

Heavy Vehicle Specialist Certificate

Must be presented to a Transport Service Delivery Agent
 Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's or Manufacturing Inspecting Organisation's Name (PRINT IN CAPS)	ID
JOHN HIRST	JEH

Vehicle Registration*	VIN/Chassis Number
	7A9E10011E1023298

Component being certified:

<input type="checkbox"/> Chassis Modification	<input type="checkbox"/> Load Anchorage	<input type="checkbox"/> Log Bolsters
<input type="checkbox"/> Towing Connection	<input checked="" type="checkbox"/> Brakes	<input type="checkbox"/> SRT
<input type="checkbox"/> PSV Stability	<input type="checkbox"/> PSV Rollover	<input type="checkbox"/> Swept Path
<input type="checkbox"/> PBS		

Certification Category: **HVEK**

Description of Work

CERTIFY TO SCHEDULE 5

Code/Standard/Rule Certified to	Component Load Rating(s)
HVBR 32015/3	N/A
General Drawing Number(s)	
N/A	

Supporting Documents

BRAKE CODE CERTIFICATE - JH140826

OptiTurn EXEMPTION N/A

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		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>

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)

Inspector's Signature 

Inspector's Name (PRINT IN CAPS) ID Number

Date: **22-Oct-14** Number: **488668**

CoF Vehicle Inspector ID	CoF Vehicle Inspector Signature	Date

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

WABCO

START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2014-03-12	Serial number	437000161100E
Serial number (modulator)	000000027598		
Fingerprint Customer EOL / Customer Development / Flash Program	W041610 / 2014-10-22 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO		TRAILER EBS-E		GGVS/ADR TUEH TB 2007 - 019.00 TDB0855											
HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT			GIO	Pin1	Pin3	Pin4								
TYP TYPE TYPE	5AFT TANKER			1	---	---	---								
FAHRZEUG IDENT.NR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E10011E1023298			2	---	---	---								
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51104A			3	ALS2	ALS2	---								
POLRADZAHNEZAHL c-d e-f POLE WHEEL TEETH c-d e-f DENTS ROUE DENTEE c-d e-f	80	80	ABS-System ABS system Système ABS	4	---	---	---								
			4S/3M	5	DIAG	DIAG	DIAG								
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	Lenkachse Steering axle Essieu avant		6	---	---	---								
	Zwillingsbereifung Twin Tire Monte jumelle	Kipprichtliches Fahrzeug Critical Trailer Véhicule critique		7	---	---	---								
Subsystems	SB	I/O	24N												
ACHSE AXLE ESSIEU	pm (bar)	6.5	pm (bar)	0.7	2.0	---	6.5								
	H (kg)	⊗	H (kg)	⊗	⊗	---	pz								
1	1640	0.7	2.2	7500	4.7	0.4	1.6	---	5.8	-	24	67	127	488	3573
2	1640	0.7	2.2	7500	4.7	0.4	1.6	---	5.8	-	24	67	127	488	3573
3	1270	0.4	1.8	7000	4.3	0.4	1.5	---	5.4	-	24 / 30	64	127	537	3499
4	1270	0.4	1.8	7000	4.3	0.4	1.5	---	5.4	-	24 / 30	64	127	537	3499
5	1270	0.4	1.8	7000	4.3	0.4	1.5	---	5.4	-	24 / 30	64	127	537	3499

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	OK
EBS pressure test	Not tested	Lifting axle test	Not tested
Redundancy test	OK	ECAS height sensor calibration	Not tested
ABS sensor assignment	OK	Height sensor axle load	Not tested
RTR check	Not tested	Leak test	Not tested
Immobilizer test	Not tested	Signal outputs TEBS	Not tested
Signal inputs	Not tested	Tag axle test	Not tested

Diagnostic memory ELEX	Not tested	Signal outputs ELEX	Not tested
TailGUARDlight	Not tested	TailGUARD	Not tested

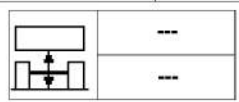
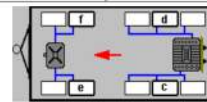
Manufacturer	DOMETT	Vehicle ident. no	7A9E10011E1023298
Vehicle type	5AFT TANKER	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	J HIRST	Signature	
Date	2014-10-22 11:39:23 a.m.		

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Subsystems	SB	I/O	24N	7	---	---	---

ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.7		2.0		---	6.5	TYP TYPE	(mm)	(mm)	(bar)	
	↓ (kg)	⊗	⊗	⊗	↓ (kg)	⊗	⊗	⊗	1.0	Pz							
1	1640	0.7	2.2	7500	4.7	0.4	1.6	---	5.8	-	24	67	127	488	3573		
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Manufacturer	DOMETT	Vehicle ident. no	7A9E10011E1023298
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Configuration of the lifting axle valves

Lifting axle 1	LACV	Lifting axle 2	LACV
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Braking pressures

Predominance CAN	0.0	Predominance pm	0.0
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Distance Axles / Tread width

Tread width	2.04	Second axle - Additional axle	5.9
Coupling head - First axle	3.2	Additional axle - Fourth axle	1.3
First axle - Second axle	1.3	Fourth axle - Fifth axle	1.3

Diverse

- X Warning lamp goes out after 2 seconds (ECE-R13)
- Warning lamp goes out at $v > 7$ km/h

- Indicate service moment via lamp

Service interval (km)

0

Tire circumf. [mm]

Tire circumference Axle c-d	2650
Tire circumference Axle e-f	2650

CAN messages

- X EBS23 Standard
- EBS23 group bit
- EBS22 no output of total axle load
- RGE22 no output for single axle loads
- X Support 12V CAN Bus

TEBS function selection

Standard functions

- Speed switch1 (ISS1)
- Speed switch2 (ISS2)
- Lifting axle control1 (ILS1)
- Lifting axle control2 (ILS2)
- X External axle load sensor e-f (ALS2)
- Traction help (TH)
- Lifting axle forced lowering (FL)
- Wear final value (LWI)
- X Diagnosis / Telematic system GIO5 (DIAG)
- Road finisher brake / Trailer extending control (FB)
- X Stop light power supply (24N)
- Unloading level (D-SW)
- Normal level 4 (FN4-SW)

Special functions

- Traction help with res. press. maint. (TH+)
- OptiTurn / OptiLoad (MH)
- OptiTurn / OptiLoad plus (MH+)
- External axle load sensor c-d (ALS1)
- Second ext. axle load sensor c-d (S-ALS1)
- External demand pressure sensor (DPS)
- ABS active signal (ABS-O)
- RSS active signal (ABS-O)
- Speed signal (V-S)
- Steady positive voltage 1 (24V-O1)
- Steady positive voltage 2 (24V-O2)
- Tilt alert (Tilt warning) (TW)
- Steering axle lock (SAC)

- Demand pressure sensor on R/R (DPS-RR)
- Output emergency brake light (EBA)
- Trailer Safety Brake (TSB)
- Generic Operating Hour Counter (GOHC)
- ELM (ELM)
- External ECAS (eECAS)
- Bounce Control (relaxation function) (TR-SW)
- Brake release function (BR-SW)
- Lifting/Lowering button (LF-SW/LW-SW)
- Normal level button (NL-SW)
- Shut-off switch Level control (LC-SW)
- Freely configurable digital function (FKD-I)
 - with output (FKD-O)
- Freely configurable analogue function (FKA-I)
 - with output (FKA-O)
- Freely configurable function 1 (FCF1)
- Freely configurable function 2 (FCF2)
- Immobilizer (IM)
 - Output for buzzer (IM-SU)
- Forklift operation (FLC)

Subsystems

- IVTM (IVTM)
- Remote control unit (RCU)
- Control box (RCB)
- X SmartBoard (SB)
- Telematic system (TS)
- ELEX (ELEX)



START-UP PROTOCOL

Vehicle ident. no

7A9E10011E1023298

ISS	On (km/h)	Off (km/h)	Level inverted	RTR Pulse	Cable break detection	Light	Valve
ISS 1	15	10	-	X	-	-	X
ISS 2	15	10	-	X	-	-	X

Automatic lifting axle control

	Lift (Bar)	Lower (Bar)	Lift (km/h)	Lifting axle function (OptiTurn/OptiLoad) interrupted with parking brake engaged	Valve
Lifting axle 1	0.0	0.0	0	Lower with ignition off	X
Lifting axle 2	0.0			Tag axle residual pressure control	-
				Residual pressure Tag axle (bar)	0.5

Lifting axle control with OptiLoad or Forklift detection

Raise lifting axle 1 (bar)	0.0	Raise lifting axle 2 (bar)	0.0	X	Mechanical switch
Lower lifting axle 1 (bar)	0.0	Lower lifting axle 2 (bar)	0.0	-	Proximity switch

Forced lowering lifting axle

X	Button	-	Switch	-	Activation via SmartBoard
X				X	All lifting axles
				-	Only 2nd lifting axle

Automatic wheelbase control Switch level detection

- +24v only		- Ground only		X	Ground and +24v
- Continuous actuation					

Traction help

- Traction help automatic with curve detection
- Traction help with ignition on
- Only partial-/full-load

	End at (km/h)	Pressure limitation (bar)	Duration (s)
Traction help	30	0.0	0
- Off-road traction help	30	0.0	0
Activation	X	Button	-
		-	Button and brake
			-
			Only brake

OptiTurn

- Underspeed		- Curve detection with partial/full load	End at (km/h)	30
- Curve detection		- Via SmartBoard	Pressure limitation (bar)	0.0

- OptiLoad

Start (km/h)	0	Activate with	Automatic at speed
Pressure limitation (bar)	0.0		- Only at partial-/full-load
Second lifting axle charact.	-		- Manually via button

Level control

Speed at which adjustment to normal level is triggered automatically (RTR)	15	X	Dead-man switch (continuous button actuation)
	-	Normal level 2	-
		Normal level 3	Normal level 4/unloading level
Front axle	0	0	0
Rear axle	0	0	0
Speed on (km/h)		60	
Speed off (km/h)		40	10
Activation via	-	Smartboard	-
		Remote control unit	-
		Smartboard	
-		Separate lifting/lowering left/right via remote control unit	
-		Level control shut-off via SmartBoard	
Unloading level switch	X	Mechanical	-
		Proximity switch	-
		Proximity switch with separate switch	

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ECAS special parameter

Control delay	
Control delay when stopped (s)	1
Control delay when driving (s)	60
Control delay at stand-by (s)	15
Stop time for normal level control with lift/lower button (s)	2.0

Tolerances

Tolerance front axle (mm)	10
Tolerance rear axle (mm)	10
Permissible right/left deviation rear axle (mm)	20
Maximum deviation right/left or front/rear outside the levels during the lifting/lowering process (s)	50

Lowering

Lower onto buffer	X
Lower to lower calibrated level	-

Lifting axle offset

Lifting axle offset	-
Reference of normal level	
To the lowest normal level	-
To the currently selected normal level	X

Standby operation

Trailer battery installed	-
Activation of standby-mode	
X By pressing Stop button	
- Automatically with ignition off	
Tolerance in Standby (mm)	20
Standby time (h/min)	0/00

Normal level height increase when lifting axle is raised(mm)	0
Normal level height increase with traction help/OptiTurn/OptiLoad (mm)	0

Plausibility

Limit plausibility check during the lowering process at the front axle (mm)	20
Limit plausibility check during the lowering process at the rear axle (mm)	20
Period plausibility check (s)	30

ECAS with eTASC / Rotary slide valve

After ignition, actual level is same as nominal level	-
No level control at a standstill	-
Manual lifting / lowering (eTASC)	-

Other functions

Tire deflection compensation (25mm when fully laden)	X
Front (mm)	25
Rear (mm)	25
Normal level control with reduction in bellows pressure differences (only ECAS 2 point control)	-
Permissible bellows pressure	12.0
Vehicle speed up to which manual height changes are permitted (km/h)	10

Green ECAS warning lamp

Installed - as LED	-
Behaviour upon faults	
Flashes 4 times after ignition on	-
Flashes permanently	X

Immobilizer

Buzzer output	X Permanent	- Periodic
Connected Components	X Valve (buzzer)	- Light
Emergency release function		-
Unlock only with engaged parking brake		X

Proximity switch

Switching threshold (µA)	600
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Steering axle lock

As of speed	30	After reverse driving, disable up to speed (km/h)	10
Level inverted	-	Activation via switch	-
with raised lifting axle	X	Reverse detection via ELEX	X

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Road finisher brake / Trailer Extending Control

- Without load-dependent braking pressure (LSV) Pressure test pm (bar) 1.5
- Pressure adjustment with hand brake lever Function active until (km/h) 10
- Actuation only via SmartBoard (no switch required)

Switch

X Mechanical switch

- Proximity switch

- Proximity switch and separate switch

- Road finisher brake, Deactivation unloading level during road finisher operation

- Trailer Extending Control, only brake rear aggregate

Level recognition

X Ground only

- +24v only (with resistance cable)

Trailer Safety Brake

- Tank truck/Container truck X Tipper - Function can be deactivated with SmartBoard or Trailer Remote Control
- Input signal Proximity switch
- Pressure 3.0 - Display via separate warning lamp

Emergency brake light output

- Actuation permanent X Actuation periodic
- LED installed 3 Frequency (Hz)

Bounce Control

- Activation only via SmartBoard (no push-button required)

Brake release function

- Activation only via SmartBoard
- For wood hauling trailers up to 5km/h

Freely configurable digital function (GIO-FKD)

Function name

Input

If switch

and speed

- opens

X greater than

X closes

- less than
15 km/h

Function

after (s)

180

- Switch output

- Invert output

- Save event

Connected Components

X Valve

- Light

Duration of function

for (s)

180

or until speed

30 km/h

X exceeds

- drops below

Freely configurable analogue function (GIO-FKA)

Function name

Input

When input voltage

and speed

Voltage

3.5

X exceeds

X greater than

- drops below

- less than

15 km/h

Function

after (s)

180

- Switch output

- Invert output

- Save event

Connected Components

X Valve

- Light

Duration of function

for (s)

180

or until speed

30 km/h

X exceeds

- drops below

Connected Components

	Valve	Light	Cable break detection	No standby
ABS active signal	X	-	X	
RSS active signal	X	-	X	
Steady positive voltage 1			-	-
Steady positive voltage 2			X	-
Speed signal			X	



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Operating Hour Counter

Service name		-	Display with ABS lamp
Service interval	0	-	Display via external signal light
Input signal	Internal signal	X	Service interval can be reset
Signal name	---	-	Service interval can be changed
Conditions	Active	Threshold value (V)	3.5

Tilt alert (Tilt warning)

Maximum permissible tilt angle (degree)	2	Connected Components
-	Display only via SmartBoard (no output required!)	X Valve
		- Light

WABCO**TRAILER EBS-E**GGVS/ADR TUEH TB 2007 - 019.0X
TDB0855

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Subsystems	SB	I/O	24N

GIO	Pin1	Pin3	Pin4
1	---	---	---
2	---	---	---
3	ALS2	ALS2	---
4	---	---	---
5	DIAG	DIAG	DIAG
6	---	---	---
7	---	---	---



ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.7		2.0		---		6.5		TYP TYPE	(mm)	(mm)	(bar)	
	H (kg)	⊗	⊗	⊗	H (kg)	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗				1.0	Pz
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trailer (full, semi-, centre-axle) with air brake system acc. to UN/ECE-R.13.11

distribution: DOMETT
 7A9E10012E1023293
 7A9E10014E1023294, 7A9E10016E1023295
 7A9E10018E1023296, 7A9E1001XE1023297
 7A9E10011E1023298, 7A9E10013E1023299

please note!

This brake calculation is made under consideration of
 -the legal precriptions mentioned above in the version valid
 at the time of making the program (V6.14.04.20).
 -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 V6.14.04.20 db 08.07.2014

vehicle manufacturer: DOMETT
 trailer model : 5AFT TANKER
 trailer type : 5-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS E
 TRISTOP 3+4+5: 24/30
 265/70 R 19,5

axle 1 + 2 + 3 + 4 + 5 : Assali Stefen, B (350x200), TDB 0855 ECE,

		<u>unladen</u>	<u>laden</u>
total mass	P in kg	7090	36000
axle 1	P1 in kg	1640	7500
axle 2	P2 in kg	1640	7500
axle 3	P3 in kg	1270	7000
axle 4	P4 in kg	1270	7000
axle 5	P5 in kg	1270	7000
wheel base	E in mm	7200 - 7200	
centre of gravity height	h in mm	1066	1630

	<u>axle 1</u>	<u>axle 2</u>	<u>axle 3</u>	<u>axle 4</u>	<u>axle 5</u>
no. of combined axles	1	1	1	1	1
no. of brake chambers per axle line	2	2	2	2	2
The power output corresponds to	BC 0029.0BC	0029.0BC	0051.0BC	0051.0BC	0051.0
brake chamber manufacturer	WABCO	WABCO	WABCO	WABCO	WABCO
chamber size	24	24	24/30	24/30	24/30
lever length	127	127	127	127	127
brake factor	9.10	9.10	9.10	9.10	9.10
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	25.0	25.0	25.0	25.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%bar	2.3	2.3	2.2	2.2	2.2
chamber pressure(rdyn max)pH at z=22,5%bar	2.3	2.3	2.2	2.2	2.2
chamber press.(servo)pcha at pm6,5bar bar	5.5	5.5	5.3	5.3	5.3
piston force ThA at pm6,5bar N	7678	7678	7529	7529	7529
brake force(rdyn min)T lad. at pm6,5bar N	41806	41806	40944	40944	40944
brake force(rdyn max)T lad. at pm6,5bar N	41806	41806	40944	40944	40944
brake force within 1 % rolling friction proportion	%	19.8	19.8	20.1	20.1

braking rate z laden 0.585 for rdyn min
 z = sum (TR)/PRmax 0.585 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: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 207 0.. 0 WABCO or 480 207 2.. 0
 EBS relay valve

brake cylinder: WABCO 423 106 90. 0 / 423 106 96x 0

axle 2:

valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 207 0.. 0 WABCO or 480 207 2.. 0
 EBS relay valve

brake cylinder: WABCO 423 106 90. 0 / 423 106 96x 0

axle 3:

valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 102 ... 0 WABCO
 EBS trailer modulator

brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

axle 4:

valve 1: 971 002 ... 0 WABCO
EBS emergency valve

valve 2: 480 102 ... 0 WABCO
EBS trailer modulator

brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

axle 5:

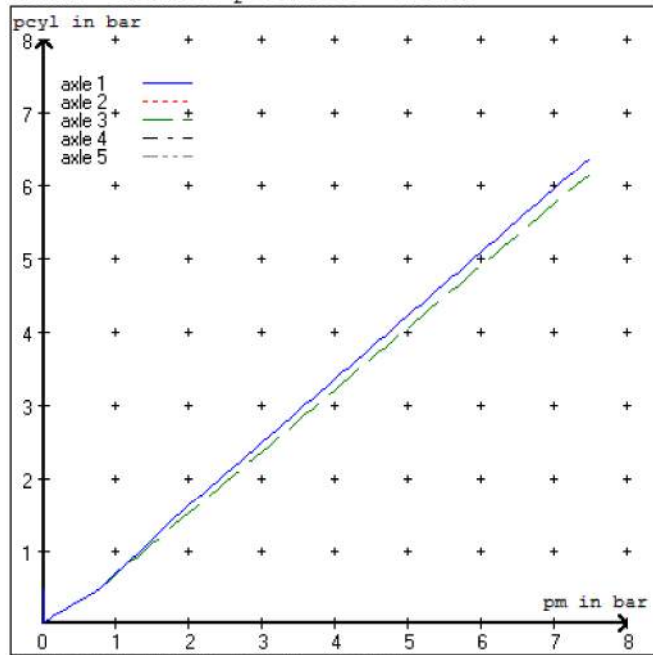
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

valve 2: 480 102 ... 0 WABCO
EBS trailer modulator

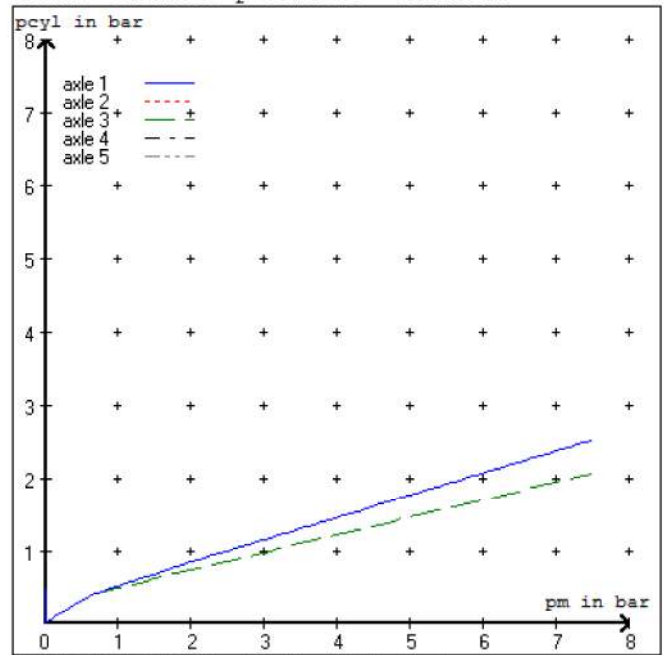
brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

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	2.8	2.8	2.8	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 1.1 bar =>	pcha in bar :	0.8	0.8	0.8	0.8	0.8	

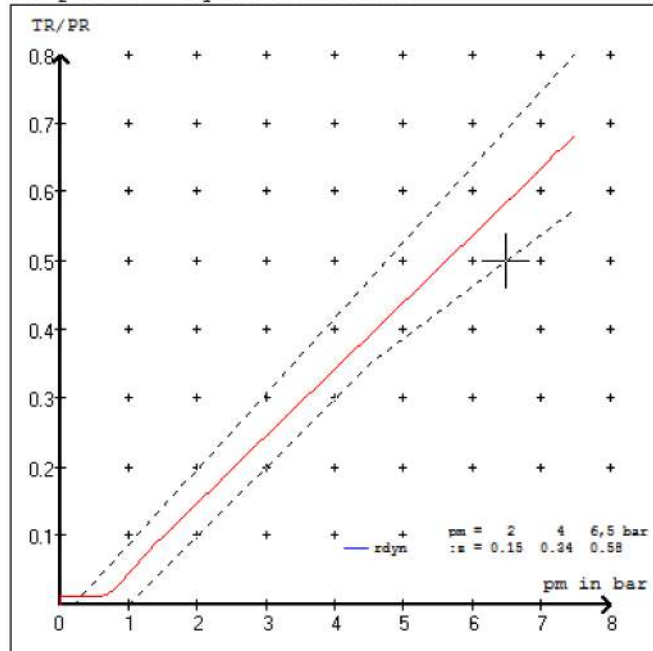
brake chamber pressure laden



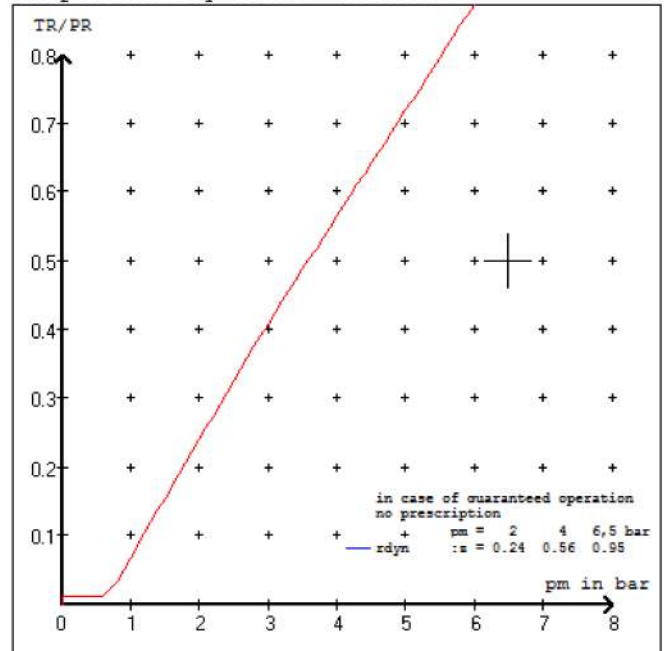
brake chamber pressure unladen



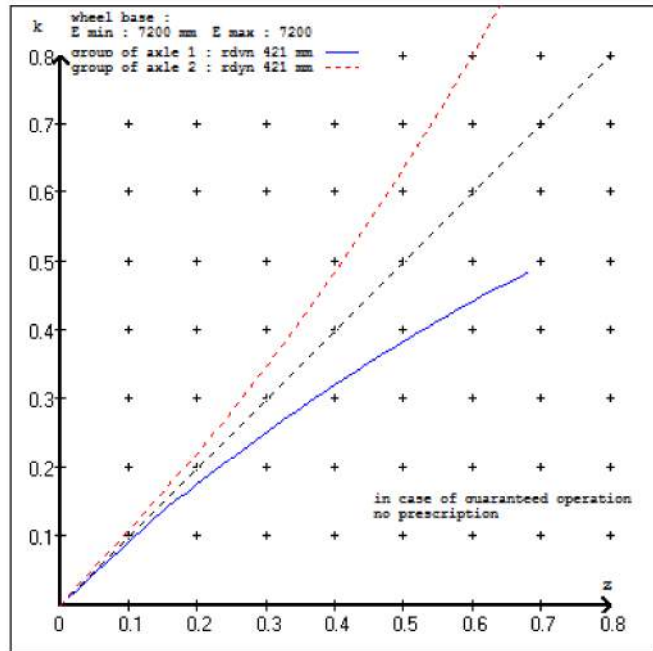
compatibility band laden



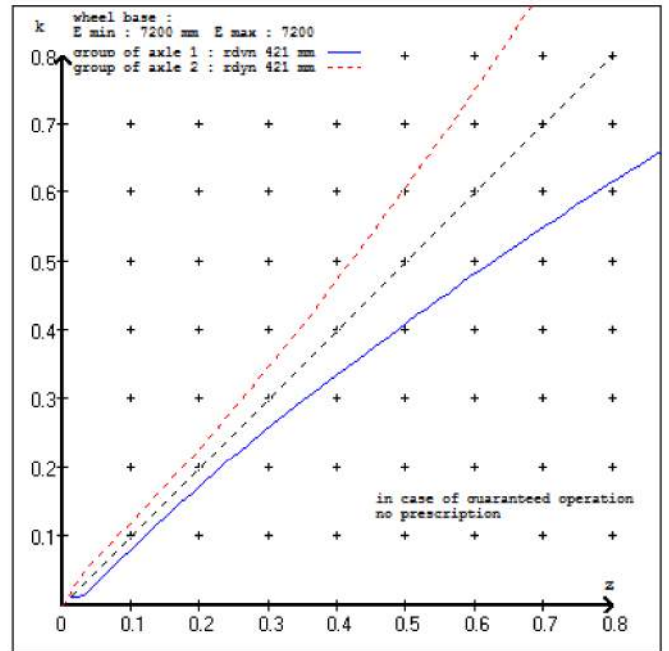
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT
 trailer model : 5AFT TANKER
 trailer type : 5-axle-full-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter 24 (WABCO) lever length 127 mm
 axle 2 : 2 x type/diameter 24 (WABCO) lever length 127 mm
 axle 3 : 2 x type/diameter 24/30 (WABCO) lever length 127 mm
 axle 4 : 2 x type/diameter 24/30 (WABCO) lever length 127 mm
 axle 5 : 2 x type/diameter 24/30 (WABCO) lever length 127 mm

brake diagram :

valve :

971 002 ... 0 WABCO EBS emergency valve
 480 207 0.. 0 WABCO EBS relay valve or 480 207 2.. 0
 480 102 ... 0 WABCO EBS trailer modulator

EBS input data

=====
 vehicle manufacturer: DOMETT
 trailer model : 5AFT TANKER
 trailer type : 5-axle-full-trailer
 brake calculation no. : TP 51104A

tire circumference main axle : 2650 for rdyn max
 tire circumference auxiliary axle : 2650 for rdyn max

assignment pm / deceleration z: pm 0.7 bar z = 0.010
 (laden condition) 2.0 bar z = 0.138
 6.5 bar z = 0.580

control pressure pm		6,5		control pressure pm		0.7	2.0	6.5
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden		
1	1640	to be	2.2	7500	to be	0.4	1.6	5.5
2	1640	entered by the vehicle manufact.	2.2	7500	entered by the vehicle manufact.	0.4	1.6	5.5
3	1270		1.8	7000		0.4	1.5	5.3
4	1270		1.8	7000		0.4	1.5	5.3
5	1270		1.8	7000		0.4	1.5	5.3

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 pcy1	axle load pcy1	axle load pcy1	axle load pcy1	axle load pcy1
1640 2.2	1640 2.2	1270 1.8	1270 1.8	1270 1.8
2140 2.5	2140 2.5	1770 2.1	1770 2.1	1770 2.1
