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HS #
638447

135-TRC-03-001

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

Honda of Canada Mfg.
2003 Honda Pilot EX, 5-Door MPV
NHTSA No. C35300

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



Final Report Completed: January 10, 2003

FINAL REPORT

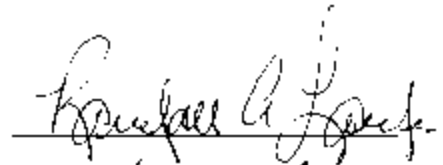
Prepared Under Contract No.: DTNH22-01-C-21025

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) NUS-221
Washington, DC 20590

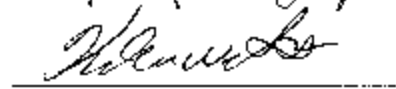
Prepared for the Department of Transportation, National Highway Traffic Safety Administration, under Contract No. DTNH22-01-C-21025.

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Prepared By



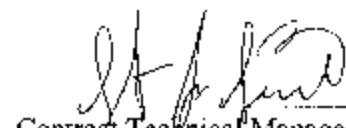
Approved By



Approval Date:

1/17/03

Final Report Acceptance By OVSC:


Contract Technical Manager, Office of
Vehicle Safety Compliance

Acceptance Date

1/24/03

1. REPORT NUMBER: 135-TRC-03-001		2. GOVERNMENT ACCESSION NO.:		3. RECIPIENTS CATALOG NO.:	
4. TITLE AND SUBTITLE: Final report of FMVSS 135 Compliance Testing of a 2003 Honda Pilot EX, 5-Door MPV, NHTSA No. C35300				5. REPORT DATE: January 10, 2003	
				6. PERFORMING ORGANIZATION CODE: TRC 20000113/3350	
7. AUTHOR(S): Project Manager: VIRGINIA WATTERS Project Engineer: RANDALL A. LANDES				8. PERFORMING ORGANIZATION REPORT NO.: TRC-DOT-135-039	
9. PERFORMING ORGANIZATION NAME AND ADDRESS: Transportation Research Center Inc. 10820 State Route 347 East Liberty, Ohio 43319				10. WORK UNIT NUMBER:	
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15. SUPPLEMENTARY NOTES:					
16. ABSTRACT: Compliance tests were conducted on the subject 2003 Honda Pilot EX, 5-Door MPV, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-135-00 for the determination of FMVSS 135 compliance. Test failures identified were as follows: None					
17. KEY WORDS: Compliance Testing Safety Engineering FMVSS 135				18. DISTRIBUTION STATEMENT: Copies of this report are available from: NHTSA Technical Reference Division Mail Code: NAD-40 400 Seventh Street, SW, Rm. 5108 Washington, DC 20590 Telephone No. (202) 366-4949	
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1.0 INTRODUCTION

Tests were conducted on a 2003 Honda Pilot EX, 5-dr. MPV, manufactured by Honda of Canada Mfg., (a division of Honda Canada Inc., Canada) 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.

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 0.99 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: C35300
Mfr: HONDA CF CANADA MFG.	GVWR (Kg): 2698.9
Make: HONDA	GAWR Front(Kg): 1300.0
Model: PILOT SDR EX	GAWR Rear(Kg): 1431.1
Body Style: MPV	Wheelbase (mm): 2692.4
Mfr. Date: 09/02	Odometer: Start: 175 MI End: 558 MI.
VIN: 2HKYF18493H531235	

BUSES ONLY

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

Engine Type: GASOLINE, 6CYL, VTEC, 24VALVE, SOHC, MULTIPOINT FUEL INJ, PISTON	Tire Size: 235/70R16
Displacement: 3.5 LITER	Tire Type: INTEGRITY, 104S, M8S, STEEL BELT
Engine Hspwr: N/A	Tire Mfr.: GOODYEAR
Idle Speed(rpm): 764.56	GVWR Front Press (kpa): 221.00
Transmission Type: AUTO, 5-SPD W/3D	GVWR Rear Press (kpa): 221.00
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
Anti-Skid unit Mfr: BOSCH	Anti-Skid Device: YES
Parking Mechanism: YES	
Type of Parking Unit: AUTOMATIC TRANSMISSION WITH PARK DETENT.	
Mstr Cylinder Dia(mm): 27.43	Pedal Ratio: 3.6 : 1

FRONT SYSTEM BRAKE COMPONENT MATERIALS AND CONSTRUCTION:

BRAKE TYPE: DISC	Material: CAST
Drum Construction: N/A	LF Drum Shoe Lage Dia.(mm): 0.00
Disc Construction: INTEGRAL CAST, VENTED	RF Drum Shoe Lage Dia.(mm): 0.00
Front Brake Dia.(mm): 279.58	LF Drum Dia. RESET(mm): 0.00
Fr Disc Thickness(mm): 27.94	RF Drum Dia. RESET(mm): 0.00
Lining Construction: Bonded	
FRONT BRAKE COMPONENT DIMENSIONS AND CODES:	
Inboard (Leading)	Outboard (Trailing)
Width(mm): 49.56	Width(mm): 49.58
Length(mm): 126.49	Length(mm): 126.44
Thickness(mm): 10.67	Thickness(mm): 10.67
Lining Code/Color: AK NS217H FF	Lining Code/Color: AK NS217H FF
Hyd. Piston Dia (mm): 63.35	

DATA SHEET 1 - (CONTINUED)

REAR SYSTEM

BRAKE COMPONENT MATERIALS AND CONSTRUCTION:

BRAKE TYPE: DISC

Material: CAST

Drum Construction: N/A

LR Drum Shoe Cage Dia.(mm): 0 00

Disc Construction: INT CAST UNVENT

RR Drum Shoe Cage Dia.(mm): 0 00

Lining Construction: BONDED

LR Drum Dia. RESET(mm): 0 00

Rear Brake Dia.(mm): 313.13

RR Drum Dia. RESET(mm): 0.00

Rr Disc Thickness(mm): 11.00

REAR BRAKE COMPONENT DIMENSIONS AND CODES:

Inboard (Leading)

Outboard (Trailing)

Width(mm): 36.65

Width (mm): 36.63

Length(mm): 77.75

Length (mm): 77.75

Thickness(mm): 9.68

Thickness (mm): 9.68

Lining Code/Color: AK NS217H FF

Lining Code/Color: AK NS217H FF

Eyd Piston Dia (mm): 38.02

OTHER COMPONENT INFORMATION:

Friction-type Park Brake: N/A

Non-Service Brake Type

Parking Brake: FOOT-OPERATED

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 COTR immediately

Technician:

Karen Easterday
KAREN EASTERDAY

Date

1/17/63

Quality Assurance:

Ken Webster
KEN WEBSTER

VEHICLE: 2003 Honda Pilot EX

NHTSA NO.: C35300

DATE: 01/10/03

3.0 SUMMARY OF TESTING

		Specification and Limit:				TEST RESULTS (In compliance if one stop meets requirement)			
			Min. Pedal Force (N)	Max. Pedal Force (N)		Shortest Stop Min. Pedal Force (N)***	Shortest Stop Max. Pedal Force Newtons (Average - N)	Shortest Stop Stopping Distance (m) (Corrected)	PASS Fail
TEST	Loading Condition	Speed (km/h)			Stopping Distance Requirement (m)				
Equipment Requirements					Specified Equipment	Vehicle contains specified equipment			Pass
Vehicle Maximum Speed	LLVW	NA				175.9 km/h avg.			NA
Burnish	GVWR	80				200, 80 - 0 km/h stops @ 3.0 mpsps			NA
Wheel Lockup Sequence w/o	GVWR				Lockup of front wheels prior to rear	ABS Equipped			NA
Wheel Lockup Sequence w/o	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	457.1	50.1	Pass
High Speed Effectiveness	GVWR	141.5	65	500	spd. depend.-147.9	5	427.0	96.9	Pass
Stops with Engine Off	GVWR	100	65	500	70	5	430.7	53.1	Pass
Cold Effectiveness	LLVW	100	65	500	70	5	463.6	44.4	Pass
High Speed Effectiveness	LLVW	141.5	65	500	spd. depend.-147.9	5	487.8	88.0	Pass
Failed Antilock	LLVW	100	65	500	85	5	232.5	53.3	Pass
Failed Proportioning Valve	LLVW	100	65	500	110	5	NA	NA	NA
Failed Hydraulic Circuit #1	LLVW	100	65	500	168	5	499.5	99.8	Pass
Failed Hydraulic Circuit #2	LLVW	100	65	500	168	5	490.0	89.5	Pass
Failed Hydraulic Circuit #1	GVWR	100	65	500	168	5	477.5	105.0	Pass
Failed Hydraulic Circuit #2	GVWR	100	65	500	168	5	480.7	100.5	Pass
Failed Antilock	GVWR	100	65	500	85	5	265.6	52.3	Pass
Failed Proportioning Valve	GVWR	100	65	500	110	5	NA	NA	NA
Power Brake Unit Failure	GVWR	100	65	500	168	5	494.0	156.3	Pass
Parking Brake - Uphill	GVWR	-	-	500	Hold for 5 min.?	NA	498.9	Yes-Holds	Pass
Parking Brake - Downhill	GVWR			500	Hold for 5 min.?	NA	497.5	Yes-Holds	Pass
Heating Snubs	GVWR	20-60	NA	NA	15 Snubs- 3.0 mpsps	5	44 Vis. Avg.	NA	NA
Hot Performance Stop #1	GVWR	100	65	378	50.0	5	424.1 (291.1)	56.0	Pass
Hot Performance Stop #2	GVWR	100	65	500	89	5	564.9	57.3	Pass*
Brake Cooling	GVWR	50	NA	NA	4 Stops - 3.0 mpsps	5	48 Vis. