

Heavy Vehicle Specialist Certificate

Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's Name (PRINT IN CAPS)

۱D

LANCE CAWTE

LPC

Vehicle Registration*
1571S

VIN / Chassis Number

7A9 D 1 0 0 1 5 Y 0 0 2 3 1 7 8

Chassis Modification

Load Anchorage

Log Bolsters

Towing Connection

X Brakes

Component Load Rating(s)

N/A

SRT

Certification Category

Component being certified:

HVEK

Description of Work

CERTIFY TO HEAVY VEHICLE BRAKE RULE 32015/2.

Code/Standard Certified to

SCHEDULE 5

General Drawing Number(s)

N/A

Supporting Documents

BRAKE CODE CERTIFICATE LC110704
PREV EXEMPTION REF HVB11/134

*Special Conditions

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

or

Certification Expiry Date (if applicable)

N/A

Hubodometer Reading (whichever comes first)

Declaration

I the undersigned, declare that I am the Heavy Vehicle Specialist Inspector identified above 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 Deed of Appointment. To the best of my knowledge the information contained in this Certificate is true and correct. Designer's ID (if certified by a manufacturer)

Inspector's L Delegate's Signature

*Delegate's Name (PRINT IN CAPS)

Date

Number

6-Jul-11

376209

COF Vehicle Inspector ID:

COF Vehicle Inspector Signature:

Date

All fields evolution these made 1 111



HEAVY VEHICLE BRAKE RULE WORKSHEET

(PROCEDURE DOCUMENTATION SHEET - PDS)

8

CONFIRMATION OF COMPLIANCE

CERTIFICATE No.

CUSTOMER NAME

LC110704

DOMETT TRAILERS

| COSTONERINE | | | | | | | | |
|---------------------------------------|--------------------------------------|---|--|--|--|--|--|--|
| CUSTOMER ORDER No. | 3604 T1952 #8 DATE RECEIVED 4/07/111 | | | | | | | |
| VEHICLE TYPE | 4 AXLE FULL TRAILER | | | | | | | |
| REG No. 1571S CH | ASSIS No. 7A9D10015Y0023178 | | | | | | | |
| BRIEF SPECIFIC | ATION AS CERTIFIED TO SCHEDULE 5 | 5 | | | | | | |
| BRAKE VALVES: | | | | | | | | |
| Primary Relay Make: <u>WABCO</u> | Type:480/207/001/0 | | | | | | | |
| Secondary Relay Make: <u>WABCO</u> | Type: <u>480/102/064/0</u> | | | | | | | |
| Spring Brake Relay Make: <u>WABCO</u> | Type: <u>971/002/900/0 PREV</u> | | | | | | | |
| Park Brake Valve Make: WABCO | Type: 971/002/900/0 PREV | | | | | | | |
| Locked Ratio Make: | Type: Setting: | | | | | | | |
| Load Sense Valve Front: Make:N/A | Type: <u>N/A</u> | | | | | | | |
| Settings: Laden: N/A | Unladen: <u>N/A</u> | | | | | | | |
| Load Sense Valve Rear: Make:N/A | Type:N/A | | | | | | | |
| Setting: Laden: N/A | Unladen: N/A | | | | | | | |

| Other Valves | | | |
|------------------------------------------------------|-------------------------------------------|----------------------------------------|--------|
| Make: | Type: | Setting: | |
| Make: | Type: | Setting: | |
| Make: | Туре: | Setting: | |
| Лаke: | Type: | Setting: | |
| Comments: | IDITIONS APPLY SEE 1 | INSTRUCTIONS ON LT400 | 376209 |
| | | | |
| | | | |
| Rear: Make TSE 14 SLACK ADJUSTER Front Length (mm) | 4HSCLD64 Type: 14 416HTLD64 Type: 14/1 | 16 STROKE: 64 mm Rear Length (mm) N/A | |
| | HAL: OEM Brand JURID 539 Brand JURID 539 | | |
| (Rear) Lining | | Grade | |
| | | Grade | |
| OTHER: TYRES2 | | Grade | |
| OTHER: | | PROCESS TIME: | 1 |

| | Water Control of the | |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|
| | | |
| Confirmation o | f compliance | |
| all relevant requi | e vehicle identified on page 1 and 2 of this Confirma irements of the current New Zealand Heavy Vehicle | |
| Date: | /07/11 Signed: | - |
| Certifier's iden | | |
| Name & ID: | LANCE CAWTE (LPC) | |
| Phone (bus): <u>09</u> | 9807300 Fax (bus): <u>09 9807306</u> | _ |
| Postal address: | TRANSPORT SPECIALTIES LTD PO BOX 98-971, MANUKAU CITY, MANUKAU 2241 | |
| Position: | | |
| Confirmation o | f continued compliance of modification | |
| modified by mys | ake system of the vehicle identified on page 1 of this self, continues to comply with all the relevant require Vehicle Brake Rule 32015, Schedule 5. | Statement of Compliance as ments of the current New |
| Date: | Signed: | |
| Certifier's identi | fication: | |
| Name: | | _ |
| | Fax (bus): | |
| Postal address: _ | | |
| | | - |
| Comments: | | |
| | | |
| | | |
| | | |



Document: B1152115 Exemption: HVB11/134 Level 9, PSIS House 20 Ballance Street PO Box 5084 Lambton Quas Wellington 6145 New Zealand T 64 4 894 5200 F 64 4 804 3305

EXEMPTION FROM SPECIFIED REQUIREMENTS OF LAND TRANSPORT RULE: Heavy-vehicle Brakes 2006, Rule 32015

www.nzta.govt.nz

Pursuant to Section 166(1) of the Land Transport Act 1998, and pursuant to the powers delegated to me. I Eugene Girardin, Vehicles Unit Engineer, hereby exempt the motor vehicle specified in Schedule 1 hereto from the section of Land Transport Rule: Heavy-vehicle Brakes 2006 (the Rule) listed in Schedule 2, subject to the conditions specified in Schedule 3.

SCHEDULE 1:

Make/Model: Domett Truck & Trailer Ltd - 4 Axle Full Trailer

VIN/CHASSIS: 7A9D10015Y0023178

SCHEDULE 2: - Exempted Requirement

Section 2.3(9); The parking brake of a vehicle, whether or not it is being operated as a combination vehicle, must be able to be applied by the driver from the normal driving position using one control only.

SCHEDULE 3: - Conditions of this exemption:

- The vehicle must be fitted with a Wabco park-release emergency valve (PREV), Part Number: 971 002 900 0.
- The vehicle must be fitted with the Wabco PREV name plate, Part Number 971 002 103 4, adjacent to the PREV.
- The vehicle must still be fitted with a parking brake that complies with all parking brake requirements in the Rule other than the requirement in Clause 2.3(9) of the Rule.
- 4) The installation of the PREV must be approved in writing by Transport Specialties Limited (Transpecs) or an NZ Transport Agency appointed HVEK certifier acting on behalf of, and under instruction from, Transpecs; Transpecs must keep a written record of all approvals.
- 5) An HVEK certifier in 4) must be fully trained in end of line procedures for Wabco electronically controlled braking systems
- Transpecs must provide full operator training in the use of the PREV and furnish the operator with full written operating instructions for the PREV.
- 7) The vehicle must not be modified in any way while operating under this exemption.
- 8) This original exemption must be kept by Transport Specialties Ltd.
- 9) A copy of this exemption (printed on a silver WABCO Sticker) must be affixed to the exempted vehicle as close to the WABCO PREV as possible.
- 10) The sticker in 8) must be legible and include all printed areas of this original exemption letter.
- 11) This exemption can be revoked at any time in writing by the NZ Transport Agency.

Signed at Wellington this 2nd day of June 2011.

Eugene Girardin Engineer

Vehicles Unit



the spring brakes will not release on the trailer until this button is pushed in

manually



PREV

Park Release Emergency Valve

Operating Instructions

When the vehicle is parked or the handbrake on the towing vehicle is applied the service (foot) brakes are applied on the trailer.

If there is a service brake air leak on the trailer the spring (Emergency) brakes automatically apply.

WADCO To RELEASE the service To APPLY the spring brakes brakes to move the trailer when not **PULL the RED BUTTON** connected to a truck PUSH the BLACK BUTTON To RELEASE the spring To REAPPLY the service brakes **PUSH the RED BUTTON IN** brakes **PULL the BLACK BUTTON** This button does not reset automatically. If this is left WABCO This button resets pulled out **PREV** automatically when (spring brakes applied) reconnected to a truck and and the truck is reconnected and the hand brake released the park brakes are released

Applying the spring brakes while the service brakes are applied on the trailer does not cause compounding of the brakes

^{**} It is recommended that when the trailer is detached from the towing ** vehicle that the **RED** button is pulled out to apply the spring brakes

please note

trailer (full, semi-, centre-axle) with air brake system acc. to 71/320/EEC, last amended by 98/12/EC and 2006/96/EC or UN/ECE-R.13.11

distribution: DOMETT

CHASSIS # 178 CALC #LC110704 LT400 # 376209 This brake calculation is made under consideration of -the legal precriptions mentioned above in the version valid ait the time of making the program (V6.10.05.21). 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 V6.10.05.21 db 26.05.2010

vehicle manufacturer: DOMETT

trailer model : D101 TANKER

trailer type 4-axle-full-trailer

remarks air / hydraulic / VA suspension

WABCO TRAILER - EBS TRISTOP 3+4: T.14/24

265/70 R 19,5

axle 1 + 2 + 3 + 4 : SAF, PAN 19-1, TDB 0749 ECE,

| | | <u>unladen</u> | <u>laden</u> |
|--------------------------|----------|----------------|--------------|
| total mass | P in kg | 5000 | 28000 |
| axle 1 | P1 in kg | 1400 | 7000 |
| axle 2 | P2 in kg | 1400 | 7000 |
| axle 3 | P3 in kg | 1100 | 7000 |
| axle 4 | P4 in kg | 1100 | 7000 |
| wheel base | E in mm | 4800 - 4800 | |
| centre of gravity height | h in mm | 1200 | 1800 |

| | <u>axle 1</u> | axle 2 | axle 3 | axle 4 |
|----------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|
| no. of combined axles no. of brake chambers per axle line KDZ | 1 | 1 2 | 1 2 | 1 |
| The power output corresponds to | BZ 122.1 | _ | BZ 119.6 | BZ 119.6 |
| brake chamber manufacturer | Meritor | Meritor | Meritor | Meritor |
| chamber size | 14. | 14. | T.14/24 | T.14/24 |
| 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 | | |
| threshold torque Co Nm | 6.0 | 6.0 | 6.0 | 6.0 |
| calculation: chamber pressure(rdyn min)pH at z=22,5%bar chamber pressure(rdyn max)pH at z=22,5%bar chamber press.(servo)pcha at pm6,5bar bar | 2.4 2.4 5.8 | 2.4 2.4 5.8 | 2.1 2.1 4.6 | 2.1 2.1 4.6 |
| piston force ThA at pm6,5bar N | 5588 | 5588 | 4385 | 4385 |
| brake force (rdyn min) T lad. at pm6,5bar N | 42260 | 42260 | 33173 | 33173 |
| <pre>brake force(rdyn max)T lad. at pm6,5bar N brake force within 1 % rolling friction</pre> | 42260 | 42260 | 33173 | 33173 |
| proportion % | 25.0 | 25.0 | 25.0 | 25.0 |

braking rate z laden 0.549 for rdyn min z = sum (TR)/PRmax0.549 for rdyn max

Trailer may only be operated in combination with trucks/tractors with ISO 7638 supply (5 or 7 polar).

