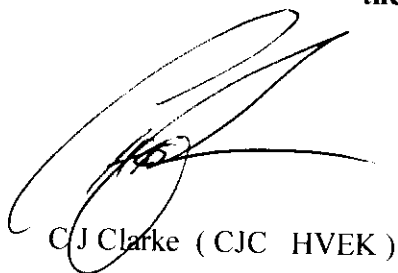
The trailer ABS/EBS warning light on the towing vehicle dashboard must illuminate when the ignition is switched on and extinguish when the vehicle is in motion.

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.



CJ 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: SECTION 7.5.

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)

HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. CJC1730

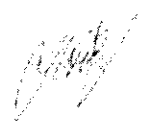
CUSTOMER NAME DOMETT T&T

CUSTOMER ORDER No. 3945 DATE RECEIVED 10.10.12

VEHICLE TYPE 4 AXLE FULL TRAILER

REG No. CHASSIS No. 7A9D35019D1023115

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS: Type: 24 (TSE): Max stroke = 67 mm Lever length = 152 mm Type: 2430 (TSE) : Max stroke = 64 mm Lever length = 140 mm	
BRAKE VALVES:	Ratio Valve Setting: EBS CONTROL Test Points: 3 <u>4</u> 5 7
FRICITION LINING: (All) Lining Brand	<u>OEM</u> Aftermarket ABEX 3030-197
EBS CONTROL: IF SPECIAL CONDITIONS APPLY – SEE INSTRUCTION ON LT400 VALVES: AS PER BRAKE CALCULATION# TP50734: WABCO CHAMBERS ARE TSE. TYRE SIZE: 265 70 R 19.5	
NOTES PACKING SLIP NO.	SO1520648 PROCESS TIME: 1
COMPLETION DATE : 13 th Dec 2012 SIGNATURE (pp.): 	

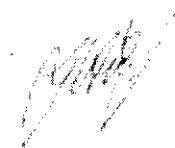
Statement of Compliance with the New Zealand Heavy Brake Rule

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: 13th Dec 2012

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

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

distribution: DOMETT T&T
 7A9D35017D1023114 + 7A9D35019D1023115
 7A9D35002D1023116 + 7A9D35012D1023117
 7A9E20015C1023122

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 (V6.12.08.27).
 -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 T&T
 trailer model : 4AX BULK 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", ,

		unladen	laden
total mass	P in kg	5300	30000
axle 1	P1 in kg	1500	7500
axle 2	P2 in kg	1500	7500
axle 3	P3 in kg	1150	7500
axle 4	P4 in kg	1150	7500
wheel base	E in mm	4900 - 4900	
centre of gravity height	h in mm	1260	2092

	axle 1	axle 2	axle 3	axle 4
no. of combined axles	1	1	1	1
no. of brake chambers per axle line K DZ	2	2	2	2
The power output corresponds to	FE 747	FE 747BC	0051.0BC	0051.0
brake chamber manufacturer	WABCO	WABCO	WABCO	WABCO
chamber size	24	24	24/30	24/30
lever length lBh in mm	152	152	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	10.0	10.0	10.0	10.0

calculation:

chamber pressure (rdyn min) pH at z=22,5%bar	2.2	2.2	1.9	1.9
chamber pressure (rdyn max) pH at z=22,5%bar	2.2	2.2	1.9	1.9
chamber press. (servo) pcha at pm6,5bar bar	6.2	6.2	4.2	4.2
piston force ThA at pm6,5bar N	8556	8556	5915	5915
brake force (rdyn min) T lad. at pm6,5bar N	54074	54074	34546	34546
brake force (rdyn max) T lad. at pm6,5bar N	54074	54074	34546	34546
brake force within 1 % rolling friction proportion %	25.6	25.6	24.4	24.4

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: WABCO 423 106 9.. 0

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: WABCO 423 106 9.. 0

axle 3:

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

axle 4:

