

Heavy Vehicle Specialist Certificate

Heavy Vehicle Specialist Inspector and Inspecting Organisation

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

LANCE CAWTE

LPC

Vehicle Registration*

VIN / Chassis Number

7A85N0J0298478104

4927J

Component being certified:

Chassis Modification

Load Anchorage

Log Bolsters

Towing Connection

Component Load Rating(s)

N/A

Brakes

SRT

Certification Category

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 LC111002 HVB11/210 PREV EXEMPTION REF

*Special Conditions

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

Certification Expiry Date (if applicable)

or

Hubodometer Reading (whichever comes first)

N/A

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 compiles 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 1D (if certified by a manufacturer)

*Delegate's Name (PRINT IN CAPS)

Date

Number

6-Oct-11

383009

COF Vehicle inspector ID:

COF Vehicle Inspector Signature:

Date

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

Version No. 01/09 LT400 Form ID New Zealand Government



P.O.B_{0x} 98-971

South Auckland Mail Centre

Lance Cawte (LPC)

DATE	5-Oct-11	_ LOAD SENSED	WABCO EBS "E"
CERT. NO.	LC111002	PREV EXEMPTION	HVB11 /210
VIN / CHASSIS	7A85N0J0298478104 / 2536	8104 / 2536	1
BRAKE CHAMBERS FRONT	TSE 14	14HSCLD64	STROKE 64mm
BRAKE CHAMBERS REAR	TSE 14/16	_ 1416HTLD64	STROKE 64mm
SLACK LENGTH FRONT	DISC	_TYRE SIZE FRONT	265/70R 19.5
SLACK LENGTH REAR	DISC	TYRE SIZE REAR	265/70R 19.5
THIS VEHICLE COMPLIES WITH THE NZ	VITH THE NZ	LINING MATERIAL FRONT JURID 539	JURID 539
HEAVY VEHICLE BRAKE RULE 32015, SCHEDULE 5 LINING MATERIAL REAR	015, SCHEDULE 5	LINING MATERIAL REAR	JURID 539

Confirmation of	of compliance		
all relevant requ	e vehicle identific irements of the cu	ırrent New Zeal	and Heavy
Date: 0	6/10/11	Signed:	Wat -
Certifier's iden			
Name & ID:	LANCE CAWT	E (LPC	<u>C)</u>
Phone (bus): <u>09</u>	9807300	_ Fax (bus): <u>_0</u>	9 9807306
Postal address:	TRANSPORT PO BOX 98-97 MANUKAU C MANUKAU 2	<u>1,</u> ITY,	<u>LTD</u>
Position:			
Confirmation of	of continued com	pliance of mod	ification
modified by my	ake system of the self, continues to Vehicle Brake Ru	comply with all	the relevar
Date:		Signed:	
	ification:		
Name:			
Phone (bus):		Fax (bus):	
Postal address:			
Position:			
Comments:			



Document: A1208004 Exemption: HVB11/210 Levei 9, PSIS House 20 Ballance Street PO Box 5084 Lambton Quay Wellington 6145 New Zealand T 64 4 894 5200 F 64 4 894 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 Jackie Hartley, Administrator, Vehicles Unit, hereby exempt the motor vehicle specified in Schedule I 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: Croskery, 4 Axle Full Trailer VIN/CHASSIS: 7A85N0J0298478104

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.
- 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 8th day of August 2011.

Jackie Hartley Administrator Vehicles Unit



manually

WABCO

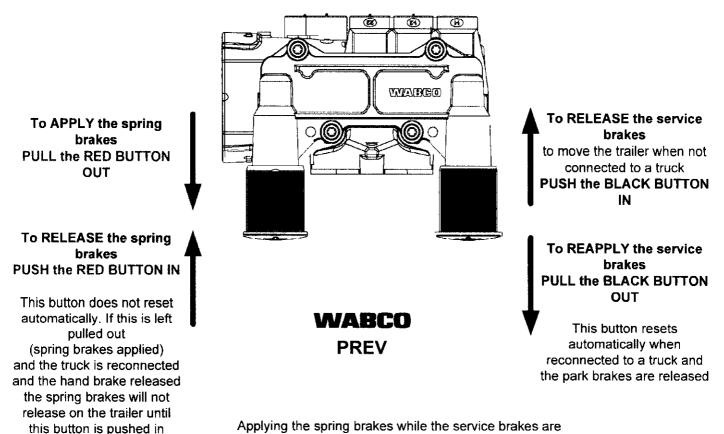
PREV

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.



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: EVENS

CHASSIS # 2536 CALC #LC111002 LT400 # 383009 This brake calculation is made under consideration of the legal precriptions mentioned above in the version valid at 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: EVENS
trailer model : 4AB

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>
P in kg	5000	28000
Pl in kg	1400	7000
P2 in kg	1400	7000
P3 in kg	1100	7000
P4 in kg	1100	7000
E in mm	4800 - 4800	
h in mm	1200	1800
	P1 in kg P2 in kg P3 in kg P4 in kg E in mm	P in kg 5000 P1 in kg 1400 P2 in kg 1400 P3 in kg 1100 P4 in kg 1100 E in mm 4800 - 4800

	<u>axle 1</u>	axle 2	<u>axle 3</u>	axle 4
no. of combined axles no. of brake chambers per axle line KDZ	1 2	1 2	1 2	1 2
The power output corresponds to	BZ 122.1	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	
dyn. rolling radius rdyn min in mm	421	421	421	421
dyn. rolling radius rdyn max in mm	421			
threshold torque Co Nm	6.0	6.0	6.0	6.0
calculation:				
chamber pressure(rdyn min)pH at z=22,5%bar	2.4	2.4	2.1	2.1
chamber pressure (rdyn max) pH at z=22,5%bar	2.4		2.1	
chamber press.(servo)pcha at pm6,5bar bar	5.8		4.6	4.6
piston force ThA at pm6,5bar N	5588		4385	4385 33173
brake force (rdyn min) T lad. at pm6,5bar N	42260			
brake force (rdyn max) T lad. at pm6,5bar N brake force within 1 % rolling friction	42260	42260	33173	33173
proportion %	25.0	25.0	25.0	25.0

braking rate z laden z = sum (TR)/PRmax 0.549 for rdyn min 0.549 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 197A date 01.10.2011 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 : axlel 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

0.4

0.5

0.6

0.7

Ó.8

0

0.1

0.3

0.5

0.6

0.8

Tansport Special. -brake calculation no: TP 197A date 01.10.2011 LPC page 5 / 8

trailer type : 4-axle-full-trailer

brake chamber and lever length :

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: EVENS
trailer model : 4AB

trailer type : 4-axle-full-trailer

brake calculation no. : TP 197A

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 = 0.116 6.5 bar z = 0.550

	contro	l pressure pm	6,5	contro	l pressure pm	0.8	2.0	6.5
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden		ake p 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

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 l	oad pcyl	axle l	oad pcyl	axle lo	oad pcyl	axle l	oad 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

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 :
                                  SBW 1937-... brake lining: Jurid 539
axle 2 : reference axle: SAF
                                    TDB 0749 ECE date : 13.10.2008
         test report :
axle 3 : reference axle: SAF
                                  SBW 1937-... brake lining: Jurid 539
                                    TDB 0749 ECE date : 13.10.2008
         test report :
axle 4 : reference axle: SAF
                                  SBW 1937-... brake lining: Jurid 539
         test report :
                                    TDB 0749 ECE date : 13.10.2008
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
                                              T = 22.5 \% Fe
axle 2
                 (rdyn 421 mm)
                                              T = 18.7 % Fe
                 (rdyn 421 mm)
axle 3
                                             T = 18.7 \% Fe
axle 4
                 (rdyn 421 mm)
calculated actuator stroke in mm
(item 4.3.1.1 of appendix I to annex VII)
                 (sp = 57 mm)
                                            s = 39 \text{ mm}
axle 1
                 (sp = 57 mm)
                                            s = 39 \text{ mm}
axle 2
                                           s = 39 \text{ mm}
axle 3
                 (sp = 56 mm)
axle 4
                 (sp = 56 mm)
                                            s = 39 \text{ mm}
average thrust output in N at pm = 6.5 bar (however max. pcha = 7.0 bar)
                                          ThA = 5588 N
axle1
                                          ThA = 5588 N
axle2
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)
                (rdyn 421 mm)
                                            T = 33284 N
axle 1
                                            T = 33284 N
axle 2
                 (rdyn 421 mm)
                                            T = 26161 N
axle 3
                 (rdyn 421 mm)
                                            T = 26161 N
axle 4
                 (rdyn 421 mm)
                                        basic test type III
                                        of subject
                                                     (calculated)
                                        trailer (z)
                                                     residual
braking rate of the vehicle
                                                     (hot)braking
                                                       0.43
(item 4.3.2 to appendix I to annex VII)
                                            0.55
                                                    >= 0.4 and
required braking rate
                                                    >= 0.6*z (0.33)
(items 1.3.3 and 1.6.2 to annex II)
calc. residual (hot) braking force in N
(item 4.3.1.4 of appendix I to annex VII)
axle 1
                                            T = 33284 N
                (rdyn 421 mm)
axle 2
                                            T = 33284 N
                 (rdyn 421 mm)
                                            T = 26161 N
axle 3
                 (rdyn 421 mm)
                                            T = 26161 N
                 (rdyn 421 mm)
axle 4
                                        basic test
                                                     type III
                                                     (calculated)
                                        of subject
                                        trailer (z)
                                                    residual
braking rate of the vehicle
                                                     (hot)braking
                                            0.55
                                                       0.43
(item 4.3.2 to appendix I to annex VII)
required braking rate
                                                    >= 0,4 and
                                                    >= 0,6*z (0.33)
(items 1.3.3 and 1.6.2 to annex II)
```

spring parking brake

zf = sum (Tf)/P + 0.01

no of TRISTOP-actuators per axle line KDZ TRISTOP-actuator type lever length lBh in mm stat. tyre radius rstat max in mm	2	
at a stroke of s in mm min. force of spring brake TFZ in N sp.brake chamber no Meritor release pressure pLs in bar	30 7605 4 4.8	7605 4
calculation:		
<pre>ratio until road iFb = lBh*Eta*C*rBt/(rBn*rstat)</pre>	3.9674	3.9674
for rstat in mm brake force of spring br. Tf in N Tf = (TFZ*KDZ-2*Co/lBh)*iFb	401 59654	401 59654
braking rate zf laden	0.444	

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))
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```
min Ef = 3515 mm for E = 4800 mm min Ef = 3515 mm for E = 4800 mm
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minimum distance between front axle(s) (trailer) or support (semitrails
min Ef =
and the rear axle(s) (resultant of the bogie)
                   wheel base
             0.80 maximum permissible frictional connection required
fzul
zferf =
             0.18 maximum required braking ratio of the parking brake
         1800 mm height of center of gravity - laden
h
PR
      = 14000 kg maximum bogie mass - laden
      = 28000 kg maximum total mass - laden
Ρ
                 no. of axle(s) with TRISTOP spring brake actuators
nf
             2
      =
             2
                  no. of bogie axle(s)
nq
```

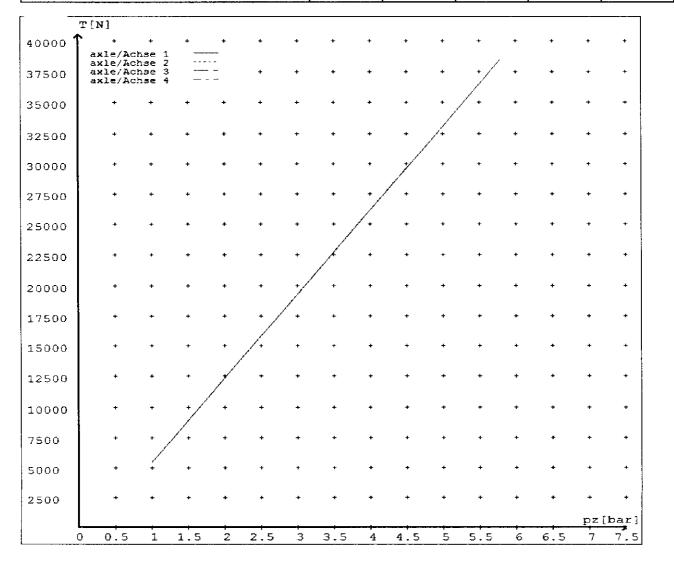
reference values

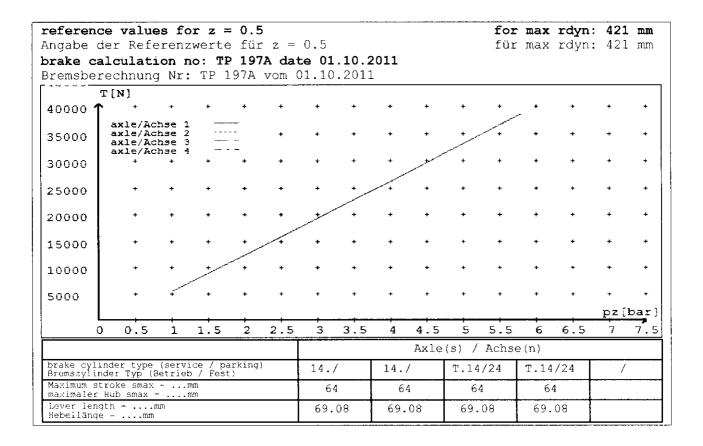
reference values for z = 50% for max rdyn: 421 mm

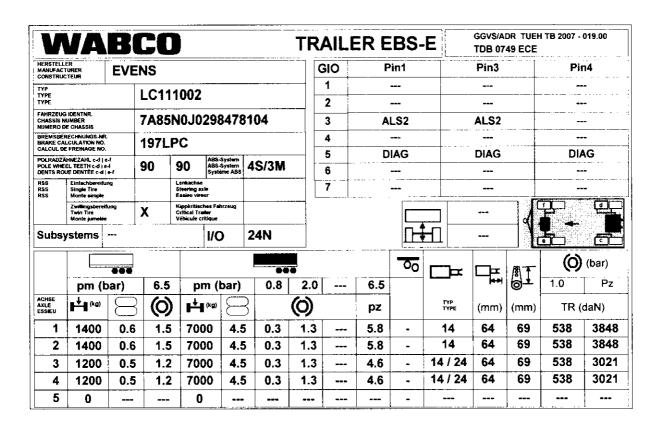
	pz [bar]	T [N]	T [N]
axle 1	1.0 5.8	5383 38488	
axle 2	1.0 5.8	5383 38488	
axle 3	1.0 4.6		5383 30212
axle 4	1.0 4.6		5383 30212

VIN - no.:

		Axl∈	e(s) / Achs	e (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	







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)

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)