WAKA KOTAHI
NZ TRANSPORT AGENCY

Heavy vehicle specialist certificate

Must be presented to a CoF (heavy) inspecting organisation if not entered into LANDATA

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

ID: **CJC**

Plate number *(optional)*:

VIN/chassis number: **7A9E25014N2023140**

Make: **DOMETT**

Component being certified: ☐ Chassis ☐ Load anchorage

Model *(optional)*: **E2501 H**

☐ 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.
5AFT LIVESTOCK **RSS ON TYRE:** 265 70 R19.5
FOR SYSTEM ARCHITECTURE, PLEASE REFER TO PDS WORKSHEET & SCHEMATIC.
REASON FOR CERTIFICATION: NEW TRAILER BUILD

Code/standard/rule certified to: LTR 32015/5

Component load rating(s): 32 Tonnes GVM
16 Tonne (Front brake mass)
19 Tonne (Rear brake mass)

General drawing number(s): N/A

Supporting documents
BRAKE RULE CERTIFICATE JH220527
BRAKE CALCULATION # TP52513

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)*: JOHN HIRST J E H

Inspector's signature:

Inspector's name *(PRINT IN CAPS)*: CHRIS CLARKE ID number: CJC

Date: 21.07.2022

Number: 830434

CoF vehicle inspector ID *(if applicable)*:

CoF vehicle inspector signature *(if applicable)*:

Date:

All fields are mandatory unless otherwise stated.

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.. 0 WABCO
EBS trailer modulator

brake cylinder: Meritor 1424HTLD64

axle 4:
valve 1: 480 102 0.. 0 WABCO
EBS trailer modulator

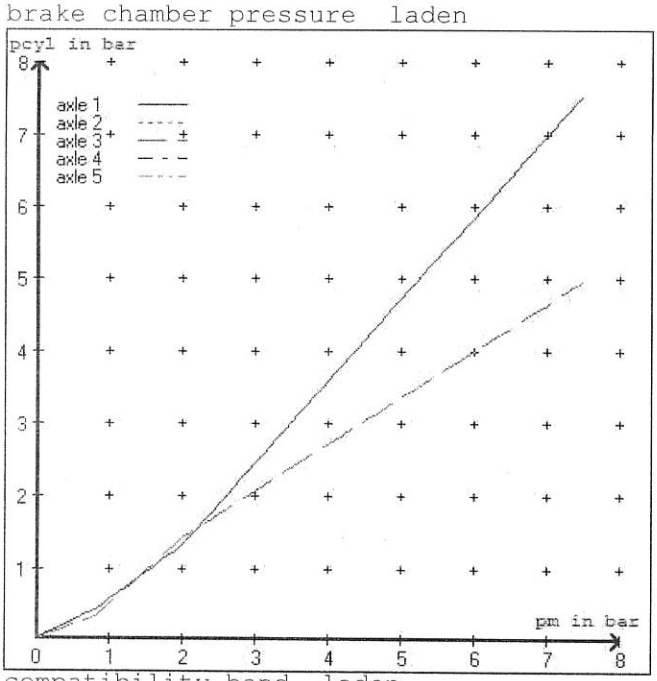
brake cylinder: Meritor 1424HTLD64

axle 5:
valve 1: 480 102 0.. 0 WABCO
EBS trailer modulator

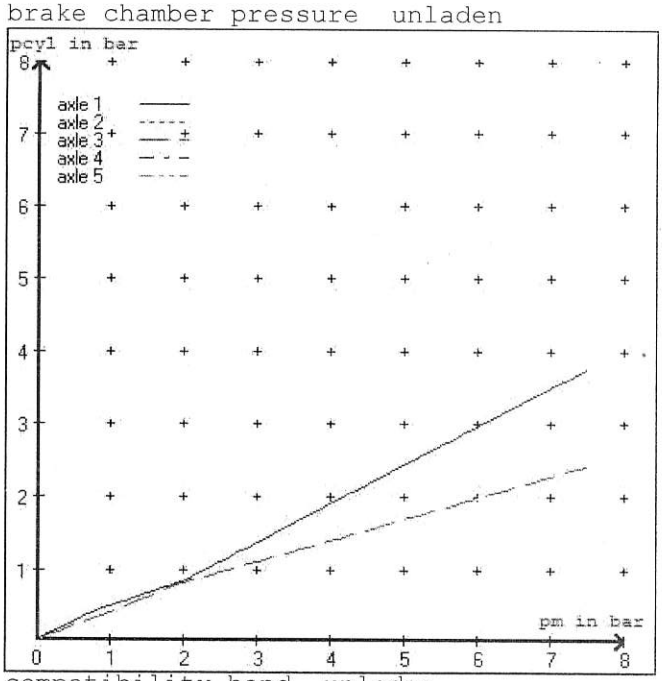
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5
at pm 3.6 bar =>	pcha in bar :	3.2	3.2	2.5	2.5	2.5
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	axle5
at pm 1.3 bar =>	pcha in bar :	0.8	0.8	0.8	0.8	0.8