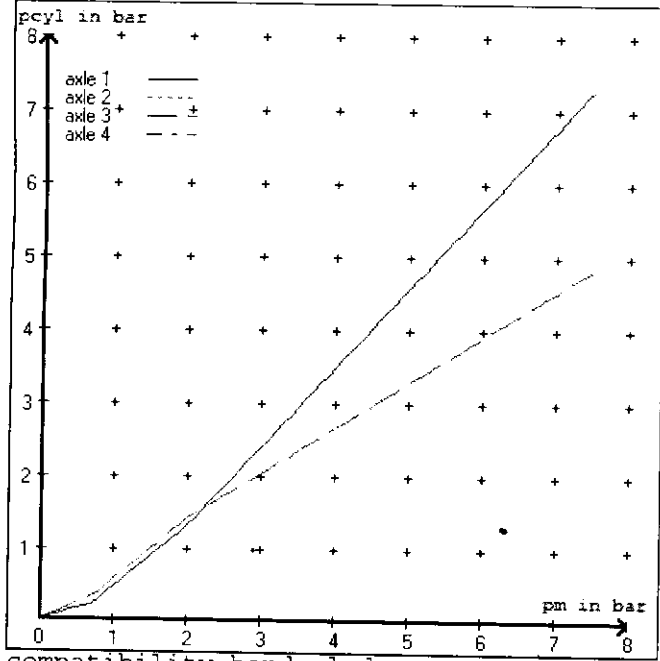
valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

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

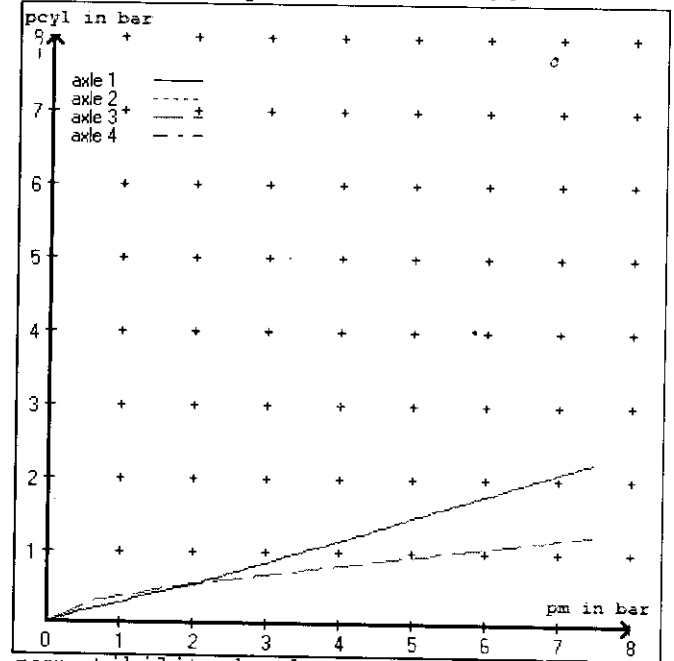
brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4
at pm 3.5 bar =>	pcha in bar :	3.0	3.0	2.4	2.4
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4
at pm 1.2 bar =>	pcha in bar :	0.6	0.6	0.7	0.7

