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HS# 638731

135-TRC-03-007

**SAFETY COMPLIANCE TESTING FOR FMVSS 135
Passenger Car Brake Systems**

The Braun Corporation
2003 Entervan II, 4-Door MPV
NHTSA No. C31300

TRANSPORTATION RESEARCH CENTER INC.
10820 State Route 347
East Liberty, Ohio 43319



Final Report Completed: August 15, 2003

FINAL REPORT

Prepared Under Contract No.: DTNH22-01-C-21025

U.S. DEPARTMENT OF TRANSPORTATION
National Highway Traffic Safety Administration
Safety Assurance
Office of Vehicle Safety Compliance
400 Seventh Street, SW
Room 6115 (NSA-30)
Washington, DC 20590

Prepared for the Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-01-C-21025.

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Prepared By

Barry A. Linder

Approved By

Milt Dunlop

Approval Date:

8/18/03

Final Report Acceptance By OVSC:

[Signature]

Contract Technical Manager, Office of
Vehicle Safety Compliance

8/20/03

Acceptance Date

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7. AUTHOR(S): Project Manager: WALTER DUDEK Project Engineer: RANDALL A. LANDES				8. PERFORMING ORGANIZATION REPORT NO.: TRC-DOT-135-045	
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16. ABSTRACT: Compliance tests were conducted on the subject 2003 Entervan II, 4-Door MPV, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-135-01 for the determination of FMVSS 135 compliance. Test failures identified were as follows: None.					
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1.0 INTRODUCTION

Tests were conducted on a 2003 Entervan II, 4-door MPV, manufactured (the final stage) by The Braun Corporation to determine compliance with FMVSS 135 "Passenger Car Brake Systems." All tests were conducted in accordance with the U.S. D.O.T., NHTSA Laboratory Procedure TP 135-00 and/or the corresponding TRC Inc. test procedure that was submitted to NHTSA for their approval. The test procedure was clearly described in the submitted document and has not been repeated in this report.

Note: The initial stage vehicle manufacturer was the DaimlerChrysler Corporation. The test vehicle had been modified for handicapped driver use.

All stops were performed manually.

All tests were conducted by TRC Inc. personnel using the following TRC facilities:

7.5-Mile Test Track

Vehicle Maximum Speed
Burnish

Skid Pad

Cold Effectiveness Stops
High Speed Effectiveness Stops
Stops with Engine Off
Failed Antilocks
Failed Variable Proportioning Valve (if applicable)
Failed Hydraulic Circuits
Brake Power Assist Unit Failures
Heating Snubs and Hot Performance Stops
Brake Cooling and Recovery Stops

Brake Slope

Parking Brake

Average PFC during the test period was 0.94 utilizing the ASTM E1337 w/E1336 tire method.

The test vehicle was ABS equipped. Therefore, the Wheel Lock Sequence and Adhesion Utilization Tests were not performed.

DATA SHEET 1 - VEHICLE INFORMATION

VEHICLE SPECS

Year: 2003	NHTSA No: C31300
Mfr: THE BRAUN CORPORATION	GVWR (Kg): 2540.2
Make: BRAUN	GAWR Front(Kg): 1292.8
Model: ENTERVAN II	GAWR Rear(Kg): 1292.8
Body Style: 4DR MPV	Wheelbase (mm): 3048.0
Mfr. Date: FEBRUARY 2003	Odometer: Start: 8 MI. End: 509 MI.
VIN: 2D4GP44393R157058	

BUSES ONLY

Chassis Mfg.: N/A
 Serial No.: N/A
 No. of Seats: N/A
 Manufacture Date: N/A

Engine Type: GASOLINE, V6, OHV, FFV, MPFI, PISTON.	Tire Size: 215/70R15 98S
Displacement: 3.3 LITER	Tire Type: INTEGRITY, STEEL BELTED RADIAL
Engine Hspwr: N/A	Tire Mfr.: GOODYEAR
Idle Speed(rpm): 77.0739	GVWR Front Press.(kpa): 248.21
Transmission Type: AUTO. 4-SPD W/OD	GVWR Rear Press.(kpa): 248.21
No. of Axles: 2	

BRAKE APPLY SYSTEM

Brake Series: Front: DISC Rear: DISC	Power Assist Unit: YES
Brake Actuation	Pwr Unit w/Accumulator: NO
(Hydr. Circuit Split): DIAGONAL	Pwr Asst./Pwr Unit w/Backup: NO
Power Unit: VACUUM	Variable Prop. System: YES NO
Anti-Skid unit Mfr: TEVES	Anti-Skid Device: YES
Parking Mechanism: YES	
Type of Parking Unit: AUTOMATIC TRANSMISSION WITH PARK DETENT.	
Mstr Cylinder Dia(mm): 0.00	Pedal Ratio: 3.33 : 1

FRONT SYSTEM BRAKE COMPONENT MATERIALS AND CONSTRUCTION:

BRAKE TYPE: DISC	Material: CAST
Drum Construction: N/A	LF Drum Shoe Cage Dia.(mm): 0.00
Disc Construction: INTEGRAL CAST, VENTED	RF Drum Shoe Cage Dia.(mm): 0.00
Front Brake Dia.(mm): 280.95	LF Drum Dia. RESET(mm): 0.00
Fr Disc Thickness(mm): 27.97	RF Drum Dia. RESET(mm): 0.00
Lining Construction: Bonded	
FRONT BRAKE COMPONENT DIMENSIONS AND CODES:	
Inboard (Leading)	Outboard (Trailing)
Width(mm): 49.86	Width(mm): 49.86
Length(mm): 120.09	Length(mm): 120.12
Thickness(mm): 11.48	Thickness(mm): 11.25
Lining Code/Color: FER4150/3FF	Lining Code/Color: FER4150/3FF
Hyd. Piston Dia (mm): 65.91	

DATA SHEET 1 - (CONTINUED)

REAR SYSTEM BRAKE COMPONENT MATERIALS AND CONSTRUCTION:

BRAKE TYPE: DISC	Material: CAST IRON
Drum Construction: N/A	LR Drum Shoe Cage Dia. (mm): 0.00
Disc Construction: INTEGRAL CAST	RR Drum Shoe Cage Dia. (mm): 0.00
Lining Construction: BONDED	LR Drum Dia. RESET (mm): 0.00
Rear Brake Dia. (mm): 288.52	RR Drum Dia. RESET (mm): 0.00
Rr Disc Thickness (mm): 12.55	

REAR BRAKE COMPONENT DIMENSIONS AND CODES:

Inboard (Leading)	Outboard (Trailing)
Width (mm): 43.31	Width (mm): 43.79
Length (mm): 118.29	Length (mm): 118.34
Thickness (mm): 10.90	Thickness (mm): 10.92
Lining Code/Color: FM 4088/2F FF	Lining Code/Color: FM 4088/2F FF
Hyd Piston Dia (mm): 41.88	

OTHER COMPONENT INFORMATION:

Friction-type Park Brake: FOOT-OPERATED
Non-Service Brake Type
Parking Brake: N/A

NOTE: If at any time after the test series has begun, any brake system part requires replacement or the brake system requires adjustments other than permitted in burnish and reburnish procedures, discontinue testing and notify the MTR immediately.

Technician: Karen Easterday Date: 8/18/03
KAREN EASTERDAY

Quality Assurance: Milt Da Lopez
KEN WEBSTER

VEHICLE: 2003 Entervan IINHTSA NO.: C31300DATE: 08/14/03**3.0 SUMMARY OF TESTING**

		Specification and Limit				TEST RESULTS (In compliance if one stop meets requirement)			
TEST	Loading Condition	Speed (km/h)	Min. Pedal Force (N)	Max Pedal Force (N)	Stopping Distance Requirement (m)	Shortest Stop Min. Pedal Force (N)***	Shortest Stop Max. Pedal Force Newtons (Average - N)	Shortest Stop Stopping Distance (m) (Corrected)	PASS Fail
Equipment Requirements					Specified Equipment	Vehicle contains specified equipment			Pass
Vehicle Maximum Speed	LLVW	NA				159.6 km/h avg.			NA
Burnish	GVWR	80				200, 80 - 0 km/h stops @ 3.0 mpsps			NA
Wheel Lockup Sequence w/o ABS	GVWR				Lockup of front wheels prior to rear	ABS Equipped			NA
Wheel Lockup Sequence w/o ABS	LLVW					ABS Equipped			NA
Adhesion Utilization w/o ABS	LLVW				Rear axle adhesion utilization curve below specified value	ABS Equipped			NA
Adhesion Utilization w/o ABS	GVWR					ABS Equipped			NA
Cold Effectiveness	GVWR	100	65	500	70	5	499.4	52.5	Pass
High Speed Effectiveness	GVWR	127.7	65	500	spd. depend. -121.1	5	461.4	85.1	Pass
Stops with Engine Off	GVWR	100	65	500	70	5	385.9	52.8	Pass
Cold Effectiveness	LLVW	100	65	500	70	5	447.7	51.0	Pass
High Speed Effectiveness	LLVW	139.4	65	500	spd. depend. -121.9	5	478.7	79.7	Pass
Failed Antilock	LLVW	100	65	500	85	5	197.3	60.4	Pass
Failed Proportioning Valve	LLVW	100	85	500	110	5	NA	NA	NA
Failed Hydraulic Circuit #1	LLVW	100	65	500	168	5	471.6	98.2	Pass
Failed Hydraulic Circuit #2	LLVW	100	65	500	168	5	481.0	88.6	Pass
Failed Hydraulic Circuit #1	GVWR	100	65	500	168	5	492.2	97.8	Pass
Failed Hydraulic Circuit #2	GVWR	100	65	500	168	5	481.4	98.0	Pass
Failed Antilock	GVWR	100	85	500	85	5	376.7	56.3	Pass
Failed Proportioning Valve	GVWR	100	85	500	110	5	NA	NA	NA
Power Brake Unit Failure	GVWR	100	85	500	106	5	498.3	140.0	Pass
Parking Brake - Uphill	GVWR	-	-	500	Hold for 5 min.?	NA	496.0	Yes-Holds	Pass
Parking Brake - Downhill	GVWR	-	-	500	Hold for 5 min.?	NA	499.3	Yes-Holds	Pass
Heating Snubs	GVWR	120-80	NA	NA	15 Snubs- 3.0 mpsps	5	54 Vis. Avg.	NA	NA
Hot Performance Stop #1	GVWR	100	65	360 avg.	82.1	5	389.4 (264.5)	80.5	Pass
Hot Performance Stop #2	GVWR	100	65	500	99	5	450.7	58.0	Pass
Brake Cooling	GVWR	50	NA	NA	4 Stops - 3.0 mpsps	5	55 Vis. Avg.	NA	NA
Recovery Performance Stop #1	GVWR	100	65	360 avg.	One of the two stops between 71.8 and 38.9 meters	5	370.1 (267.8)	52.7	Pass
Recovery Performance Stop #2	GVWR	100	65	500		5	358.7 (271.8)	52.7 51.1	
Final Inspection-Brake Integrity	Check components for detachment, fracture or lubricants.					No detachments or fractures-normal appear. & color.			Pass
Final Inspection-Reservoir/Warning Indicators	Master cylinder or brake power reservoir shall meet the volume and label requirements of S5.4.2 and S5.4.3.					Brake system has sufficient capacity and indicators are in compliance.			Pass

*** Note: The Shortest Stop Minimum Pedal Force represents the minimum force value required to engage the data acquisition's recording mode.

DATA SHEET 3 - VEHICLE WEIGHT

VEHICLE: 2003 BRAUN ENTERVAN II

NHTSA No. C31300 Date: 07/07/03

Tire Pressure(cold): Front (kpa) 248 Rear (kpa) 248

Odometer: Start 8 MI. End 509 MI

Scale(s) Used: TRC Scales

NOTE: GVWR, LLVW and axle weights to be measured within +0% and -1%.

GVWR/GAWR INFORMATION
(From Veh. Certification Label)

UNLOADED VEHICLE WEIGHT(UVW)

GVWR(Kg): 2540
GAWR Front(Kg): 1293
GAWR Rear(Kg): 1293

L Front(Kg): 538 L Rear(Kg): 437
R Front(Kg): 538 R Rear(Kg): 445
T Front(Kg): 1076 T Rear(Kg): 883
Total UVW(Kg): 1959

TARGET LIGHT LOADED WEIGHT(LLVW):

ACTUAL LIGHT LOADED WEIGHT(LLVW):

NOTE 1: LLVW = UVW+181.4Kg

NOTE 2: Weight distributed in front passenger seat area.

NOTE 3: Neither axle load at LLVW less than at UVW; ballast as required.

L Front(Kg): 593 L Rear(Kg): 475
R Front(Kg): 593 R Rear(Kg): 480
T Front(Kg): 1186 T Rear(Kg): 955
Total LLVW(Kg): 2141

L Front(Kg): 593 L Rear(Kg): 474
R Front(Kg): 593 R Rear(Kg): 481
T Front(Kg): 1186 T Rear(Kg): 954
Total Actual Test LLVW(Kg): 2141

Load: Driver/Observer 73(Kg) + Instru. 41(Kg) + Ballast 67(Kg) = 181(Kg)

FULLY LOADED TEST WEIGHT (ACTUAL GVWR)

NOTE 1: Vehicle loaded so axle loads proportional to GAWR shown previously.

NOTE 2: But no axle weight to be less than at LLVW.

NOTE 3: If weight on any axle at LLVW exceeds the axle's proportional share of the GVWR, the load required to reach GVWR is placed so that the weight on that axle remains the same as at LLVW.

L Front(Kg): 639 L Rear(Kg): 633
R Front(Kg): 632 R Rear(Kg): 635
T Front(Kg): 1271 T Rear(Kg): 1269
Total Fully Loaded GVWR(Kg): 2539

Load: Driver/Observer 73(Kg) + Instru. 41(Kg) + Ballast 466(Kg) = 580(kg)

Technician:

Karen Easterday
KAREN EASTERDAY

Date:

8/18/03

Quality Assurance:

Ken Webster
KEN WEBSTER

DATA SHEET 4 - EQUIPMENT REQUIREMENTS (S5)

SERVICE BRAKE SYSTEM (S5.1)

Vehicle equipped with a service brake system acting on all wheels? YES

Wear Adjustment (S5.1.1)

Service Brakes are compensated for wear by means of a system of automatic adjustment? YES

Describe: DISC-AUTOMATIC CLEARANCE TAKE-UP.

Wear Status (S5.1.2)

Wear status of service brakes is indicated by:
(A) Acoustic or optical device? YES

Describe: METAL TAB EMITS HIGH FREQUENCY SQUEAL WHEN WORN.

(R) Visual check outside or under vehicle? YES

Describe: FRONT:LOOK THROUGH CALIPER REAR:LOOK THROUGH CALIPER

PARKING BRAKE SYSTEM (S5.2)

Vehicle equipped with a parking brake system of a friction type with solely mechanical means to retain engagement: YES

CONTROLS (S5.3)

(A) Service brakes activated by means of a foot control? YES

(B) Parking brake control is independent of the service brake control? YES

(C) Parking brake control is hand or foot operated? YES

(D) ABS, if equipped, cannot be manually disabled? YES

DATA INDICATES COMPLIANCE: YES

COMMENTS NONE.

Tester/Technician:

Karen Easterday
KAREN EASTERDAY

Date:

8/18/03

Quality Assurance:

Ken Webster
KEN WEBSTER

DATA SHEET 5 - VEHICLE MAX SPEED

VEHICLE: 2003 BRAUN ENTERVAN 11

NHTSA No. C31300 Date: 07/07/03

Ambient Temperature: 81.00°F

Wind Velocity: 10.00(MPH)

Road PFG: 0.94

Wind Direction: 258°

Odometer: Start 30(mi) End 45(mi)

TEST WEIGHT: Total (Kg): 2141

Front (Kg): 1186

Rear (Kg): 954

ESTABLISH VEHICLE MAXIMUM SPEED

VEHICLE LOAD: LLVW

IBT: N/A

GEAR: Drive

DECEL RATE: N/A

PEDAL FORCE: N/A

WHEEL LOCKUP: N/A

TEST SPEED: Maximum attainable from
a standing start in 3.2 km

INTERVAL: N/A

1. Ballast Vehicle to LLVW
2. Accelerate at a maximum rate from a standing start for a distance of 3.2 km on a level surface.
3. Repeat in opposite direction.
4. Record speed attained in each direction and use the average of the two runs.

	DIRECTION	MAX SPEED (km/h)		Time 0 - 100 KPH (seconds)
		Visual	Recorded	
Run No. 1	South	159.9km/h	159.9	14.67
Run No. 2	North	159.2km/h	159.2	15.60

AVERAGE = 159.6 km/h

COMMENTS: INV DATA, Section 0001, 07/08/03, 11:10:46

Tester/Technician:

Karen Easterday
KAREN EASTERDAY

Date:

8/18/03

Quality Assurance:

Mitt Webster
KEN WEBSTER

Vehicle: 2003 TEE BRAWN CORPO NETSA NUMBER: C31300

Make: BRAUN

Model: ENTERVAN 7:

Body Style: 4DR MPV

Front Cold Tire Pressure: 248 [kpa]

Rear Cold Tire Pressure: 248 [kpa]

Transportation Research Center, Inc

10820 State Route 347

East Liberty, Ohio 43329

(917)666-2011 www.trecg.com

Data Tested: 07/00/03

DATA SHEET 6 - BURNISH AT GVWR

Testing Conditions: TNV DATA, Section 0002, 07/00/03, 16:26:21

Weather Conditions: 71°F Wind: 7 mph 103°

Start Odo.: 49

End Odo.: 113

Schedule:

Initial Brake Temperature Less Than 100°C

Initial Speed 80 km/h to zero

200 stops with transmission in gear

Performance Requirements:

Interval between runs: Time necessary to reduce 180° to 100 C° or 2 km distance, whichever occurs first.

Constant decel rate: 3.0 m/s²

Pedal force adjusted to maintain constant decel.

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 3.5m

STOP #	INIT	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	MAX. PEDAL FORCE	AVG. PEDAL FORCE	AVG. DECEL
	SPD (kph)	TEMP (°C)	TEMP (°C)	TEMP (°C)	TEMP (°C)	(N)	(N)	(m/sec ²)
1	80.81	117	118	89	92	73.48	58.03	2.72
10	79.38	167	176	154	157	55.70	45.18	2.79
20	79.23	166	169	169	172	55.92	51.36	2.79
30	79.03	170	177	150	149	67.95	54.94	2.77
40	80.27	163	182	171	170	67.27	51.78	2.84
50	79.73	146	146	140	143	71.40	50.89	2.94
60	79.04	165	166	160	169	51.99	49.99	2.82
70	75.23	149	164	175	183	66.74	50.89	2.77
80	79.97	158	161	170	162	55.16	52.23	2.86
90	80.01	166	165	181	182	56.47	49.27	2.80
100	80.61	164	162	170	186	50.19	48.63	2.74
110	80.51	161	164	164	165	51.99	46.07	2.78
120	80.37	154	168	174	191	55.92	44.30	2.76
130	80.21	160	160	174	178	55.48	44.53	2.73
140	80.39	157	162	171	185	61.76	43.44	2.75
150	80.70	157	162	174	181	56.46	44.15	2.76
160	80.62	160	161	176	179	64.21	49.01	2.55
170	80.70	161	151	174	183	71.23	50.33	2.74
180	79.75	163	156	175	174	60.63	49.54	2.64
190	80.13	166	157	178	188	63.42	51.57	2.64
200	80.95	163	148	176	187	69.56	51.97	2.86

COMMENTS: THIS VEHICLE ABS EQUIPPED. DATA SHEETS 7-10 NOT INCLUDED.