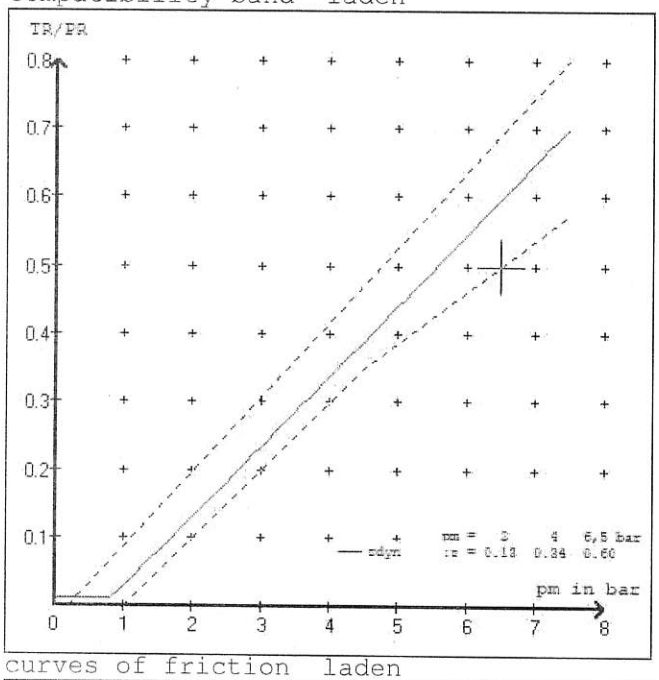
brake chamber pressure laden



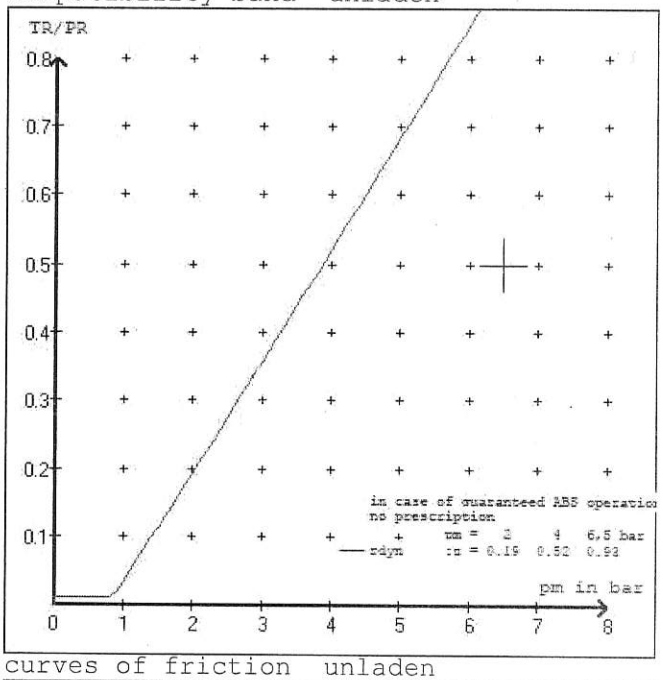
brake chamber pressure unladen



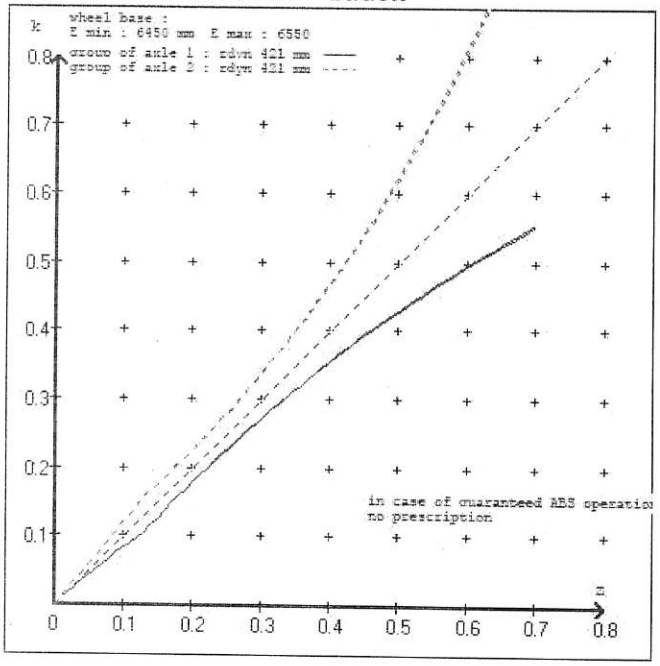
compatibility band laden



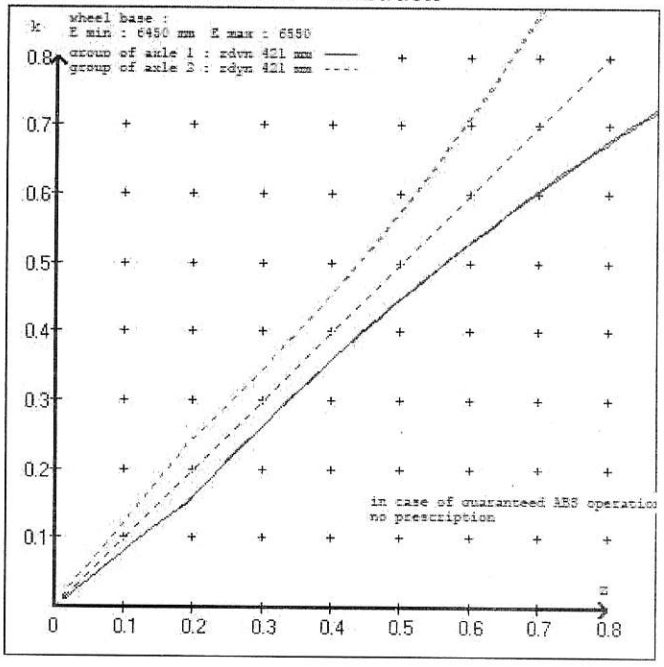
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT TRAILERS
trailer model : 5AFT LIVESTOCK
trailer type : 5-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
axle 5 :	2 x type/diameter	14.	(Meritor)	lever length 69 mm

brake diagram :

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 TRAILERS
trailer model : 5AFT LIVESTOCK
trailer type : 5-axle-full-trailer
brake calculation no. : TP 52513A

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 = 0.134
6.5 bar z = 0.600

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	2400	to be entered by the vehicle manufact.	3.2	8000	to be entered by the vehicle manufact.	0.4	1.3	6.4
2	2400		3.2	8000		0.4	1.3	6.4
3	1800		2.1	6350		0.3	1.4	4.3
4	1800		2.1	6350		0.3	1.4	4.3
5	1800		2.1	6350		0.3	1.4	4.3

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 5	
axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl
2400	3.2	2400	3.2	1800	2.1	1800	2.1	1800	2.1
2900	3.5	2900	3.5	2300	2.3	2300	2.3	2300	2.3
3400	3.8	3400	3.8	2800	2.6	2800	2.6	2800	2.6
3900	4.1	3900	4.1	3300	2.8	3300	2.8	3300	2.8
4400	4.3	4400	4.3	3800	3.1	3800	3.1	3800	3.1
4900	4.6	4900	4.6	4300	3.3	4300	3.3	4300	3.3
5400	4.9	5400	4.9	4800	3.6	4800	3.6	4800	3.6
5900	5.2	5900	5.2	5300	3.8	5300	3.8	5300	3.8
8000	6.4	8000	6.4	6350	4.3	6350	4.3	6350	4.3

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
axle 5 :	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 = 26.2 % Fe
axle 2	(rdyn 421 mm)	T = 26.2 % Fe
axle 3	(rdyn 421 mm)	T = 16.9 % Fe
axle 4	(rdyn 421 mm)	T = 16.9 % Fe
axle 5	(rdyn 421 mm)	T = 16.9 % 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
axle 5	(sp = 56 mm)	s = 39 mm

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

axle1	ThA = 7441 N
axle2	ThA = 7441 N
axle3	ThA = 4085 N
axle4	ThA = 4085 N
axle5	ThA = 4085 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 = 44004 N
axle 2	(rdyn 421 mm)	T = 44004 N
axle 3	(rdyn 421 mm)	T = 24161 N
axle 4	(rdyn 421 mm)	T = 24161 N
axle 5	(rdyn 421 mm)	T = 24161 N

	basic test of subject trailer (E)	type III (calculated) 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 = 44004 N
axle 2	(rdyn 421 mm)	T = 44004 N
axle 3	(rdyn 421 mm)	T = 24161 N
axle 4	(rdyn 421 mm)	T = 24161 N
axle 5	(rdyn 421 mm)	T = 24161 N

	basic test of subject trailer (E)	type III (calculated) 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 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
iFb = lBh*Eta*C*rBt/(rBn*rstat)			
	for rstat in mm	401	401
brake force of spring br. Tf	in N	48188	48188
Tf = (TFZ*KDZ-2*Co/lBh)*iFb			

braking rate	zf laden	0.290
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

min Ef = E * (1 - PR/P + zferf * h/E) / (1 - zferf / (fzul * nf/ng))

min Ef = 5062 mm for E = 6450 mm
==========

min Ef = 5131 mm for E = 6550 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	=	2275 mm	height of center of gravity - laden
PR	=	19050 kg	maximum bogie mass - laden
P	=	35050 kg	maximum total mass - laden
nf	=	2	no. of axle(s) with TRISTOP spring brake actuators
ng	=	3	no. of bogie axle(s)

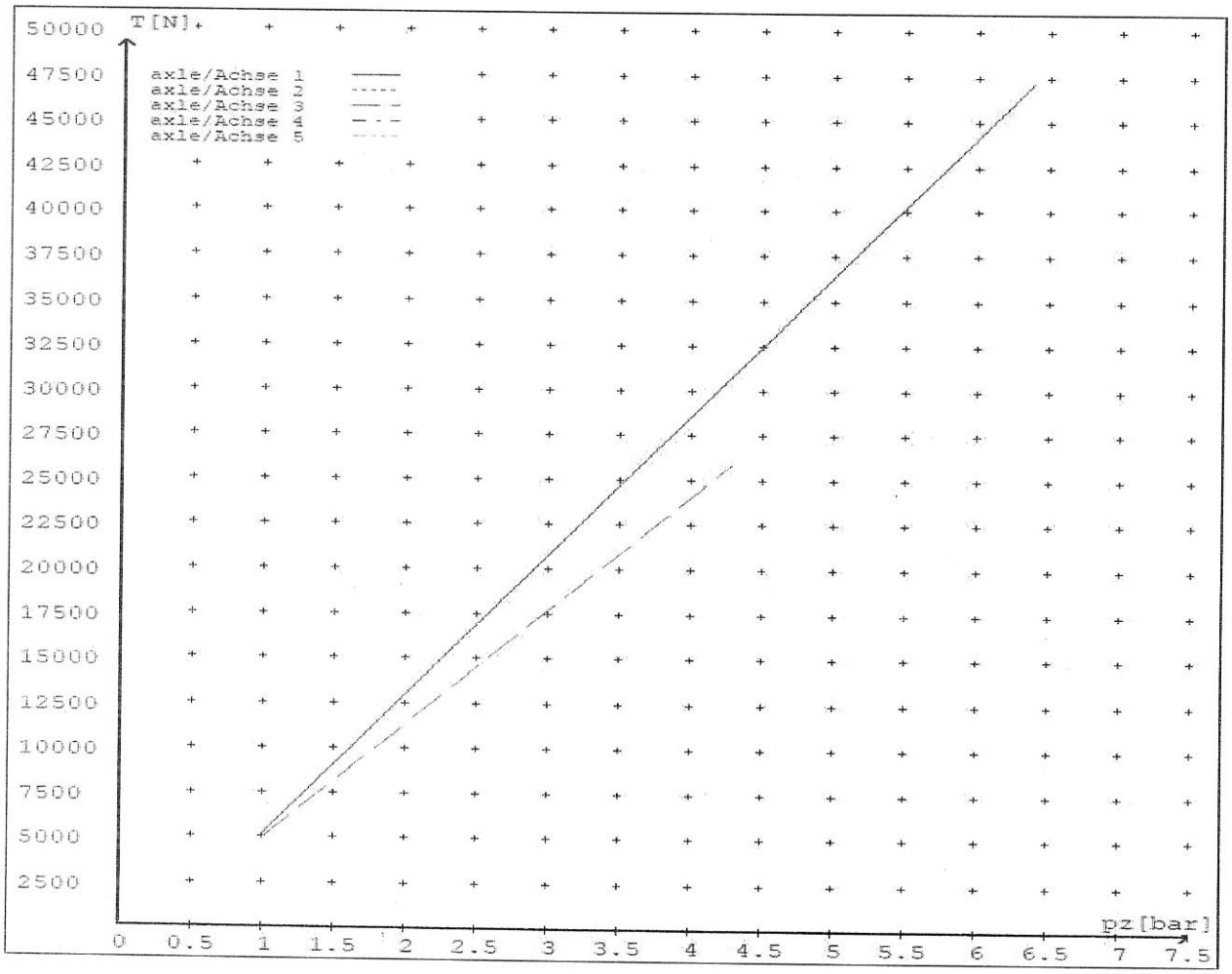
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0 6.4	5095 47206	
axle 2	1.0 6.4	5095 47206	
axle 3	1.0 4.3		4897 25827
axle 4	1.0 4.3		4897 25827
axle 5	1.0 4.3		4897 25827

VIN - no.:

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



NOTICE TO VEHICLE OPERATOR

THIS VEHICLE HAS A BRAKE SYSTEM WHICH HAS BEEN DESIGNED AND FITTED IN ACCORDANCE WITH THE LAND TRANSPORT HEAVY VEHICLE BRAKE RULE 32015/5.

IF THIS VEHICLE IS OPERATED IN CONJUNCTION WITH NON-CERTIFIED VEHICLES, THERE MAY BE OPERATIONAL FACTORS WHICH NEED TO BE TAKEN INTO CONSIDERATION.

PLEASE REFER TO THE CERTIFIER FOR FURTHER INFORMATION.

EXCERPT FROM LAND TRANSPORT RULE; HEAVY-VEHICLE BRAKES RULE 32015/5. SECTION 10,

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 this rule;**

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 person or organisation appointed to carry out specialist inspection and certification of heavy vehicle brakes.**

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 New Zealand Transport Authority if dissatisfied with a Compliance issue. (Refer NZTA Deed Of Appointment Para 47.4) **NZTA Helpdesk 0800 699 000**

J.Hirst (JEH) HVEK)

NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an **E**lectronic **B**rake **S**ystem.

To comply with the New Zealand Heavy Vehicle Brake Rule 32015/5, 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.

If you are unsure of your responsibilities and/or obligations, please contact either the vehicle manufacturer or myself.

J E Hirst
(JEH HVEK)
(09 980 7300)

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:	CARLEYS TRANSPORT

VEHICLE DETAILS

VEHICLE TYPE:	5AFT LIVESTOCK	**CERT #:**	JH220527
YEAR:	2022	**CALCULATION #:**	TP52513
MAKE:	DOMETT	**REGO #:**	N/A
MODEL:	E2501 H	**LT400 #:**	830434
CHASSIS #:	2140	**ORDER #:**	8299
VIN #:	7A9E25014N2023140		
GVM: *t*	32	**PRIME MOVER:**	EBS / EUROPEAN
LOAD CONFIGURATION:	UNIFORM DENSITY		

	FRONT	REAR
GROUP RATINGS: *t*	16	19
WHEEL BASE: *m*	6.49	

	UNLADEN COG *m*	MAX HEIGHT *m*	HEIGHT DECK *m*
	1.485	4.3	0.99
COG: *m*	2.275		

	FRONT	REAR	TOTAL
TARE: t	4.8	5.4	10.2

	FRONT	REAR
TYRE SIZE:	265 70 R19.5	265 70 R19.5
ROLLING CIRCUMFERENCE: *mm*	2645	2645
AXLE SPACING: *m*	1.31	2.51

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 AXLE(S):	2 + 4		NOTES:
SERIAL NUMBERS: 1	N/A		NG-IU28-ZI9-19W
2	N/A		NG-IU28-ZI9-19W
3	N/A		NG-IU28-ZI9-19W
4	N/A		NG-IU28-ZI9-19W
5	N/A		NG-IU28-ZI9-19W

CHAMBER AND VALVING DETAILS

CHAMBERS:	AXLE 1 & 2	AXLE 3 & 4	AXLE 5
BRAND:	TSE_CHAMBERS	TSE_CHAMBERS	TSE_CHAMBERS
SIZE:	20HSCLD	1416HTLD	14HSCLD
STROKE: *mm*	65	64	64
TEST REPORT #:	BC 0041.0 Jul '07	BC0143.0	BZ 122.1 Sep '00
SPRINGBRAKE FORCE: *kN*	N/A	6.16	N/A
HOLDOFF PRESSURE: *Bar*	N/A	4.8	N/A
FOUNDATION BRAKE:	WABCO PAN19	WABCO PAN19	WABCO PAN19
LEVER LENGTH: *mm*	69	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: ☑ FRONT ☐ REAR **FRONT FRICTION: μ** 0.49

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:	HALDEX 90554950	464 008 011 0
OTHER VALVES:	N/A	N/A
RIDE HEIGHT *mm* :	260	260
HANGER HEIGHT *mm* :	200	200
PEDESTAL HEIGHT *mm* :	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: *L*	25 + 25	46 + 25
AUXILLARY TANK SIZE: *L*	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:	1366	345
NORMAL LEVEL:	1298	260
LOWER LEVEL:	1261	220

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:	190	195	430

NOTES AND SPECIAL CONDITIONS

FILES RECEIVED: 13.01.2022

FILES CREATED: 27.05.2022

FILES RETURNED AS COMPLETE:

REASON FOR CERTIFICATION: NEW TRAILER BUILD

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 VECHLE BRAKE RULE 32015/5, SCHEDULE 5.

DATE: 21/07/2022

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