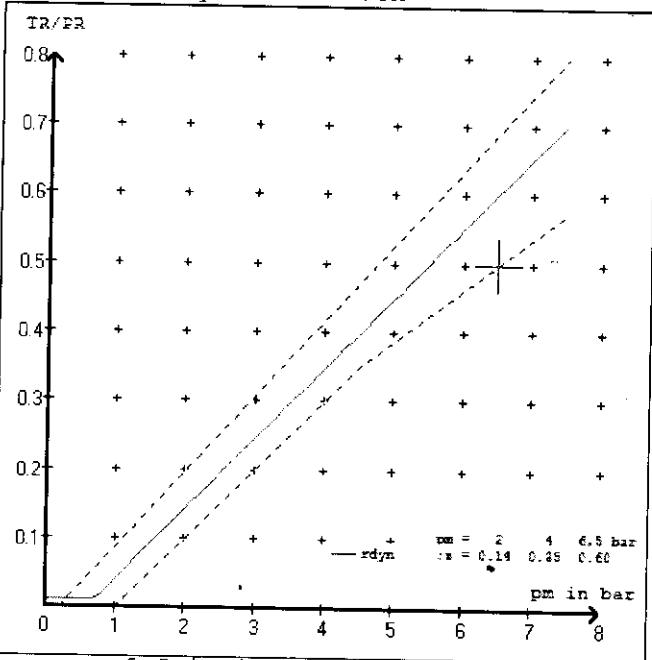
brake chamber pressure laden



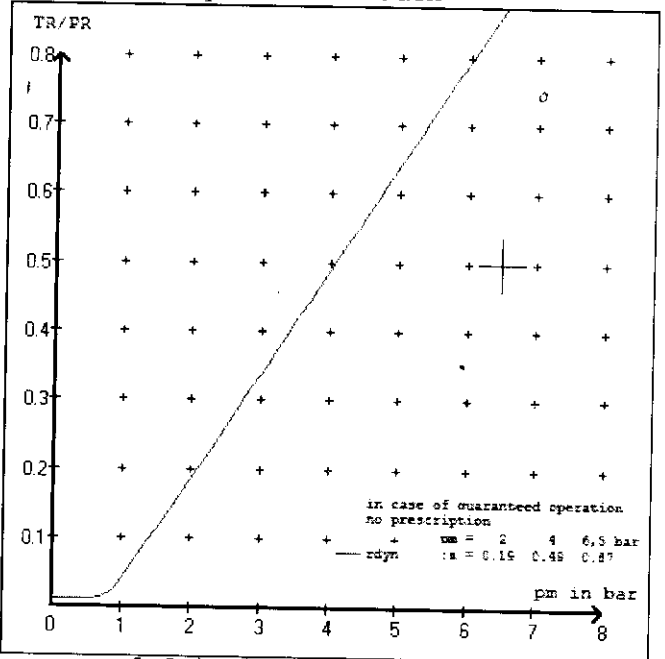
brake chamber pressure unladen



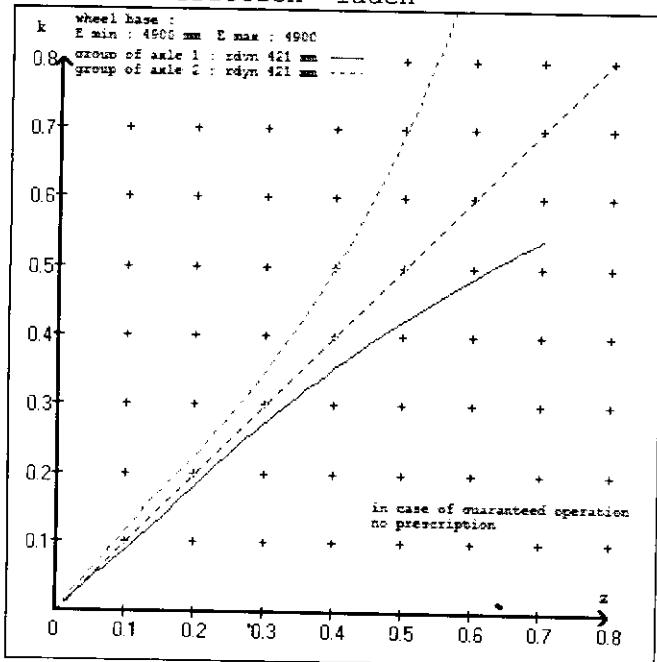
compatibility band laden



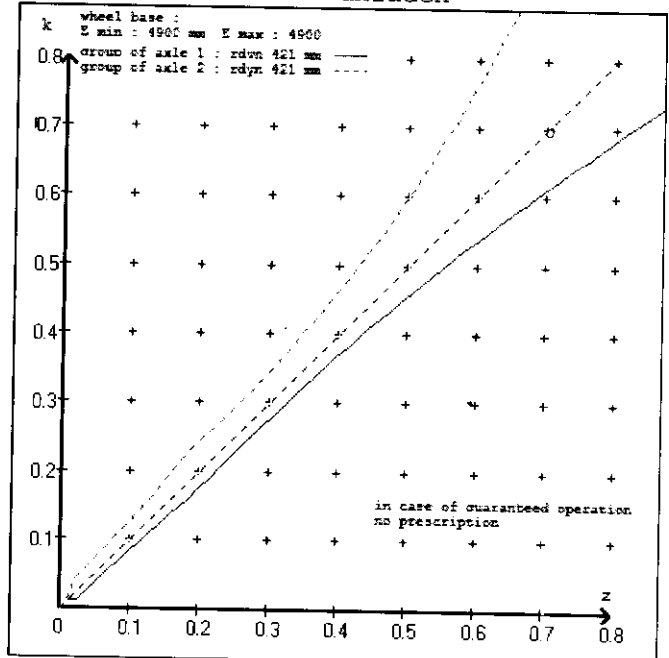
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT T&T
 trailer model : 4AX BULK TIPPER
 trailer type : 4-axle-full-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter 24 (WABCO) lever length 152 mm
 axle 2 : 2 x type/diameter 24 (WABCO) lever length 152 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 T&T
 trailer model : 4AX BULK TIPPER
 trailer type : 4-axle-full-trailer
 brake calculation no. : TP 50734A

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	1.9	7500	to be	0.3	1.3	6.2
2	1500	entered by	1.9	7500	entered by	0.3	1.3	6.2
3	1150	the vehicle	1.1	7500	the vehicle	0.3	1.4	4.2
4	1150	manufact.	1.1	7500	manufact.	0.3	1.4	4.2
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 pcy1	axle load pcy1	axle load pcy1	axle load pcy1
1500	1.9	1500	1.9
2000	2.3	2000	2.3
2500	2.6	2500	2.6
3000	3.0	3000	3.0
3500	3.3	3500	3.3
4000	3.7	4000	3.7
4500	4.0	4500	4.0
5000	4.4	5000	4.4
7500	6.2	7500	6.2
		1150	1.1
		1650	1.3
		2150	1.6
		2650	1.8