BRAKE ADJUSTMENT**Schedule:**

Adjust service brakes; record procedure and amount adjusted.

Left Front: DISC DISC BRAKE NO ADJUSTMENT REQUIRED
 Right Front: DISC DISC BRAKE NO ADJUSTMENT REQUIRED
 Left Rear: DISC DISC BRAKE NO ADJUSTMENT REQUIRED.
 Right Rear: DISC DISC BRAKE NO ADJUSTMENT REQUIRED.
 DATA INDICATOR COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTERDAY

Observer: NONE

Recorded Data Processed by: CHUCK JENKINS

Date: 07/31/03

Approving Laboratory Official: KEN WEBSTER

Date: 08/04/03

Vehicle: 2003 THE BRAUN CORPO MHTSA NUMBER: C31300

Make: BRAUN

Model: ENTERVAN II

Body Style: 4DR MPV

Front Cold Tire Pressure: 243 (Kpa)

Rear Cold Tire Pressure: 243 (Kpa)

Transportation Research Center, INC.

10820 State Route 347

East Liberty, Ohio 43319

(937) 666-2011 www.tropps.com

Date Tested: 07/14/03

DATA SHEET 11 - COLD EFFECTIVENESS AT GVWR

Testing Conditions: INV DATA, Section 0015, 07/14/03, 10:47:41

Weather Conditions: 73°F Wind: 7 mph 90°

Start Odo.: 322

End Odo.: 530

Schedule:

Initial Brake Temperature 55 - 100 C

Initial Speed 100 km/h to zero

6 stops with transmission in neutral

Performance Requirements:

One Stop with:

Stopping Distance less than 70m

Pedal force between 65N and 500N

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SEAS 299) (meter)	MAX. PEDAL FORCE (N)	REQ. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
		IBT (°C)	IBT (°C)	IBT (°C)	IBT (°C)						
1	100.01	91	93	82	71	56.4	56.4	412.30	330.00	12.36	6.80
2	100.22	93	96	85	72	55.3	55.1	510.90	309.50	14.20	7.00
3	99.63	96	97	76	84	54.0	55.2	507.10	192.12	14.98	6.86
4	99.76	96	95	72	82	54.8	55.0	490.70	382.92	14.00	6.93
5	100.63	94	89	67	79	54.3	53.6	500.80	400.94	13.90	6.83
6	100.70	98	94	69	82	53.3	52.5	499.35	359.48	13.80	6.27

STOP # DRIVER VEHICLE STOP COMMENTS
(Wheel Lock up - Direction at Stop - Stay in Lane)

STOP #	DRIVER	VEHICLE	STOP COMMENTS
1	-	NOX	SOUTH YES
2	-	NOX	SOUTH YES
3	-	NOX	SOUTH YES
4	-	NOX	SOUTH YES
5	-	NOX	SOUTH YES
6	-	NOX	SOUTH YES

Corrected Distances are used to determine shortest stopping distance.

DATA INDICATES COMPLIANCE: YES (X) NO []

Driver: KAREN WASTREDAY

Observer: MCHR

Recorded Data Processed by: CHUCK JENKINS

Date: 07/31/03

Approving Laboratory Official: KEN WEBSTER

Date: 08/08/03

Vehicle: 2003 TRV BRAUN CORPO NHTSA NUMBER: C31300

Make: BRAUN

Model: BINTERVAN II

Body Style: 4DR MPV

FRONT Cold Tire Pressure: 248 (Kpa)

REAR Cold Tire Pressure: 248 (Kpa)

Transportation Research Center, Inc.

10820 State Route 347

West Liberty, Ohio 43319

(937)666-2011 www.tcrpg.com

Date Tested: 07/14/03

DATA SHEET 12 - HIGH SPEED EFFECTIVENESS AT GVWR

Testing Conditions: INV DATA, Section 0020, 07/14/03, 13:19:11

Weather Conditions: 78°F Wind: 7 mph 78° Sact Odo: 333 End Odo: 345

Schedule:

Initial Brake Temperature: 65-100°C

Initial Speed: 60± max km/h, not greater than 160km/h

5 stops with transmission in gear

Performance Requirements:

One Stop with:

Stopping Distance less than: 121.9 meter

Pedal force between 65N and 500N

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 3.5m

STOP #	INIT SPD (Kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (EAS 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		IBT (°C)	IBT (°C)	IBT (°C)	IBT (°C)						
1	127.30	73	72	58	58	87.3	87.3	494.20	330.74	13.68	6.46
2	127.34	98	89	76	81	84.7	85.1	461.39	360.61	14.73	6.85
3	125.86	80	78	62	73	87.2	85.7	465.34	362.61	11.96	6.75
4	126.70	94	89	75	83	86.4	87.7	460.00	375.55	14.82	6.79
5	126.74	89	87	67	84	90.9	90.1	496.32	346.46	12.58	6.64
6	128.51	83	79	67	83	87.4	86.3	480.80	402.35	14.81	6.84

STOP DRIVER VEHICLE STOP COMMENTS
 1 (Wheel Lock up - Direction of Stop - Stay in Lane)

STOP	1	2	3	4	5	6
WHEEL LOCK UP	-	-	-	-	-	-
DIRECTION OF STOP	NOX	NOX	NOX	NOX	NOX	NOX
STAY IN LANE	SOUTH	SOUTH	SOUTH	SOUTH	SOUTH	SOUTH
COMPLIANCE	YES	YES	YES	YES	YES	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY

Observer: NONE

Recorded Data Processed by: CRUCE JENNINS

Date: 07/11/03

Approving Laboratory Official: KEN WEBSTER

Date: 08/08/03

Vehicle: 2003 TRV BRAUN CORPO NHTSA NUMBER: C31300
 Make: BRAUN
 Model: BINTERVAN II
 Body Style: 4DR MPV
 Front Cold Tire Pressure: 248 (Kpa)
 Rear Cold Tire Pressure: 248 (Kpa)

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Date Tested: 07/14/03

DATA SHEET 13 - STOPS WITH ENGINE OFF AT GVWR

Testing Conditions: INV DATA, Section 3025, 07/14/03, 15:12:33

Weather Conditions: 74°F Wind: 1 mph 75° Start Odo.: 350 End Odo.: 365

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed 100 km/h to zero
 6 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 70m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle must stay in lane of 3.5m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	CORRECTED	MAX.	AVG	MAX.	AVG
N	SPD	FRONT	FRONT	REAR	REAR	DISTANCE	DISTANCE	PEDAL	PEDAL	DECEL	DECEL
	(km/h)	(°C)	(°C)	(°C)	(°C)	(meters)	(meters)	(N)	(N)	(m/sec²)	(m/sec²)
1	99.67	91	86	78	89	52.2	52.6	388.93	288.39	15.01	7.16
2	100.51	97	92	86	97	53.7	53.2	499.13	339.66	14.21	6.35
3	99.36	89	84	87	97	53.6	54.3	510.30	401.99	13.80	6.37
4	100.44	92	88	93	97	57.1	56.9	481.06	388.71	12.97	6.59
5	100.80	88	85	97	97	53.8	52.9	545.73	406.47	13.64	6.82
6	101.15	79	76	92	99	55.1	53.9	468.39	349.93	13.81	6.82

STOP DRIVER VEHICLE STOP COMMENTS
 1 Wheel Lock-Up - Direction of Stop - Stay in Lane)

STOP	WHEEL LOCK-UP	DIRECTION OF STOP	STAY IN LANE
1	-	NOX	SOUTH
2	-	NOX	SOUTH
3	-	NOX	SOUTH
4	-	NOX	SOUTH
5	-	NOX	SOUTH
6	-	NOX	SOUTH

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERNDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 07/31/03
 Approving Laboratory Official: KEN WAGGNER Date: 08/08/03

Vehicle: 2003 TRV HMAUN CORPO NETSA NUMBER: C31300

Make: BRAUN

Model: BINTERVAN 11

Body Style: 4DR MPV

Front Cold Tire Pressure: 248 (Kpa)

Rear Cold Tire Pressure: 248 (Kpa)

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Date Tested: 07/15/03

DATA SHEET 14 - COLD EFFECTIVENESS AT LLVW

Testing Conditions: INV DATA, Section 0030, 07/15/03, 10:05:27

Weather Conditions: 75°F Wind: 16 mph 222°

Start Odo.: 374

End Odo.: 380

Schedule:

Initial Brake Temperature: 55-100°C

Initial Speed 100 km/h to zero

6 stops with transmission in neutral

Performance Requirements:

One Stop with:

Stopping Distance less than 70m

Pedal force between 65N and 500N

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (SAE 239) (meters)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
		IBT (°C)	IBT (°C)	IBT (°C)	IBT (°C)						
1	99.82	77	74	63	58	50.8	51.0	447.67	358.83	14.59	7.53
2	98.72	94	96	67	63	50.7	52.0	502.92	395.39	13.30	7.13
3	99.75	92	87	65	57	51.7	51.9	482.06	377.18	15.19	7.42
4	100.51	91	87	63	56	51.9	51.2	479.06	399.76	13.77	7.36
5	100.47	91	84	62	53	52.5	52.0	463.53	365.57	16.06	7.23
6	99.98	92	89	64	56	49.8	49.8	507.33	414.87	14.51	7.45

STOP # DRIVER VEHICLE STOP COMMENTS
(Wheel Lock-Up - Direction of Stop - Stay in Lane)

1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES
5	-	NOX	SOUTH	YES
6	-	NOX	SOUTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN HASTEDAY

Observer: NONE

Recorded Data Processed by: CHUCK JENKINS

Date: 07/31/03

Approving Laboratory Official: KEW WEBSTER

Date: 08/08/03

Vehicle: 2003 TRE BR50N (CONVO) NHTSA NUMBER: C01300

Make: BRAUN

Model: ENTERVAL II

Body Style: 4DR MPV

Front Cold Tire Pressure: 248 (Kpa)

Rear Cold Tire Pressure: 248 (Kpa)

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Date Tested: 07/15/03

DATA SHEET 15 - HIGH SPEED EFFECTIVENESS AT LLVM

Testing Conditions: INV DATA, Section 0035, 07/15/03, 11-16:16

Weather Conditions: 74°F Wind: 32 mph 189°

Start Odo.: 184

End Odo.: 192

Schedule:

Initial Brake Temperature: 65-100°C

Initial Speed: 80% Max km/h

6 stops with transmission in gear

Performance Requirements:

One Stop with:

Stopping distance less than 121.9m

Pedal force between 65N and 500N

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 3.5m

STOP #	INIT SPD	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE	CORRECTED DISTANCE	MAX. PEDAL FORCE	AVG. PEDAL FORCE	MAX. DECEL	AVG. DECEL
	(km/h)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec²)	(m/sec²)
1	127.18	86	88	59	48	80.9	81.5	483.53	284.42	15.25	7.31
2	127.56	93	81	66	53	82.0	82.1	411.11	327.96	14.35	7.25
3	125.97	91	81	63	50	80.5	82.7	495.10	390.73	15.94	7.01
4	127.54	78	76	60	48	81.8	81.9	493.42	391.09	17.44	7.17
5	126.86	83	85	62	51	79.5	80.4	484.76	399.16	17.35	7.19
6	127.04	81	82	59	52	78.9	79.7	476.73	391.24	17.08	7.25

STOP DRIVER VEHICLE STOP COMMENTS
4 (Wheel Lock-Up - Direction of Stop - Stay in Lane)

STOP	NOX	SOUTH	YES
1	-	NOX	SOUTH
2	-	NOX	SOUTH
3	-	NOX	SOUTH
4	-	NOX	SOUTH
5	-	NOX	SOUTH
6	-	NOX	SOUTH

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTSPAY

Observer: MONA

Recorded Data Processed by: CHUCK JENKINS

Date: 07/11/03

Approving Laboratory Official: KEN WINDYER

Date: 08/08/03

Vehicle: 2002 TRV BRAUN COPPO NHTSA NUMBER: C31300

Make: BRAUN

Model: INTERVAN 13

Body Style: 4DR MPV

Front Cold Tire Pressure: 248 (Kpa)

Rear Cold Tire Pressure: 248 (Kpa)

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Date Tested: 07/15/03

DATA SHEET 16 - ANTILOCK FUNCTIONAL FAILURE AT LLVW

Testing Conditions: INV DATA Section 0040: 07/15/03, 13:19:30

Weather Conditions: 78°F Wind: 25 mph 184°

Start Odo.: 395

End Odo.: 401

Schedule:

Initial Brake Temperature: 65-100°C

Initial Speed 100 km/h to zero

5 stops with transmission in neutral

Performance Requirements:

One Stop with:

Stopping Distance less than 85m

Pedal force between 65N and 500N

No lock-up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (SAE 299) (meters)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
		INIT (°C)	INIT (°C)	INIT (°C)	INIT (°C)						
1	99.53	72	72	59	57	61.6	62.2	239.15	116.58	8.74	6.09
2	100.46	86	84	71	62	60.8	60.4	197.28	109.31	8.93	6.37
3	99.76	88	84	72	62	61.4	61.7	343.41	111.08	9.34	6.26
4	100.37	73	74	64	54	54.2	61.7	215.41	114.96	8.74	6.14
5	99.46	68	70	62	51	56.4	67.1	149.30	104.35	8.72	6.05
6	99.69	90	91	77	65	62.9	63.3	234.86	104.22	8.79	6.34

STOP # DRIVER VEHICLE STOP COMMENTS
(Wheel Lock-Up - Direction of Stop - Stay in Lane)

STOP #	WHEEL LOCK-UP	DIRECTION OF STOP	STAY IN LANE
1	-	NOX	SOUTH
2	-	NOX	SOUTH
3	-	NOX	SOUTH
4	-	NOX	SOUTH
5	-	NOX	SOUTH
6	-	NOX	SOUTH

How was the ABS failure induced: REMOVED 25 AMP FUSE FROM BOX UNDER LEFT SIDE OF HOOD.

Is brake system indicator lamp activated: YES (X) NO ()

Variable proportioning valve internal valve can't separately engage. Data Sheet 17 not included.

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTKREAT

Observer: NOME

Recorded Data Processed by: CHUCK JENNINS

Date: 07/31/03

Approving Laboratory Official: KEN WEBSTER

Date: 08/08/03

Vehicle: 2003 THE BRAUN CORPO NETSA NUMBER: C31300
 Make: BRAUN
 Model: EMERSON II
 Body Style: 4DR MPV
 Front Cold Tire Pressure: 248 (Kpa)
 Rear Cold Tire Pressure: 248 (Kpa)

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Date Tested: 07/15/03

DATA SHEET 18 - HYDRAULIC CIRCUIT FAILURE #1 AT LLVW

Testing Conditions: INV DATA. Section 0050, 07/15/03, 15:30:06

Weather Conditions: 78°F Wind: 14 mph 182° Start Odo.: 404 End Odo.: 411

Method of simulating failure: Disconnected Brake Line w/ M/C Front Port

System Portion Failed: LF & RF

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed 100 km/h to zero
 4 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 168m
 Pedal force between 65N and 500N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle must stay in lane of 3.5m

STOP	INIT SPD (kph)	LEFT FRONT INT (°C)	RIGHT FRONT INT (°C)	LEFT REAR INT (°C)	RIGHT REAR INT (°C)	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 1991) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
1	100.10	38	68	57	35	96.0	95.8	500.74	386.38	7.49	4.14
2	99.46	38	51	78	71	96.4	96.5	460.10	386.53	7.15	3.99
3	99.50	42	92	84	35	95.4	96.2	471.60	381.89	8.04	4.06
4	99.43	46	88	87	37	98.3	98.4	470.55	402.78	7.61	3.82

STOP	DRIVER VEHICLE STOP COMMENTS
1	(Wheel Lock-Up - Direction of Stop - Stay in Lane)
1	NOX SOUTH YES
2	NOX SOUTH YES
3	NOX SOUTH YES
4	NOX SOUTH YES

Power Needed to Activate Brake Failure Lamp (N): N/A
 Fluid Removed (ml) to Activate Brake Failure Lamp: 000 - SEE APPENDIX C

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTREDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 07/31/03
 Approving Laboratory Official: KBR WBS/STW Date: 08/08/03

Vehicle: 2001 TRB BRADN CORPU NHTSA VUNARR: C31300

Make: UNAPP

Model: BMTKRVAK IT

Body Style: 4DR MPV

Front Cold Tire Pressure: 248 (Kpa)

Rear Cold Tire Pressure: 248 (Kpa)

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Date Tested: 07/22/03

DATA SHEET 19 - HYDRAULIC CIRCUIT FAILURE #2 AT LLVW

Testing Conditions: INV DATA, Section D055, 07/22/03, 10:13:26

Weather Conditions: 68°F Wind: 7 mph 315°

Start Odo.: 420

End Odo.: 423

Method of simulating failure: Disconnected Brake Line * M/C Rear Port

System Portion Failed: RF & LR

Schedule:

Initial Brake Temperature 65-100°C

Initial Speed 100 km/h, 10 zero

& stops with transmission in neutral

Performance Requirements:

One Stop with:

Stopping Distance less than 168m

Pedal force between 65N and 500N

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 3.5m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	CORRECTED	MAX.	AVG.	MAX.	AVG.
#	SPD	FRONT	FRONT	REAR	REAR	DISTANCE	(SAE 299)	PEDAL	PEDAL	PEDAL	PEDAL
	(kmph)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec²)	(m/sec²)
1	100.09	75	32	31	71	93.2	93.0	469.67	401.10	7.15	4.07
2	101.25	97	30	28	79	90.8	88.6	480.99	408.98	7.45	4.27
3	99.80	89	31	27	76	89.9	90.2	469.67	420.06	7.86	4.39
4	99.15	106	32	26	76	91.0	92.6	466.30	379.82	7.33	4.39

STOP DRIVER VEHICLE STOP COMMENTS
(Wheel Lock-Up - Direction of Stop - Stay in Lane)

1	-	NOX	SOOTH	YES
2	-	NOX	SOOTH	YES
3	-	NOX	SOOTH	YES
4	-	NOX	SOOTH	YES

Force Needed to Activate Brake Failure Lamp (N): N/A

Field Removed (ml) to Activate Brake Failure Lamp: 680-SEE APPENDIX C

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN WASTEDAY

Observer: KONE

Recorded Data Processed by: CHUCK JENNINS

Date: 07/31/03

Approving Laboratory Official: KIM WEBSTER

Date: 08/08/03

Vehicle: 2002 TRB BRAIN CORPO MAKE: TRUCK

Model: INTERVAN II

Body Style: 4DR MPV

Front Cold Tire Pressure: 248 (kpa)

Rear Cold Tire Pressure: 240 (kpa)

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Date Tested: 07/22/03

DATA SHEET 20 - HYDRAULIC CIRCUIT FAILURE #1 AT GVWR

Testing Conditions: INV DATA, Section 0060, 07/22/03, 14:07:28

Weather Conditions: 73°F Wind: 9 mph 299° Start Odo.: 440 End Odo.: 446

Method of simulating failure: disconnected Brake Line & M/C Front Port

System Portion Failed: LF & RR

Schedule:

Initial Brake Temperature 55 100°C

Initial Speed 100 km/h to zero

6 stops with transmission in neutral

Performance Requirements:

One Stop with:

Stopping Distance less than 168m

Pedal Force between 65N and 500N

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle Must stay in lane of 3.5m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	CORRECTED	MAX.	AVG.	MAX.	AVG.
#	SPD	FRONT	FRONT	REAR	REAR	DISTANCE	(KAS 299)	PEDAL	PEDAL	DECEL	DECEL
	(km/h)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec²)	(m/sec²)
1	100.00	35	70	63	36	103.1	103.1	499.45	425.97	5.68	3.70
2	100.60	40	93	91	36	99.0	97.8	492.16	425.56	6.02	3.92
3	100.68	34	94	97	34	101.0	100.8	528.43	453.84	5.67	3.92
4	99.49	37	93	82	32	106.3	107.4	488.72	445.64	5.96	3.73

STOP DRIVER VEHICLE STOP COMMENTS
(Wheel Lock-Up - Direction of Stop - Stay in lane)

1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES

Is brake system indicator lamp activated YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY

Observer: NONE

Recorded Data Processed by: CHUCK JENKINS

Date: 07/31/03

Approving Laboratory Official: ERM WEBSTER

Date: 08/08/03

Vehicle: 2003 THE SKAON CORPO NHTSA NUMBER: C31300

Make: BRAUN

Model: INTERVAN II

Body Style: 4DR MPV

Front Cold Tire Pressure: 248 (kpa)

Rear Cold Tire Pressure: 248 (kpa)

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Date Tested: 07/22/03

DATA SHEET 21 - HYDRAULIC CIRCUIT FAILURE #2 AT GVWR

Testing Conditions: INV DATA, Section 0055, 07/22/03, 11:27:58

Weather Conditions: 68°F Wind: 8 mph 328° Start Odo.: 426 End Odo.: 437

Method of simulating failure: disconnected Brake Line @ M/C Rear Port

System Portion Failed: RF & LR

Schedule:

Initial Brake Temperature 65-100°C

Initial Speed 100 km/h to zero

4 stops with transmission in neutral

Performance Requirements:

One Stop with:

Stopping Distance less than 168m

Pedal force between 65N and 500N

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 3.5m

STOP	INIT	LEFT	RIGHT	LEFT	RIGHT	ACTUAL	CORRECTED	MAX.	AVG.	MAX.	AVG.
#	SPD	FRONT	FRONT	REAR	REAR	DISTANCE	(SAE 299)	PEDAL	PEDAL	DECEL	DECEL
#	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec²)	(m/sec²)
1	100.78	83	34	33	75	94.0	93.0	401.44	419.27	6.27	3.75
2	100.01	93	35	35	97	97.5	97.5	510.03	442.33	5.94	3.94
3	99.99	82	39	37	97	99.3	99.3	494.96	406.29	6.30	3.72
4	101.00	79	43	39	98	100.7	98.7	481.06	423.33	6.01	3.68

STOP DRIVER VEHICLE STOP COMMENTS
(Wheel Lock-Up - Direction of Stop - Stay in Lane)

STOP	1	2	3	4
1	-	NOX	SOUTH	YES
2	-	NOX	SOUTH	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY

Observer: MONE

Recorded Data Processed by: CHUCK JENKINS

Date: 07/31/03

Approving Laboratory Official: BEN WEBSTER

Date: 08/08/03

Vehicle: 2003 TRW BRAKE CORPO NHTSA NUMBER: C31300

Make: BRAKE

Model: ENTERVAN II

Body Style: 4DR MPV

Front Cold Tire Pressure: 248 (Kpa)

Rear Cold Tire Pressure: 248 (Kpa)

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Date Tested: 07/24/03

DATA SHEET 22 - ANTILOCK FUNCTIONAL FAILURE AT GVWR

Testing Conditions: INV DATA, Section 0070, 07/24/03, 11:34:18

Weather Conditions: 72°F Wind: 6 mph 312°

Start Odo.: 455

End Odo.: 463

Schedule:

Initial Brake Temperature 65-100°C

Initial Speed 100 km/h to zero

6 stops with transmission in neutral

Performance Requirements:

One Stop with:

Stopping Distance less than 85m

Pedal force between 65N and 500N

No lock-up allowed longer than 0.1 sec above 15 km/h

Vehicle Must stay in lane of 3.5m

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (SAE 2991) (meters)	MAX PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		1BT (°C)	1BT (°C)	1BT (°C)	1BT (°C)						
1	100.35	93	91	82	85	56.7	56.3	376.68	168.25	9.46	6.83
2	100.38	95	91	77	81	61.8	61.4	295.19	133.20	9.34	6.12
3	100.40	92	89	67	73	52.2	51.7	198.56	138.44	8.45	6.12
4	100.50	99	94	58	73	59.4	59.4	249.49	142.92	8.98	6.49
5	99.15	93	91	64	66	61.3	62.4	317.84	174.65	8.83	6.20
6	100.15	94	90	62	67	56.6	56.6	391.54	162.18	9.42	6.67

STOP # DRIVER VEHICLE STOP COMMENTS
(Wheel Lock-Up - Direction of Stop - Stay in Lane)

STOP #	WHEEL LOCK-UP	DIRECTION OF STOP	STAY IN LANE
1	-	NOX	SOUTH YES
2	-	NOX	SOUTH YES
3	-	NOX	SOUTH YES
4	-	NOX	SOUTH YES
5	-	NOX	SOUTH YES
6	-	NOX	SOUTH YES

How was the ABS failure induced: REMOVED 25 AMP FUSE FROM BOX UNDER LEFT SIDE OF HOOD.

Is brake system indicator lamp activated: YES (X) NO ()

Variable proportioning valve integral w/abs can't separately engage. Data Sheet 23 not included.

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN WASTERDAY

Observer: NONE

Recorded Data Processed by: CHUCK JENKINS

Date: 07/30/03

Approving Laboratory Official: KEV WASTER

Date: 08/08/03

Vehicle: 2003 THE BRAUN CORPO HW7CA NUMBER: C31300

Make: BRAUN

Model: ENTERVAN II

Body Style: 4DR MPV

Front Cold Tire Pressure: 248 (Kpa)

Rear Cold Tire Pressure: 248 (Kpa)

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Date Tested: 07/24/03

DATA SHEET 24 - BRAKE POWER UNIT OR PWR ASSIST UNIT IN/OP AT GVWR

Testing Conditions: INV DATA, Section 0080, 07/24/03, 13:39:16

Weather Conditions: 72°F Wind 6 mph 229° Start Odo.: 466 End Odo.: 473

Failure Simulation: Disconnect primary source of power.

Method of rendering inoperative: Removed Engine Vacuum Boost at Booster

Schedule:

Initial Brake Temperature 65-100°C

Initial Speed 100 km/h to zero

5 stops with transmission in neutral

Performance Requirements:

One Stop with:

Stopping Distance less than 168m

Pedal force between 65N and 500N

No Lock-Up allowed longer than 0.1 sec above 15 km/h

Vehicle must stay in lane of 3.5m

STOP #	INIT SPd (kph)	LEFT FRONT TBT (°C)	RIGHT FRONT TBT (°C)	LEFT REAR TBT (°C)	RIGHT REAR TBT (°C)	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
1	100.14	73	64	58	52	153.2	152.8	500.14	465.13	3.68	2.63
2	100.46	95	97	76	71	153.7	152.3	490.94	459.46	4.08	2.71
3	99.68	94	97	71	70	150.8	151.8	492.15	458.69	6.56	2.76
4	100.88	91	87	72	69	142.5	140.0	498.25	456.54	5.19	2.91
5	99.76	95	91	77	69	148.3	149.0	491.47	454.09	4.31	2.95
6	100.34	92	86	74	69	147.4	146.4	500.36	466.00	4.26	2.86

STOP #	DRIVER VEHICLE STOP COMMENTS (Wheel Lock-Up - Direction of Stop - Stay in Lane)		
1	NOX	SOUTH	YES
2	NOX	SOUTH	YES
3	NOX	SOUTH	YES
4	NOX	SOUTH	YES
5	NOX	SOUTH	YES
6	NOX	SOUTH	YES

Is the brake system indicator lamp activated: YES () NO (X)

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREE HASTERDAY

Observer: NONE

Recorded Data Processed by: CHUCK JENKINS

Date: 07/31/03

Approving Laboratory Official: KEN WEBSTER

Date: 08/08/03

Vehicle: 2003 THE BRAUN CORPO MTRSA NUMBER: C31300

Make: BRAUN

Model: ENTERVAN II

Body Style: 4DR MDV

Front Cold Tire Pressure: 240 (Kpa)

Rear Cold Tire Pressure: 240 (Kpa)

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Date Tested: 07/24/03

DATA SHEET 25 - PARKING BRAKE AT GVWR

Testing Conditions: INV DAY, Section 0085, 07/24/03, 16:06:47

Parking brake: AUTOMATIC TR Non-service type: N/A

Service type: FOOT-OPERATED

Weather Conditions: 75°F Wind: 5 mph 280°

Start Odo.: 475

End Odo.: 475

Test Weight: Total: 2539kg

Front: 1771kg

Rear: 1269kg

Schedule:

Initial brake temperature <100°C or (ambient temp.
if non-service brake type materials)
Loaded to GVWR with transmission in neutral
Drive once 20% slope in forward and reverse directions.

Performance Requirements:

Up to Three Applies in each direction:
Parking brake must hold the vehicle stationary
in both directions for 5 minutes each.
Pedal force: Hand control: <400 N
Foot control: <500 N

NOTE: For vehicles with parking brake systems not utilizing the
service brake friction elements, the friction elements of such systems
are to be burnished prior to parking brake tests according to the
manufacturer's published recommendation as furnished to the purchaser.
If no recommendations are furnished, test the system in an unburnished
condition. If recommendations are furnished, record method used.

APPLY #	MAX SERVICE FORCE (N)	MAX P-BRAKE FORCE (N)	LEFT REAR 1BT (°C)	RIGHT REAR 1BT (°C)	AVG REAR 1BT (°C)	DRIVER VEHICLE ETD COMMENTS (Direction of Stop (Up/Down) - Brake holds/fails)			
1	85.4	496.0	48	44	46.1	0 REAPPLY	UPHILL	HOLDS	20%
2	90.3	499.3	42	45	46.9	0 REAPPLY	DOWNHILL	HOLDS	20%

Is brake system indicator lamp activated: YES (X) NO ()

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY

Observer: NONE

Recorded Date Processed by: CRUCK JENKINS

Date: 07/31/03

Approving Laboratory Official: KEN WEBSTER

Date: 08/08/03

Vehicle: 2003 THE BRAUN CORP. MYRA NUMBER: C31300
 Make: BRAUN
 Model: ENTERVAX II
 Body Style: 4DR MPV
 Front Cold Tire Pressure: 248 (Kpa)
 Rear Cold Tire Pressure: 248 (Kpa)

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 (937)666-2611 www.trcpg.com

Date Tested: 07/28/03

DATA SHEET 26 - HEATING SNUBS AT GVWR

Testing Conditions: IN7 DATA, Section 0090, 07/28/03, 09:10:15

Schedule:

Conduct 15 snubs from 120 km/h or 80% Vmax, whichever is slower, to 1/2 of initial speed.
 Attain required decel in 7 second and maintain that decel.
 Interval between snubs is 45 seconds and NOT to initial speed.

Performance Requirements:

Initial IBT for first snub is 55-65°C
 Maintain 3.8 m/s/s deceleration
 Vehicle must stay in lane at 3.5m

SNUB #	AVG. DECEL (m/sec²)	Time Between Snubs (seconds)	AVG. PEDAL FORCE (N)	LEFT FRONT IBT (°C)	RIGHT FRONT IBT (°C)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)	INIT SPD (kph)
1	3.04	--NR--	58.95	64	63	61	61	120.46
2	2.82	46	48.41	114	124	115	124	119.52
3	2.98	47	51.23	167	173	171	168	120.82
4	2.80	44	45.31	215	225	218	216	119.91
5	2.87	44	52.49	256	267	267	261	119.34
6	2.64	46	51.34	293	295	291	287	120.38
7	2.86	45	54.05	325	322	320	327	118.47
8	2.82	45	54.51	349	344	342	345	119.60
9	2.84	45	56.05	368	364	356	364	120.53
10	2.85	45	56.88	385	387	369	381	125.31
11	2.71	45	51.95	402	396	382	395	120.06
12	2.91	44	55.71	414	403	390	404	119.89
13	3.02	48	59.52	416	409	399	412	119.38
14	2.77	42	55.15	423	418	406	423	120.00
15	2.85	46	56.24	434	424	415	433	120.11

DRIVER VEHICLE SNUB COMMENTS

STOP # (Wheel lock-Up Direction of Stop - Stay in Lane)

1	-	NOX	NORTH	YES
2	-	NOX	EAST	YES
3	-	NOX	SOUTH	YES
4	-	NOX	SOUTH	YES
5	-	NOX	SOUTH	YES
6	-	NOX	SOUTH	YES
7	-	NOX	WEST	YES
8	-	NOX	NORTH	YES
9	-	NOX	NORTH	YES
10	-	NOX	NORTH	YES
11	-	NOX	NORTH	YES
12	-	NOX	EAST	YES
13	-	NOX	SOUTH	YES
14	-	NOX	SOUTH	YES
15	ODOR	NOX	SOUTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JMWINS Date: 07/31/03
 Approving Laboratory Official: KEN MENSTER Date: 08/03/03

Vehicle: 2003 TRV BRAUN CORPO WETSA NUMBER: C31300

Make: BRAUN

Model: ENTERVAN II

Body Style: 40K MPV

Front Cold Tire Pressure: 248 (Kpa)

Rear Cold Tire Pressure: 240 (Kpa)

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10820 State Route 347

East Liberty, Ohio 43319

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Date Tested: 07/28/03

DATA SHEET 27 - HOT PERFORMANCE AT GVWR

Testing Conditions: INV DATA, Section 0095, 07/28/03, 09:11:16

Schedule:

Make 2 stops from 100 kph

Pedal Force: 1st stop is done with an average force less than the average recorded in the shortest GVWR Cold Effectiveness stop. 2nd stop is done with a force less than 500 N.

No Lock-Up allowed longer than 0.1 sec above 15 km/h.

Distance Requirements are based on the following:

shortest stop in Data Sheet 11 is: 5

Initial speed of stop: 100.70 (Kph)

Actual Distance of stop: 93.3 (meter)

Average pedal force: 159.5 (N)

Performance Requirements:

Stop Number 1 must be less than: 82.1 (meter)

In addition the stopping distance for at least one of the of the two hot stops must be less than: 89 (meter)

STOP	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (EAE 259) (meter)	MAX. PEDAL FORCE (N)	AVE. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVE. DECEL (m/sec ²)
		IBT (°C)	IBT (°C)	IBT (°C)	IBT (°C)						
1	99.89	455	447	429	451	50.4	50.5	389.43	284.52	8.77	6.02
2	100.06	472	464	435	458	50.1	50.0	450.72	353.99	10.05	6.53

STOP	DRIVER VEHICLE STOP COMMENTS			
	# Wheel Lock-Up - Direction of Stop - Stay in Lane!			
1	NOX SOUTH YES			
2	NOX SOUTH YES			

DATA INDICATES COMPLIANCE: YES (2) NO (1)

Driver: KAREN EASTERDAY

Observer: BOND

Recorded Data Processed by: CHUCK JENKINS

Date: 07/31/03

Approving Laboratory Official: KEN WEBSTER

Date: 08/08/03

Vehicle: 2003 THE BRAUN CORPO RNTSA NUMBER: C31300

Make: BRAUN

Model: ENTERVAN II

Body Style: 4DR MPV

Front Cold Tire Pressure: 240 (Kpa)

Rear Cold Tire Pressure: 240 (Kpa)

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Date Tested: 07/28/03

DATA SHEET 28 - BRAKE COOLING STOPS AT GVWR

Testing Conditions: INV DATA, Section 010C, 07/28/03, 09:24:05

Schedule:

Initial Brake Temperature:

Achieved on completing Hot Performance

Initial Speed 50 km/h to zero

4 stops with transmission in gear

Performance Requirements:

Constant Decel rate: 3.0 m/s²

Pedal force adjusted as necessary

No Lock-Up allowed longer than 0.2 sec above 15 km/h

Vehicle must stay in lane of 1.5m

STOP #	INITIAL SPD (km/h)	AVG. DECEL (m/sec ²)	AVG. PEDAL FORCE (N)	LEFT FRONT TST (°C)	RIGHT FRONT TST (°C)	LEFT REAR TST (°C)	RIGHT REAR TST (°C)
1	50.65	2.59	62.34	413	406	389	413
2	50.57	2.88	56.50	338	338	342	342
3	49.56	2.79	53.49	292	286	304	322
4	51.54	2.65	47.99	252	247	276	293

STOP #	DRIVER	VEHICLE	STOP COMMENTS
			(Wheel) Lock up - Direction of Stop - Stay in Lane!
1	-	NOX	WEST YES
2	-	NOX	NORTH YES
3	-	NOX	NORTH YES
4	-	NOX	NORTH YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY

Observer: WONG

Recorded Data Processed by: CHUCK FENKINS

Date: 07/31/03

Approving Laboratory Official: KEN WEBSTER

Date: 08/08/03

Vehicle: 2003 TRX BRAUN CORPO METER NUMBER: C11100
 Make: BRAUN
 Model: SMTHRYAM II
 Body Style: 4DR NEV
 Front Cold Tire Pressure: 248 (Kpa)
 Rear Cold Tire Pressure: 248 (Kpa)

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Date Tested: 07/28/03

DATA SHEET 29 - RECOVERY PERFORMANCE AT GVWR

Testing Conditions: INV DATA, Section 0105, 07/28/03, 09:31:39

Weather Conditions: 67°F Wind: 2 mph 24° Start Odo.: 484 End Odo.: 59

Schedule:

Make 2 stops from 100 kph

Pedal Force: Both stops are performed with an average force less than the average recorded in the shortest GVWR Cold Effectiveness stop.

Performance Requirements:

One of the two stops must be within the following limits:

Upper limit of corrected stopping distance: 71.8 (meter)

Lower limit of corrected stopping distance: 38.5 (meter)

No Lock-Up allowed longer than 0.1 sec above 15 km/h.

Distance Requirements are based on the following:

shortest stop in Data Sheet 11 is: Stop6

Initial speed of stop: 100.70 (kph)

Actual distance of stop: 53.3 (meter)

Average pedal force: 359.5 (N)

STOP #	INIT Spd (kph)	LEFT FRONT IBT (°C)	RIGHT FRONT IBT (°C)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 259) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
1	98.46	232	227	262	276	51.5	52.7	370.07	267.61	10.80	6.82
2	99.97	266	262	279	296	51.1	51.1	358.66	271.98	11.77	7.14

STOP #	DRIVER VEHICLE STOP COMMENTS			
#	(Wheel Lock-Up - Direction of Stop - Stay in Lane)			
1	-	NOX	WAST	YES
2	-	NOX	WAST	YES

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY

Observer: NONE

Recorded Data Processed by: CHUCK JANKINS

Date: 07/31/03

Approving Laboratory Official: KEN WEBSTER

Date: 08/08/03

DATA SHEET 30 (Part 1 of 5)
6.0 Test Completion Inspection (7.17)

VEHICLE: 2003 Entervan II NHTSA NO.: C31300 DATE: 07/29/03

System Integrity (S5.6)

Each vehicle shall meet the complete performance requirements of this standard without:

(a) Detachment or fracture of any component of the braking system such as brake springs and brake shoes or disc pad facings, other than minor cracks, that do not impair attachment of the friction facings. All mechanical components of the braking system shall be intact and functional. Friction facing tearout (complete detachment of lining) shall not exceed 10 percent of the lining on any single frictional element.