2640 2.8	2640 2.8	2270 2.4	2270 2.4	2270 2.4
3140 3.0	3140 3.0	2770 2.7	2770 2.7	2770 2.7
3640 3.3	3640 3.3	3270 3.0	3270 3.0	3270 3.0
4140 3.6	4140 3.6	3770 3.3	3770 3.3	3770 3.3
4640 3.9	4640 3.9	4270 3.6	4270 3.6	4270 3.6
5140 4.2	5140 4.2	4770 3.9	4770 3.9	4770 3.9
7500 5.5	7500 5.5	7000 5.3	7000 5.3	7000 5.3

data sheet to ECE vehicle type-approval certificate concerning braking equipment: according to ECE R13 annex 11

axle 1 : reference axle: Assali StefTM / LM / LCen	brake lining: ROR 685 AF
test report : TDB 0855 ECE	date : 20110721
axle 2 : reference axle: Assali StefTM / LM / LCen	brake lining: ROR 685 AF
test report : TDB 0855 ECE	date : 20110721
axle 3 : reference axle: Assali StefTM / LM / LCen	brake lining: ROR 685 AF
test report : TDB 0855 ECE	date : 20110721
axle 4 : reference axle: Assali StefTM / LM / LCen	brake lining: ROR 685 AF
test report : TDB 0855 ECE	date : 20110721
axle 5 : reference axle: Assali StefTM / LM / LCen	brake lining: ROR 685 AF
test report : TDB 0855 ECE	date : 20110721

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 = 20.8 % Fe
axle 2	(rdyn 421 mm)	T = 20.8 % Fe
axle 3	(rdyn 421 mm)	T = 20.4 % Fe
axle 4	(rdyn 421 mm)	T = 20.4 % Fe
axle 5	(rdyn 421 mm)	T = 20.4 % Fe

calculated actuator stroke in mm
(item 4.3.1.1 of appendix 2 to annex 11)

axle 1	(sp = 70 mm)	s = 54 mm
axle 2	(sp = 70 mm)	s = 54 mm
axle 3	(sp = 63 mm)	s = 54 mm
axle 4	(sp = 63 mm)	s = 54 mm
axle 5	(sp = 63 mm)	s = 54 mm

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

axle1	ThA = 7678 N
axle2	ThA = 7678 N
axle3	ThA = 7529 N
axle4	ThA = 7529 N
axle5	ThA = 7529 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 = 34369 N
axle 2	(rdyn 421 mm)	T = 34369 N
axle 3	(rdyn 421 mm)	T = 33648 N
axle 4	(rdyn 421 mm)	T = 33648 N
axle 5	(rdyn 421 mm)	T = 33648 N

	basic test	type III
	of subject	(calculated)
braking rate of the vehicle	trailer (E)	residual
(item 4.3.2 to appendix 2 to annex 11)	0.58	(hot)braking
		0.48

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.35)

axle 1	(rdyn 421 mm)	T = 34369 N
axle 2	(rdyn 421 mm)	T = 34369 N
axle 3	(rdyn 421 mm)	T = 33648 N
axle 4	(rdyn 421 mm)	T = 33648 N
axle 5	(rdyn 421 mm)	T = 33648 N

	basic test	type III
	of subject	(calculated)
braking rate of the vehicle	trailer (E)	residual
(item 4.3.2 to appendix 2 to annex 11)	0.58	(hot)braking
		0.48

required braking rate	>= 0,4 and
(items 1.5.3 and 1.7.2 to annex 11)	>= 0,6*E (0.35)

spring parking brake

	axle 3	axle 4	axle 5
no of TRISTOP-actuators per axle line KDZ	2	2	2
TRISTOP-actuator type	24/30	24/30	24/30
lever length	127	127	127
stat. tyre radius	401	401	401
at a stroke of	30	30	30
min. force of spring brake	6360	6360	6360
sp.brake chamber no 925	376 005 0376	005 0376	005 0
sp.brake chamber no 925	376 2.. 0376	2.. 0376	2.. 0
release pressure	4.9	4.9	4.9

calculation:

ratio until road	2.8820	2.8820	2.8820
$iFb = lBh \cdot \eta \cdot C \cdot rBt / (2 \cdot rBn \cdot rstat)$			
for rstat in mm	401	401	401
brake force of spring br. Tf in N	35525	35525	35525
$Tf = (TFZ \cdot KDZ - 2 \cdot Co / lBh) \cdot iFb$			
braking rate	0.312		
zf laden			
$zf = \sum (Tf) / P + 0,01$			

Test of the frictional connection required by the parking brake

minimum wheelbase/minimum supporting width min Ef necessary to fulfil the regulations

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

min Ef = 4250 mm for E = 7200 mm

min Ef = 4250 mm for E = 7200 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 = 1630 mm height of center of gravity - laden
- PR = 21000 kg maximum bogie mass - laden
- P = 36000 kg maximum total mass - laden
- nf = 3 no. of axle(s) with TRISTOP spring brake actuators
- ng = 3 no. of bogie axle(s)

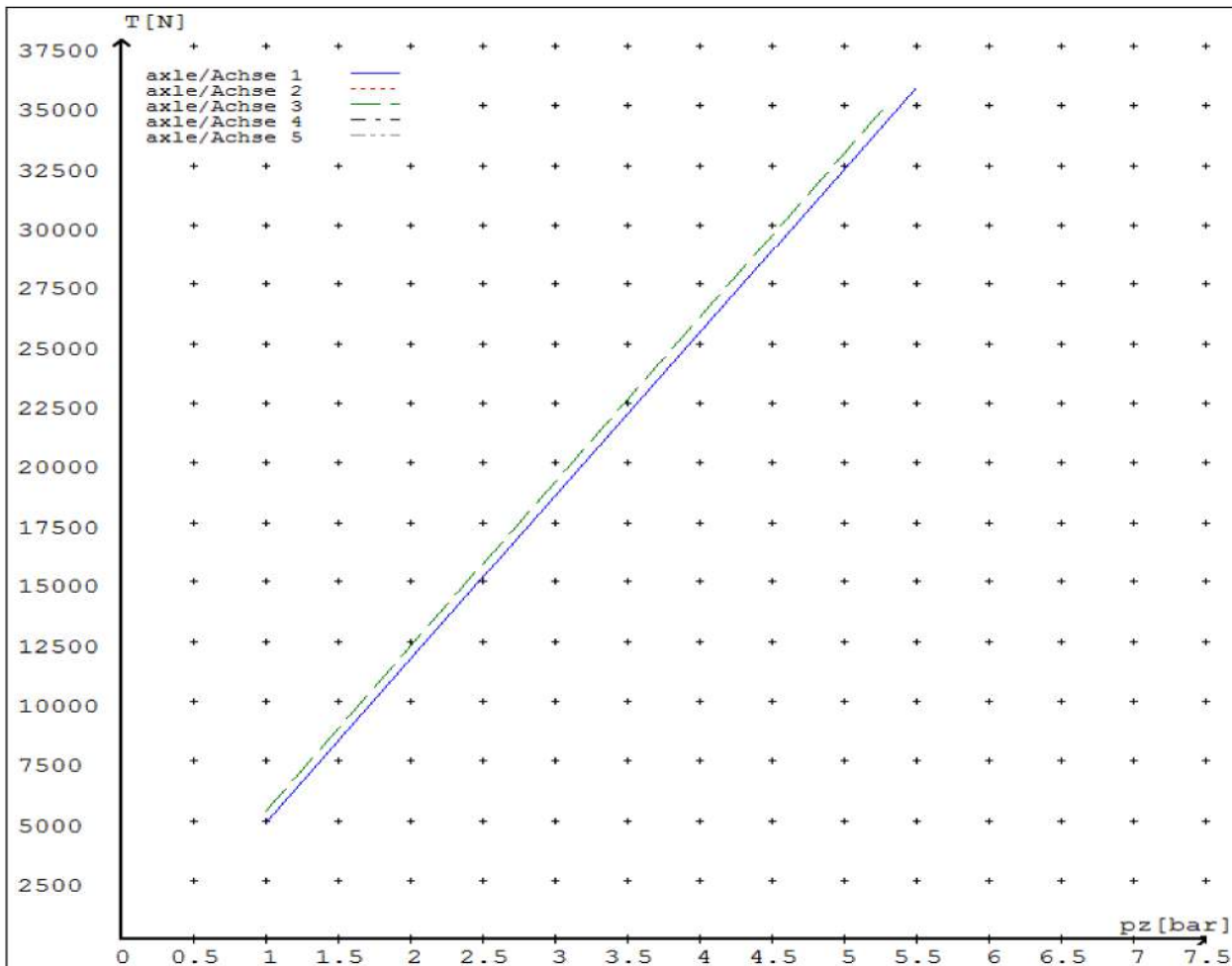
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	4881	
	5.5	35732	
axle 2	1.0	4881	
	5.5	35732	
axle 3	1.0		5374
	5.3		34995
axle 4	1.0		5374
	5.3		34995
axle 5	1.0		5374
	5.3		34995