		3150	2.1
		3650	2.3
		4150	2.6
		4650	2.8
		7500	4.2

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

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

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 = 24.5 % Fe
axle 2	(rdyn 421 mm)	T = 24.5 % Fe
axle 3	(rdyn 421 mm)	T = 18.4 % Fe
axle 4	(rdyn 421 mm)	T = 18.4 % Fe

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

axle 1	(sp = 73 mm)	s = 46 mm
axle 2	(sp = 73 mm)	s = 46 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 = 8556 N
axle2	ThA = 8556 N
axle3	ThA = 5915 N
axle4	ThA = 5915 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 = 55814 N
axle 2	(rdyn 421 mm)	T = 55814 N
axle 3	(rdyn 421 mm)	T = 35663 N
axle 4	(rdyn 421 mm)	T = 35663 N

basic test	type III
of subject	(calculated)
trailer (E)	residual
	(hot)braking
	0.60
	0.62

braking rate of the vehicle

(item 4.3.2 to appendix 2 to annex 11)

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 421 mm)	T = 55814 N
axle 2	(rdyn 421 mm)	T = 55814 N
axle 3	(rdyn 421 mm)	T = 35663 N
axle 4	(rdyn 421 mm)	T = 35663 N

basic test	type III
of subject	(calculated)
trailer (E)	residual
	(hot)braking
	0.60
	0.62

braking rate of the vehicle

(item 4.3.2 to appendix 2 to annex 11)

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

	axle 3	axle 4
no of TRISTOP-actuators per axle line KDZ	2	2
TRISTOP-actuator type	24/30	24/30
lever length	140	140
stat. tyre radius	401	401
at a stroke of		
min. force of spring brake	30	30
sp.brake chamber no 925 ...	6360	6360
sp.brake chamber no 925 ...	376 005 0376 005 0	
release pressure	376 2.. 0376 2.. 0	
	4.9	4.9

calculation:

ratio until road	3.0374	3.0374
$iF_b = lBh \cdot \eta \cdot C \cdot r_{Bt} / (2 \cdot r_{Bn} \cdot r_{stat})$		
for rstat in mm	401	401
brake force of spring br. Tf in N	38202	38202
$T_f = (TFZ \cdot KDZ - 2 \cdot C_o / lBh) \cdot iF_b$		
braking rate	0.270	
$z_f = \sum (T_f) / P + 0,01$		

Test of the frictional connection required by the parking brake

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

$$\min E_f = E \cdot (1 - PR/P + z_{ferf} \cdot h/E) / (1 - z_{ferf} / (f_{zul} \cdot n_f/n_g))$$

min Ef = 3647 mm for E = 4900 mm

min Ef = 3647 mm for E = 4900 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 = 2092 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.	INTRAAX
test report of characteristic value	

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	10

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

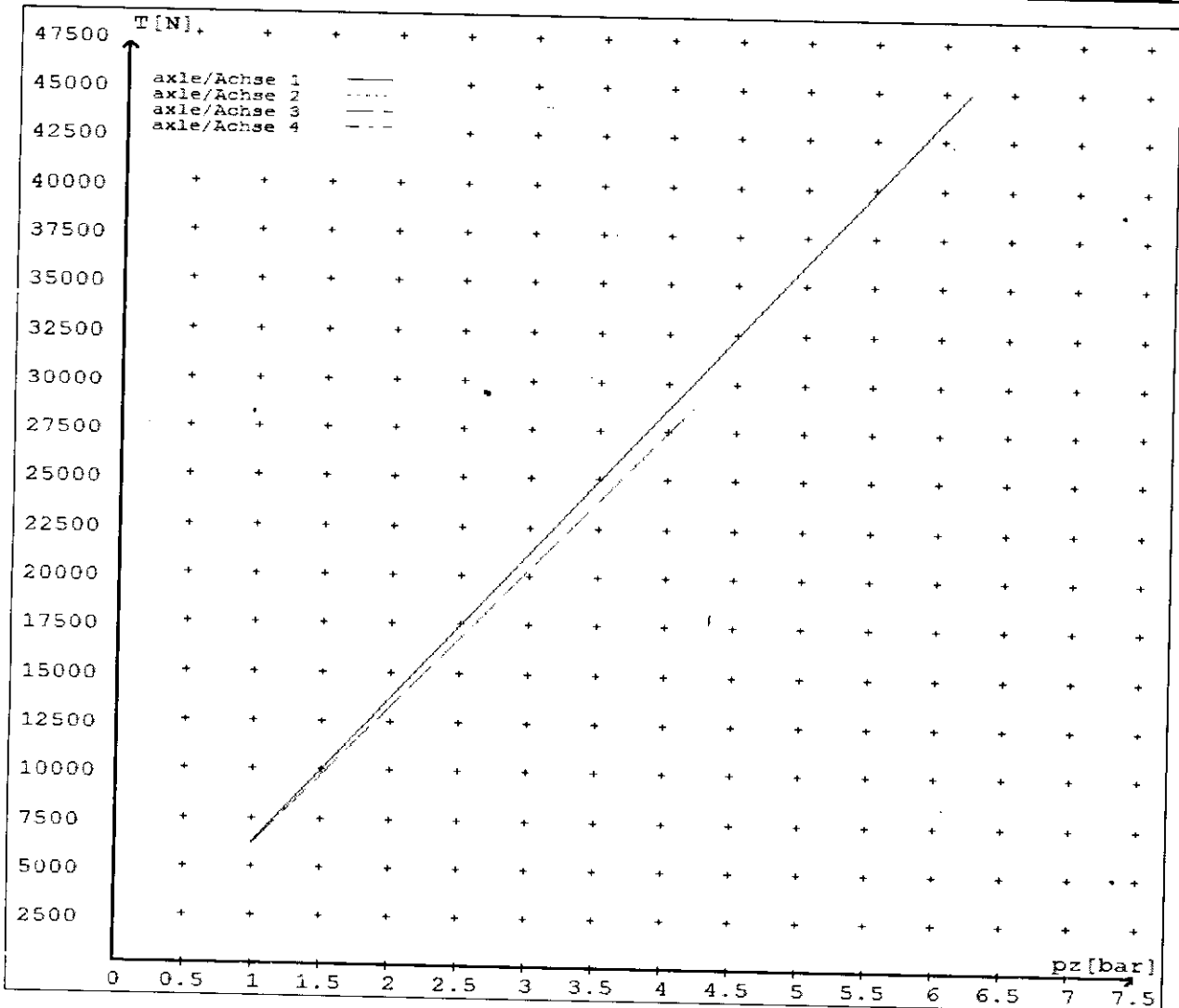
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	6221	
	6.2	44912	
axle 2	1.0	6221	
	6.2	44912	
axle 3	1.0		6117
	4.2		28692
axle 4	1.0		6117
	4.2		28692

VIN - no.:

brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	Axle(s) / Achse(n)				
	24/	24/	24/30	24/30	/
Maximum stroke smax = ...mm maximaler Hub smax =mm	67	67	64	64	
Lever length =mm Hebellänge =mm	152	152	140	140	



reference values for $z = 0.5$

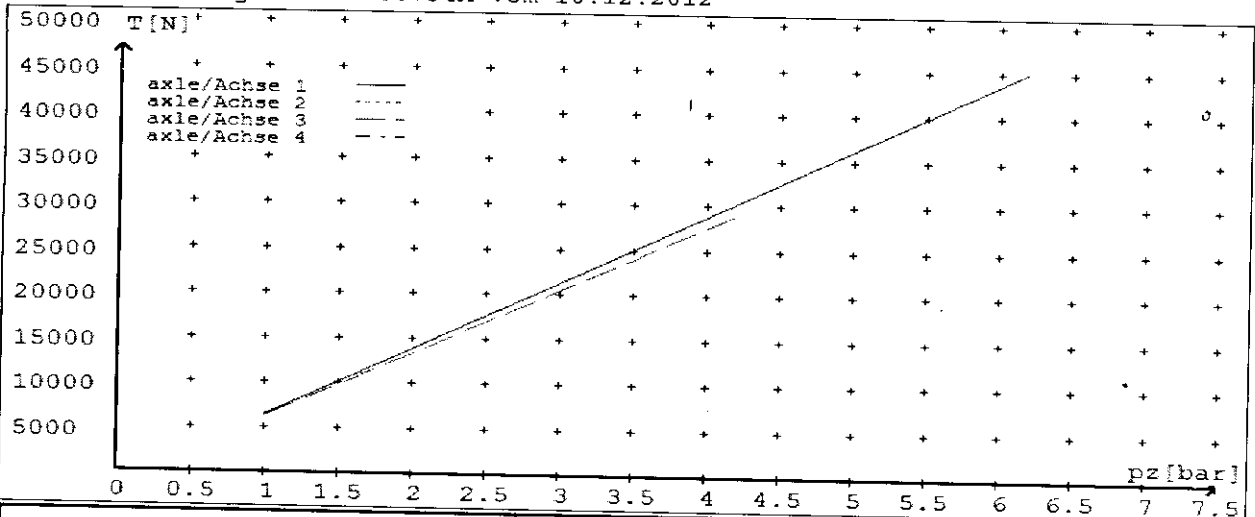
for max r_{dyn}: 421 mm

Angabe der Referenzwerte für $z = 0.5$

für max r_{dyn}: 421 mm

brake calculation no: TP 50734A date 10.12.2012

Bremsberechnung Nr: TP 50734A vom 10.12.2012



	Axle(s) / Achse(n)				
Brake cylinder type (service / parking) Bremszylinder 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	152	152	140	140	