(b) Any visible brake fluid or lubricant on the friction surface of the brake or leakage at the master cylinder or brake power unit reservoir cover, seal, and filler openings.

Friction Material Condition: Primary/Inner		Friction Material Condition: Secondary/Outer	
LF	Normal Appearance & Color	LF	Normal Appearance & Color
RF	Normal Appearance & Color	RF	Normal Appearance & Color
LR	Normal Appearance & Color	LF	Normal Appearance & Color
RR	Normal Appearance & Color	RR	Normal Appearance & Color
Drum (or Rotor) Condition:		Brake Fluid/Lubricant Inside Brakes:	
LF	Normal Appearance & Color	LF	None
RF	Normal Appearance & Color	RF	None
LR	Normal Appearance & Color	LR	None
RR	Normal Appearance & Color	RR	None
Hydraulic Component Condition:		Mechanical Component Condition:	
LF	Good	Brk/Pedal	Good
RF	Good	Power Brk	Good
LR	Good	Stop/Lamp	Good
RR	Good	Linkage	Good
M/Cyl	Good	Other	NA

COMPLIANCE: Yes X No

Comments: None

Technician: Karen Easterday

DATA SHEET 30 (Part 2 of 5)
TEST COMPLETION INSPECTION (S7.17)

VEHICLE: 2003 Entervan II; NHTSA NO.: C31300; GVWR: 2541 kg
MASTER CYLINDER RESERVOIR:

DATE	07/30/03	Requirements	Pass	Fail
Reservoir Compartments (S5.4.1)				
(1) Does master cylinder have a reservoir compartment for each brake subsystem?	<u>Yes</u>	Master cylinder shall have a reservoir compartment for each subsystem.	X	
	No			
(2) Does loss of fluid in one compartment result in complete loss from another compartment?	Yes	Loss of fluid from one compartment shall not cause complete loss from another compartment.	X	
	<u>No</u>			
Reservoir Capacity (S5.4.2)				
Shall conform to requirements (1) or (2), state units:				
(1) For reservoirs having completely separate compartments for each subsystem (two separate, independent reservoirs):				
Subsystem 1 Subsystem reservoir capacity		Each compartment (reservoir) shall have a minimum capacity equivalent to the fluid displacement resulting when all wheel cylinders or caliper pistons serviced by that independent compartment/reservoir moves from a new lining, fully retracted position to a fully worn, properly adjusted, fully applied position. (Use Data Sheet 31 and Appendix 1A)	NA	NA
Subsystem 1 Fluid displaced from new to worn lining				
Subsystem 2 Subsystem reservoir capacity			NA	NA
Subsystem 2 Fluid displaced from new to worn lining				
2) For reservoirs utilizing a portion of the reservoir for a common supply to two or more subsystems:				
Total minimum capacity for the entire master cylinder reservoir (includes individual compartment reservoirs)	## ml	Shall have total minimum capacity for entire reservoir for displacement resulting from all subsystem wheel cylinders or caliper positions moving from new lining to full worn condition as above.		
Fluid displaced from new to worn linings (ALL linings)	210.6 ml			
*Value calculated from Data Sheet 31				

Comments: ##Not tested – see Appendix C.

DATA SHEET 30 (Part 3 of 5)
TEST COMPLETION INSPECTION (\$7.18)

VEHICLE: 2003 Entervan II; NHTSA NO.: C31300; GVWR: 2541 kg

MASTER CYLINDER RESERVOIR:

DATE	07/30/03	Requirements	Pass	Fail
Master Cylinder Piston Displacement(\$5.4.2) [If Common Reservoir Supply - continued from previous page]				
Fluid displaced by three strokes of master cylinder piston for Primary (Subsystem No. 1)	## ml	Individual partial compartments of reservoir shall each have a minimum of fluid equal to at least the volume displaced by the master cylinder piston servicing the subsystem during a <u>full stroke</u> of the piston. NOTE: Procedure uses three strokes to ensure an accurate measurement.		
Fluid displaced by three strokes of master cylinder piston for Secondary (Subsystem No. 2)	## ml			
Fluid displaced per stroke, Primary	## ml			
Fluid displaced per stroke, Secondary	## ml			
Fluid available in partial compartment Subsystem No. 1	## ml			
Fluid available in partial compartment Subsystem No. 2	## ml			
Brake Power Unit Reservoir (\$5.4.2)				
Volume displaced in charging system piston or accumulator to normal operating pressure plus wheel cylinder or caliper piston displacement.		Shall have a capacity at least equal to fluid displacement required to charge the system pistons or accumulators to normal operating pressure <u>plus</u> displacement when wheel cylinders or caliper pistons move from new lining to full worn condition as above.	NA	
Reservoir Labeling (\$5.4.3)				
Exact copy of reservoir label: On master cylinder reservoir cap: <u>WARNING, CLEAN FILLER CAP BEFORE REMOVING, USE ONLY DOT 3 BRAKE FLUID FROM A SEALED CONTAINER.</u>		Label shall read: "Warning, clean filler cap before removing; use only * fluid from a sealed container". * Fluid type specified in 49 CFR 571.115	X	
Measure letter height	3.2 mm	Letters shall be at least 3.2 mm/ 0.125" high	X	
Describe label attachment method and location. <u>Embossed on the top of the master cylinder reservoir and filler cap.</u>		Lettering shall be permanently affixed, engraved or embossed and located so as to be visible by direct view either on or within 100 mm/3.94 inches of the brake fluid reservoir filler plug or cap.	X	
Does the lettering contrast with the background?	Yes	If label is not engraved or embossed, letters shall be of a color that contrasts with the background	NA	
	No			

Comments: ## Not tested – see Appendix C.

Technician: Karen Easterday

DATA SHEET 30 (Part 4 of 5)
TEST COMPLETION INSPECTION (S7.18)

VEHICLE: 2003 Entervan II; NHTSA NO.: C31300; DATE: 07/30/03
BRAKE SYSTEM WARNING INDICATOR (S5.5)

CONDITION	ANSWER	REQUIREMENTS	PASS	FAIL
Brake Systems Indicator Lamp Function Check (S5.5.2) (Bulb and systems check)				
Describe location of brake indicator lamp: <u>Upper-center of the instrument cluster.</u>	NA	Shall be in front, and in clear view, of driver.	X	
Does lamp light with ignition (start) switch at ON/RUN?	Yes	Automatic activation when ignition switch is "on" when engine not running , or ignition between "on" and "start" if is manufacturer check position- OR -single manual action by driver	X	
Does lamp light with ignition between ON and Start?	Yes			
Brake check description in owner's manual?	Yes	Manufacturer shall explain the brake check function test procedure in the owner's manual.	X	
Brake System Warning Indicator ACTIVATION (S5.5.1) DURATION (S5.5.3) FUNCTION (S5.5.4)				
CONDITION	Light ON?	REQUIREMENT	PASS	FAIL
A. In event of hydraulic leak (1) On or before appearance of pressure differential of 218 psi (split system)	NA	When ignition (Start) switch is ON, lamp must light whenever (A), (B), (C), or (D) occurs. In addition, if service brake system is not a split system, audible warning must be activated when any condition in (A) exists. Visual warning indicator for non-split systems must be flashing.	X	
(2) If any reservoir falls below either "safe" level or 25% of capacity, whichever is greater.	##			
(3) On or before supply pressure to brake power unit falls to 50%	NA			
B. Electrical functional failure in an antilock or variable brake proportioning system.	Yes		X	
C. Application of the parking brake.	Yes			
D. Brake lining wear-out if optical warning	NA			
<u>Must have Audible alarm if not split system and a condition in (a) above exists?</u>	NA			
If condition (A) (2) above does not exist, then fluid reservoir must be transparent for fluid check without the need for reservoir to be opened? (S5.4.4)	NA			
Indicator lamps remain activated as long as condition exists - ignition "on", and engine on or off? (S5.5.3 DURATION)	Yes			
Visual warning—continuous or flashing?____ Audible warning—continuous or flashing?____	Yes-Cont.			

Comments: ## Not tested – see Appendix C.
 Technician: Karen Easterday

DATA SHEET 30 (Part 5 of 5)
TEST COMPLETION INSPECTION (\$7.18)

VEHICLE: 2003 Entervan II; NHTSA NO.: C31300; DATE: 07/30/03

BRAKE SYSTEM WARNING INDICATOR LABELING (\$5.5.5)

CONDITION AND REQUIREMENT	ANSWER NOTE: Standard requires that the answer to questions be YES	PASS	FAIL
Are visual indicators legible to driver in daylight and nighttime conditions when activated?	Yes	X	
Are visual indicator words 3.2 mm (.125") high minimum? Record Height <u>3.2 mm</u>	Yes	X	
Visual indicator words and background contrasting colors, one of which is red. Record colors <u>Letters - Red, Lens - Black</u>	Yes	X	
If split system, is there one brake indicator? If yes, does it say the word "Brake"? Additionally, w/one symbol.	Yes	X	
If not split system, is there a separate indicator for loss of fluid or fluid pressure? Does this indicator say "Stop-Brake Failure"? Are the letters black and not less than 6.4 mm (.25") in height? Record letter height <u>NA</u>	NA		
If separate indicator for: 1. Low brake fluid per S5.5.1(a)(1), does indicator say "Brake Fluid"? NOTE: not required for mineral oil system Record wording _____ 2. Gross pressure loss per S5.5.1(a)(2), does indicator say "Brake Pressure"? Record wording _____ 3. Electrical functional failure in antilock or variable proportioning system per S5.5.1(b), letters and background contrasting colors one of which is yellow? Record colors <u>Lens - Black, Letters - Yellow (or Amber)</u> Does indicator say "Antilock" or "ABS" or "Brake Proportioning"? Record wording <u>"ABS" within a symbol</u> 4. Parking brake per S5.5.1(c), does indicator say "Park" or "Parking Brake"? Record wording _____ 5. Brake lining wear-out per S5.5.1(d), does indicator say "Brake Wear"? Record wording _____ 6. For any other function? If yes, Record _____	NA NA Yes Yes NA NA NA	X	

Comments: None

Technician: Karen Easterday

DATA SHEET 31 (Part 1 of 2)

CALCULATION OF MINIMUM RESERVOIR VOLUME REQUIREMENTS

VEHICLE: 2003 Entervan II; NHTSA NO.: C31300; DATE: 07/30/03

BRAKE		LINING		
LOCATION	TYPE	DESCRIPTION	MINIMUM THICKNESS	THICKNESS TO FULLY WORN (1) mm*
Left Front	Drum	Leading	Pre test 11.48 mm	0.76
		Primary	Post Test 10.16 mm	
		Inboard X	Δ 1.32 mm	
	Disc X	Trailing	Pre-test 11.25 mm	0.76
		Secondary	Post Test 10.72 mm	
		Outboard X	Δ 0.53 mm	
LINING CLEARANCE:		Diametrical (2): N/A	Inboard - Approx. 0 mm	Outboard - Approx. 0 mm
WHEEL CYLINDER DIAMETER (3): N/A		CALIPER PISTON DIAMETER (3): 65.91 mm		
SHOE CAGE DIAMETER (4) N/A ; CENTER POINT OF BRAKE ASSY TO CENTER POINT OF W.C. N/A				
Right Rear	Drum	Leading	Pre-test 10.90 mm	0.76
		Primary	Post Test 10.29 mm	
		Inboard X	Δ 0.61 mm	
	Disc X	Trailing	Pre-test 10.92 mm	0.76
		Secondary	Post Test 10.52 mm	
		Outboard X	Δ 0.40 mm	
LINING CLEARANCE:		Diametrical (2) - N/A	Inboard - Approx. 0 mm	Outboard - Approx. 0 mm
WHEEL CYLINDER DIAMETER (3): N/A		CALIPER PISTON DIAMETER (3): 41.88 mm		
SHOE CAGE DIAMETER (4): N/A		CENTER POINT OF BRAKE ASSY TO CENTER PT. OF W.C.: N/A		
CIRCUIT #1 CONSISTS OF:	LF - X	LR	RF	RR - X
CIRCUIT #2 CONSISTS OF:	LF	LR - X	RF - X	RR
(1) MFRS. RECOMMENDATIONS - Fronts & Rear - 0.76 mm				
(2) REAR - TOP OF RIVET HEADS - N/A. FRONT - 1/32 INCH - N/A.				
(2) DRUM BRAKES, MEASURED AT HORIZONTAL CENTERLINE: N/A				
(3) MFRS. DATA: Front: 66 mm; Rear: 42 mm.				
(4) RESET POSITION: N/A				

Comments: Manufacturer's new lining thickness: Frt.: 12 mm; Rear: 11 mm.

Technician: Karen Easterday

DATA SHEET 31 – SECTION CONTINUED (Part 2 of 2)Vehicle: 2003 Entervan II; NHTSA No.: C31300; Date: 08/11/03**Procedure and Example for Determining Master Cylinder Volume Requirement**

The procedure followed for determining the minimum volume requirements is outlined in the example shown below. The required data is taken from the previous page.

DISC BRAKES

Volume Required, $V_r = (\Delta t_i + t_{ic} + \Delta t_o + t_{oc}) \times [\pi (D^2)/4]$, where –

- : V_r = Volume required per wheel
 Δt = Change in thickness (average)
i = Inboard
o = Outboard
D = Caliper cylinder diameter
c = Average clearance

Using the above equations, the volume requirements for Subsystem No. 1 (LF, RR) and Subsystem No. 2 (RF, LR) were calculated utilizing measured and manufacturer's provided data to create the greatest displacement, as shown below:

Disc Brake: $V_r = (\Delta t_i + t_{ic} + \Delta t_o + t_{oc}) \times \frac{\pi d^2}{4}$
 (Front)

$\Delta t_i = 11.24 \text{ mm}$
 $\Delta t_o = 11.24 \text{ mm}$
 $t_{ic} + t_{oc} = 0 \text{ mm}$
 $d = 66 \text{ mm}$
 $V_r = (11.24 + 0 + 11.24 + 0) \frac{\pi (66)^2}{4}$
 $= 22.48 (3421.2)$
 $= 76908.5 \text{ mm}^3 = 76.9 \text{ ml}$

Disc Brake: $V_r = (\Delta t_i + t_{ic} + \Delta t_o + t_{oc}) \times \frac{\pi d^2}{4}$
 (Rear)

$\Delta t_i = 10.24 \text{ mm}$
 $\Delta t_o = 10.24 \text{ mm}$
 $t_{ic} + t_{oc} = 0 \text{ mm}$
 $d = 42 \text{ mm}$
 $V_r = (10.24 + 0 + 10.24 + 0) \frac{\pi (42)^2}{4}$
 $= 20.48 (1385.4)$
 $= 28373.9 \text{ mm}^3 = 28.4 \text{ ml}$

For System 1 (LF, RR)

$$V_{r1} = 76908.5 \text{ mm}^3 + 28373.9 \text{ mm}^3$$

$$V_{r1} = 105282.4 \text{ mm}^3 = (105.3 \text{ ml})$$

For System 2 (RF, LR)

