

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

Plate number (optional)

VIN/chassis number
7A9D10018N2023188

Make

DOMETT

Component being certified:

Chassis

Load anchorage

Model (optional)

D1001

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: NZ HEAVY VEHICLE BRAKE SPECIFICATION.
CARRY OUT BRAKE CALCULATIONS, INSPECTION AND ECU END OF LINE PROTOCOL.
4A TANKER
RSS ON TYRE: 265 70 R19.5
FOR SYSTEM ARCHITECTURE, PLEASE REFER TO PDS WORKSHEET & SCHEMATIC.**

Code/standard/rule certified to

LTR 32015, SCHEDULE 5

Component load rating(s)

26 Tonnes GVM

General drawing number(s)

N/A

**15 Tonne (Front group ratings)
15 Tonne (Rear group ratings)**

Supporting documents

BRAKE RULE CERTIFICATE LC220612

BRAKE CALCULATION # 2022 WABCO 4A WPC

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 (Which ever 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)

LANCE CAWTE

L P C

Inspector's signature



Inspector's name (PRINT IN CAPS)

CHRIS CLARKE

ID number

457C

Date

03.08.2022

Number

837658

CoF vehicle inspector ID (if applicable)

CoF vehicle inspector signature (if applicable)

Date

WABCO

START-UP LOG

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2022-05-12	Serial number	897041643400K
Serial number (modulator)	000000552381		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2022-08-03 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

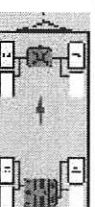
WABCO

TRAILER EBS-E

GGVSA/ADR TUEH TB 2007 - 019.00
TDB 0749

HERSTELLER FABRIK CONSTRUCTEUR	DOMETT	GIO	Pin1	Pin3	Pin4
TYPE TYPE	4A TANKER, D1001	1	24 V-O1	---	---
VEHICLE IDENT. NUMBER CHASSIS NUMBER NUMERO DE CHASSIS	7A9D10018N2023188	2	---	---	---
BRAGERECHNUNG NR. BRAKE CALCULATION NO. CALCUL. DE FREINAGE NO.	TP2022 WABCO 4A WPC	3	AL52	AL52	---
POLYRAZAHNZAHL c-d1 e-d POLE WHEEL TEETH c-d1 e-d DENTS ROUE DENTEE c-d1 e-d	90	4	---	---	---
Einmachberechnung Single Trk Zwillingsberechnung With The Main, jumbelle	90	5	DIAG	DIAG	DIAG
RSS RSS	X	6	---	---	---
Einmachberechnung Single Trk Zwillingsberechnung With The Main, jumbelle	Leerkasse Essen axle Critical Trailer Verfahrenssynapse	7	---	---	---

Subsystems ... I/O 24N



ACHSE AXLE ESSIU	pm (bar)	6.5	pm (bar)	0.8	2.0	---	6.5	pz	TDB	TYPE	(mm)	(mm)	TR (bar)		
													1.0	Pz	
1	1400	0.5	1.5	7500	4.7	0.4	1.4	---	20	20	65	69	502	4220	
2	1400	0.5	1.5	7500	4.7	0.4	1.4	---	20	20	65	69	502	4220	
3	1200	0.4	1.2	7500	4.7	0.4	1.5	---	4.9	-	16 / 16	63	69	466	3134
4	1200	0.4	1.2	7500	4.7	0.4	1.5	---	4.9	-	16 / 16	63	69	466	3134
5	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	Vehicle ident. no.	7A9D10018N2023188
Vehicle type	4A TANKER, D1001	Odometer reading	0.0 km
Next service	0 km	Trip reading	0.0 km
Tester	Chris Clarke	Signature	
Date	2022-08-03 3:03:23 pm		

distribution: DOMETT
 2022 WABCO 4A WPC

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!
 WABCOBrake V6:18.07.12 db 31.08.2018

vehicle manufacturer: DOMETT
 trailer model : 4A TANKER, D1001
 trailer type : 4-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS
 TRISTOP 3+4: 16/16
 265/70 R 19,5

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

		<u>unladen,</u>				<u>Laden</u>
total mass	P	in	kg			30000
axle 1	P1	in	kg			7500
axle 2	P2	in	kg			7500
axle 3	P3	in	kg			7500
axle 4	P4	in	kg			7500
wheel base	E	in	mm	5070	-	5070
centre of gravity height	h	in	mm	700		1492

	<u>axle 1</u>		<u>axle 2</u>		<u>axle 3</u>		<u>axle 4</u>	
no. of combined axles	1	1	1	1	1	1	1	1
no. of brake chambers per axle line	2	2	2	2	2	2	2	2
The power output corresponds to	BZ 122.1	BZ 122.1BC	0006.0BC	0006.0	0006.0	0006.0	0006.0	0006.0
brake chamber manufacturer	Meritor	Meritor	WABCO	WABCO	WABCO	WABCO	WABCO	WABCO
chamber size	20.	20.	16/16	16/16	16/16	16/16	16/16	16/16
Lever length	69	69	69	69	69	69	69	69
brake factor	23.03	23.03	23.03	23.03	23.03	23.03	23.03	23.03
dyn. rolling radius	421	421	421	421	421	421	421	421
dyn. rolling radius	rdyn min	in	mm	421	421	421	421	421
dyn. rolling radius	rdyn max	in	mm	421	421	421	421	421
threshold torque	Co	Nm	6.0	6.0	6.0	6.0	6.0	6.0

calculation:

chamber pressure(rdyn min)	pH at z=24,5%bar	2.3	2.3	2.2	2.2
chamber pressure(rdyn max)	pH at z=22,5%bar	2.3	2.3	2.2	2.2
chamber press.(servo)	pcha at pm6,5bar	5.8	5.8	4.9	4.9
piston force	ThA at pm6,5bar	6702	6702	4974	4974
brake force(rdyn min)	T lad. at pm6,5bar	50729	50729	37673	37673
brake force(rdyn max)	T lad. at pm6,5bar	50729	50729	37673	37673
Brake force incl. 1 % rolling resistance		26.5	26.5	23.5	23.5
proportion	%				

braking rate z laden 0.601 for rdyn min
 z = sum (TR)/Ppmax 0.601 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:

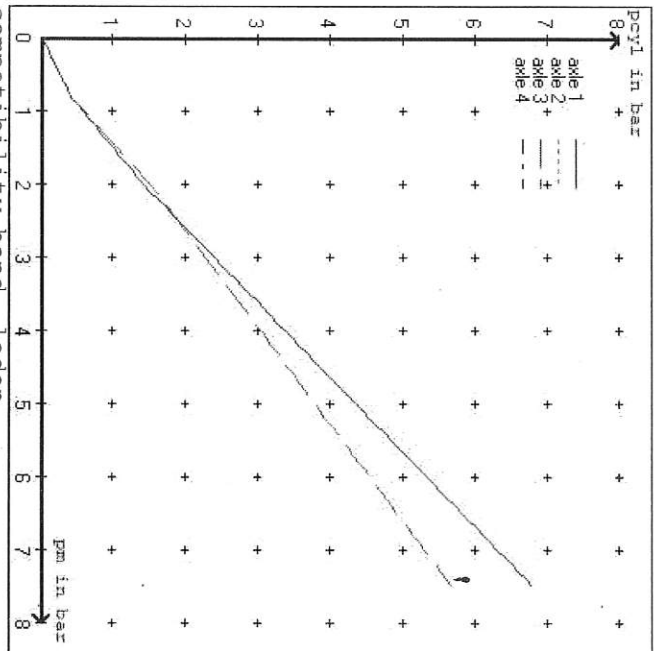
valve 1: 480 102 ... 0 WABCO
EBS trailer modulator

