

Heavy vehicle specialist inspector's or manufacturing inspecting organisation's name (PRINT IN CAPS) **CHRIS CLARKE** ID **CJC**

Vehicle registration (optional) _____ VIN/chassis number **7A9D30017L2023013**

Make **DOMETT** Component being certified: Chassis Load anchorage

Model (optional) **D3001** Log bolsters Towing connection Brakes

Certification category **HVEK** SRT PSV stability PSV rollover

Swept path PBS

Description of work

CERTIFY TO SCHEDULE 5 OF LTR 32015/5: NZ HEAVY VEHICLE BRAKE SPECIFICATION.

CARRY OUT BRAKE CALCULATIONS, INSPECTION AND ECU END OF LINE PROTOCOL.

4AFT PLATFORM TIPPER RSS ON TYRE: 265 70 R19.5

FOR SYSTEM ARCHITECTURE, PLEASE REFER TO PDS WORKSHEET & SCHEMATIC.

Code/standard/rule certified to **LTR 32015/5** Component load rating(s) **28 Tonnes GVM**

General drawing number(s) **N/A** **16 Tonnes (Front brake mass)**

16 Tonnes (Rear brake mass)

Supporting documents

BRAKE RULE CERTIFICATE JH201127

BRAKE CALCULATION # TP52181

Special conditions (optional)

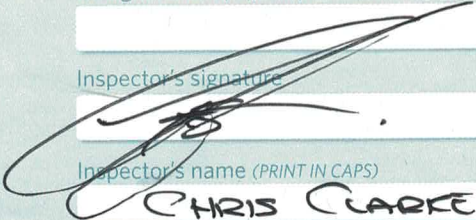
WARNING LAMP MUST ILLUMINATE WHEN IGNITION IS SWITCHED ON & THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE SPEED EXCEEDS 7 KM/H

Certification expiry date (if applicable) **N/A [UNLESS MODIFIED]** 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) **CHRIS CLARKE** ID number **CJC**

Date **25-Nov-20** Number **764515**

CoF vehicle inspector ID (if applicable) _____ CoF vehicle inspector signature (if applicable) _____ Date _____

All fields are mandatory unless otherwise stated.

WABCO START-UP LOG

System	Trailer EBS-E	WABCO part number	480 102 084 0
Production date	2019-11-18	Serial number	437008227600C
Serial number (modulator)	000000502138		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2020-11-25 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO		TRAILER EBS-E			GGVS/ADR TUEH TB 2007 - 019.00 TDB0749										
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT TRAILERS			GIO	Pin1	Pin3	Pin4								
TYP TYPE	4AFT PLATFORM TIPPER			1	24V-01	---	---								
VEHICLE IDENT. NUMBER CHASSIS NUMBER NUMERO DE CHASSIS	7A9D30017L2023013			2	---	---	---								
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP52181A			3	S-ALS1	S-ALS1	---								
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	---	---	---								
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	Lenkachse Steering axle Essieu vireur	4S/3M	5	DIAG	DIAG	DIAG								
	Zwillingsbereifung Twin Tire Monte jumelée	X	Kippkritisches Fahrzeug Critical Trailer Véhicule critique	6	---	---	---								
Subsystems	SB	I/O	24N	7	---	---	---								
	pm (bar)	6.5	pm (bar)	0.8	2.0	---	6.5								
ACHSE AXLE ESSIEU							pz								
1	1600	0.7	2.3	8000	5.1	0.4	1.4	---	6.5	-	20	65	69	522	4922
2	1600	0.7	2.3	8000	5.1	0.4	1.4	---	6.5	-	20	65	69	522	4922
3	1300	0.5	1.5	8000	5.1	0.3	1.6	---	4.7	-	14 / 16	64	69	516	2923
4	1300	0.5	1.5	8000	5.1	0.3	1.6	---	4.7	-	14 / 16	64	69	516	2923
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---

TEBS-E

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light 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 test	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	7A9D30017L2023013
Vehicle type	4AFT PLATFORM TIPPER	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	Chris Clarke	Signature	
Date	2020-11-25 11:30:17 AM		

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

distribution: DOMETT TRAILERS
 7A9D30017L2023013
 JH201127
 LT400: CJC 746515

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 (V6.18.07.12).
 -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!
 WABCO Brake V6.18.07.12 db 31.08.2018

vehicle manufacturer: DOMETT TRAILERS
 trailer model : 4AFT PLATFORM TIPPER
 trailer type : 4-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS
 TRISTOP 3+4: T.14/24 [TSE1416HTLD64 ACTUALLY FITTED -
 SEE PAGE 7 FOR PERFORMANCE DATA]
 265/70 R 19,5

axle 1 + 2 + 3 + 4 : SAF, SBW 1937, TDB 0749 ECE,

		unladen	laden
total mass	P in kg	5800	32000
axle 1	P1 in kg	1600	8000
axle 2	P2 in kg	1600	8000
axle 3	P3 in kg	1300	8000
axle 4	P4 in kg	1300	8000
wheel base	E in mm	5600 - 5700	
centre of gravity height	h in mm	989	2128

	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 brake chamber manufacturer	BZ 122.1 Meritor	BZ 122.1 Meritor	BZ 119.6 Meritor	BZ 119.6 Meritor
chamber size	20.	20.	T.14/24	T.14/24
lever length	69	69	69	69
brake factor	23.03	23.03	23.03	23.03
dyn. rolling radius	rdyn min in mm	421	421	421
dyn. rolling radius	rdyn max in mm	421	421	421
threshold torque	Co Nm	6.0	6.0	6.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%bar	2.5	2.5	2.3	2.3
chamber pressure(rdyn max)pH at z=22,5%bar	2.5	2.5	2.3	2.3
chamber press.(servo)pcha at pm6,5bar bar	6.5	6.5	4.7	4.7
piston force	7564	7564	4485	4485
brake force(rdyn min)T lad. at pm6,5bar N	57295	57295	34028	34028
brake force(rdyn max)T lad. at pm6,5bar N	57295	57295	34028	34028
Brake force incl. 1 % rolling resistance				
proportion	27.3	27.3	22.7	22.7

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

brake cylinder: Meritor 20HSCLD65

axle 2:

valve 1: 480 207 0.. 0 WABCO or 480 207 2.. 0
EBS relay valve

brake cylinder: Meritor 20HSCLD65

axle 3:

valve 1: 480 102 ... 0 WABCO
EBS trailer modulator

brake cylinder: Meritor 1424HTLD64

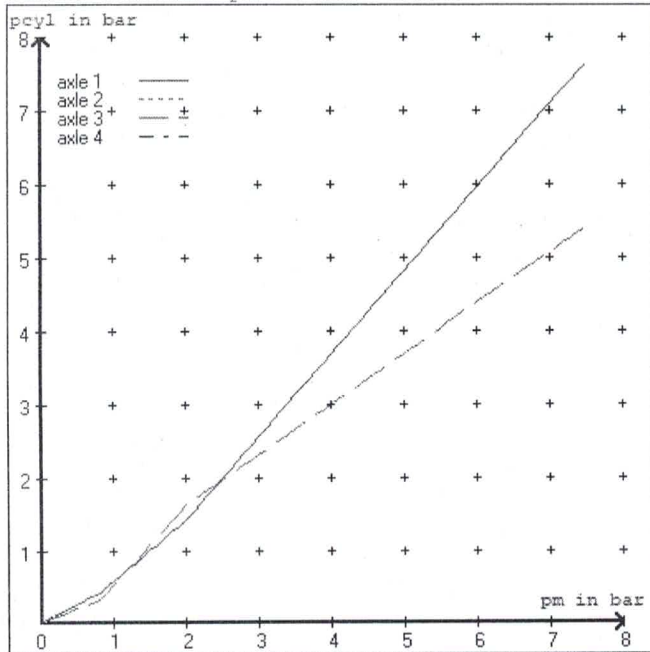
axle 4:

valve 1: 480 102 ... 0 WABCO
 EBS trailer modulator

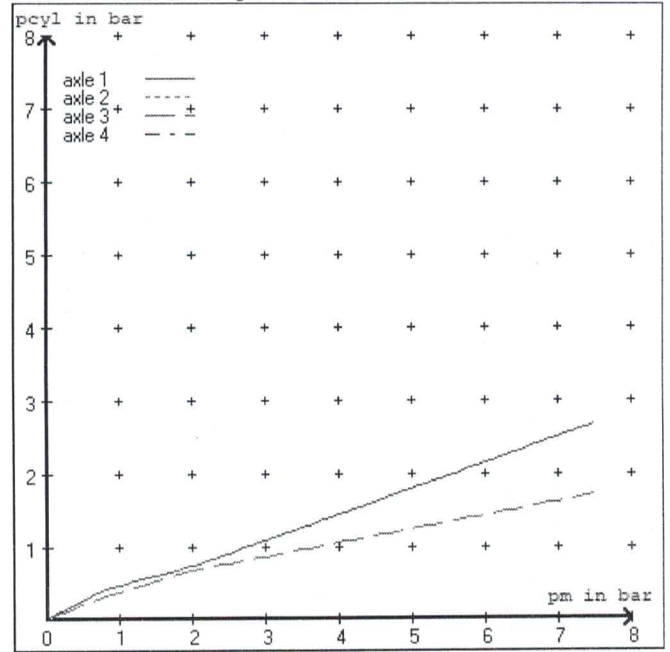
brake cylinder: Meritor 1424HTLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 3.7 bar =>	pcha in bar :	3.3	3.3	2.8	2.8	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 1.3 bar =>	pcha in bar :	0.8	0.8	0.9	0.9	

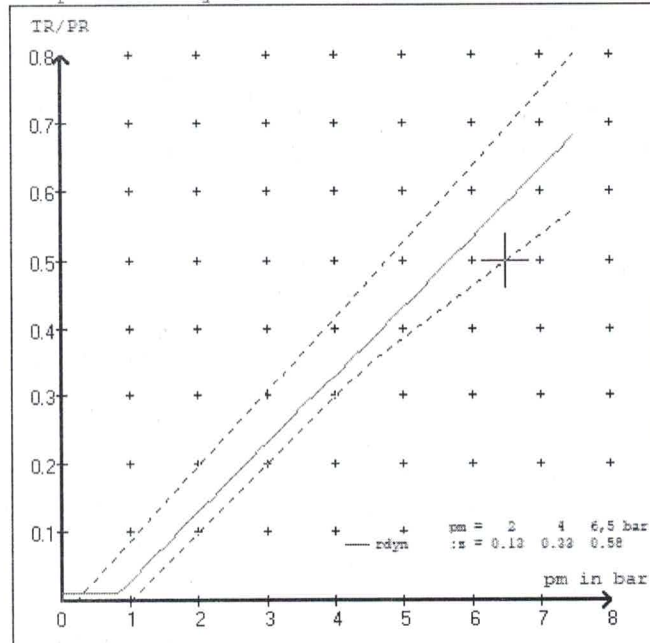
brake chamber pressure laden



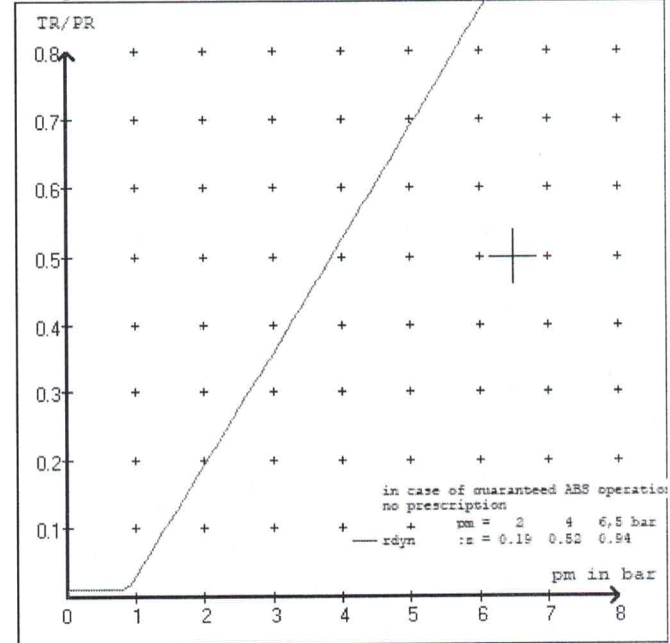
brake chamber pressure unladen



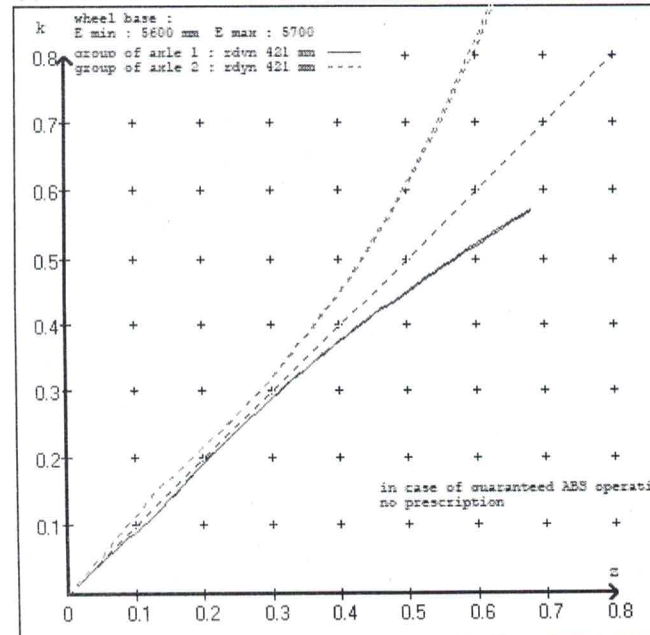
compatibility band laden



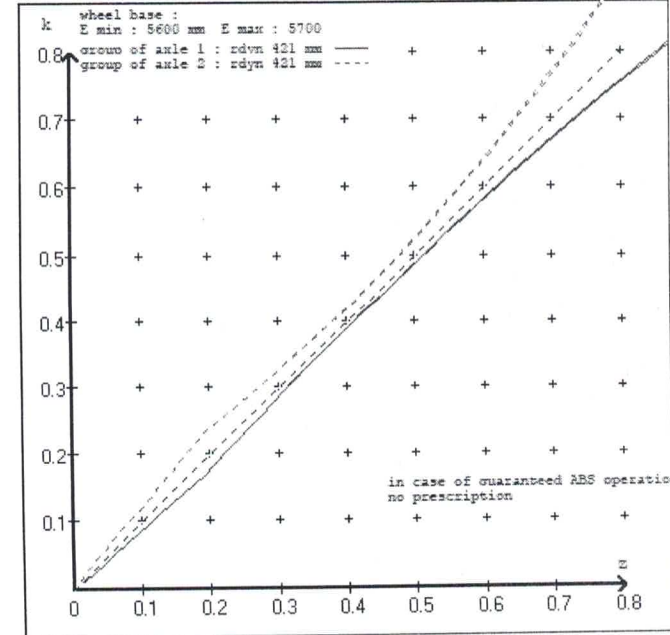
compatibility band unladen



curves of friction laden



curves of friction unladen



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

brake chamber and lever length :

axle 1 : 2 x type/diameter 20. (Meritor) lever length 69 mm
 axle 2 : 2 x type/diameter 20. (Meritor) lever length 69 mm
 axle 3 : 2 x type/diameter T.14/24 (Meritor) lever length 69 mm
 axle 4 : 2 x type/diameter T.14/24 (Meritor) lever length 69 mm

brake diagram :

valve :

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

EBS input data

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vehicle manufacturer: DOMETT TRAILERS
 trailer model : 4AFT PLATFORM TIPPER
 trailer type : 4-axle-full-trailer
 brake calculation no. : TP 52181A

tire circumference main axle : 2650 for rdyn max
 tire circumference auxiliary axle : 2650 for rdyn max

assignment pm / deceleration z: pm 0.8 bar z = 0.010
 (laden condition) 2.0 bar z = 0.130
 6.5 bar z = 0.580

control pressure pm			6,5	control pressure pm			0.8	2.0	6.5
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden			
1	1600	to be	2.3	8000	to be	0.4	1.4	6.5	
2	1600	entered by the vehicle manufact.	2.3	8000	entered by the vehicle manufact.	0.4	1.4	6.5	
3	1300		1.5	8000		0.3	1.6	4.7	
4	1300		1.5	8000		0.3	1.6	4.7	
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
1600	2.3	1300	1.5
2100	2.6	1800	1.7
2600	3.0	2300	2.0
3100	3.3	2800	2.2
3600	3.6	3300	2.5
4100	3.9	3800	2.7
4600	4.3	4300	2.9
5100	4.6	4800	3.2
8000	6.5	8000	4.7

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

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 = 27.7 % Fe
axle 2	(rdyn 421 mm)	T = 27.7 % Fe
axle 3	(rdyn 421 mm)	T = 19.4 % Fe
axle 4	(rdyn 421 mm)	T = 19.4 % 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

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

axle1	ThA = 7564 N
axle2	ThA = 7564 N
axle3	ThA = 4485 N
axle4	ThA = 4485 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 = 44727 N
axle 2	(rdyn 421 mm)	T = 44727 N
axle 3	(rdyn 421 mm)	T = 26676 N
axle 4	(rdyn 421 mm)	T = 26676 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	0.45

required braking rate $\geq 0,4$ and
(items 1.5.3 and 1.7.2 to annex 11) $\geq 0,6 * E (0.35)$

axle 1	(rdyn 421 mm)	T = 44727 N
axle 2	(rdyn 421 mm)	T = 44727 N
axle 3	(rdyn 421 mm)	T = 26676 N
axle 4	(rdyn 421 mm)	T = 26676 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	0.45

required braking rate $\geq 0,4$ and
(items 1.5.3 and 1.7.2 to annex 11) $\geq 0,6 * E (0.35)$

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
$i_{Fb} = \frac{lBh \cdot \eta \cdot C \cdot r_{Bt}}{r_{Bn} \cdot r_{stat}}$		
for rstat in mm	401	401
brake force of spring br. Tf in N	48188	48188
$T_f = (TFZ \cdot KDZ - 2 \cdot C_o / lBh) \cdot i_{Fb}$		
braking rate zf laden	0.317	
$z_f = \frac{\sum(T_f)}{P} + 0,01$		

Test of the frictional connection required by the parking brake

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

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

$$\text{min } E_f = \quad 4107 \text{ mm} \quad \text{for } E = \quad 5600 \text{ mm}$$

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$$\text{min } E_f = \quad 4172 \text{ mm} \quad \text{for } E = \quad 5700 \text{ mm}$$

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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 = 2128 mm height of center of gravity - laden
PR = 16000 kg maximum bogie mass - laden
P = 32000 kg maximum total mass - laden
nf = 2 no. of axle(s) with TRISTOP spring brake actuators
ng = 2 no. of bogie axle(s)

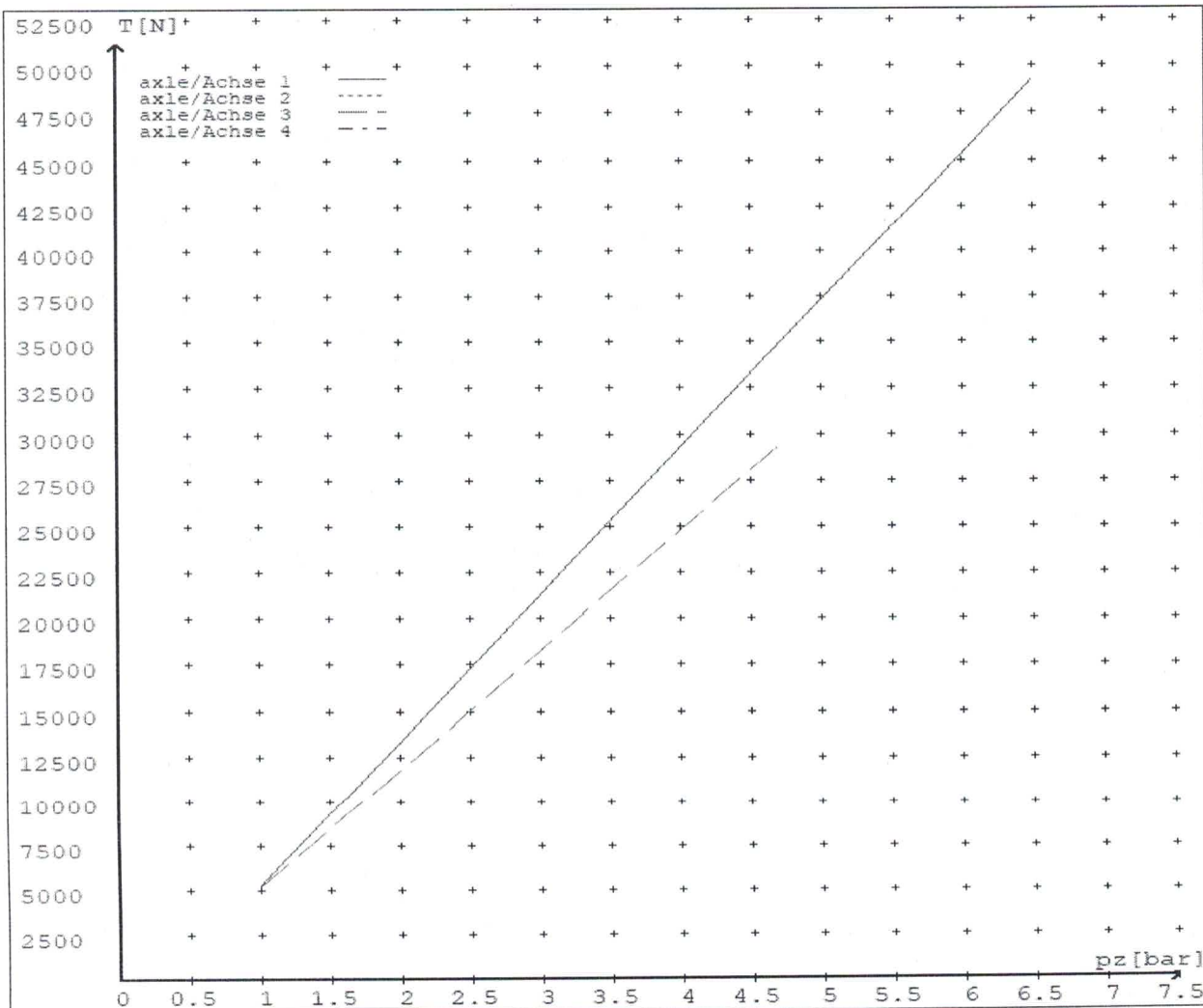
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	5227	
	6.5	49223	
axle 2	1.0	5227	
	6.5	49223	
axle 3	1.0		5162
	4.7		29234
axle 4	1.0		5162
	4.7		29234

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.14/24	T.14/24	/
Maximum stroke smax = ...mm maximaler Hub smax =mm	65	65	64	64	
Lever length =mm Hebellänge =mm	69.08	69.08	69.08	69.08	





**NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015-5
WORKSHEET, PROCEDURE DOCUMENTATION SHEET
& CONFIRMATION OF COMPLIANCE**

CLIENT

MANUFACTURER:	DOMETT TRAILERS
ADDRESS:	TAURIKURA DRIVE, TAURANGA 3110
FLEET:	MURLICHT TRANSPORT

VEHICLE DETAILS

VEHICLE TYPE:	4AFT PLATFORM TIPPER	CERT #:	JH201127
YEAR:	2020	CALCULATION #:	TP52181
MAKE:	DOMETT	REGO:	N/A
MODEL:	D3001	LT400 #:	
CHASSIS #:	2013	ORDER #:	7560
VIN #:	7A9D30017L2023013		
GVM: t	28	PRIME MOVER:	EBS / EUROPEAN
LOAD CONFIGURATION:	MIXED FREIGHT		
GROUP RATINGS: t	FRONT	REAR	
	16	16	
WHEEL BASE: m	5.6		
	UNLADEN COG m	MAX HEIGHT m	HEIGHT DECK m
	0.989	4.3	1.177
COG: m	2.128		
	FRONT	REAR	TOTAL
TARE: t	3.2	2.6	5.8
	FRONT	REAR	
TYRE SIZE:	265 70 R19.5	265 70 R19.5	
ROLLING CIRCUMFERENCE:mm	2645	2645	
AXLE SPACING: m	1.266	1.266	

BRAKE & AXLE DETAILS

	MAKE	MODEL	TEST REPORT
AXLE:	SAF	SAF-ZI9W	TDB0749
POLE WHEEL FRONT:	90	POLE WHEEL REAR:	90
LINING MATERIAL:	JURID 539	BRAKE FACTOR:	23.03
SENSED AXLES:	#2 & #4	NOTES:	
SERIAL NUMBERS:	1		NG-IU28
	2		NG-IU28
	3		NG-IU28
	4		NG-IU28

CHAMBER AND VALVING DETAILS

CHAMBERS:	AXLE 1 & 2	AXLE 3 & 4	
BRAND:	TSE_CHAMBERS	TSE_CHAMBERS	
SIZE:	20HSCLD	1416HTLD	
STROKE: mm	65	64	
TEST REPORT #:	BC 0041.0 Jul '07	BC0143.0	
SPRINGBRAKE FORCE: kN	N/A	6.16	
HOLDOFF PRESSURE: Bar	N/A	4.8	
FOUNDATION BRAKE:	WABCO PAN19	WABCO PAN19	
LEVER LENGTH: mm	69	69	
BRAKE VALVES:	MAKE:	PART NUMBER:	PM PRESS. kPa
ECU PART #:	WABCO	480 102 08. 0 (MV)	80 kPa
3RD MODULATOR #:	WABCO	480 207 202 0 (12V)	80 kPa
ANTI-COMPOUNDING:	YES		
SPRING BRAKE RELAY:	SEALCO_SBR	110701	
YARD RELEASE VALVE:	SEALCO_YR	17600B	
INLINE RELAY FITTED:	N/A	N/A	
ECU DIRECTION:	<input checked="" type="checkbox"/> FRONT <input type="checkbox"/> REAR	FRONT FRICTION: μ	0.51

SUBSYSTEMS: SMARTBOARD OPTI-LINK CAN ROUTER 446 122 050 0 ELEX 446 122 070 0 TAILGUARD**SUSPENSION**

	FRONT	REAR
SUSPENSION TYPE:	PNEUMATIC	PNEUMATIC
MAKE:	SAF_AIRSPRING	SAF_AIRSPRING
MODEL:	SAF_INTRA	SAF_INTRA
BELLOW SIZE:	2619, 300mm	2619, 300mm
HEIGHT CONTROL VALVE:	464 008 011 0	464 008 011 0
OTHER VALVES:	N/A	N/A
RIDE HEIGHT <i>mm</i> :	280	280
HANGER HEIGHT <i>mm</i> :	200	200
PEDESTAL HEIGHT <i>mm</i> :	50	50
LIFTAXLE:		N/A
TIPPING DUMP SWITCH:		N/A
LIFTAXLE VALVE:		N/A
PRESSURE LIMITING:		N/A

AIR TANKS

AIR TANKS STANDARD:	SAE J10A / EN286-2	
	FRONT	REAR
BRAKE TANK SIZE: <i>L</i>	46	46
AUXILLARY TANK SIZE: <i>L</i>	N/A	46
PRESSURE PROTECTION:	WABCO PEM: 461 513 002 0	

AIR LINES**TEST POINTS:**

CONTROL LINE:	X 1	TANK:	X 1
REAR CHAMBER:	X 2	FRONT CHAMBER:	X 1
DUOMATIC COLOUR CODED:	YES		

ELECTRONIC HEIGHT SENSOR CALIBRATION

	TIMER TICKS [F/R]	MILLIMETRE [F/R]
UPPER LEVEL:	N/A	N/A
NORMAL LEVEL:	N/A	N/A
LOWER LEVEL:	N/A	N/A

CHECKS AT COMMISSION OF VEHICLE

CHAMBER BUNGS REMOVED:	<input checked="" type="checkbox"/>	VALVE MOUNTING:	<input checked="" type="checkbox"/>
ECU BLANKING PLUGS CHECKED:	<input checked="" type="checkbox"/>		
RESPONSE TIME:	MODULATOR 2.1	MODULATOR 2.2	RELAY VALVE
ms:	255	265	420

NOTES AND SPECIAL CONDITIONS

REASON FOR CERTIFICATION: NEW TRAILER

I UNDERSTAND AND DECLARE THAT I AM THE CERTIFIER IDENTIFIED BELOW AND HOLD A CURRENT VALID APPOINTMENT. I CERTIFY THAT AT THE TIME OF INSPECTION THE ABOVE MENTIONED VEHICLE COMPONENT DESIGN 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.

NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015/5, SCHEDULE 5.

DATE: 25/11/2020

SIGNED:

CERTIFIER NAME & ID:

CHRIS CLARKE

CJC

SODC BY:

JOHN HIRST

JEH

PHONE (BUS):

09-980-7300

FAX:

POSTAL ADDRESS:

**P.O. Box 98-971, Manukau 2241
New Zealand**