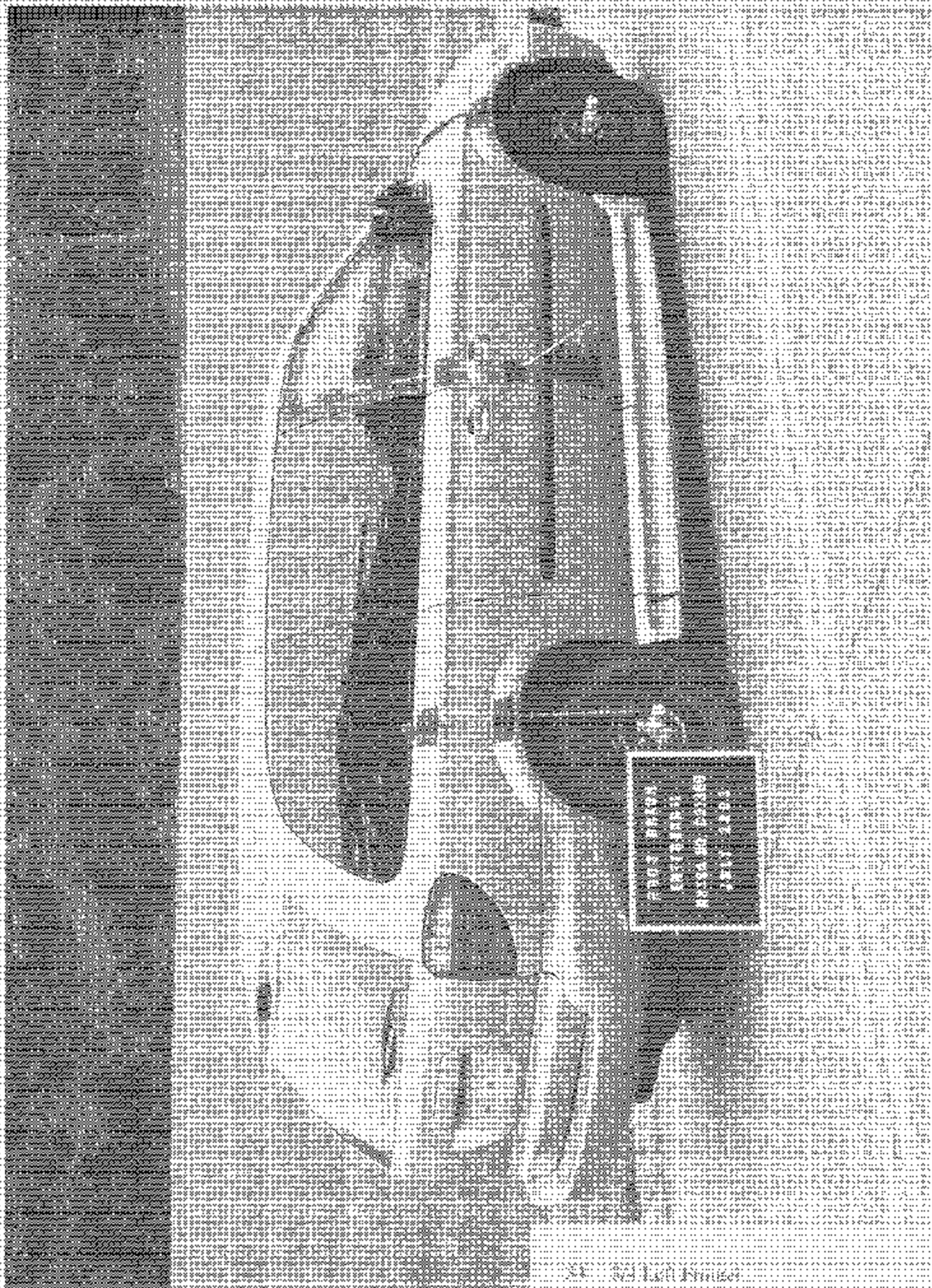
$$V_{r2} = V_{r1}$$

$$V_{r2} = 105282.4 \text{ mm}^3 = (105.3 \text{ ml})$$

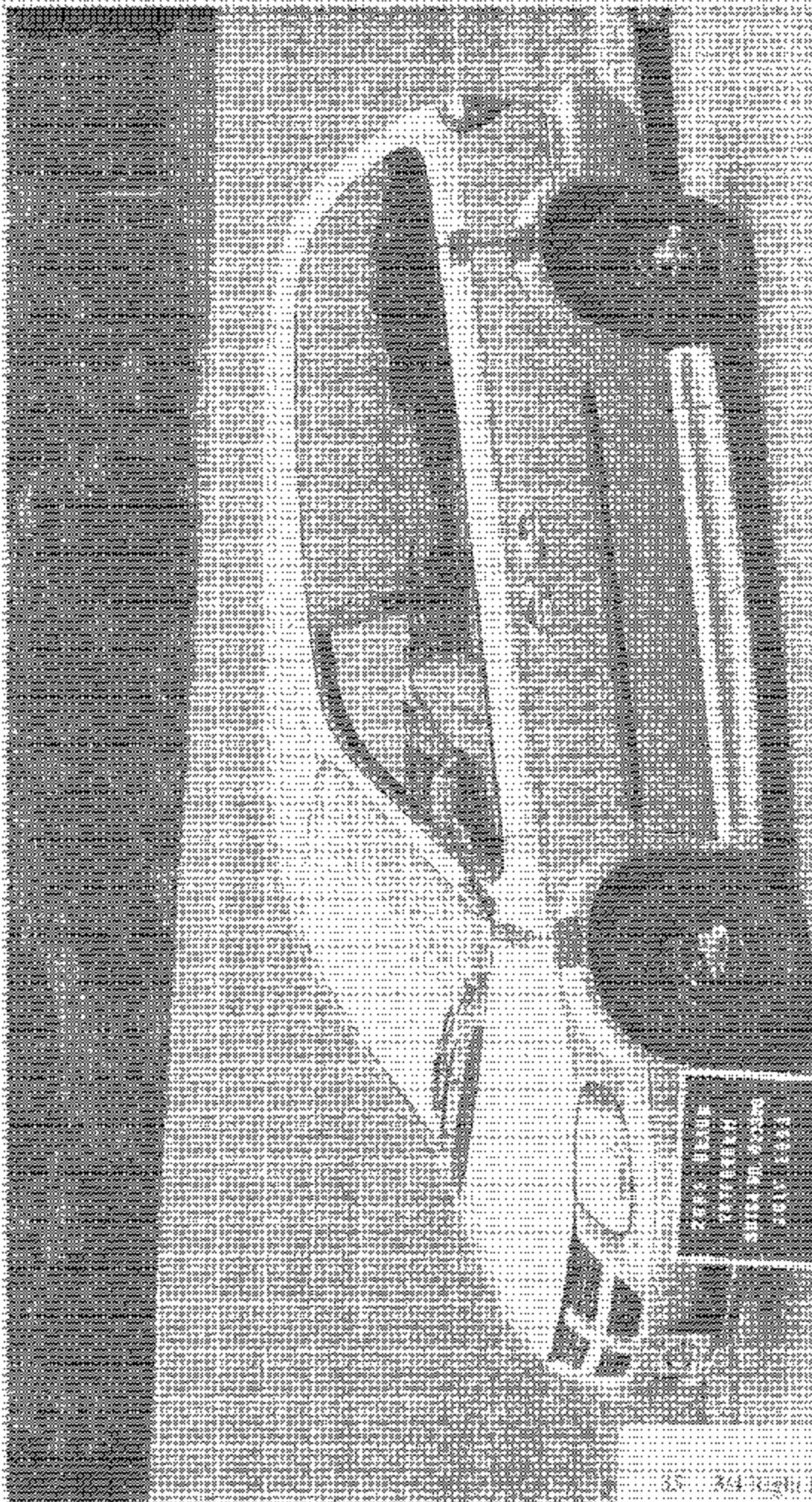
$$\text{TOTAL VOLUME REQUIRED} = V_1 = V_{r1} + V_{r2} = 210564.8 \text{ mm}^3 = 210.6 \text{ ml}^* \text{ (*see page 27)}$$

SECTION 6.0

Photographs



THE
LITTLE
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300-300-3000

302X75

THE BRAIN CORPORATION

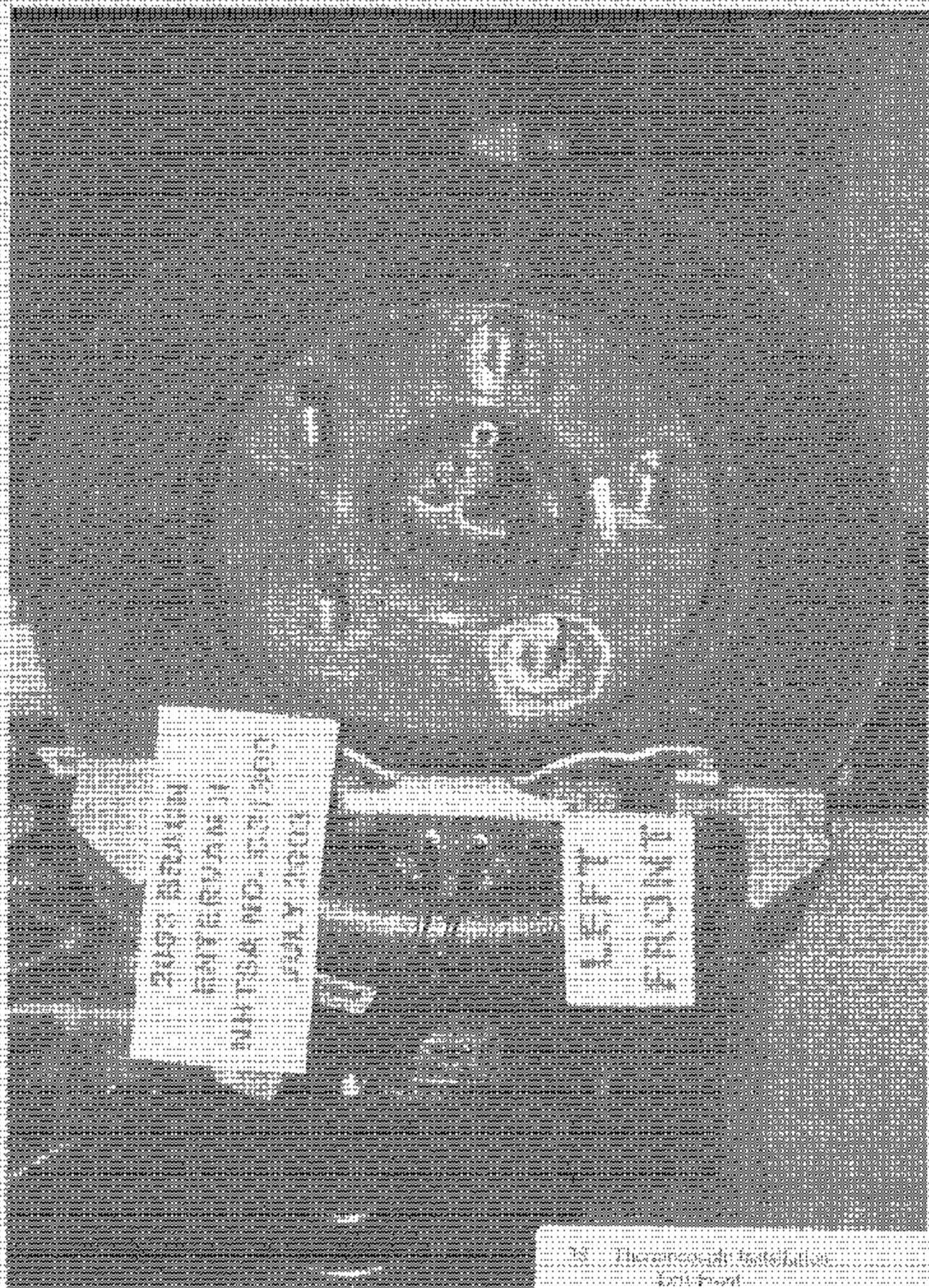
[illegible][illegible][illegible][illegible]

23456789101112131415161718192021222324252627282930313233343536373839404142434445464748495051525354555657585960616263646566676869707172737475767778798081828384858687888990919293949596979899100101102103104105106107108109110111112113114115116117118119120121122123124125126127128129130131132133134135136137138139140141142143144145146147148149150151152153154155156157158159160161162163164165166167168169170171172173174175176177178179180181182183184185186187188189190191192193194195196197198199200201202203204205206207208209210211212213214215216217218219220221222223224225226227228229230231232233234235236237238239240241242243244245246247248249250251252253254255256257258259260261262263264265266267268269270271272273274275276277278279280281282283284285286287288289290291292293294295296297298299300301302303304305306307308309310311312313314315316317318319320321322323324325326327328329330331332333334335336337338339340341342343344345346347348349350351352353354355356357358359360361362363364365366367368369370371372373374375376377378379380381382383384385386387388389390391392393394395396397398399400401402403404405406407408409410411412413414415416417418419420421422423424425426427428429430431432433434435436437438439440441442443444445446447448449450451452453454455456457458459460461462463464465466467468469470471472473474475476477478479480481482483484485486487488489490491492493494495496497498499500501502503504505506507508509510511512513514515516517518519520521522523524525526527528529530531532533534535536537538539540541542543544545546547548549550551552553554555556557558559560561562563564565566567568569570571572573574575576577578579580581582583584585586587588589590591592593594595596597598599600601602603604605606607608609610611612613614615616617618619620621622623624625626627628629630631632633634635636637638639640641642643644645646647648649650651652653654655656657658659660661662663664665666667668669670671672673674675676677678679680681682683684685686687688689690691692693694695696697698699700701702703704705706707708709710711712713714715716717718719720721722723724725726727728729730731732733734735736737738739740741742743744745746747748749750751752753754755756757758759760761762763764765766767768769770771772773774775776777778779780781782783784785786787788789790791792793794795796797798799800801802803804805806807808809810811812813814815816817818819820821822823824825826827828829830831832833834835836837838839840841842843844845846847848849850851852853854855856857858859860861862863864865866867868869870871872873874875876877878879880881882883884885886887888889890891892893894895896897898899900901902903904905906907908909910911912913914915916917918919920921922923924925926927928929930931932933934935936937938939940941942943944945946947948949950951952953954955956957958959960961962963964965966967968969970971972973974975976977978979980981982983984985986987988989990991992993994995996997998999100010011002100310041005100610071008100910101011101210131014101510161017101810191020102110221023102410251026102710281029103010311032103310341035103610371038103910401041104210431044104510461047104810491050105110521053105410551056105710581059106010611062106310641065106610671068106910701071107210731074107510761077107810791080108110821083108410851086108710881089109010911092109310941095109610971098109911001101110211031104110511061107110811091110111111121113111411151116111711181119112011211122112311241125112611271128112911301131113211331134113511361137113811391140114111421143114411451146114711481149115011511152115311541155115611571158115911601161116211631164116511661167116811691170117111721173117411751176117711781179118011811182118311841185118611871188118911901191119211931194119511961197119811991200120112021203120412051206120712081209121012111212121312141215121612171218121912201221122212231224122512261227122812291230123112321233123412351236123712381239124012411242124312441245124612471248124912501251125212531254125512561257125812591260126112621263126412651266126712681269127012711272127312741275127612771278127912801281128212831284128512861287128812891290129112921293129412951296129712981299130013

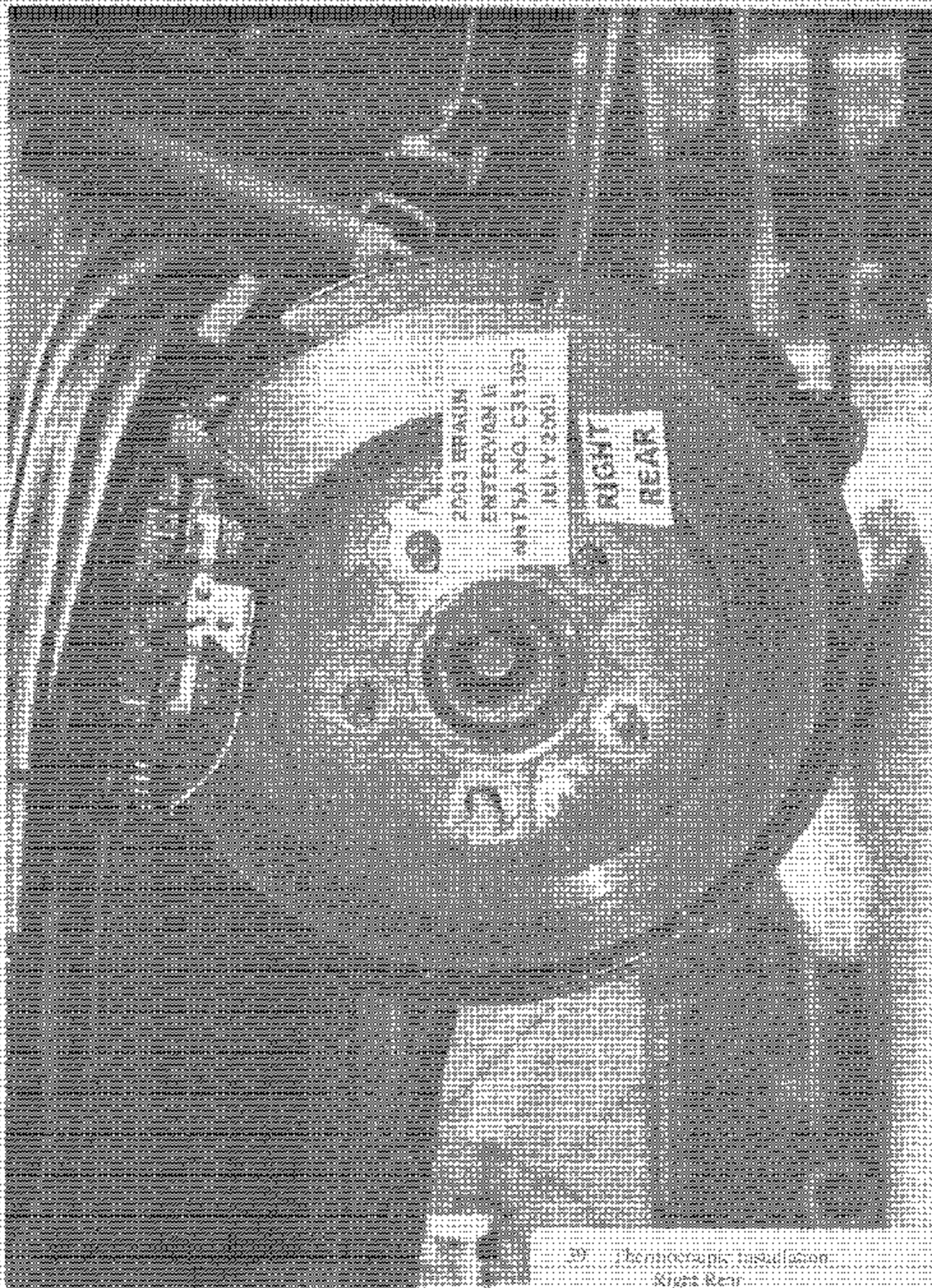
THE
WORLD'S
LARGEST
BOOKSTORE
FOR
KIDS
AND
FAMILY
READERS

215A 20' C31300

2003-2004



13. The photograph is a black and white photograph of a person in a dark, hooded garment, possibly a mask, with their face obscured. The person is holding a large, rectangular object, likely a book or a folder, which has several labels attached to it. The labels contain text, including "FBI LABORATORY" and "FBI IDENTIFICATION DIVISION". The background is dark and indistinct.

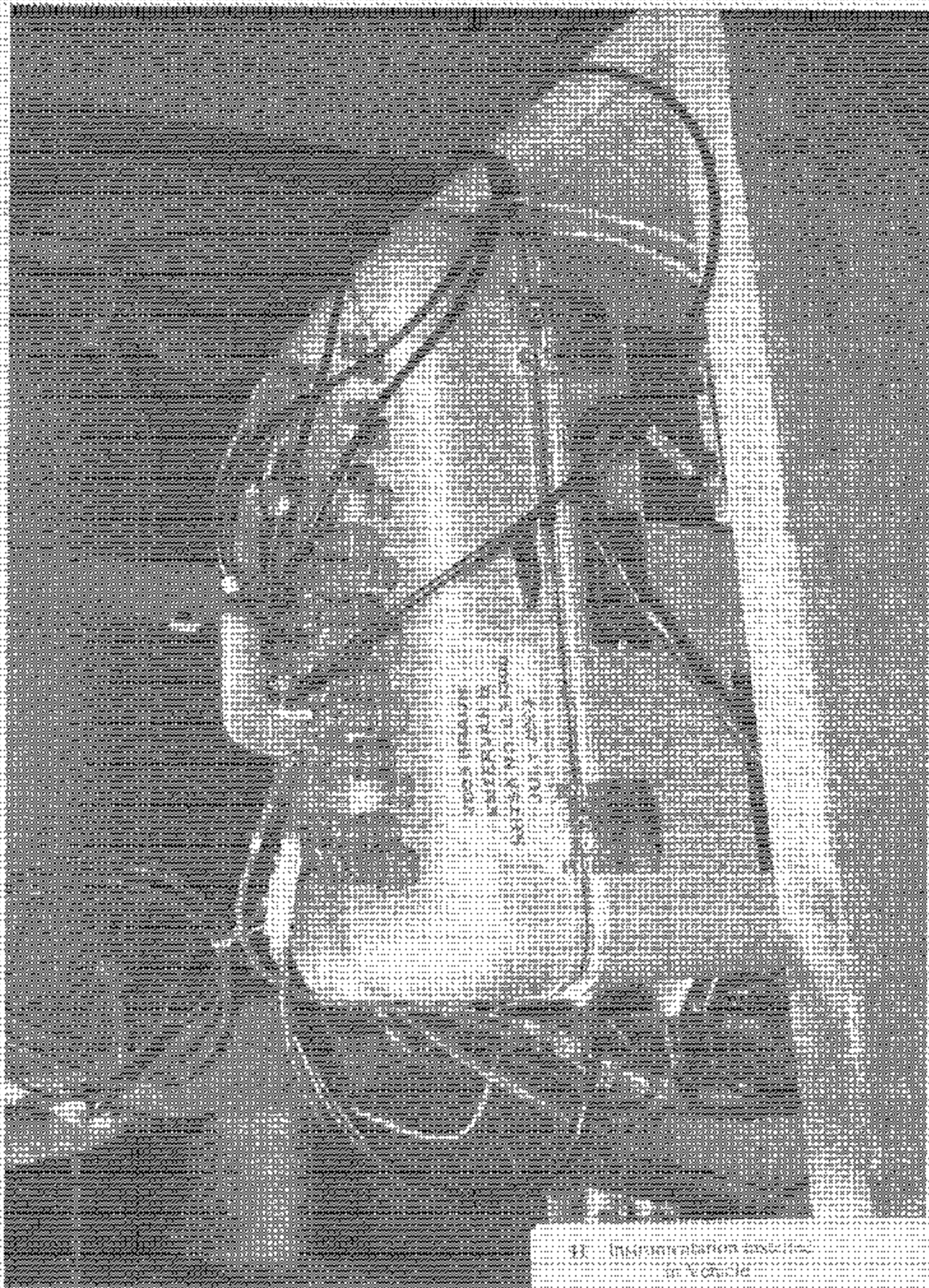


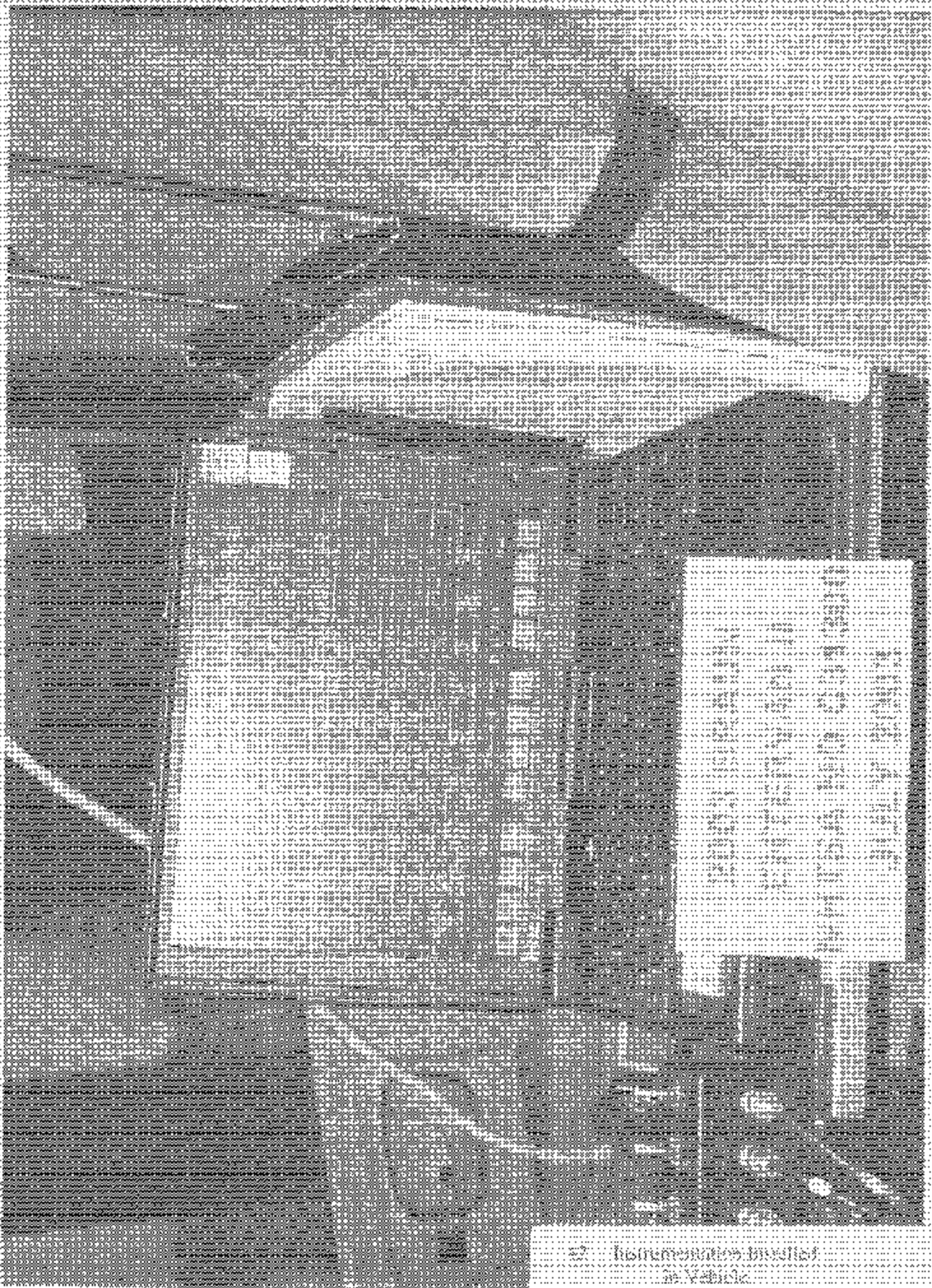
2001 BRAUN

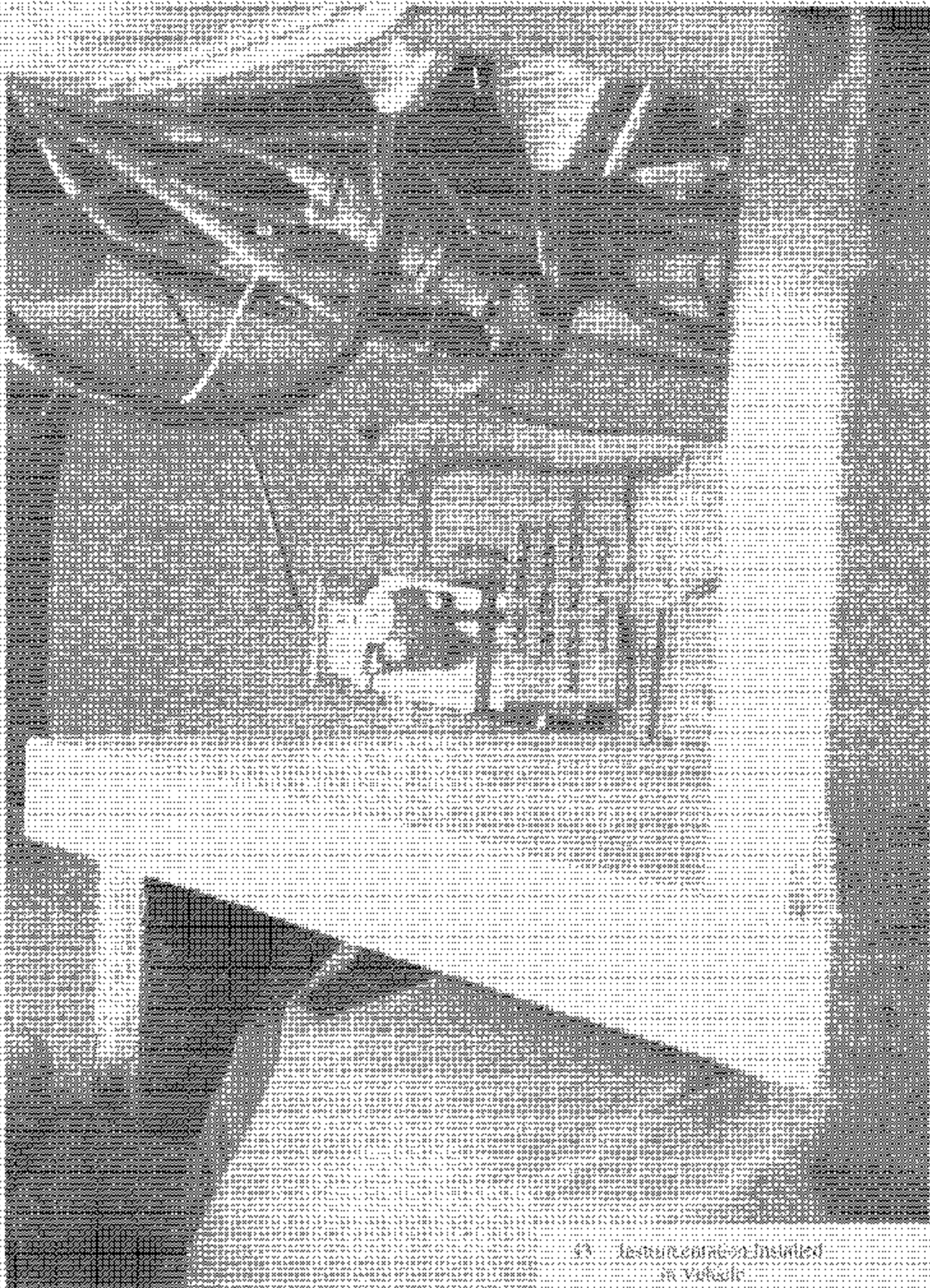
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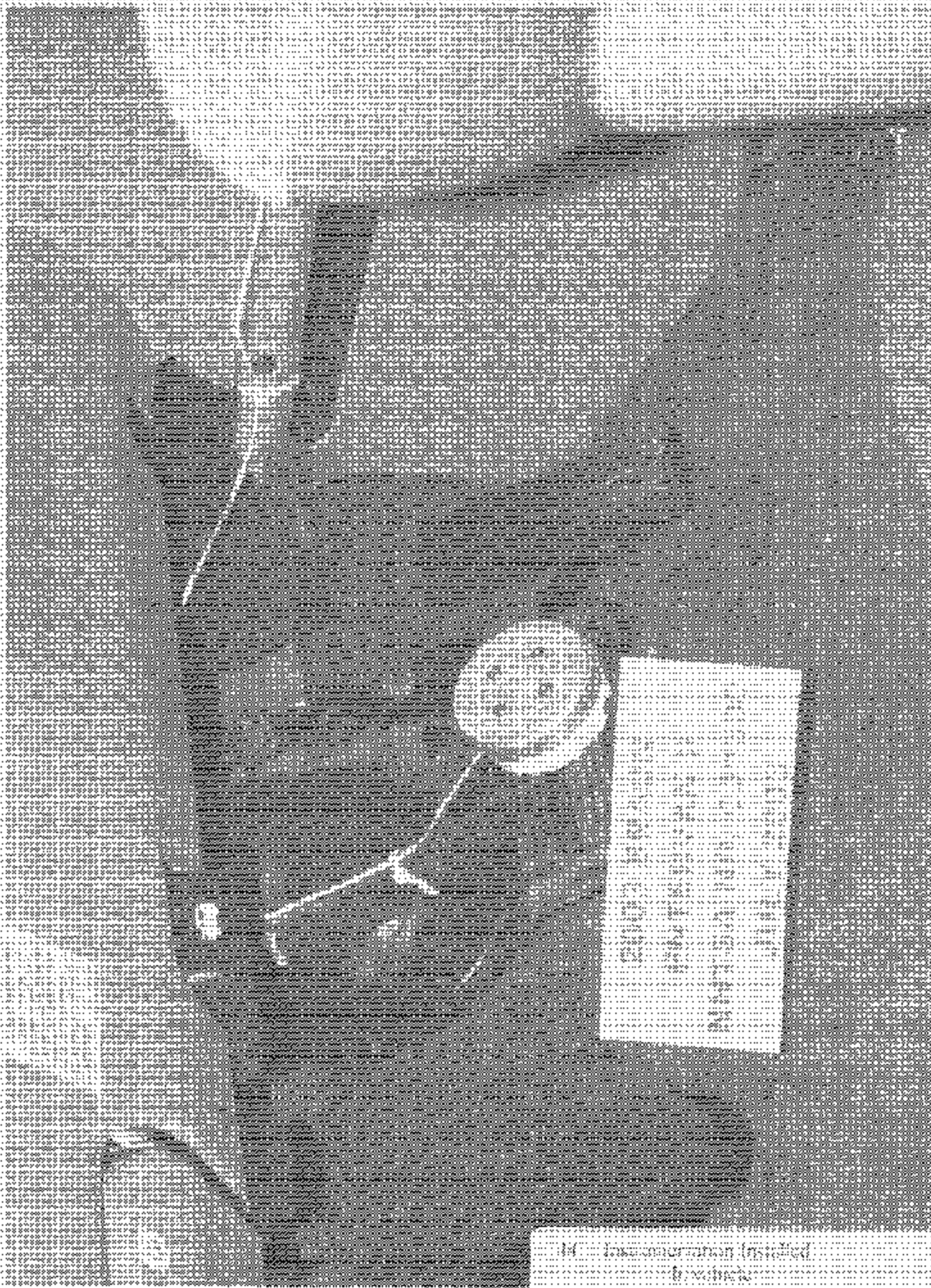
JULY 2003



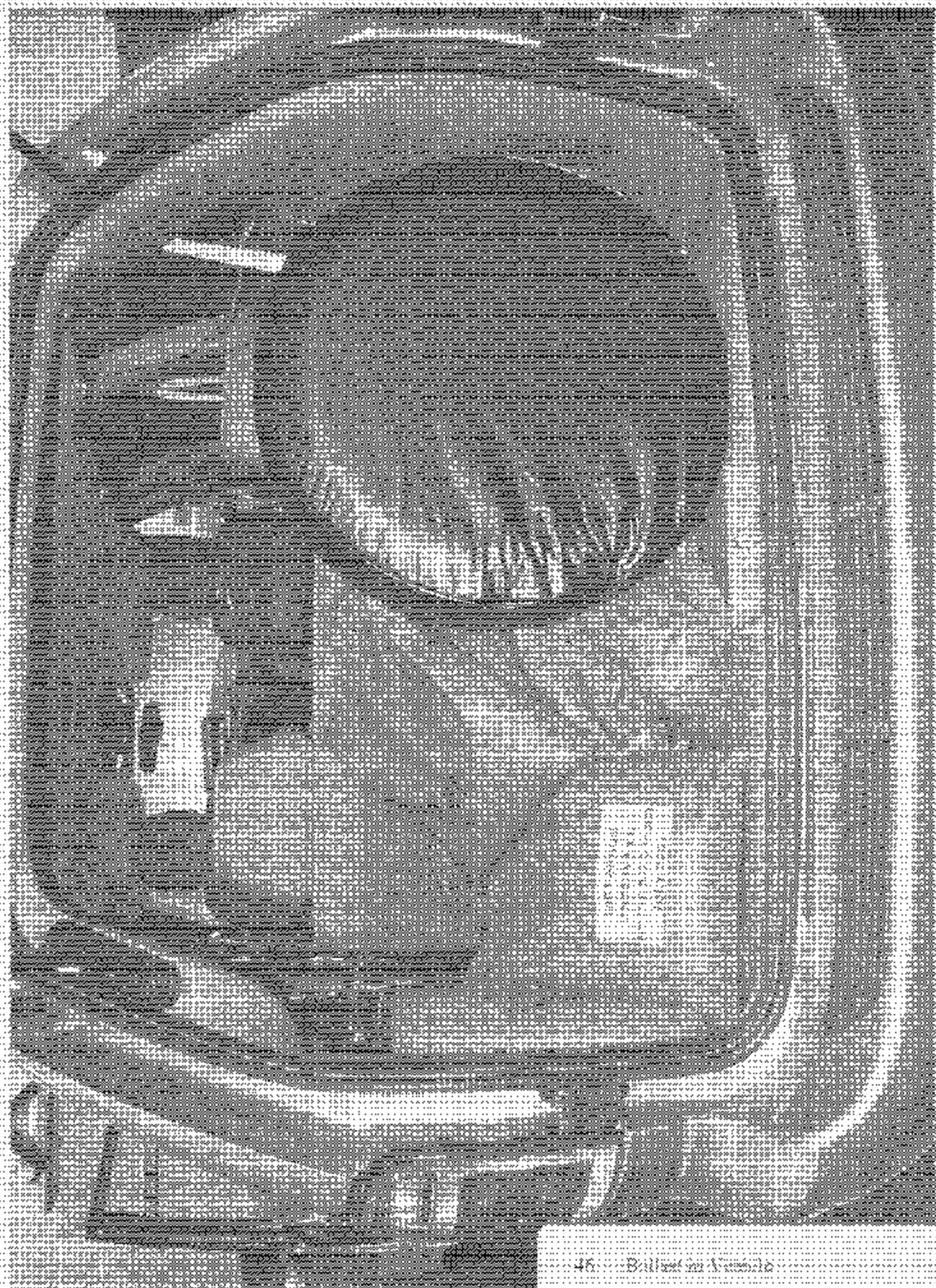


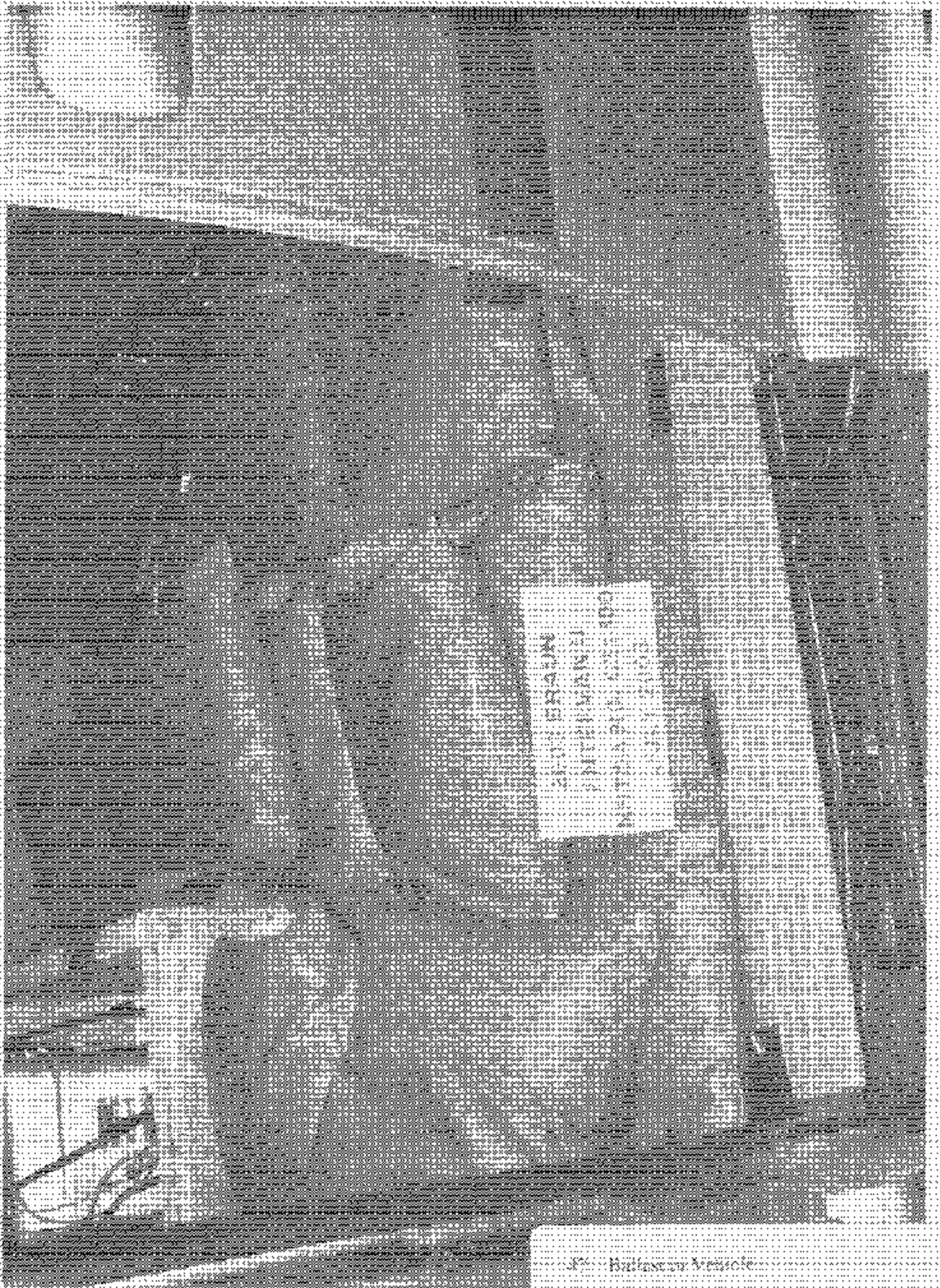


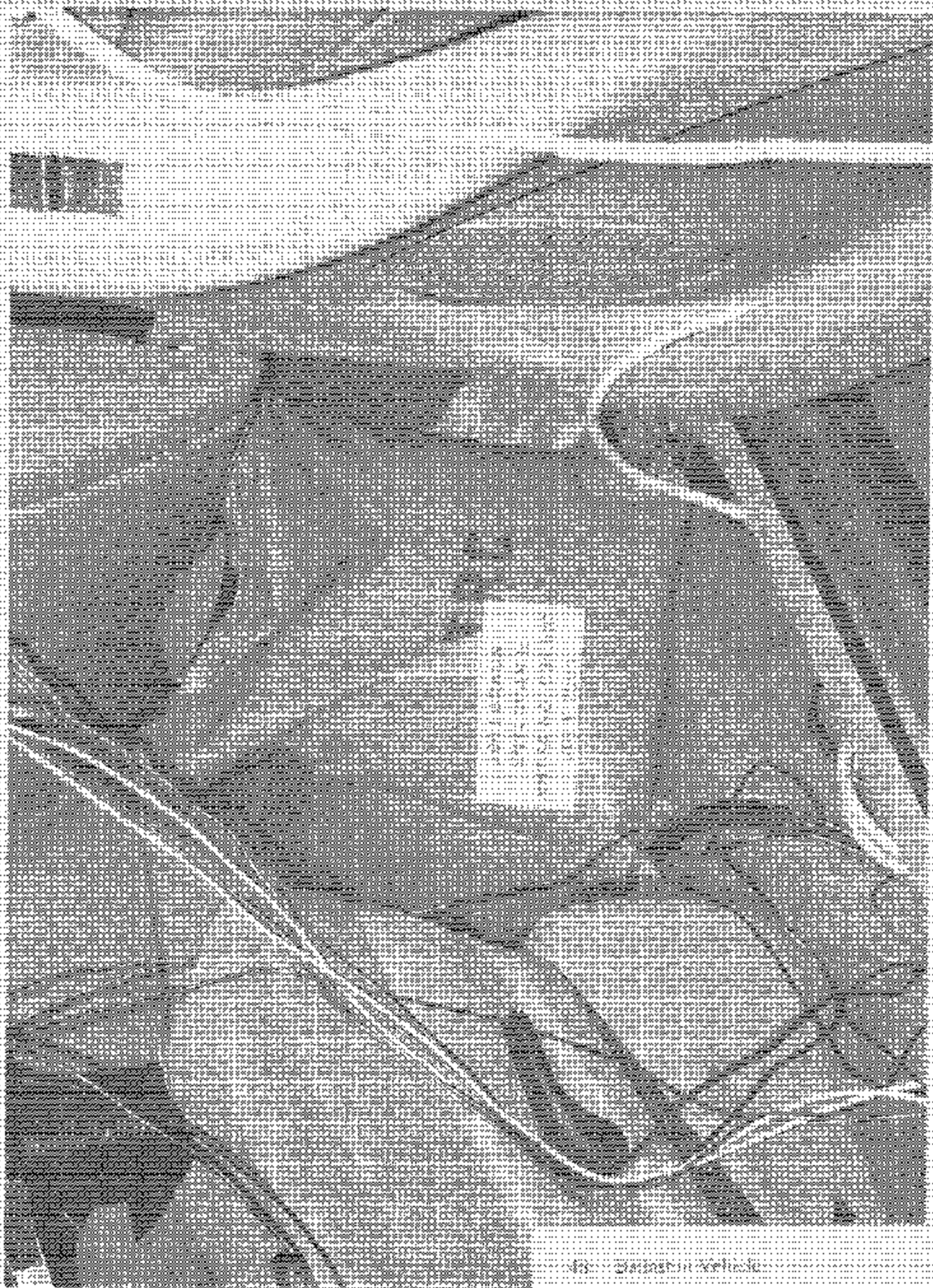
43 **InterContinental Insulated**
A Vehicle