brake cylinder: WABCO 925 464 4.. 0 / 925 484 96. 0

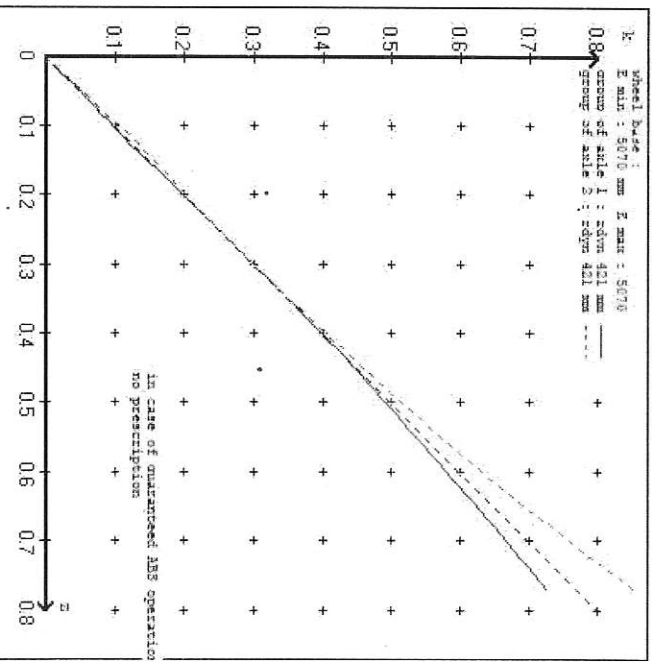
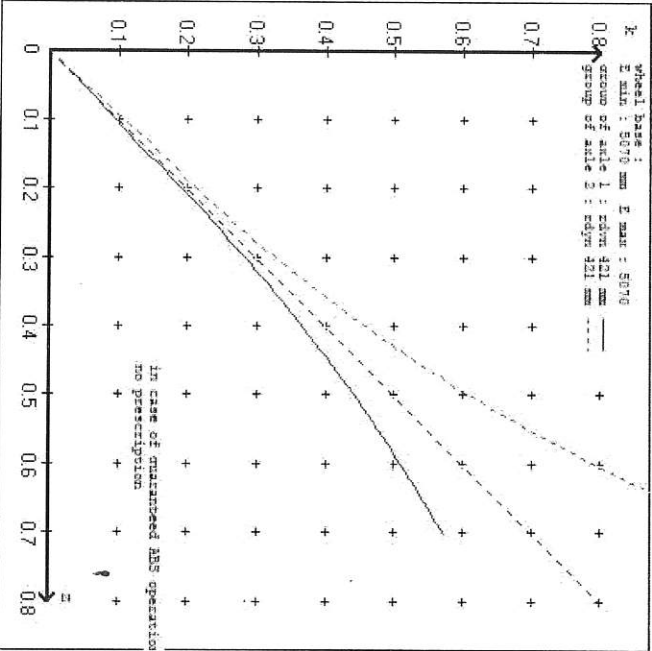
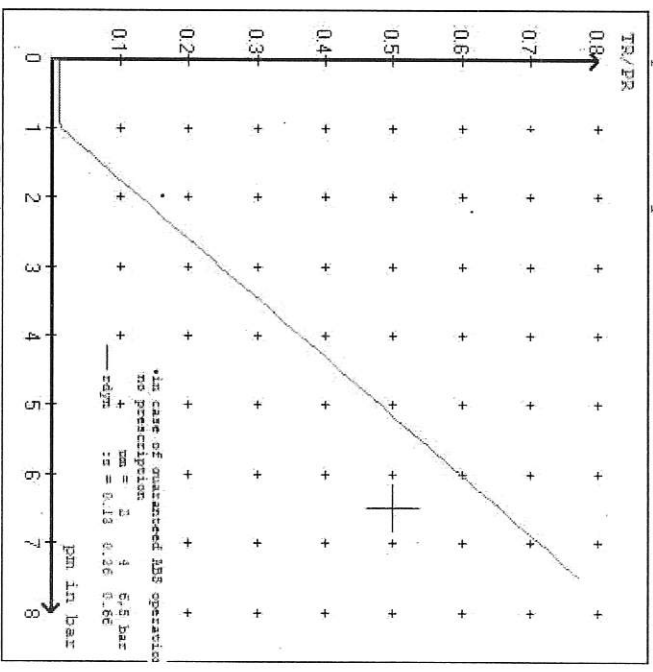
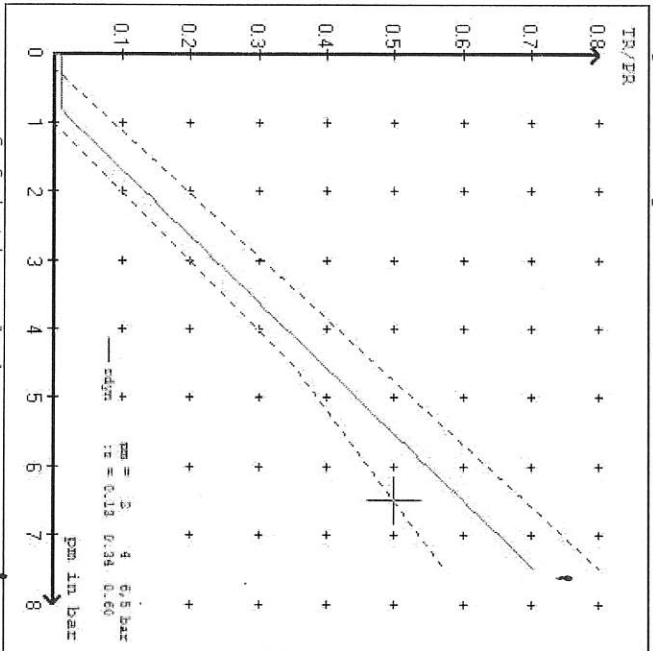
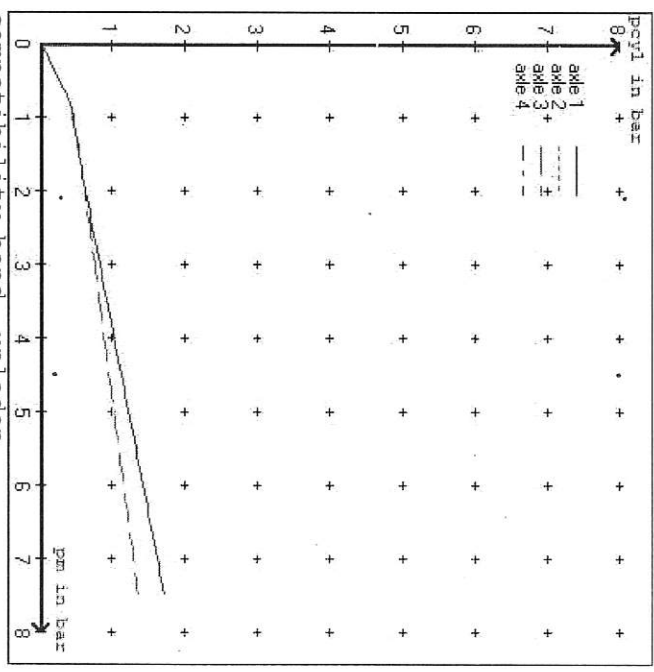
axle 4:
valve 1: 480 102 ... 0 WABCO
EBS trailer modulator
brake cylinder: WABCO 925 464 4.. 0 / 925 484 96. 0

test type III	(zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4
at pm 3.6 bar =>		pcha in bar :	3.0	3.0	2.7	2.7
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



vehicle manufacturer: DOMETT
 trailer model : 4A TANKER, D1001
 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 16/16 (WABCO) lever length 69 mm
 axle 4 : 2 x type/diameter 16/16 (WABCO) 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

=====
 vehicle manufacturer: DOMETT
 trailer model : 4A TANKER, D1001
 trailer type : 4-axle-full-trailer
 brake calculation no. : TP 2022A

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

assignment pm / deceleration z: pm 0.8 bar z = 0.010
 2.0 bar z = 0.134
 6.5 bar z = 0.600

axle	control pressure pm		control pressure pm		brake pr. laden		
	axle load unladen	bellow pr. unladen	axle load laden	bellow pr. laden	brake pr. laden		
1	1400	to be	7500	to be	0.4	1.4	5.8
2	1400	entered by	7500	entered by	0.4	1.4	5.8
3	1200	the vehicle	7500	the vehicle	0.4	1.5	4.9
4	1200	manufact.	7500	manufact..	0.4	1.5	4.9
5	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	axle load	axle load	axle load
pcyl	pcyl	pcyl	pcyl
1400	1400	1200	1200
1900	1900	1700	1700
2400	2400	2200	2200
2900	2900	2700	2700
3400	3400	3200	3200
3900	3900	3700	3700
4400	4400	4200	4200
4900	4900	4700	4700
7500	7500	7500	7500