Tansport Special. -brake calculation no: TP 144A date 04.07.2011 LPC page 2 / 8

brake diagram :

maximum pressure: 8.5 bar

axle 1:

valve 1: 971 002 ... 0 WABCO

EBS emergency valve

valve 2: 480 207 0.. 0 WABCO

EBS relay valve

brake cylinder: Meritor 14HSCLD64

axle 2:

valve 1: 971 002 ... 0 WABCO

EBS emergency valve

valve 2: 480 207 0.. 0 WABCO

EBS relay valve

brake cylinder: Meritor 14HSCLD64

axle 3:

valve 1: 971 002 ... 0 WABCO

EBS emergency valve

valve 2: 480 102 0.. 0 WABCO

EBS trailer modulator

brake cylinder: Meritor 1424HTLD64

axle 4:

valve 1: 971 002 ... 0 WABCO

EBS emergency valve

valve 2: 480 102 0.. 0 WABCO

EBS trailer modulator

brake cylinder: Meritor 1424HTLD64

test type III (zIII = 0.30) for rdyn min : axle1 axle2 axle3 axle4 at pm 3.9 bar => pcha in bar : 3.2 3.2 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 0.8 0.8

0

0.1

0.2

0.3

0.4

0.5

0.6

0.7

ő.8

0.1

0.2

0.3

0.4

0.5

0.6

0

0.8

Tansport Special. -brake calculation no: TP 144A date 04.07.2011 LPC page 5 / 8

vehicle manufacturer: DOMETT trailer model : D101 TANKER

4-axle-full-trailer trailer type :

brake chamber and lever length :

axle 1 : 2 x type/diameter 14. (Meritor) lever length 69 mm axle 2 : 2 x type/diameter 14. (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 :

971 002 ... 0 WABCO EBS emergency valve 480 207 0.. 0 WABCO EBS relay valve 480 102 0.. 0 WABCO EBS trailer modulator

EBS input data ==============

vehicle manufacturer: DOMETT

brake calculation no. : TP 144A

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 = 0.000(laden condition) 2.0 bar z = 0.1166.5 bar z = 0.550

| axle axle load unladen bellow pr. unladen brake pr. unladen axle load laden bellow pr. laden brake pr. laden 1 1400 to be 1.5 7000 to be 0.3 1.3 5.8 2 1400 entered by 1.5 7000 entered by 0.3 1.3 5.8 3 1100 the vehicle 1.1 7000 the vehicle 0.3 1.3 4.6 4 1100 manufact. 1.1 7000 manufact. 0.3 1.3 4.6 5 0 0,0 0 0,0 0,0 0,0 0,0 | | contro | l pressure pm | 6,5 | contro | l pressure pm | n 0.8 2.0 6.5 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------|---------------|-----|--------|---------------|---------------|
| 2 1400 entered by 1.5 7000 entered by 0.3 1.3 5.8 3 1100 the vehicle 1.1 7000 the vehicle 0.3 1.3 4.6 4 1100 manufact. 1.1 7000 manufact. 0.3 1.3 4.6 | axle | | | _ | | | - |
| 3 1100 the vehicle 1.1 7000 the vehicle 0.3 1.3 4.6 4 1100 manufact. 1.1 7000 manufact. 0.3 1.3 4.6 | 1 | 1400 | to be | 1.5 | 7000 | to be | 0.3 1.3 5.8 |
| the vehicle 1.1 7000 the vehicle 0.3 1.3 4.6 manufact. 0.3 1.3 4.6 | 2 | 1400 | entered by | 1.5 | 7000 | entered by | 0.3 1.3 5.8 |
| manufact. manufact. | 3 | 1100 | the vehicle | 1.1 | 7000 | the vehicle | 0.3 1.3 4.6 |
| He manufacture and the second | 4 | 1100 | manufact. | 1.1 | 7000 | manufact. | 0.3 1.3 4.6 |
| | 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.

| axle 1 | | axle 2 | | axle 3 | | axle 4 | |
|---------|---------|---------|----------|---------|---------|---------|---------|
| axle lo | ad pcyl | axle lo | oad pcyl | axle lo | ad pcyl | axle lo | ad pcyl |
| 1400 | 1.5 | 1400 | 1.5 | 1100 | 1.1 | 1100 | 1.1 |
| 1900 | 1.9 | 1900 | 1.9 | 1600 | 1.4 | 1600 | 1.4 |
| 2400 | 2.3 | 2400 | 2.3 | 2100 | 1.7 | 2100 | 1.7 |
| 2900 | 2.7 | 2900 | 2.7 | 2600 | 2.0 | 2600 | 2.0 |
| 3400 | 3.0 | 3400 | 3.0 | 3100 | 2.3 | 3100 | 2.3 |
| 3900 | 3.4 | 3900 | 3.4 | 3600 | 2.6 | 3600 | 2.6 |
| 4400 | 3.8 | 4400 | 3.8 | 4100 | 2.9 | 4100 | 2.9 |
| 4900 | 4.2 | 4900 | 4.2 | 4600 | 3.2 | 4600 | 3.2 |
| 7000 | 5.8 | 7000 | 5.8 | 7000 | 4.6 | 7000 | 4.6 |

```
Tansport Special. -brake calculation no: TP 144A date 04.07.2011 LPC
data sheet to EC/ECE vehicle type-approval certificate concerning braking
equipment: according to 98/12/EC annex IX 2.7.4 / ECE R13 annex 11
axle 1 : reference axle: SAF
                                   SBW 1937-... brake lining: Jurid 539
                                    TDB 0749 ECE date : 13.10.2008
          test report :
axle 2 : reference axle: SAF
                                   SBW 1937-... brake lining: Jurid 539
                                    TDB 0749 ECE date : 13.10.2008
          test report :
axle 3 : reference axle: SAF
                                   SBW 1937-... brake lining: Jurid 539
          test report :
                                    TDB 0749 ECE date : 13.10.2008
axle 4 : reference axle: SAF
                                   SBW 1937-... brake lining: Jurid 539
                                    TDB 0749 ECE date : 13.10.2008
          test report :
calc. verif. of residual (hot) braking force type III
(item 4.2 of appendix I to annex VII)
axle 1
                 (rdyn 421 mm)
                                              T = 22.5 \% Fe
                 (rdyn 421 mm)
axle 2
                                              T = 22.5 \% Fe
axle 3
                 (rdyn 421 mm)
                                              T = 18.7 \% Fe
axle 4
                 (rdyn 421 mm)
                                              T = 18.7 \% Fe
calculated actuator stroke in mm
(item 4.3.1.1 of appendix I to annex VII)
axle 1
                 (sp = 57 mm)
                                           s = 39 \text{ mm}
axle 2
                 (sp = 57 mm)
                                           s = 39 \text{ mm}
                (sp = 56 mm)
axle 3
                                           s = 39 \text{ mm}
                                            s = 39 \text{ mm}
axle 4
                 (sp = 56 mm)
average thrust output in N at pm = 6.5 bar (however max. pcha = 7.0 bar)
axlel
                                          ThA = 5588 N
axle2
                                          ThA = 5588 N
axle3
                                          ThA = 4385 N
axle4
                                          ThA = 4385 N
calc. residual (hot) braking force in N
(item 4.3.1.4 of appendix I to annex VII)
axle 1
                 (rdyn 421 mm)
                                            T = 33284 N
axle 2
                 (rdyn 421 mm)
                                            T = 33284 N
axle 3
                (rdyn 421 mm)
                                            T = 26161 N
axle 4
                (rdyn 421 mm)
                                            T = 26161 N
                                        basic test
                                                   type III
                                        of subject
                                                    (calculated)
                                        trailer (z)
                                                    residual
braking rate of the vehicle
                                                     (hot)braking
(item 4.3.2 to appendix I to annex VII)
                                            0.55
                                                       0.43
required braking rate
                                                    >= 0,4 and
(items 1.3.3 and 1.6.2 to annex II)
                                                    >= 0,6*z (0.33)
calc. residual (hot) braking force in {\tt N}
(item 4.3.1.4 of appendix I to annex VII)
axle 1
                 (rdyn 421 mm)
                                           T = 33284 N
axle 2
                 (rdyn 421 mm)
                                            T = 33284 N
axle 3
                 (rdyn 421 mm)
                                           T = 26161 N
axle 4
                 (rdyn 421 mm)
                                           T = 26161 N
```

basic test

of subject

braking rate of the vehicle

required braking rate

(item 4.3.2 to appendix I to annex VII)

(items 1.3.3 and 1.6.2 to annex II)

trailer (z)

0.55

type III

residual

0.43

>= 0,4 and

(calculated)

(hot)braking

>= 0.6*z (0.33)

spring parking brake

| | | <u>axle 3</u> | axle 4 |
|-----------------------------------------------------------------------|------------|---------------|---------|
| no of TRISTOP-actuators per axl | e line KDZ | 2 | 2 |
| TRISTOP-actuator type | | T.14/24 | T.14/24 |
| 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 | | 7605 | = = |
| sp.brake chamber no Meritor | | 4 | 4 |
| release pressure | pLs in bar | | |
| | | 4.8 | 4.8 |
| | | | |
| <pre>calculation:</pre> | | | |
| | | | |
| ratio until road | | 3.9674 | 3.9674 |
| <pre>iFb = lBh*Eta*C*rBt/(rBn*rstat)</pre> | | | |
| for rstat i | | 401 | 401 |
| <pre>brake force of spring br. Tf i Tf = (TFZ*KDZ~2*Co/lBh)*iFb</pre> | n N | 59654 | 59654 |
| == (=== === = === === ================= | | | |

braking rate zf laden 0.444 zf = sum (Tf)/P + 0,01

,==,,= 0,0=

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))

 $\min Ef = \min \min distance between front axle(s) (trailer) or support (semitraile and the rear axle(s) (resultant of the bogie)$

E = wheel base

fzul = 0.80 maximum permissible frictional connection required zferf = 0.18 maximum required braking ratio of the parking brake h = 1800 mm height of center of gravity - laden

PR = 14000 kg maximum bogie mass - laden P = 28000 kg maximum total mass - laden

nf = 2 no. of axle(s) with TRISTOP spring brake actuators

ng = 2 no. of bogie axle(s)

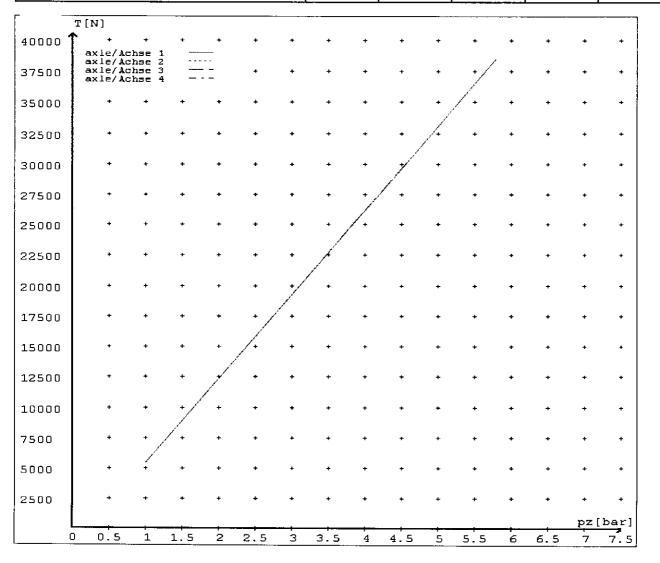
reference values

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

| | pz [bar] | T [N] | T [N] |
|--------|------------|---------------|---------------|
| axle 1 | 1.0 5.8 | 5383 38488 | |
| axle 2 | 1.0 5.8 | 5383 38488 | |
| axle 3 | 1.0 4.6 | | 5383 30212 |
| axle 4 | 1.0 4.6 | | 5383 30212 |

VIN - no.:

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



reference values for z = 0.5Angabe der Referenzwerte für z = 0.5

brake calculation no: TP 144A date 04.07.2011
Bremsberechnung Nr: TP 144A vom 04.07.2011

for max rdyn: 421 mm für max rdyn: 421 mm

| Bremsbe | erech | ınun | g Nr: | TP : | L44A | vom | 04.0 | 7.2013 | L | | | | | | | |
|------------------------|-----------------|---------------|--------------------------------------|-------------------|-------|-----|------|--------|-----|------|---------|------|------|-----|-----|------|
| | T[N |] | | | | • | | | | | | | | | | |
| 40000 | 1 | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| 35000 | ax ax | le/Ad | chse 1 chse 2 chse 3 chse 4 | | | + | + | + | ٠ | + | <i></i> | | + | + | + | + |
| 30000 | | + | + | + | + | + | + | + | + | | + | + | + | + | + | + |
| 25000 | | + | + | + | + | + | • | • | | + | + | + | + | + | + | + |
| 20000 | | + | + | + | + | + | | + | + | + | • | + | + | + | + | + |
| 15000 | | + | + | + | + | | + | + | + | + | • | • | + | + | + | + |
| 10000 | | + | + | | • | + | + | • | + | + | + | + | + | + | + | + |
| 5000 | | + | + | + | + | + | + | + | + | + | + | + | • | + | + | + |
| | | -+- | | | | | | | | | - | - | | | pz[| bar] |
| | 0 (| 0.5 | 1 | 1.5 | 2 | 2.5 | 3 | 3.5 | 4 | 4.5 | 5 | 5.5 | 6 | 6.5 | 7 | 7.5 |
| | | | | | | | | | | Axle | (s) / | Achs | e(n) | • | | |
| brake cy. Bremszyl: | linder inder | type Typ (| (servi Betrieb | ce / pa / Fest | rking |) | 14. | / | 14. | / | T.14 | /24 | T.14 | /24 | / | |
| Maximum maximale | stroke | smax | =n | ım | | | 6 | 4 | 6 | 4 | 64 | 1 | 6 | 4 | | |
| Lever le Hebellän | ngth = | | mm | | | | 69. | .08 | 69. | 08 | 69. | 08 | 69. | 08 | | |



P.O.Box 98-971

South Auckland Mail Centre

DATE **SLACK LENGTH FRONT BRAKE CHAMBERS REAR** BRAKE CHAMBERS FRONT CERT. NO. THIS VEHICLE COMPLIES WITH THE NZ SLACK LENGTH REAR VIN / CHASSIS Lance Cawte (LPC) 7A9D10015Y0023178 TSE 14/16 LC110704 TSE 14 DISC DISC LINING MATERIAL REAR JURID 539 LINING MATERIAL FRONT JURID 539 **TYRE SIZE FRONT** TYRE SIZE REAR PREV EXEMPTION **LOAD SENSED** 1416HTLD64 14HSCLD64 STROKE 64mm STROKE 64mm 265/70R 19.5 HVB11 /134 WABCO EBS "E" 265/70R 19.5

HEAVY VEHICLE BRAKE RULE 32015, SCHEDULE 5

| V | VA | B | CC | | | | TF | RAILI | ER E | BS. | -E | | DR TUE | H TB 2007 - | 019.00 | |
|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------|------|------|---------------------------|----------|-----|-------------|------|------------------|---------|----------|--------|-------------|--------|--|
| HERSTEL MANUFAC CONSTRU | TURER | DO | METT | | • | | | GIO | F | Pin1 | | Pin3 | | Pi | n4 | |
| TYP TYPE | LC110704 | | | | | | | 1 | | | | | | | | |
| TYPE FAHRZEUG IDENTIN. CHASSIS NUMBER 7A9D10015Y0023178 | | | | | | \dashv | 3 | Δ | LS2 | | ALS2 | | | | | |
| BREMSBI | DE CHASSIS RECHAUNGS NE ALCULATION NO. | | | 4LPC | | | | 4 | | | | | | | | |
| POLRADZ | E FREINAGE NO AHNEZAHL c-d - EEL TEETH c-d - | 8-f | | | ABS-System | 40/014 | | 5 | C | IAG | | DIAG | | DI | AG | |
| DENTS RO | DENTÉE c d | ie-f | 90 | 90 | ABS-System Systeme ABS | 4S/3M | | 6 | | | | | | | - | |
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| Subs | ystems | | | | 1/0 | 24N | | | | H | 田田 | | ٦٧, | | | |
| | | | | | | | 00 | Гъ | | /8\ * | (0) | (bar) | | | | |
| | pm (t | oar) | 6.5 | pı | n (bar) | 0.8 | 2.0 |) | 6.5 | | | 100 | | 1.0 | Pz | |
| ACHSE AXLE ESSIEU | (kg) | | | 0 | | pz | | TYP TYPE | (mm) | (mm) | TR (| daN) | | | | |
| 1 | 1400 | 0.6 | 1.5 | 700 | 00 4.5 | 0.3 | 1.3 | 3 | 5.8 | - | 14 | 64 | 69 | 538 | 3848 | |
| 2 | 1400 | 0.6 | 1.5 | 700 | 00 4.5 | 0.3 | 1.3 | 3 | 5.8 | - | 14 | 64 | 69 | 538 | 3848 | |
| 3 | 1100 | 0.4 | 1.1 | 700 | 0 4.5 | 0.3 | 1.3 | 3 | 4.6 | - | 14 / 24 | 64 | 69 | 538 | 3021 | |
| 4 | 1100 | 0.4 | 1.1 | 700 | 0 4.5 | 0.3 | 1.3 | 3 | 4.6 | - | 14 / 24 | 64 | 69 | 538 | 3021 | |
| 5 | 0 | | | 0 | | | | | | _ | | | | | | |

NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an Electronic Brake System.

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

NB;

If this vehicle is fitted with mechanical (spring) suspension, the load sense valving has been adjusted to suit exactly the performance of the original springs. In event of replacement being required, original equipment springs **must** be fitted to ensure correct ongoing operation. Fitment of non genuine springs can affect operation and therefore, compliance.

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

L P CAWTE (LPC HVEK) (09 980 7300)

NOTICE TO VEHICLE OPERATOR

THIS VEHICLE HAS A BRAKE SYSTEM WHICH HAS BEEN DESIGNED AND FITTED IN ACCORDANCE WITH THE NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015: SCHEDULES.

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

PLEASE REFER TO THE CERTIFIER FOR FURTHER INFORMATION.

EXCERPT FROM NZ HEAVY VEHICLE BRAKE 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 the rule: and
- (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.

10.5 Responsibilities of manufactures and retailers

A person may manufacture, stock, or offer for sale a brake or its components. Intended for fitting to a vehicle to be used on New Zealand roads, only if that brake or component:

- (a) complies with this Rule: and
- (b) does not prevent a repair to a vehicle, its structure, systems, components and equipment from complying with this Rule.

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 NZ Transport Agency if dissatisfied with a Compliance issue. (refer NZTA Deed Of Appointment Para 47.4)

NZ Transport Agency Helpdesk 0800 699 000

L.P CAWTE (LPC HVEK)