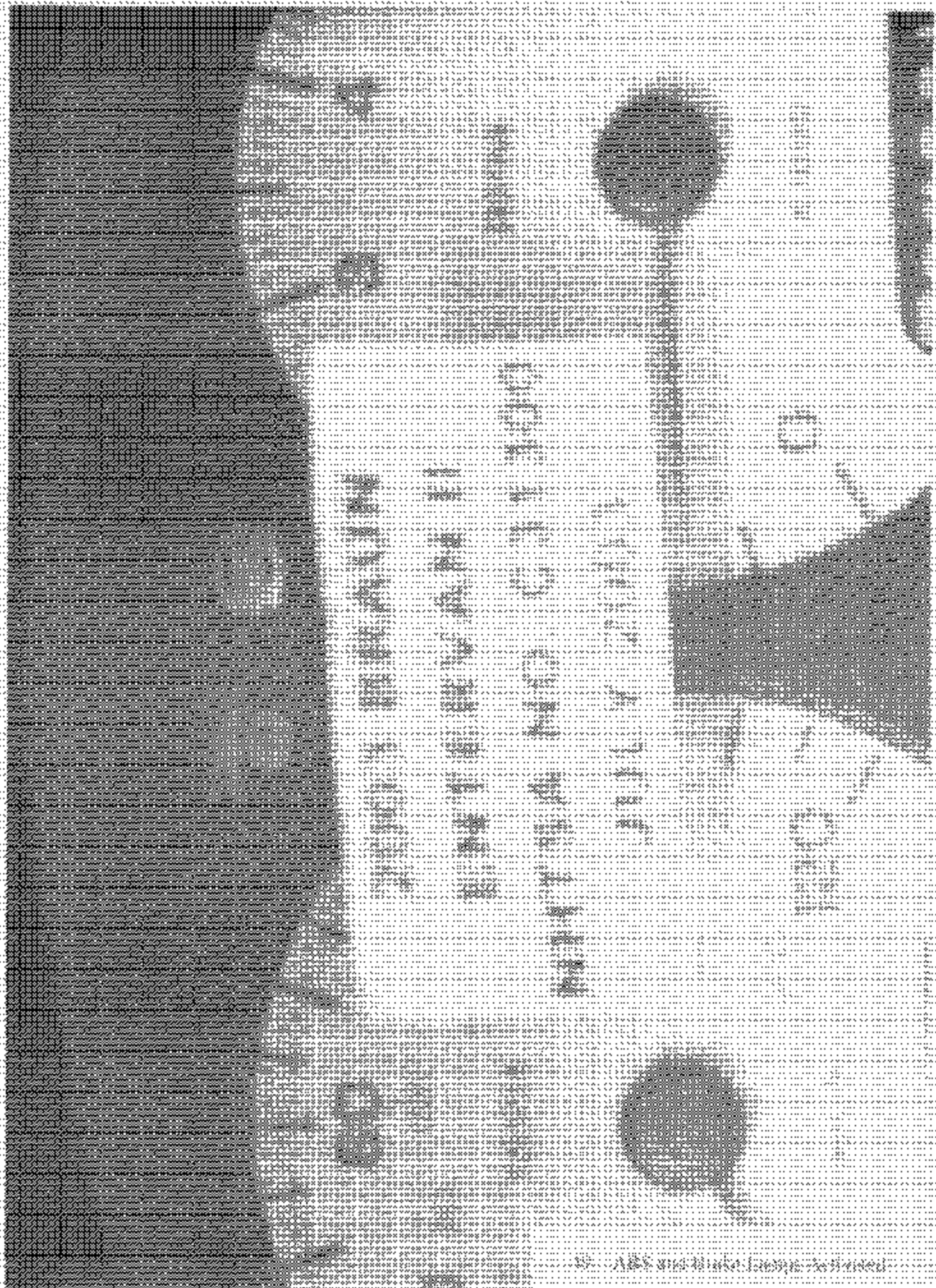


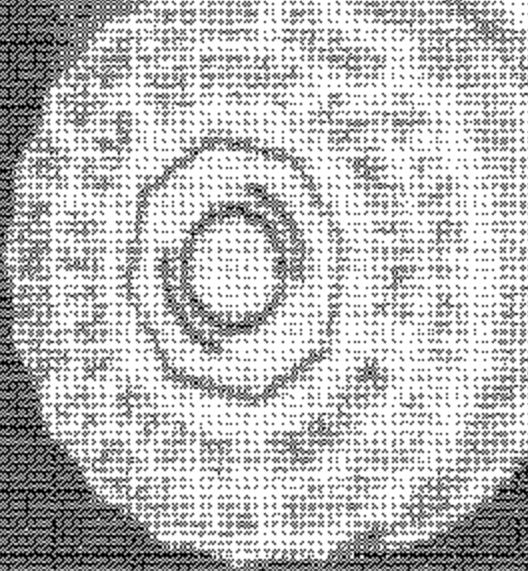
КАНОНИК
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2003 BRAUN
ENTERVANI
HTSA NO. C31300
JULY 2003

7.0 INSTRUMENT CALIBRATION (12 MONTH MAXIMUM INTERVAL)

VEHICLE: 2003 Entervan II;

NHTSA NO.: C31300;

DATE: 07/01/03

INSTRUMENT	SERIAL NUMBER	CALIBRATION DATE	NEXT CALIBRATION
Data Acquisition System - Link DAS 2082	975016	09/ 3/02	09/15/03
Computer - Dell Latitude LM/Link Engrg.	TRC-43207	Not Applicable	Not Applicable
Software - Link Engrg. Rev Data	TRC Propr.	NA	NA
LF Torque Wheel	Not Utilized		
RF Torque Wheel	Not Utilized		
LR Torque Wheel	Not Utilized		
RR Torque Wheel	Not Utilized		
Stopwatch - Fischer Scientific Accusplit	SW ST03	11/05/02	11/05/03
Tire Pressure Gauge - Ashcroft	AG-05	11/05/02	11/05/03
Frequency Counter - Hewlett Packard	M-1128A00670	09/19/02	09/19/03
Pedal Force Transducer - Sensor Devel.	169755	Each Test	Each Test
Assorted Pipe-Handle Steel Weights	Not Available	05/12/03	05/12/04
Park Brake Force Transducer - Interface	41721	Each Test	Each Test
LF Hydraulic Pressure Transducer	Not Utilized		
RF Hydraulic Pressure Transducer	Not Utilized		
LR Hydraulic Pressure Transducer	Not Utilized		
RR Hydraulic Pressure Transducer	Not Utilized		
Accelerometer - Setra (+ or - 15 g)	A1055763	10/02/02	10/02/03
Fifth Wheel - ADAT DSR-06 Radar	140.0027	Each Test	Each Test
Wind Velocity/Direct. - Davis Model 6410	021023N09	10/24/02	10/24/03
Ambient Temp. Gage - Davis Model 6320	021024N11	10/29/02	10/29/03
LF Brake Thermocouple - Temprel/Link	T52-0B-24K	Ea. Test w/Link	Ea. Test w/Link
RF Brake Thermocouple - Temprel/Link	T52-0B-24K	Ea. Test w/Link	Ea. Test w/Link
LR Brake Thermocouple - Temprel/Link	T52-0B-24K	Ea. Test w/Link	Ea. Test w/Link
RR Brake Thermocouple - Temprel/Link	T52-0B-24K	Ea. Test w/Link	Ea. Test w/Link
Lock-up Detection System	TRC Propr.	Each Test	Each Test
Vehicle Weight - Mettler/Toledo	JAG EXTREME 5225831-5JC	04/15/03	07/15/03

QUALITY ASSURANCE

DAILY CALIBRATIONS (1 of 3)

Vehicle: 2003 Braun Entervan II

NHTSA No.: C31300

Deceleration Calibration Data for Unit 3357

Desired full scale value is: 9.81 m/s/s

Allowed deviation is: + or - 0.15 m/s/s

Accelerometer Level to zero, then tilt to full scale

"Date"	"Time"	Zero	Cal
"stp"	"stp"	"Decel"	"Decel"
7/7/2003	14:00:56	0.02	9.81
7/8/2003	10:58:12	-0.01	9.79
7/9/2003	16:04:37	-0.01	9.81
7/14/2003	10:10:35	-0.03	9.82
7/14/2003	16:10:14	0.04	9.76
7/15/2003	8:50:57	0.00	9.81
7/15/2003	16:12:19	0.00	9.82
7/22/2003	10:09:50	0.05	9.80
7/22/2003	15:58:09	-0.04	9.80
7/24/2003	11:26:12	-0.01	9.81
7/24/2003	16:25:04	0.01	9.75
7/28/2003	8:48:12	-0.04	9.84
7/28/2003	10:37:03	0.04	9.80

PRE-TEST CAL.

POST-TEST CAL.

Pre-Test Linearity Check 07/07/03

Actual (m/s/s)	Rec. (m/s/s)
0.0	0.0
3.0	3.0
6.1	6.1
9.8	9.8

Post-Test Linearity Check 07/28/03

Actual (m/s/s)	Rec. (m/s/s)
0.0	NA
3.0	NA
6.1	NA
9.8	NA

Distance Calibration Data for Unit 3357

Desired full scale value is: 1000 m

Allowed deviation is: 3 m

Light beam distance sensor Drive from 0 to 100 to 0 km/h on a measured kilometer

"Date"	"Time"	Distance for
"stp"	"stp"	1000 meters
7/8/2003	10:46:24	999.9
7/14/2003	10:20:43	1000.2
7/14/2003	16:17:30	999.6
7/15/2003	10:01:15	999.6
7/15/2003	16:16:26	999.9
7/22/2003	10:06:44	999.8
7/22/2003	16:01:56	1000.0
7/24/2003	11:30:23	1000.3
7/24/2003	16:23:01	999.7
7/28/2003	8:56:36	999.7
7/28/2003	9:46:48	1000.1

PRE-TEST CAL.

POST-TEST CAL.

DAILY CALIBRATIONS CONTINUED (2 of 3)

VEHICLE: 2003 Braun Entervan II

NHTSA No.: C31300

Wheel Tachometer Calibrations for Unit 3357

Wheel tachometer calibrations: all wheel speeds should be ± 5 km/h

		"Date"	"Time"	Zero	@15km/h	Zero	@15km/h	Zero	@15km/h	Zero	@15km/h	
				LF	LF	RF	RF	LR	LR	RR	RR	
Wheel lock detector	While at a standstill, check zeros. Drive vehicle at approx. 15 km/h and engage zero speed switch for each wheel	07/14/2003	10:14:29	0.0	15.8	0.0	15.8	0.0	15.3	0.0	16.0	PRE-TEST CAL.
		07/14/2003	16:13:10	0.0	16.8	0.0	16.4	0.0	15.6	0.0	16.4	
		07/15/2003	10:00:04	0.0	17.1	0.0	16.4	0.0	16.2	0.0	16.9	
		07/15/2003	16:13:10	0.0	17.1	0.0	15.5	0.0	15.3	0.0	16.4	
		07/22/2003	10:05:21	0.0	16.2	0.0	16.5	0.0	15.9	0.0	16.8	
		07/22/2003	16:00:50	0.0	16.4	0.0	16.8	0.0	15.8	-1.5	15.0	
		07/24/2003	11:29:14	0.0	17.6	0.0	16.0	0.0	15.4	0.0	16.5	
		7/24/2003	16:22:26	0.0	19.0	0.0	16.5	0.0	16.0	0.0	16.7	
		7/28/2003	8:51:46	0.0	17.5	0.0	16.0	0.0	15.5	0.0	17.6	
		7/28/2003	9:44:58	-0.1	18.6	0.0	16.1	-0.1	15.6	-0.8	15.7	POST-TEST CAL.

When driven over 15 km/hr and the wheel tach generators are shunted to zero volts, do all four wheel lock indicators align?: ☒ Yes, ☐ No.

Pedal Force Meter Calibration for Unit 3357

Target shunt calibration is 388 N

Desired recorded value is: 388 N

Desired recorded calibration value is: 500 N

Allowed deviation is: 6.5 N

		"Date"	"Time"	Zero	Cal Val	
				Force	Force lb	
Service brk. pedal effort	Driver engages a fixed shunt cal switch.	7/7/2003	15:02:37	-0.4	498.6	PRE-TEST CAL.
		7/8/2003	10:59:57	-0.8	388.3	
		7/9/2003	16:06:46	-0.2	388.9	
		7/14/2003	10:06:26	-0.4	388.8	
		7/14/2003	16:11:51	-0.9	389.1	
		7/15/2003	8:50:35	-0.4	388.9	
		7/15/2003	16:10:54	-1.2	389.2	
		7/22/2003	9:59:27	-3.2	390.3	
		7/22/2003	15:55:57	-0.5	388.3	
		7/24/2003	11:25:08	-4.6	388.8	
		7/24/2003	16:18:30	-0.7	388.9	
		7/28/2003	8:47:24	-0.8	388.7	POST-TEST CAL.
		7/28/2003	9:41:31	-2.3	389.1	
		7/29/2003	8:49:40	-0.6	498.9	

Pre-Test Linearity Check - 07/07/03

Actual	Recorded
Force (N)	Force (N)
0	0
222	222
445	445
498	498

Post-Test Linearity Check - 07/28/03

Actual	Recorded
Force (N)	Force (N)
0	NA
222	NA
445	NA
498	NA

DAILY CALIBRATIONS CONTINUED (3 of 3)

VEHICLE: 2003 Braun Entervan II

NHTSA No. C31300

Dynamic Speed Calibration for Unit 3357

Desired speed value is: 100 km/h

Allowed deviation is: 1.6 km/h

Desired time value is: 36 seconds

Allowed deviation is: + or - 0.6 seconds

Light beam
speed sensor

Drive vehicle
at a steady
100 km/h
through a
kilometer.

"Date"	"Time"	"Speed"	"Time"
stp	stp	km/h	sec
7/8/2003	10:53:08	100.9	35.87
7/14/2003	10:18:38	99.8	36.34
7/14/2003	16:15:21	100.7	36.06
7/15/2003	9:58:22	99.8	35.93
7/15/2003	16:15:13	100.3	36.06
7/22/2003	10:03:52	100.6	36.03
7/22/2003	15:59:16	100.2	36.12
7/24/2003	11:27:27	100.5	36.09
7/24/2003	16:21:06	100.1	36.03
7/28/2003	8:54:34	100.4	36.15
7/28/2003	9:43:03	100.5	36.06

PRE-TEST CAL.

POST-TEST CAL.

APPENDIX A

Copy of Manufacturer's Sticker

2003 MODEL YEAR GRAND CARAVAN SPORT

For more information visit: www.dodge.com
or call 1-800-4ADODGE

DaimlerChrysler
Motors Company LLC

PRICE INFORMATION

MANUFACTURER'S SUGGESTED RETAIL PRICE OF THIS MODEL INCLUDING DEALER PREPARATION

Base Price: \$27,430

Dodge Grand Caravan Sport FWD
Exterior Color: Radiant Red Pearl Coat
Interior Color: Taupe
Interior Seats: Cloth LxK Back Bucket
Engine: Engine - 3.3L V6 Q/JTV
Transmission: Transmission - 4-Spd. Auto

STANDARD EQUIPMENT (EXCEPT AS REPLACED BY OPTIONAL EQUIPMENT)

HYDRA-RAIL™ SAFETY FEATURES

ABS - Front/Rear
Brakes - Anti-Lock
Power Front Disc/Rear Drum
Child Seat Anchors System-LATCH Ready
Belts/Park Interlock
Exhaust - Rear Window

Whispering Motors - For Intermittent

DIFFERENTIAL LOCK

Seats - Buckle/Reclining Bench
Air Conditioning - w/3 Zone Temp Control
Air Conditioning - Rear w/Heater
Windows - Power, Driver One-Touch
Windows - Power Quarter Vents
Locks - Power
Keyless Entry - w/2 Transmitters

Spiced Licenses

Steering Column - Tilt

Easy-Exit IR® Rafter Seats

Garage Door Opener - Universal

Radio-AM/FM Cass. w/Changer Control

Console - Overhead w/Trip Computer

Console - Center L/P Open Bin

Storage Drawer - Underseat Lockable

Glooby Bag Hooks - Rear Seatback

Floor Mats - Front & Rear

Mirror - Rear View, Day/Night

Illustrated Entry

Power Outlets - Front & Rear, 12V DC

Hoodlamp On Time Delay

Sun Visor - w/Mirror, Left

EXTERIOR FEATURES

PRICE INFORMATION (cont'd)

Glass - Sunscreen
Mirrors - Power Heated, Fold-Away
Heating Element - Extra for Mirrors
Wheel Covers - 15"
Tires - 215/70R15 BSW All Season
Seat Pad - Rear Tumble

OPTIONAL EQUIPMENT

Customer Preferred Package 25H
Family Package

Trailer Tow Prep Group
Brakes - 4 Wheel Disc
Load Lifting and Height Control
Spare Tire - Full Size
Radiator - Heavy Duty
Cooler - Engine Oil
Cooker - Heavy Duty Transmission Oil
Wiring Harness - Trailer Tow
Battery - 600 Amp Maintenance Free

Sun Visors - Sun Vanity Mirrors
Seat - Power 8-Way, Driver
Seats - Cloth Low-Back Bucket
Door - Right Power Sliding
Luggage - Power

DESTINATION CHARGE

\$30

\$37C

\$40C

\$400

\$680

TOTAL PRICE * \$30,055

** Certified to the federal regulations that allow less frontal impact

PARTS CONTENT INFORMATION

FOR VEHICLES IN THIS COUNTRY:

U.S./CANADIAN PARTS CONTENT: 88 %

NOTE: PARTS CONTENT DOES NOT INCLUDE FINAL ASSEMBLY, DISTRIBUTION, OR OTHER NON-PARTS COSTS

FOR THIS VEHICLE:

FINAL ASSEMBLY POINT:

WINDSOR, ONTARIO, CANADA

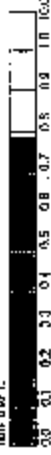
COUNTRY OF ORIGIN:

ENGINE: UNITED STATES

TRANSMISSION: UNITED STATES

Smog Index

The Smog Index of this vehicle is 0.78. The Smog Index for all vehicles ranges from 0.0 (lowest rating) to 1.0 (highest rating). With new vehicles in 2003, the Smog Index is 0.78.



Compare this vehicle to others in the FUEL ECONOMY GUIDE available at www.fueleconomy.gov

DUAL FUEL

Fuel Mileage
Information

GASOLINE
CITY MPG

19

GASOLINE
HIGHWAY MPG

26

Actual Mileage will vary with options, driving conditions, driving habits and vehicle's condition. Results reported to EPA indicate that the majority of vehicles with these estimates will achieve between 18 and 22 mpg in the city, and between 22 and 30 mpg on the highway.

2003 CARAVAN 2WD
8 CYL, 3.3L (201 CID) FFV,
(ETHANOL), MULTI-FUEL FUEL
4-SPEED AUTOMATIC TRANS. w/
LOCKUP TORQUE CONVERTER

Estimated Annual Fuel Cost
\$1058

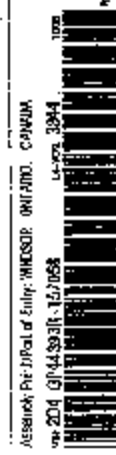
For Comparison Shopping, all vehicles classified as SPECIAL PURPOSE have been listed mileage ratings ranging from 10 to 13 mpg city and 13 to 31 mpg highway

All fuel economy values on this label pertain to GASOLINE fuel usage. ETHANOL (E85) fuel usage will vary. Different values, see the Fuel Economy Guide for information on ETHANOL (E85)

*This vehicle operates on GASOLINE and ETHANOL (E85).

See www.fueleconomy.gov

SALES TAX \$1,000
REGISTRATION \$100
TITLE \$100
TOTAL \$2,100
DODGE CREDIT FINANCING
FINANCE PLAN \$482.31
MONTHLY PAYMENT \$482.31
FINANCIAL INSTITUTION DODGE CREDIT FINANCIAL
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APPENDIX B

Discussion on Data

DISCUSSION ON DATA

Symbols for Brake Components

4	-	4 Wheel	C	-	Groan	DL	-	Deceleration (State FPSPS)
X	-	Skid	SQ	-	Squeal	PF	-	Pedal on Floor
L	-	Left	SQK	-	Squeak	SCP	-	Shoe Scrape
R	-	Right	PO	-	Pinchout	RB	-	Rubber Banding
R	-	Rear	P	-	Pull	O	-	Odor
F	-	Front	R	-	Shudder	NOX	-	No Skid
B	-	Both	M	-	Momentary			

INT or INTT	-	Initial Part of Stop
MID	-	Middle of Stop
END	-	End of Stop

All stops were made manually.

APPENDIX C

Contractor's Comments Procedure Modifications and Test Facility

Comments for vehicle C31300.

For all recorded decelerations:

The recorded *average* deceleration values for the tests are slightly lower than that which is required or targeted for certain test sections. However, in all cases and in reality, the driver maintained the correct required/target deceleration values for the majority of time for each of those stops. The recorded deceleration is acquired from the moment the service brake pedal is moved until the vehicle reaches zero speed. Therefore, the time needed to achieve the target deceleration (rise time) and the time the vehicle goes from the target deceleration to zero (fall time) is included in the average deceleration calculation. The rise and fall times were added to the entire length of the stops. Hence the recorded average deceleration values were generally and slightly less than the required/target deceleration values.

Several aspects of the master cylinder measurements were not performed. This vehicle will undergo a subsequent comparison test. In order to minimally disrupt the brake system, and at the concurrence of the Standard's Technical Engineer, the master cylinder was not removed from the firewall for piston measurement. Also, the "three stroke" and therefore, master cylinder's individual compartment's, fluid output values were not obtained. After the comparison test is completed, these master cylinder measurements will be obtained.

7.5-MILE TEST TRACK

The 7.5-mile test track encloses a 1,600-acre area, one mile wide and 3.5 miles long.

The track has a downward grade, north to south, of 0.228 percent and a cross slope in the straightaways of 3/16 inch per foot. The 1.88 mile long straightaways flow into transition areas 2,300 feet in length and then into 5,275 foot long curves with a constant radius of 2,400 feet. The 36-foot wide straightaways and the 42-foot wide curves provide three test lanes. Paved berms, 12 feet in width, border the straightaways and the inside of the curves.

As a vehicle moves toward the outside of the track in the curves, it encounters a progressively steeper bank. The inside lane (or "slow" lane) has a bank of 10 degrees allowing a neutral speed of 80 mph with no side forces. In the center lane, the slope increases to 19 degrees resulting in a neutral speed of 110 mph. The outside lane's 28-degree bank allows a 140 mph neutral speed. Rimming the outer lane is a seven-foot safety lane culminating in a 36-degree slope at the guardrail.

The facility is paved with Portland cement concrete. It carries a maximum single axle load of 36,000 pounds and a maximum tandem axle load weight of 48,000 pounds. Special provisions can be made for heavier weight loads.

With 22.5 lane miles, our track will accommodate many vehicles simultaneously. Research which utilizes the track includes component performance and durability studies, brake tests, aerodynamic studies, fuel economy studies, drive line efficiency tests, and the determination of vehicular acceleration and cruise characteristics. In addition, it supports maximum speed determination, road load power, noise and emission measurements and tire durability test programs.

The 7.5-mile test track can be used in conjunction with other facilities at TRC. It provides an excellent area for pre-test conditioning of equipment such as brake burnishing, tire break-in, and vehicle warm-up.

TRC SKID PAD

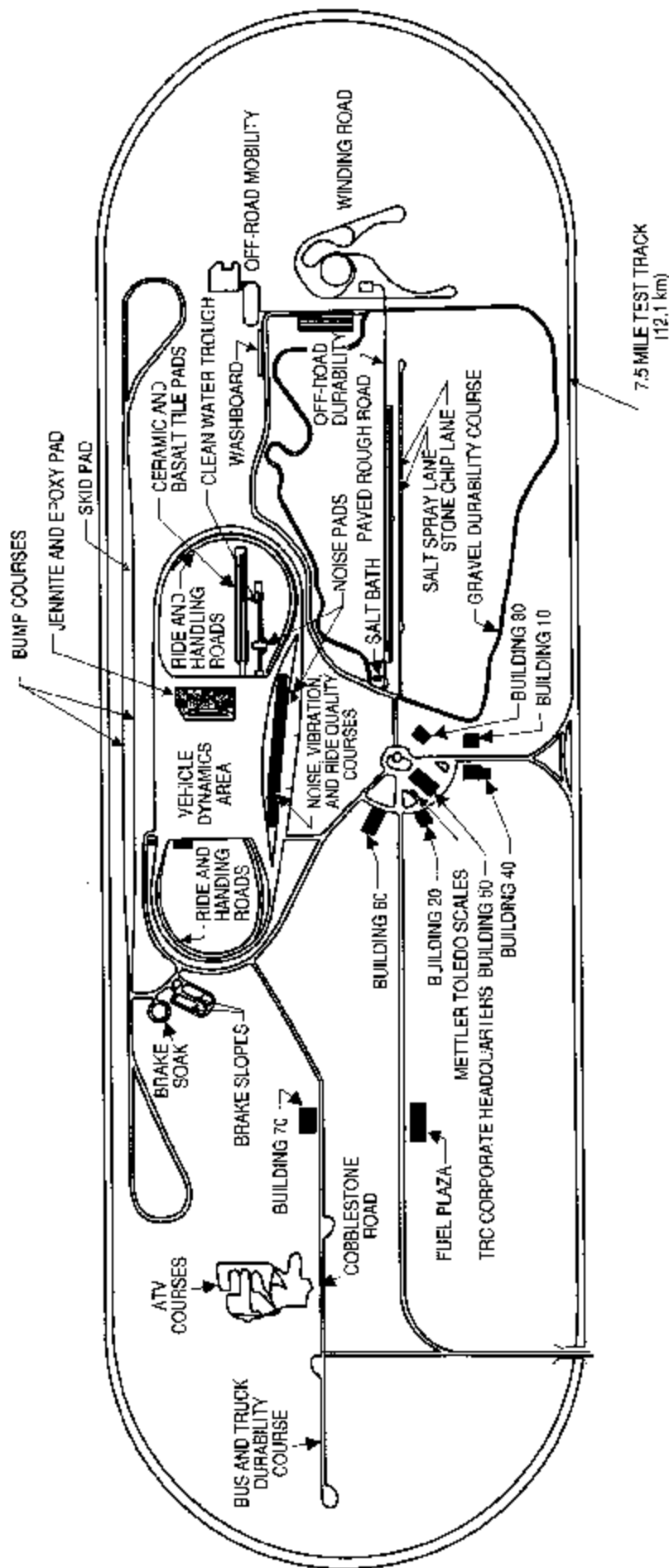
The Skid Pad is a test facility which is utilized primarily for the evaluation of tire and brake systems.

The overall dimensions of the pad are 9,000 feet by 84 feet with loops on the north and south ends. Both turnaround loops have a 309-foot radius and are 16 feet wide with a 25 percent super elevation. They will accommodate speeds of 45 mph with zero side force and 60 mph with .5 gs lateral acceleration. The acceleration/deceleration lanes at each end are 3,280 feet in length.

A test area of 210,000 square feet is situated in the center of the skid pad containing several test pads with varying surface textures. Skid numbers in this area range from 30 (wet) to 80 (dry).

The skid pad is paved with Portland cement. The load capacity of the skid pad is 36,000 pounds maximum single axle weight and 48,000 pounds maximum tandem axle weight.

Varying surface textures in the main test area are ideal for testing tire and/or brake system performance on different surfaces as characterized by "skid numbers." The skid pad is also used for acceleration studies, aerodynamics, rolling resistance, noise testing, and vehicle top speed determination.



NOT TO SCALE

TEST FACILITY DETAIL

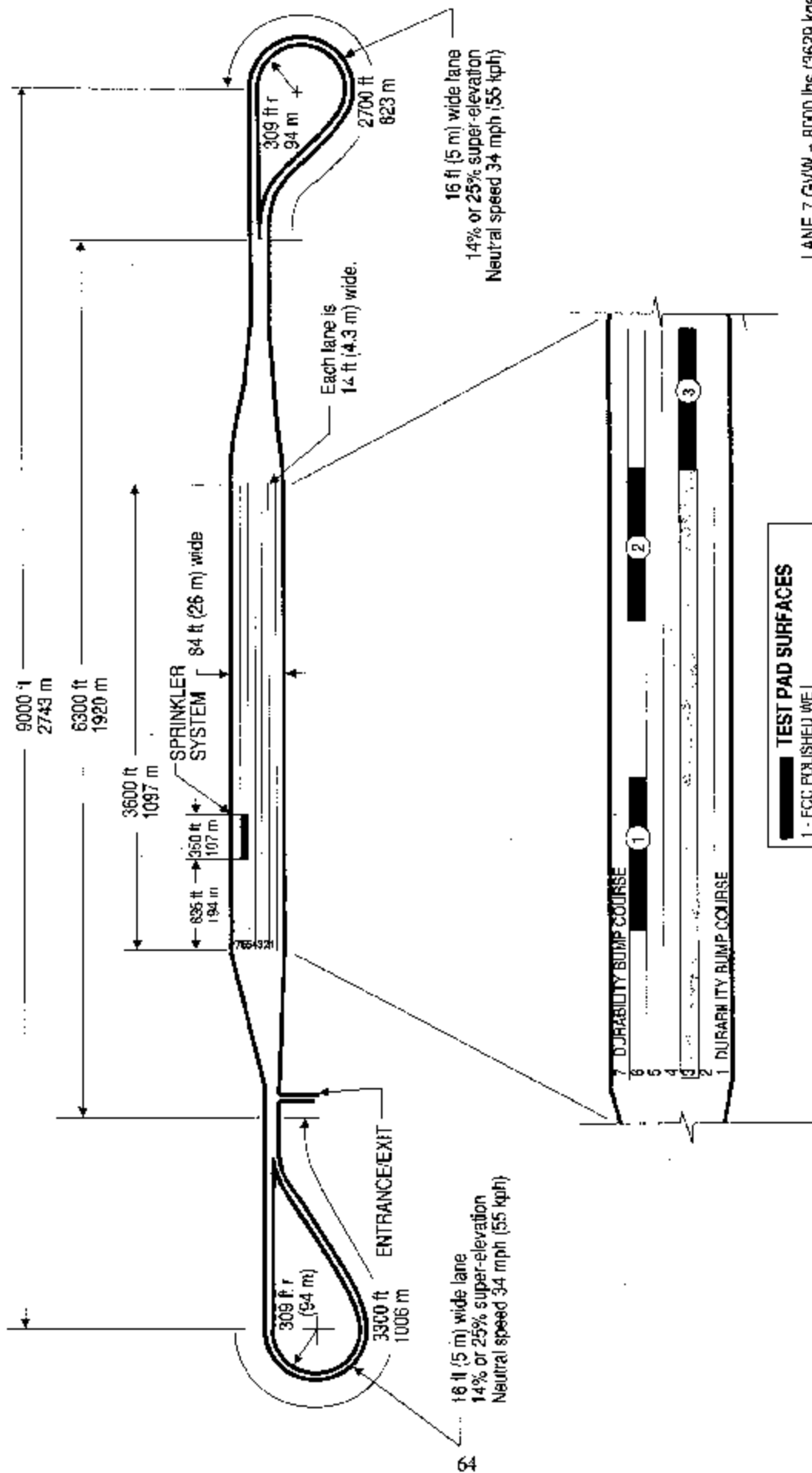


TRANSPORTATION RESEARCH CENTER INC.

FAST IIR REF. 1, OHIO 42319-0027

1-15 2401

ALL CONCRETE BROOMED SURFACE
1 LAP = APPROXIMATELY 4 MILES (6.4 KILOMETERS)



LANE 7 GVW = 8000 lbs (3629 kgs)
GVW = 80,000 LBS (36,298 kgs)

NOTE: BUMP COURSES PARALLEL THE PERIMETERS OF LANES 1 AND 7.

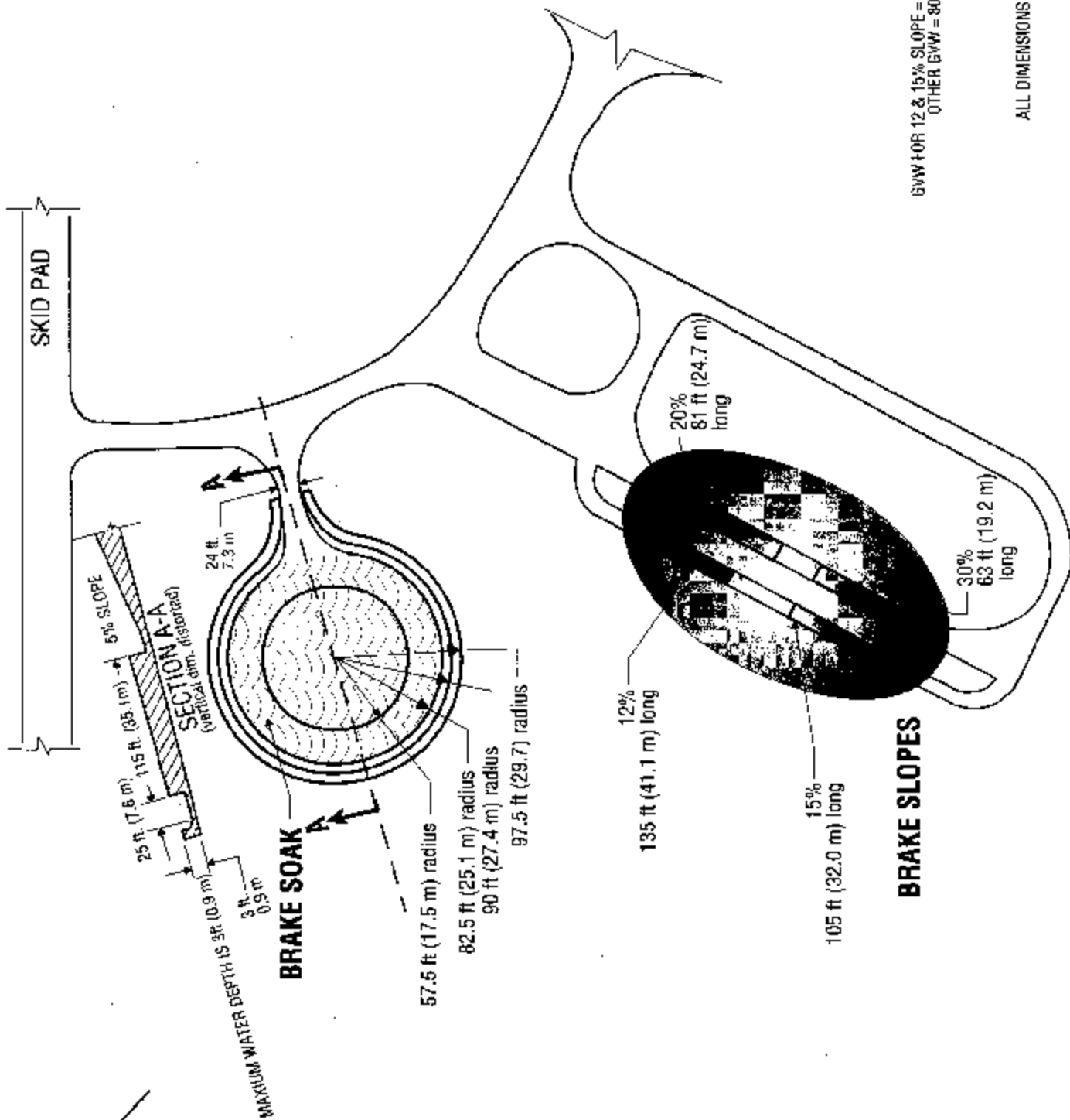
Not to scale
All dimensions are approximate

SKID PAD

TRC

TRANSPORTATION RESEARCH CENTER INC.
EAST LIBERTY, OHIO 43319-0367

T-13 0059



GVW FOR 12 & 15% SLOPE = 4000 lbs (1814 kg)
OTHER GVW = 80,000 lbs (36,296 kg)

NOT TO SCALE
ALL DIMENSIONS ARE APPROXIMATE

APPENDIX D
Notice of Possible Non-Compliance

This vehicle (C31300) met the requirements that were measured.