

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

distribution: DOMETT TRAILERS
 7A9E15019W2023251
 SODC: JH230301
 LT400: CJC859188

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 recommend to do a braking harmonisation!
 WABCOBrake V6.18.07.12 db 31.08.2018

vehicle manufacturer: DOMETT TRAILERS
 trailer model : 5AFT PLATFROM
 trailer type : 5-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS E
 TRISTOP 3+4: T.14/24 [TSE1416HTLD ACTUALLY FITTED -
 SEE PAGE 7 FOR PERFORMANCE DATA]
 265/70 R 19,5

axle 1 + 2 + 3 + 4 + 5 : SAF, SBW 1937, TDB 0749 ECE,

		unladen	laden
total mass	P in kg	6600	35050
axle 1	P1 in kg	1500	8000
axle 2	P2 in kg	1500	8000
axle 3	P3 in kg	1200	6350
axle 4	P4 in kg	1200	6350
axle 5	P5 in kg	1200	6350
wheel base	E in mm	7300 - 7400	6350
centre of gravity height	h in mm	770	2045

	axle 1	axle 2	axle 3	axle 4	axle 5
no. of combined axles	1	1	1	1	1
no. of brake chambers per axle line	KDZ	2	2	2	2
The power output corresponds to	BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6	BZ 122.1
brake chamber manufacturer	Meritor	Meritor	Meritor	Meritor	Meritor
chamber size	20.	20.	T.14/24	T.14/24	14.
lever length	1Bh in mm	69	69	69	69
brake factor	[-]	23.03	23.03	23.03	23.03
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	6.0	6.0	6.0	6.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%bar	2.2	2.2	2.1	2.1	2.1
chamber pressure(rdyn max)pH at z=22,5%bar	2.2	2.2	2.1	2.1	2.1
chamber press.(servo)pcha at pm6,5bar bar	5.9	5.9	4.8	4.8	4.8
piston force ThA at pm6,5bar N	6825	6825	4586	4586	4586
brake force(rdyn min)T lad. at pm6,5bar N	51709	51709	34623	34623	34623
brake force(rdyn max)T lad. at pm6,5bar N	51709	51709	34623	34623	34623
Brake force incl. 1 % rolling resistance					
proportion %	22.3	22.3	18.5	18.5	18.5

braking rate z laden
 z = sum (TR)/PRmax

0.603 for rdyn min
 0.603 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..0 WABCO
EBS trailer modulator

brake cylinder: Meritor 1424HTLD64

axle 4:

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

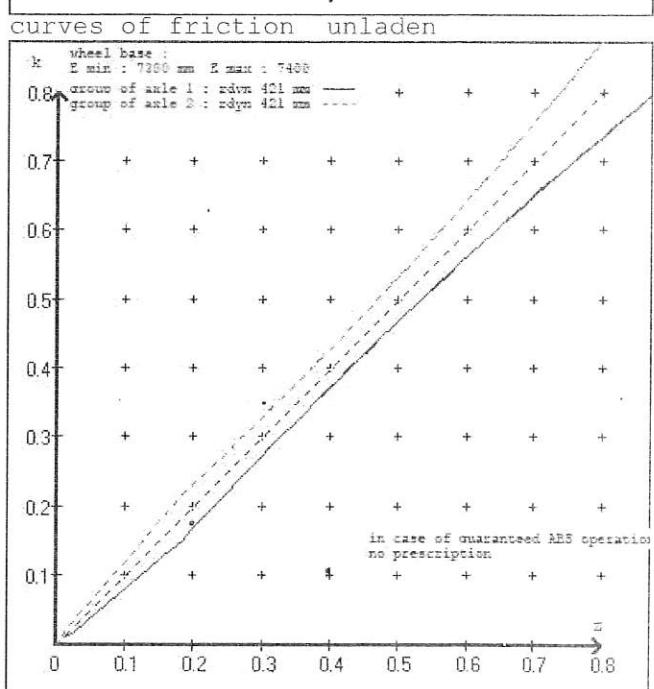
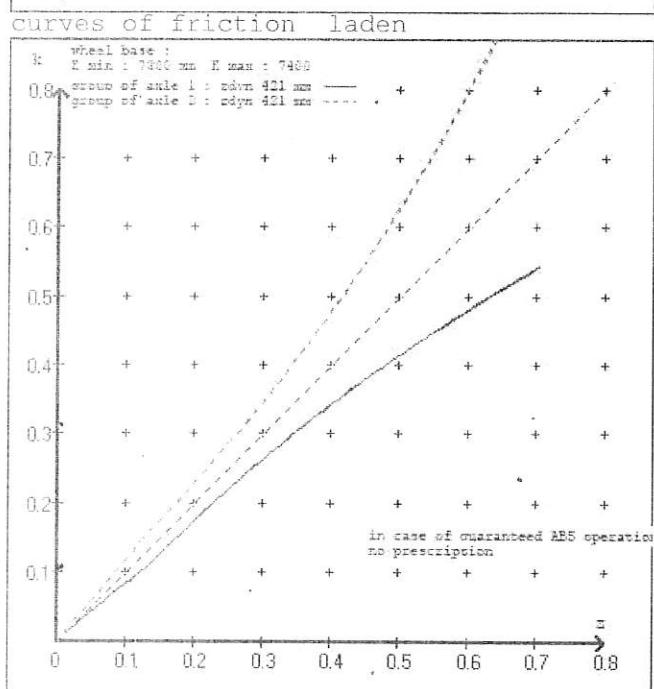
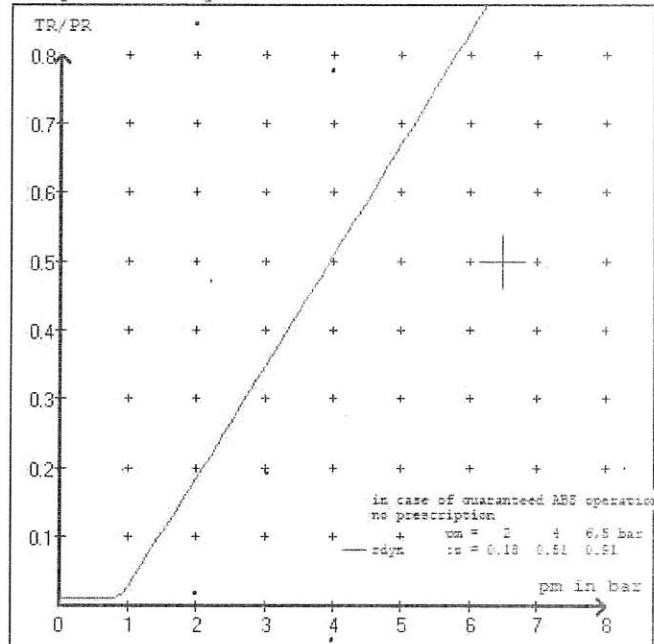
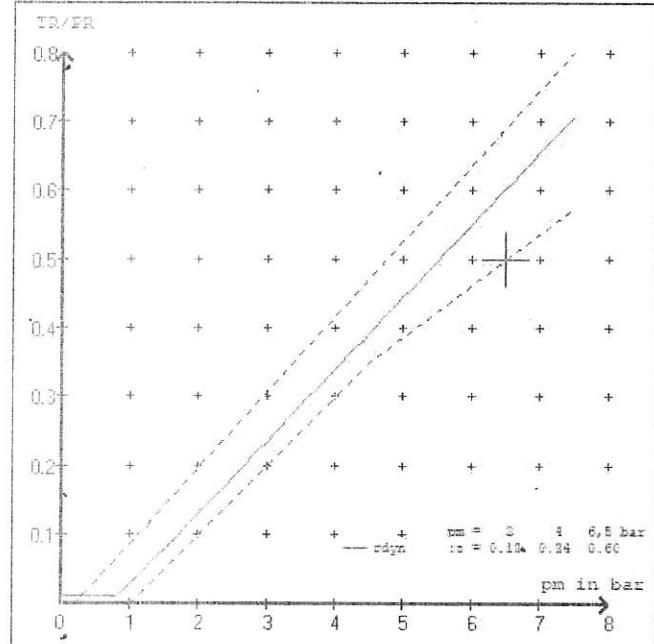
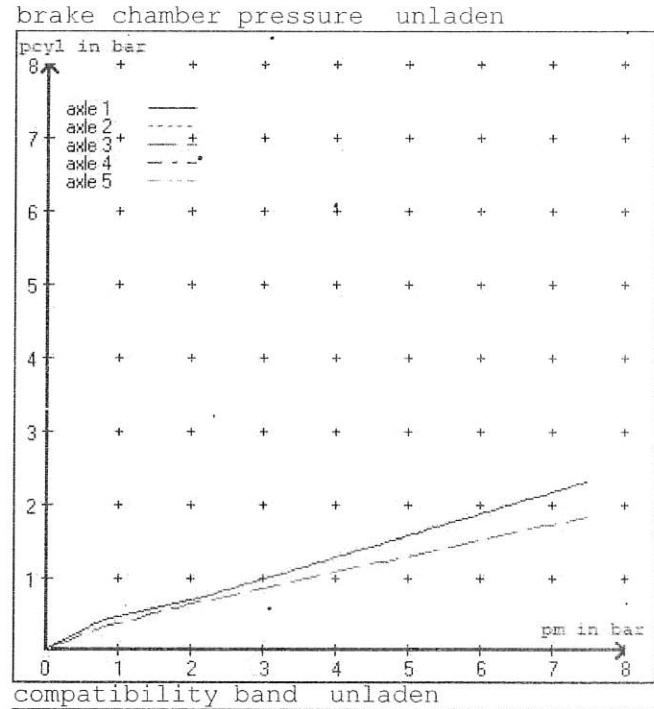
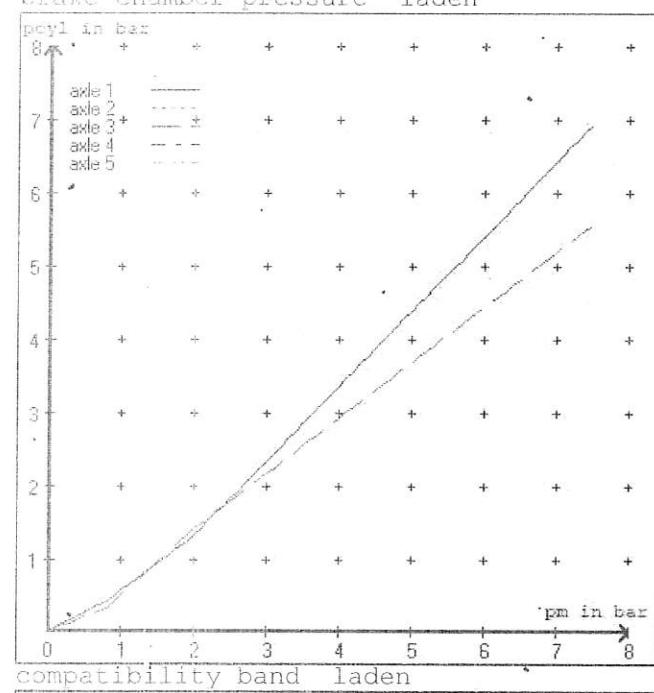
brake cylinder: Meritor 1424HTLD64

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 :	3.0	3.0	2.6	2.6	2.6
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



vehicle manufacturer: DOMETT TRAILERS
 trailer model : 5AFT PLATFORM
 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

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vehicle manufacturer: DOMETT TRAILERS
 trailer model : 5AFT PLATFORM
 trailer type : 5-axle-full-trailer
 brake calculation no. : TP 52628A

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	1500	to be entered by the vehicle manufact.	2.0	8000	to be entered by the vehicle manufact.	0.4	1.3	5.9	
2	1500		2.0	8000		0.4	1.3	5.9	
3	1200		1.6	6350		0.3	1.4	4.8	
4	1200		1.6	6350		0.3	1.4	4.8	
5	1200		1.6	6350		0.3	1.4	4.8	

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 5
axle load pcyl				
1500	2.0	1500	2.0	1200
2000	2.3	2000	2.3	1700
2500	2.6	2500	2.6	2200
3000	2.9	3000	2.9	2700
3500	3.2	3500	3.2	3200
4000	3.5	4000	3.5	3700
4500	3.8	4500	3.8	4200
5000	4.1	5000	4.1	4700
8000	5.9	8000	5.9	6350

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 = 24.3 % Fe
axle 2	(rdyn 421 mm)	T = 24.3 % Fe
axle 3	(rdyn 421 mm)	T = 18.2 % Fe
axle 4	(rdyn 421 mm)	T = 18.2 % Fe
axle 5	(rdyn 421 mm)	T = 18.2 % 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 = 6825 N
axle2	ThA = 6825 N
axle3	ThA = 4586 N
axle4	ThA = 4586 N
axle5	ThA = 4586 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 = 40393 N
axle 2	(rdyn 421 mm)	T = 40393 N
axle 3	(rdyn 421 mm)	T = 27098 N
axle 4	(rdyn 421 mm)	T = 27098 N
axle 5	(rdyn 421 mm)	T = 27098 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
 $\geq 0.6 \cdot E$ (0.36)

axle 1	(rdyn 421 mm)	T = 40393 N
axle 2	(rdyn 421 mm)	T = 40393 N
axle 3	(rdyn 421 mm)	T = 27098 N
axle 4	(rdyn 421 mm)	T = 27098 N
axle 5	(rdyn 421 mm)	T = 27098 N

basic test type III
 of subject (calculated)
 trailer (E) residual

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11) 0.60 0.47

required braking rate $\geq 0,4$ and
(items 1.5.3 and 1.7.2 to annex 11) $\geq 0,6 \cdot E$ ($0,36$)

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)		401	401
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

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

$$\text{min Ef} = 5586 \text{ mm} \quad \text{for } E = 7300 \text{ mm}$$

$$\text{min Ef} = 5655 \text{ mm} \quad \text{for } E = 7400 \text{ mm}$$

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 = 2045 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)

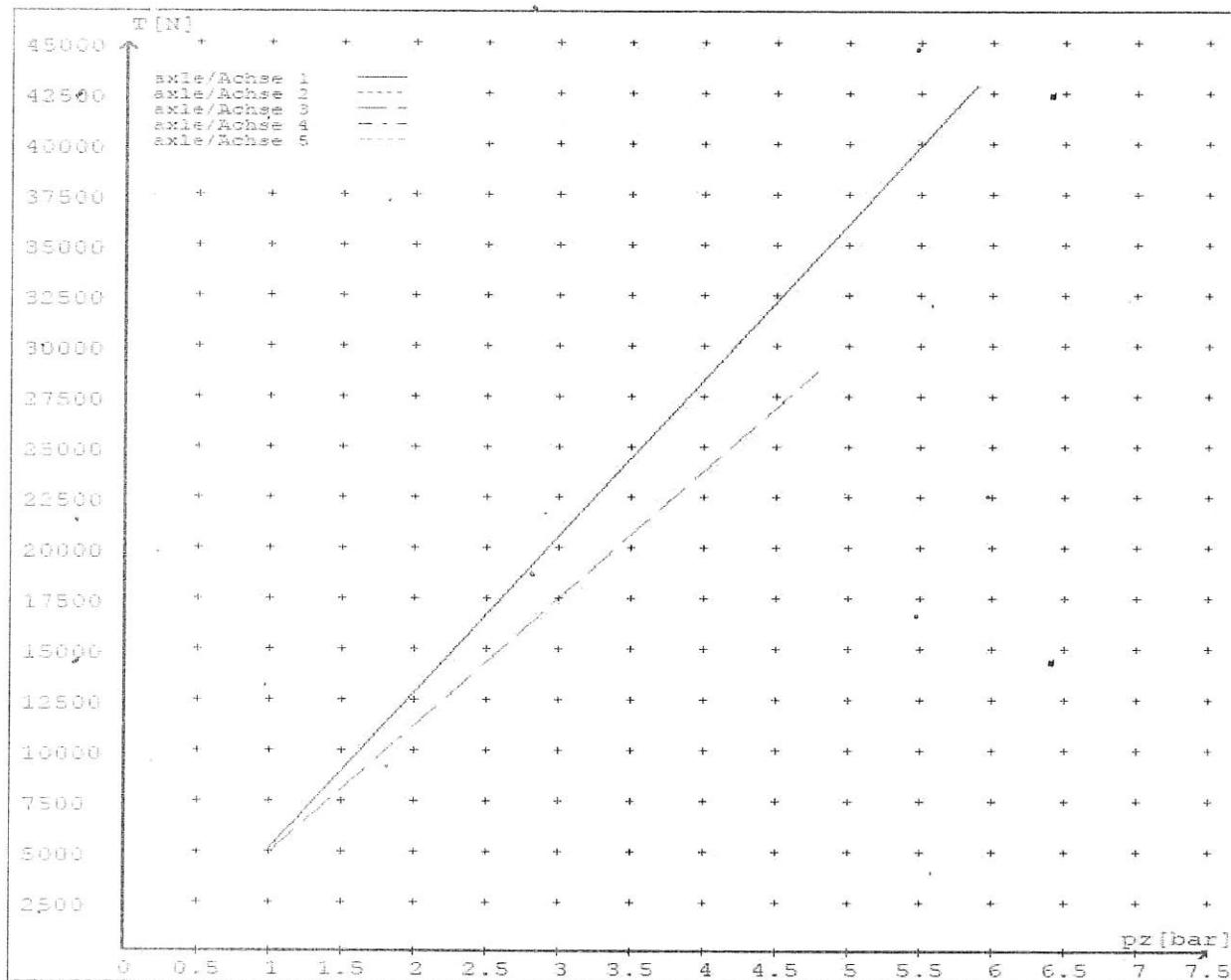
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	5045	
	5.9	42876	
axle 2	1.0	5045	
	5.9	42876	
axle 3	1.0		4848
	4.8		28709
axle 4	1.0		4848
	4.8		28709
axle 5	1.0		4848
	4.8		28709

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.

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.

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 a 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 Agency if dissatisfied with a Compliance issue. (Refer NZTA Notice Of Appointment Para 47.4) NZTA Helpdesk 0800 108 809

(J.Hirst (JEH) HVEK)



NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an Electronic Brake System.

To comply with the New Zealand Heavy Vehicle Brake Rule 32015, 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
WORKSHEET, PROCEDURE DOCUMENTATION SHEET
& CONFIRMATION OF COMPLIANCE

CLIENT

MANUFACTURER:

DOMETT TRAILERS

ADDRESS:

TAURIKURA DRIVE, TAURANGA 3110

FLEET:

D W BUTCHER

VEHICLE DETAILS

VEHICLE TYPE:

SAFT PLATFORM

CERT #:

JH230301

YEAR:

2023

CALCULATION #:

TP52628

MAKE:

DOMETT

REGO #:

N/A

MODEL:

E1501

LT400 #:

859188

CHASSIS #:

2251

ORDER #:

9228

VIN #:

7A9E15019N2023251

GVM: t

32

PRIME MOVER:

EBS / EUROPEAN

LOAD CONFIGURATION:

MIXED FREIGHT

GROUP RATINGS: t

FRONT

REAR

16

19

WHEEL BASE: m

7.35

UNLADEN COG m

0.77

MAX HEIGHT m

4.3

HEIGHT DECK m

1.093

COG: m

2.045

TARE: t

FRONT

REAR

TOTAL

3

3.6

6.6

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 AXLES:	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:	<input checked="" type="checkbox"/> FRONT <input type="checkbox"/> REAR	FRONT FRICTION: μ	0.49
SUBSYSTEMS:	<input checked="" type="checkbox"/> SMARTBOARD <input type="checkbox"/> OPTI-LINK	<input type="checkbox"/> CAN ROUTER 446 122 050 0	
	<input type="checkbox"/> ELEX 446 122 070 0 <input type="checkbox"/> 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	HALDEX 90554950
OTHER VALVES:	N/A	N/A
RIDE HEIGHT mm:	280	280
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	46	46 + 25
AUXILLARY TANK SIZE: L	N/A	
PRESSURE PROTECTION:	SEALCO 1300	

AIR LINES

TEST POINTS:

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

