

Heavy vehicle specialist inspector's or manufacturing inspecting organisation's name (PRINT IN CAPS)

CHRIS CLARKE

ID

CJC

Plate number (optional)

VIN/chassis number
7A9D10015N2023181

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

LC220604

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 (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's ID)

LANCE CAWTE

LPC

Inspector's signature

Inspector's name (PRINT IN CAPS)

CHRIS CLARKE

ID number

CJC

Date

22.06.2022

Number

830389

CoF vehicle inspector ID (if applicable)

CoF vehicle inspector signature (if applicable)

Date

All fields are mandatory unless otherwise stated.

WABCO

START-UP LOG

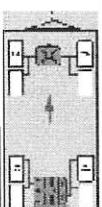
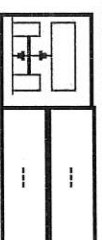
System	Trailer EBS-E	WABCO part number	480 102 064 0
Production date	2020-12-15	Serial number	436080630600E
Serial number (modulator)	000000539494		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2022-06-22 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO

TRAILER EBS-E

GGV/ADR TUEH TB 2007 - 019.00
TDB 0749

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT		
TYPE	4A TANKER, D1001	GIO	Pin1
VEHICLE IDENT NUMBER CHASSIS DE CHASSIS NUMERO DE CHASSIS	7A9D10015N2023181	1	24 V-O1
BREMSBREMCHUNGS-NR. BRAKE DE CHENAGE NO. NUMERO DE CHENAGE	TP2022 WABCO 4A WPC	2	---
POLE POSITION POLÉ POSITION	90	3	ALS2
POLE WHEEL CENTER DENTRÉ ROUE DENTRÉ c-d l-e4	90	4	---
POLE WHEEL CENTER DENTRÉ ROUE DENTRÉ c-d l-e4	90	5	DIAG
Einbaubereitigung Single Tie Monte simple	90	6	---
Zweitgabelbereiung Twin Tie Monte jumelle	X	7	---
Leuchte Essien, vierer Critical Trailer	ASB System Ass System Systeme ABS		DIAG
Kopplisches Fahrzeug Vehicule calique	4S/3M		---
Subsystems	I/O		24N



ACHSE AXLE ESSIEU	Druck		Druck		pZ	TYP TYPE	(mm)	(mm)	TR (dan)	(bar)	Pz				
	pm (bar)	6.5	pm (bar)	0.8								2.0	---	6.5	
1	1400	0.5	1.5	7500	4.7	0.4	1.4	---	5.8	-	20	65	69	502	4220
2	1400	0.5	1.5	7500	4.7	0.4	1.4	---	5.8	-	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.	7A9D10015N2023181
Vehicle type	4A TANKER, D1001	Odometer reading	0.0 km
Next service	0 km	Trip reading	0.0 km
Tester	Chris Clarke	Signature	
Date	2022-06-22 8:50:46 am		

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	5200	30000
axle 1	P1 in kg	1400	7500
axle 2	P2 in kg	1400	7500
axle 3	P3 in kg	1200	7500
axle 4	P4 in kg	1200	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
no. of brake chambers per axle line	2	2	2	2
The power output corresponds to	BZ 122.1	BZ 122.1BC	0006.0BC	0006.0
brake chamber manufacturer	Meritor	Meritor	WABCO	WABCO
chamber size	20.	20.	16/16	16/16
lever length	69	69	69	69
brake factor	23.03	23.03	23.03	23.03
dyn. rolling radius	421	421	421	421
dyn. rolling radius	421	421	421	421
threshold torque	Co	6.0	6.0	6.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%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	6702	6702	4974	4974
brake force(rdyn min)T lad. at pm6,5bar N	50729	50729	37673	37673
brake force(rdyn max)T lad. at pm6,5bar N	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)/PRmax 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

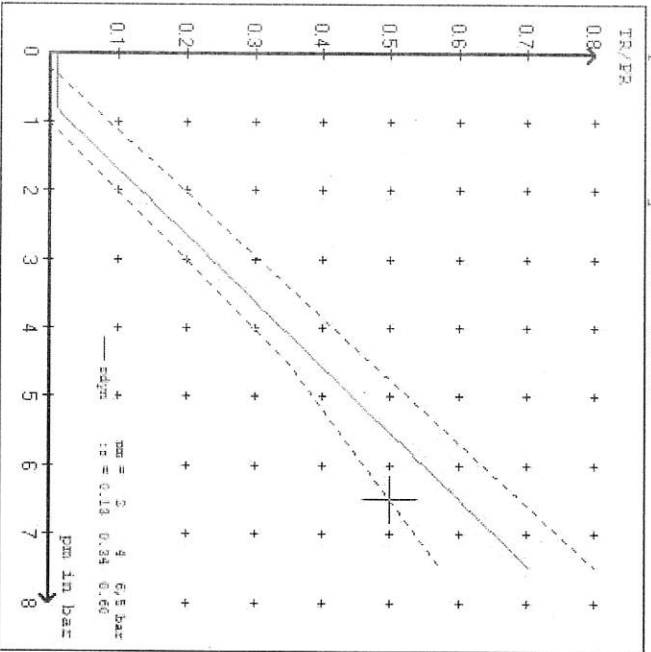
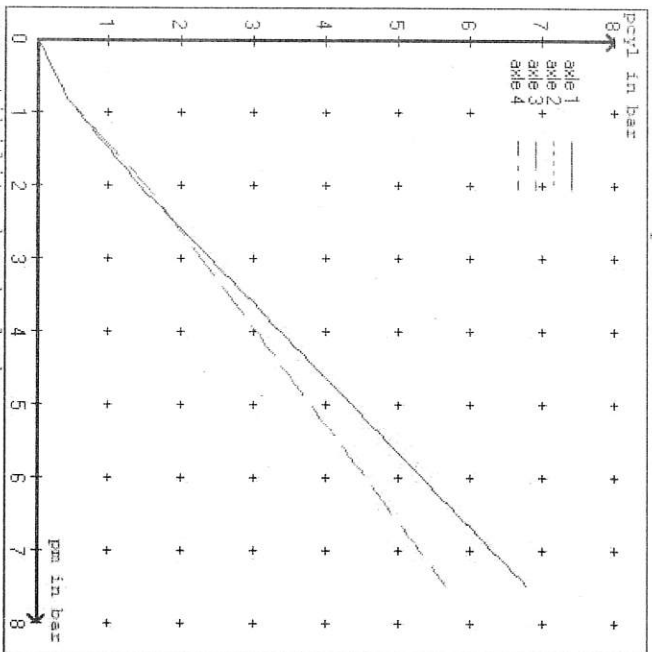
axle 3:

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

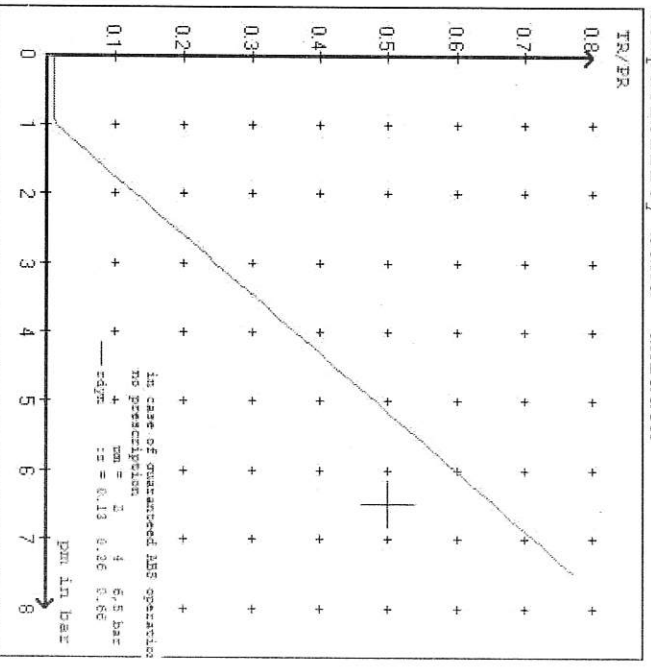
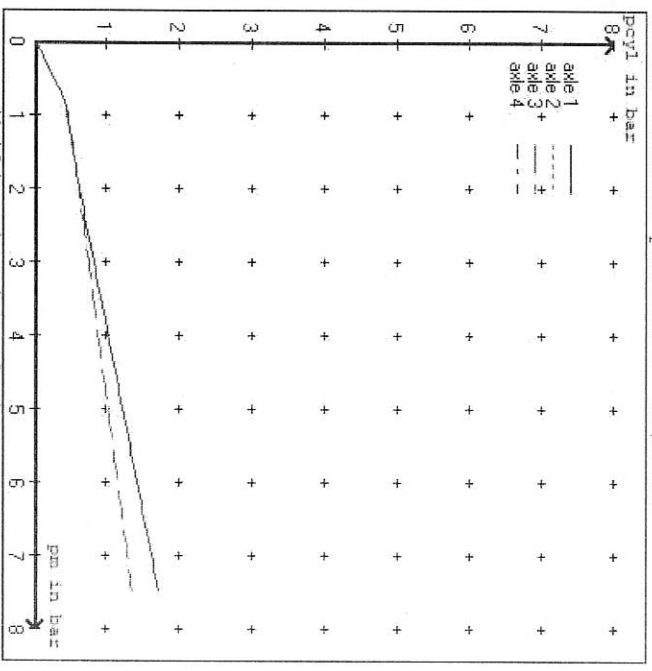
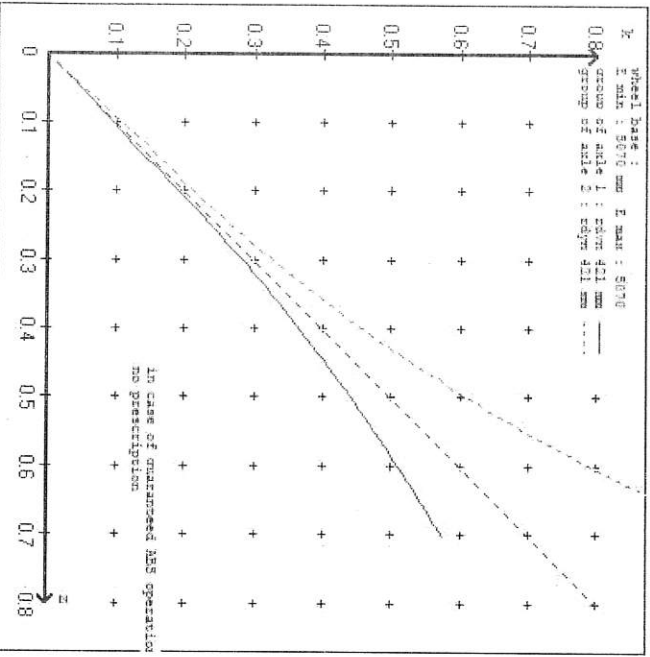
brake cylinder: WABCO 925 464 4.. 0 / 925 484 96. 0

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

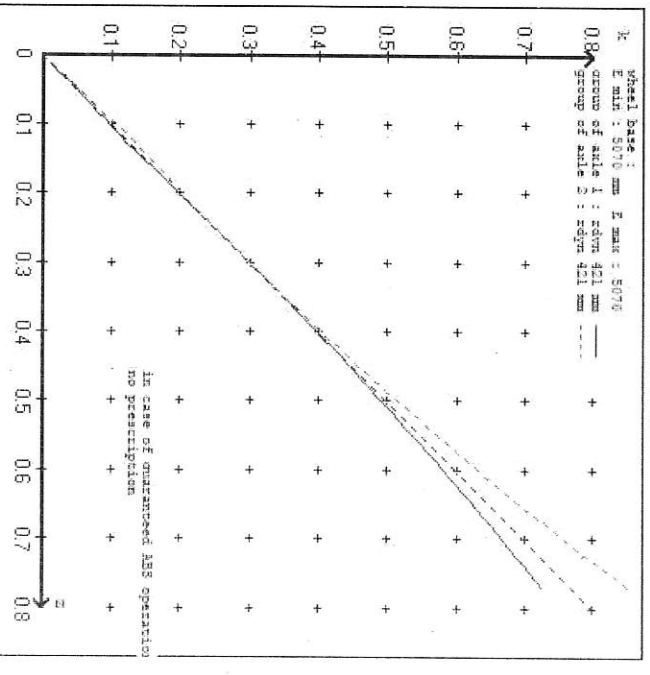
test type III	(zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 3.6 bar	=>	pcha in bar :	3.0	3.0	2.7	2.7	
test type III	(zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 1.3 bar	=>	pcha in bar :	0.8	0.8	0.9	0.9	



curves of friction laden



curves of friction unladen



In case of guaranteed ABS operation
 no prescription

In case of guaranteed ABS operation
 no prescription

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 20222A

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		brake pr. unladen	control pressure pm		brake pr. laden	
	axle load unladen	bellow pr. unladen		axle load laden	bellow pr. laden		
1	1400	to be entered by	1.5	7500	0.4	1.4	5.8
2	1400	entered by	1.5	7500	0.4	1.4	5.8
3	1200	the vehicle	1.2	7500	0.4	1.5	4.9
4	1200	the vehicle	1.2	7500	0.4	1.5	4.9
5	0	manufact.	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	axle 1	axle 2	axle 3	axle 4	
load	load	load	load	load	
pcyl	pcyl	pcyl	pcyl	pcyl	
1400	1.5	1400	1.2	1200	1.2
1900	1.9	1900	1.5	1700	1.5
2400	2.2	2400	2.2	2200	1.8
2900	2.6	2900	2.6	2700	2.1
3400	2.9	3400	2.9	3200	2.4
3900	3.3	3900	3.3	3700	2.7
4400	3.6	4400	3.6	4200	3.0
4900	4.0	4900	4.0	4700	3.3
7500	5.8	7500	5.8	7500	4.9

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

braking rate of the vehicle (hot)braking
(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

braking rate of the vehicle (hot)braking
(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 line KDZ	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	
sp.brake chamber no 925	464	4.. 0464
sp.brake chamber no 925	484	96. 0484
release pressure	5.0	5.0
	pls in bar	

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 = sum (Tf)/P + 0,01
zf laden 0.344
    
```

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 = 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)
    
```

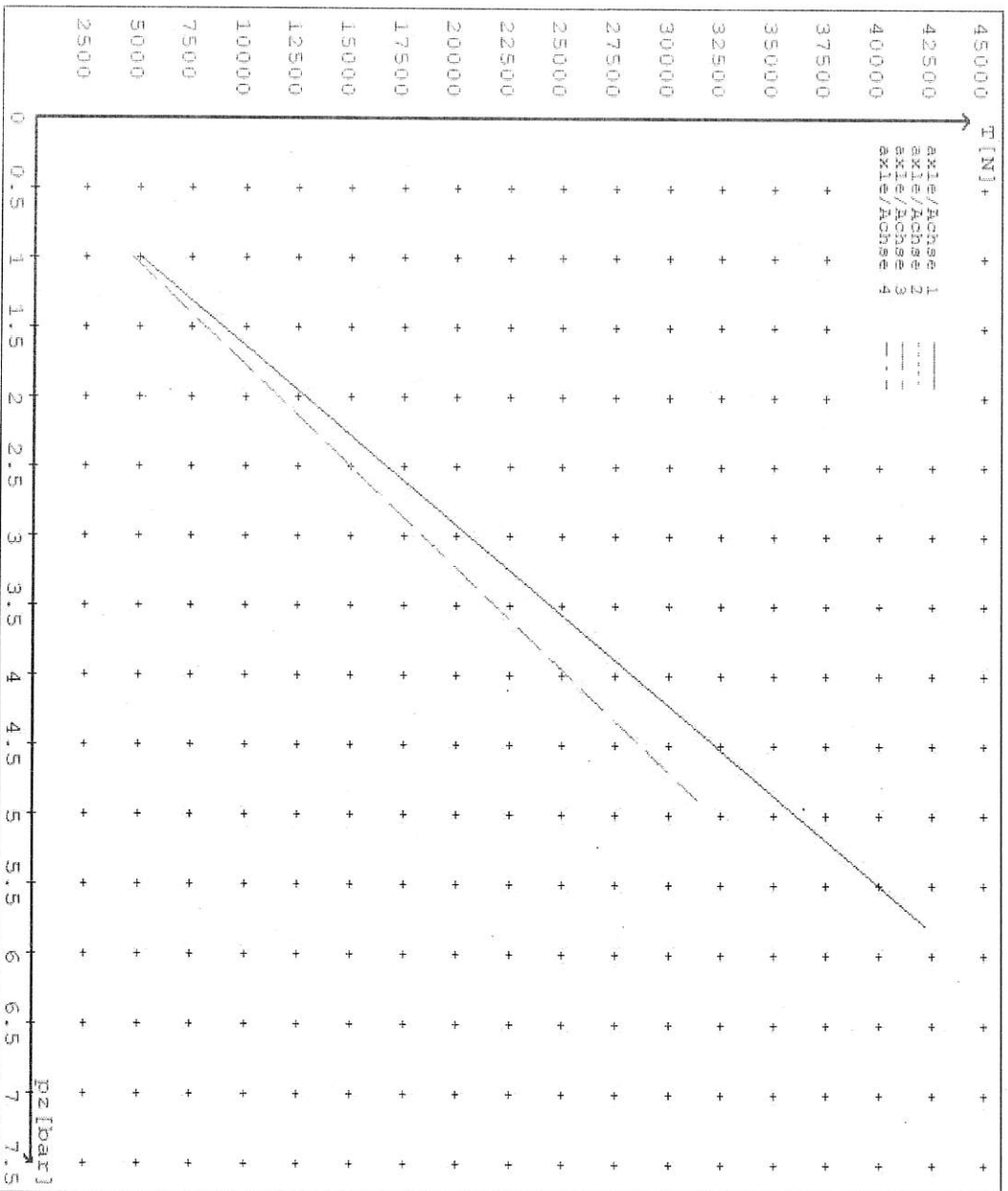
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	5021	
	5.8	42203	
axle 2	1.0	5021	
	5.8	42203	
axle 3	1.0		4662
	4.9		31342
axle 4	1.0		4662
	4.9		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 #:** LC220604
YEAR: 2022 **CALCULATION #:** 2022 WABCO 4A WPC
MAKE: DOMETT **REGO #:**
MODEL: D1001 **LT400 #:** 830389
CHASSIS #: 2181 **ORDER #:** 8871
VIN #: 7A9D10015N2023181

GVM: t 26 **PRIME MOVER:** EBS / EUROPEAN

LOAD CONFIGURATION: UNIFORM DENSITY

GROUP RATINGS: t **FRONT** **REAR**

WHEEL BASE: m
 15
 5.07

UNLADEN COG m **MAX HEIGHT m** **HEIGHT DECK m**
 0.7 2.38 1.00

COG: m 1.492
TARE: t

FRONT	REAR	TOTAL
2.8	2.4	5.2

TYRE SIZE: **FRONT** **REAR** **FITTED**
 265 70 R19.5 265 70 R19.5 265 70R 19.5

ROLLING CIRCUMFERENCE: MM 2645 2645

AXLE SPACING: m 1.3 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:	NOTES:		
	1 + 3		
SERIAL NUMBERS:	1		
	2		
	3		
	4		
	5		

CHAMBER AND VALVING DETAILS

	AXLE 1 & 2	AXLE 3 & 4	AXLE 5
CHAMBERS:	TSE_CHAMBERS	WABCO_CHAMBERS	N/A
BRAND:	20HSCLD	1616 (925/464/461/0)	N/A
SIZE:	65	63	
STROKE: mm	BC 0041.0 Jul '07	BC 0006.0	
TEST REPORT #:	N/A	6.28	
SPRING BRAKE FORCE: kN	N/A	5	
HOLDOFF PRESSURE: Bar	WABCO PAN19	WABCO PAN19	
FOUNDATION BRAKE:	69	69	N/A
LEVER LENGTH: mm	MAKE:	PART NUMBER:	PMI PRESS. kPa
BRAKE VALVES:	WABCO	480 102 08. 0 (MV)	80 kPa
ECU PART #:	WABCO	480 207 001 0 (24V)	80 kPa
3RD MODULATOR #:	YES		
ANTI-COMPOUNDING:	SEALCO_SBR	110701	
SPRING BRAKE RELAY:	SEALCO_YR	17600B	
YARD RELEASE VALVE:	N/A	N/A	
INLINE RELAY FITTED:	<input checked="" type="checkbox"/> FRONT	<input type="checkbox"/> REAR	FRONT FRICTION: μ 0.51
ECU DIRECTION:	<input type="checkbox"/> SMARTBOARD	<input type="checkbox"/> OPTI-LINK	<input type="checkbox"/> CAN ROUTER 446 122 050 0
SUBSYSTEMS:	<input type="checkbox"/> ELEX 446 122 070 0	<input type="checkbox"/> TAILGUARD	

SUSPENSION

SUSPENSION TYPE:	FRONT	REAR
	PNEUMATIC	PNEUMATIC
MAKE:	SAF_AIRSPRING	SAF_AIRSPRING
	SAF_INTRA	SAF_INTRA
BELLOW SIZE:	2619, 300mm	2619, 300mm
	464 008 011 0	464 008 011 0
HEIGHT CONTROL VALVE:	NORGREN 3042402	NORGREN 3042402
	250	250
OTHER VALVES:		
RIDE HEIGHT <small>MM</small>:		
HANGER HEIGHT <small>MM</small>:		
PEDESTAL HEIGHT <small>MM</small>:		
LIFT AXLE:		N/A
		N/A
TIPPING DUMP SWITCH:		PNEUMATIC
		N/A
LIFTAXLE VALVE:		N/A
		N/A
PRESSURE LIMITING:		N/A
		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
	ECU X 2	FRONT CHAMBER: LEFT 1st
REAR CHAMBER:		
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:

VALVE MOUNTING:

ECU BLANKING PLUGS CHECKED:

RESPONSE TIME:

MODULATOR 2.1

MODULATOR 2.2

RELAY VALVE

ms:

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.
15/06/2022 Complete paperwork, SODC & ECU file and 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: 15/06/2022

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