NZ TRANSPORT AGENCY
WAKA KOTAHI

Heavy Vehicle Specialist Certificate

Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's Name *(PRINT IN CAPS)*
Ronald STUART PRATT

ID
TRSP

Vehicle Registration*

VIN / Chassis Number
7A9D450199002385B

Component being certified:

☐ Chassis Modification ☐ Load Anchorage ☐ Log Bolsters

☐ Towing Connection ☑ Brakes ☐ SRT

Certification Category
HUEK

Description of Work
Certify to Brake Rule 32015

Code/Standard Certified to
NZHUB Rule Schedule5

Component Load Rating(s)

General Drawing Number(s)
NA

Supporting Documents
Brake Cert No RP091107

***Special Conditions**
4A Full Trailer ABS + 70% Fixed Ratio.

Certification Expiry Date *(if applicable)*
NA

or

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 / Delegate's Signature

Delegate's Name *(PRINT IN CAPS)*

Date
24/11/2009

Number
333622

COF Vehicle Inspector ID:

COF Vehicle Inspector Signature:

Date

All fields excluding those marked with * must be completed before this certificate can be accepted.

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: SCHEDULE 5.
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 Land Transport Safety Authority if dissatisfied with a Compliance issue. (refer LTNZ Deed Of Appointment Para 47.4) **Land Transport NZ Helpdesk 0800 699 000**

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R S PRATT
(TRSP HVEK)

Transpecs

QUALITY ON THE MOVE
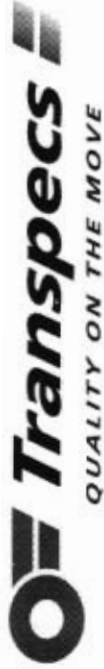
P.O.Box 98-971   South Auckland Mail Centre

Ronald Stuart Pratt (TRSP)

DATE	24/11/2009	TYPE APPROVED	NO
CERTIFICATE No	RP091107		SAF4FTABSFR
VIN No	7A9D4501990023853		
BRAKE CHAMBERS FRONT	24@75mm		
BRAKE CHAMBERS REAR	24/30 @ 75mm	LOAD SENSED	YES EBS Control
SLACK LENGTH FRONT	140mm	TYRE SIZE FRONT	215/75R17.5
SLACK LENGTH REAR	140mm	TYRE SIZE REAR	215/75R17.5
THIS VEHICLE COMPLIES WI .N.Z.H.V.B.R		LINING MATERIALFRONT	Bremskerl 6386
32015 SCHEDULE 5		LINING MATERIAL REAR	Bremskerl 6386

WABCO — START-UP PROTOCOL

System	VCS II
WABCO part number	400 500 081 0
Production date	2008-W39
ECU serial number	3180139176

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Component

Component	Test result
Parameter setting	carried out
Assigned Wheel	OK
Trailer ABS warning lamp	OK
Generic IO	Not fitted
Diagnostic memory	OK
CAN-Interface	Not tested

System parameter

System parameter	Value
System configuration	4S/3M
Pole wheel tooth count sensors c-d (R axle)	80
Tyre circumference sensors c-d (R axle)	2325 mm
Pole wheel tooth count sensors e-f (A axle)	80
Tyre circumference sensors d-f (A axle)	2325 mm
Installation direction of ECU	Sensor plug in driving direction
Function of the ABS warning light	On - Off
Activate CAN messages	Send/receive active
Lift axle detection	Deactivated

Generic IO parameter settings

No data available

Manufacturer	Domett	Vehicle ident. no.	7A9D4501990023853
Vehicle type	4A Full trailer Lowl	Odometer reading	0.0
Tested by	R Pratt		
Date / time	2009-11-24 / 10:49:51	(Signature)	

WABCO	**START-UP PROTOCOL**
System	VCS II
WABCO part number	400 500 081 0
Production date	2008-W39
ECU serial number	3180139176

Identification data

Manufacturer	Domett
Vehicle type	4A Full trailer Lowl
Vehicle ident no.	7A9D4501990023853
Brake calculation no.	-
Vehicle date of manufacture	2009-W48
Start-up at (km)	0.0
Label	-

Manufacturer	Domett	**Vehicle ident. no.**	7A9D4501990023853
Vehicle type	4A Full trailer Lowl	**Odometer reading**	0.0
Tested by	R Pratt		
Date / time	2009-11-24 / 10:49:51	(Signature)	

trailer (full, semi-, centre-axle) with air brake system acc. to
Paragraph 41 StVZO v > 25 km/h > 60 km/h

distribution: Domett
              00064RP 3341-853

please note!   This brake calculation is made under consideration of
               -the legal precriptions mentioned above in the version valid
                alt the time of making the program (V6.09.06.08).
               --the functional characteristics of our products,
                but not of those of other 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).
               WABCOBrake V6.09.06.08 db 08.06.2009

vehicle manufacturer: Domett

trailer model   :   4A lowloader

trailer type   :   4-axle-full-trailer

remarks   :   air / hydraulic / VA suspension
                          WABCO T-EBS: D or D PLUS (PREV)
                          TRISTOP 3+4: 24/30
                          215/75 R 17,5
                          The recommended size of the air reservoir meets the requirements c
                          98/12 EC, annex 4, 1.3, in this case =