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 = 24.4 % Fe
axle 2	(rdyn 421 mm)	T = 24.4 % Fe
axle 3	(rdyn 421 mm)	T = 19.7 % Fe
axle 4	(rdyn 421 mm)	T = 19.7 % 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 = 51 mm)	S = 39 mm
axle 4	(sp = 51 mm)	S = 39 mm

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

axle1	ThA = 6702 N
axle2	ThA = 6702 N
axle3	ThA = 4974 N
axle4	ThA = 4974 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 = 39620 N
axle 2	(rdyn 421 mm)	T = 39620 N
axle 3	(rdyn 421 mm)	T = 29492 N
axle 4	(rdyn 421 mm)	T = 29492 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 0.47

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 = 39620 N
axle 2	(rdyn 421 mm)	T = 39620 N
axle 3	(rdyn 421 mm)	T = 29492 N
axle 4	(rdyn 421 mm)	T = 29492 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 0.47

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	2	2
TRISTOP-actuator type	16/16	16/16
lever length	69	69
stat. tyre radius	401	401
at a stroke of	s	in mm
min. force of spring brake	TFZ in N	TFZ in N
sp.brake chamber no 925
sp.brake chamber no 925
release pressure	pls in bar	
	30	30
	6282	6282
	464	464
	484	96.
	96.	0484
	5.0	96. 0
		5.0

calculation:

ratio until road
 $iFb = LBh * \eta * C * rBt / (rBn * rstat)$
 for rstat in mm
 brake force of spring br. TF in N
 $TF = (TFZ * KDZ - 2 * Co / LBh) * iFb$
 braking rate zf laden 0.344
 $zf = \text{sum} (TF) / P + 0,01$

Test of the frictional connection required by the parking brake

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

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

min Ef =	3617 mm	for E =	5070 mm
=====			
min Ef =	3617 mm	for E =	5070 mm
=====			

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 = 1492 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)

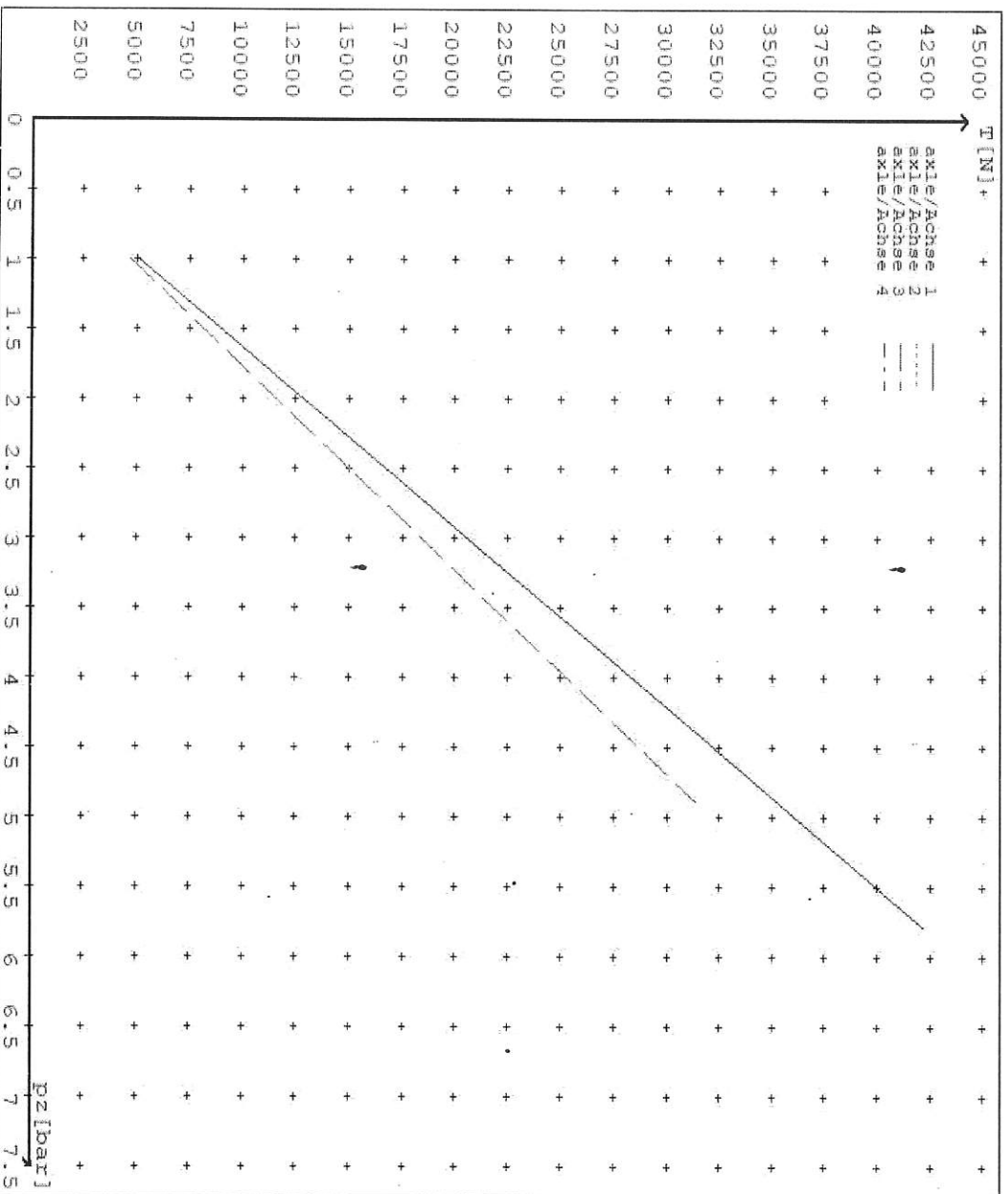
reference values

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

	pz [bar]	T [N]	T' [N]
axle 1	1.0 5.8	5021 42203	
axle 2	1.0 5.8	5021 42203	
axle 3	1.0 4.9		4662 31342
axle 4	1.0 4.9		4662 31342

VIN - no.:

		Axle(s) / Achse(n)			
brake cylinder type (service / parking)		20. /	20. /	16/16	16/16
Bremszylinder Typ (Betrieb / Fest)					/
Maximum stroke smax = ...mm		65	65	63	63
maximaler Hub smax = ...mm					
Lever length = ...mm		69.08	69.08	69.08	69.08
Hebellänge = ...mm					





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

CLIENT

MANUFACTURER: DOMETT TRAILERS
ADDRESS: Taurikura Drive, Tauranga 3110
FLEET: FONTEERRA

VEHICLE DETAILS

VEHICLE TYPE: 4A TANKER **CERT #:** LC220612
YEAR: 2022 **CALCULATION #:** 2022 WABCO 4A WPC
MAKE: DOMETT **REGO #:**
MODEL: D1001 **LT400 #:** 837658
CHASSIS #: 2188 **ORDER #:** 8878
VIN #: 7A9D10018N2023188 **PRIME MOVER:** EBS / EUROPEAN

LOAD CONFIGURATION:

GROUP RATINGS: *t*

UNIFORM DENSITY

FRONT	15	REAR	15
WHEEL BASE: <i>m</i>	5.07		

UNLADEN COG *m*

MAX HEIGHT *m*

HEIGHT DECK *m*

0.7	2.38	1.00
COG: <i>m</i>	1.492	

FRONT	2.8	REAR	2.4	TOTAL	5.2
TARE: <i>t</i>					

265 70 R19.5	265 70 R19.5	265 70R 19.5
TYRE SIZE:		

ROLLING CIRCUMFERENCE: *MM*

2645	2645
AXLE SPACING: <i>m</i>	1.3

BRAKE & AXLE DETAILS

	MAKE	MODEL	TEST REPORT
AXLE:	SAF	SAF-Z19W	TDB0749
POLE WHEEL FRONT:	90	POLE WHEEL REAR:	90
LINING MATERIAL:	JURID 539	BRAKE FACTOR:	23.03
SENSED AXLES:	1 + 3	NOTES:	

SERIAL NUMBERS:

1	
2	
3	
4	
5	

CHAMBER AND VALVING DETAILS

CHAMBERS:

AXLE 1 & 2

AXLE 3 & 4

AXLE 5

BRAND:	TSE_CHAMBERS	WABCO_CHAMBERS	N/A
SIZE:	20HSCLD	1616 (925/464/461/0)	N/A
STROKE: mm	65	63	
TEST REPORT #:	BC 0041.0 Jul '07	BC 0006.0	
SPRING BRAKE FORCE: kN	N/A	6.28	
HOLDOFF PRESSURE: Bar	N/A	5	
FOUNDATION BRAKE:	WABCO PAN19	WABCO PAN19	
LEVER LENGTH: mm	69	69	N/A
BRAKE VALVES:	MAKE:	PART NUMBER:	PM PRESS. kPa
ECU PART #:	WABCO	480 102 08. 0 (MV)	80 kPa
3RD MODULATOR #:	WABCO	480 207 001 0 (24V)	80 kPa

ANTI-COMPOUNDING:

YES

SPRING BRAKE RELAY:

SEALCO_SBR 110701

YARD RELEASE VALVE:

SEALCO_YR 17600B

INLINE RELAY FITTED:

N/A

ECU DIRECTION:

FRONT 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:	NORGREN 3042402	NORGREN 3042402
RIDE HEIGHT <small>MM</small> :	250	250
HANGER HEIGHT <small>MM</small> :		
PEDESTAL HEIGHT <small>MM</small> :		
LIFT AXLE:	N/A	N/A
TIPPING DUMP SWITCH:		PNEUMATIC
LIFTAXLE VALVE:		N/A
PRESSURE LIMITING:		N/A

AIR TANKS

AIR TANKS STANDARD:	SAE J10A / EN286-2	
	FRONT	REAR
BRAKE TANK SIZE: L	C51902, 48L	C51902, 48L
AUXILIARY TANK SIZE: L		C51901, 25L x 2
PRESSURE PROTECTION:	WABCO PEM: 461 513 002 0	

AIR LINES

TEST POINTS:		
CONTROL LINE:	FILTER X 1	TANK: ECU X 1
REAR CHAMBER:	ECU X 2	FRONT CHAMBER: LEFT 1st
DUOMATIC COLOUR CODED:	YES	

ELECTRONIC HEIGHT SENSOR CALIBRATION

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

CHECKS AT COMMISSION OF VEHICLE

CHAMBER BUNGS REMOVED:	<input checked="checked" type="checkbox"/>	VALVE MOUNTING:	<input checked="checked" type="checkbox"/>
ECU BLANKING PLUGS CHECKED:	<input checked="checked" type="checkbox"/>		
RESPONSE TIME:	MODULATOR 2.1	MODULATOR 2.2	RELAY VALVE
ms:	<input type="text" value="250"/>	<input type="text" value="265"/>	<input type="text" value="300"/>

NOTES AND SPECIAL CONDITIONS

3/12/2021 received est build schedule:15/12/2021 request to do project, receive drawings etc.
24/3/2022 start files, request and receive product and trailer data. 25/3/2022 do calculations
and ECU files.
29/03/2022 Advised air reservoirs changed. Redo paperwork to reflect change.
22/06/2022 Complete paperwork, SODC, ECU file & send.

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.

RULE / STD COMPLIED TO:

NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015, SCHEDULE 5, ADR-35, ECE-R13, FMZSS-121

DATE: 3/08/2022

SIGNED: *Lance Cawte*

CERTIFIER NAME & ID:	CHRIS CLARKE	CJC
SODC BY:	LANCE CAWTE	LPC

PHONE (BUS): 09-980-7300

FAX:

POSTAL ADDRESS: P.O. Box 98-971, Manukau 2241
New Zealand