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24/	24/	24/30	24/30	24/30
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	67	67	64	64	64
Lever length =mm Hebellänge =mm	127	127	127	127	127



C.O.G CALCULATOR DOMETT CHASSIS: DYNES 2014

Max Height	2.545	U/L CoG	1.066	Tare Weight	7.1	GVM	36	Body Type	4
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C.O.G = **1.660**

DIMENSIONS TO BE ENTERED IN METRES
WEIGHTS TO BE ENTERED IN TONNES

- Body Type
 1 = C SIDER
 2 = FLAT DECK
 3 = Uniform Density (Tipper)
 4 = TANKER
 5 = STOCK



ORDER NUMBER ① 4234
 VIN NUMBER ① 1A9E10012E1023293
 ABS
 EBS
 LSV
 VOLTAGE: 12V 24V
 PRIME MOVER MAKE
 ② 4235 TAFE10014E1023294
 ③ 4236 TAFE10016E1023295
 ④ 4237 TAFE10018E1023296
 ⑤ 4238 TAFE1001XE1023297
 ⑥ 4239 TAFE10011E1023298
 ⑦ 4240 TAFE10013E1023299

MAKE	DOMETT
MODEL	F1001
CHASSIS NO.	①1093
TYPE	5 AXLE FULL TRAILER
BODY TYPE	TANKER TRAILER
GVW	30000 kg
TARE WEIGHT FRONT	A3280
TARE WEIGHT REAR	N 3820
AXLE TYPE/MAKE	SAF#TRADING SKF 70mm LM/T9008 BMXA
AXLE TEST REPORT NUMBER	
SUSPENSION	SAE MTRADISE 105/2000R2-88A
BRAKE CHAMBER CODE	ROR C59
TYRE SIZE	265/70 R19.5

ORDER # 10840 VIN # CHASSIS #
 7 IDENTICAL TANKERS

HVBR WORKSHEET

(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No.

JH140826

CUSTOMER NAME

DOMETT TRAILERS

CUSTOMER ORDER No.

4239

DATE RECEIVED

05.08.14

VEHICLE TYPE

5 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9E10011E1023298

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:

<u>Ax #</u>	<u>Make/model</u>	<u>Max stroke</u>	<u>Lever length</u>
1 & 2:	TSE/24S	67 mm	127 mm
3, 4 & 5:	TSE/2430GC	64 mm	127 mm

BRAKE SYSTEM: WABCO T-EBS WITH RSS ACTIVATED

TEST POINTS FITTED: 3 4 5 7

FRICITION LINING:

(All) Lining Brand

OEM
ROR 685 AF

Aftermarket

EBS CONTROL: IF SPECIAL CONDITIONS APPLY – SEE INSTRUCTION ON LT400:488668

VALVES: AS PER BRAKE CALCULATION TP51104 & SO1560047

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

SO1560047

PROCESS TIME:

1

**BRAKE CALC #TP51104 – THE WABCO CHAMBERS ARE THE TSE VARIANT.
PERFORMANCE DIFFERENTIAL IS \leq 3%**

COMPLETION DATE : 22nd October 2014

SIGNATURE (pp.): _____

Statement of Compliance with the New Zealand Heavy Brake Rule

Documentation required supporting Statements of Compliance with the New Zealand Heavy Brake Rule, to be made available to the Statutory Authority on request, must include all calculations and test reports.

Confirmation of compliance

I confirm that the vehicle identified on page 1 of this Statement of Compliance complies with all relevant requirements of the current New Zealand Heavy Vehicle Brake Rule 32015/3, Schedule 5.

Date: 22nd October 2014

Signed (pp.): _____

Certifier's identification

Name: J E Hirst

Phone (bus): (09) 980 7300 Fax (bus): (09) 980 7306

Postal address: Transport Specialties, Cnr Kerrs & Ash Roads

Wiri, Auckland, PO Box 98 971 Manukau City 2241

Position: JEH

Confirmation of continued compliance of modification

I confirm the brake system of the vehicle identified on page 1 of this Statement of Compliance as modified by myself, continues to comply with all the relevant requirements of the current New Zealand Heavy Vehicle Brake Rule 32015/3, Schedule 5.

Date: _____

Signed: _____

Certifier's identification: JEH

Name:

Phone (bus): (09) 980 7300 Fax (bus): (09) 980 7306

Postal address: Transport Specialties Ltd

Cnr Kerrs & Ash Roads, Wiri, Auckland

PO Box 98 971, Manukau City 2241