axle 1 + 2 + 3 + 4 : SAF,   SNK 300 x 200,   TDB 0487,

			unladen	laden
total mass	P in kg		6200	30000
axle 1	P1 in kg		1500	7500
axle 2	P2 in kg		1500	7500
axle 3	P3 in kg		1600	7500
axle 4	P4 in kg		1600	7500
wheel base	E in mm		5910 - 5910	
centre of gravity height	h in mm		900	2180

			axle 1	axle 2	axle 3	axle 4
no. of combined axles			1	1	1	1
no. of brake chambers per axle line	KDZ		2	2	2	2
The power output corresponds to			FE 747	FE 747BC	0023.1BC	0023.1
brake chamber manufacturer			WABCO	WABCO	WABCO	WABCO
chamber size			24	24	24/30	24/30
lever length	lBh in mm		140	140	140	140
brake factor	[-]		7.95	7.95	7.95	7.95
dyn. rolling radius	rdyn min in mm		373	373	373	373
dyn. rolling radius	rdyn max in mm		373	373	373	373
threshold torque	Co Nm		30.0	30.0	30.0	30.0

calculation:

chamber press.(servo)pcha at pm6,5bar	bar		6.5	6.5	4.4	4.4
piston force ThA at pm6,5bar	N		8984	8984	5965	5965
brake force(rdyn min)T lad. at pm6,5bar	N		53072	53072	35052	35052
brake force(rdyn max)T lad. at pm6,5bar	N		53072	53072	35052	35052
brake force within 1 % rolling friction						
proportion	%		25.0	25.0	25.0	25.0

braking rate   z laden   0.599   for rdyn min
z = sum (TR)/PRmax   0.599   for rdyn max

vehicle manufacturer: Domett
trailer model   :   4A lowloader
trailer type   :   4-axle-full-trailer

brake chamber and lever length :
axle 1 :   2 x type/diameter   24   (WABCO)   lever length 140 mm
axle 2 :   2 x type/diameter   24   (WABCO)   lever length 140 mm
axle 3 :   2 x type/diameter   24/30   (WABCO)   lever length 140 mm
axle 4 :   2 x type/diameter   24/30   (WABCO)   lever length 140 mm

brake diagram :

valve :
475 714 5.. 0   WABCO load sensing valve   or 475 713 5.. 0 (mech.)
472 195 00. 0   WABCO ABS-solenoid modula. Valvor 472 195 01. 0e
400 500 0.. 0   WABCO ABS relay valve   or 472 195 03./04. 0

The values in the tables are only for the unladen and laden condition.
N o calculations are made for any intermediate load conditions !

axle 1:

axleload in kg	brake ch. pressure at pm = 6,5 bar	ratio i	pinLSV =6.5 bar poutLSV in bar
1500	1.4	6.25	1.4
1750	1.6	5.20	1.6
2000	1.8	4.50	1.8
2250	2.0	3.90	2.0
2500	2.1	3.50	2.1
2750	2.3	3.15	2.3
3000	2.5	2.85	2.5
3250	2.7	2.60	2.7
7500	6.5	0.93	6.5

axle 2:

axleload in kg	brake ch. pressure at pm = 6,5 bar	ratio i	pinLSV =6.5 bar poutLSV in bar
1500	1.4	6.25	1.4
1750	1.6	5.20	1.6
2000	1.8	4.50	1.8
2250	2.0	3.90	2.0
2500	2.1	3.50	2.1
2750	2.3	3.15	2.3
3000	2.5	2.85	2.5
3250	2.7	2.60	2.7
7500	6.5	0.93	6.5

axle 3:

axleload in kg	brake ch. pressure at pm = 6,5 bar	ratio i	pinLSV =6.5 bar poutLSV in bar
1600	1.6	4.70	1.7
1850	1.8	4.05	1.9
2100	2.0	3.55	2.1
2350	2.2	3.20	2.3
2600	2.4	2.85	2.5
2850	2.6	2.60	2.7
3100	2.8	2.40	2.9
3350	3.0	2.20	3.1
7500	4.4	1.46	4.4

axle 4:

axleload in kg	brake ch. pressure at pm = 6,5 bar	ratio i	pinLSV =6.5 bar poutLSV in bar
1600	1.6	4.70	1.7
1850	1.8	4.05	1.9
2100	2.0	3.55	2.1
2350	2.2	3.20	2.3
2600	2.4	2.85	2.5
2850	2.6	2.60	2.7
3100	2.8	2.40	2.9
3350	3.0	2.20	3.1
7500	4.4	1.46	4.4

spring parking brake

		axle 3	axle 4
no of TRISTOP-actuators per axle line KDZ		2	2
TRISTOP-actuator type		24/30	24/30
lever length	lBh in mm	140	140
stat. tyre radius	rstat max in mm	356	356
at a stroke of	s in mm	30	30
min. force of spring brake	TFZ in N	6520	6520
sp.brake chamber no 925		376 000-0	376 000-0
sp.brake chamber no 925		376 1.. 0	376 1.. 0
release pressure	pLs in bar	4.8	4.8

calculation:

	axle 3	axle 4
ratio until road	3.1264	3.1264
iFb = lBh*Eta*C*rBt/(2*rBn*rstat)		
for rstat in mm	356	356
brake force of spring br. Tf in N	39428	39428
Tf = (TFZ*KDZ-2*Co/lBh)*iFb		
braking rate zf laden	0.278	
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 =   4319 mm   for E =   5910 mm
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min Ef =   4319 mm   for E =   5910 mm
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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	= 2180 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)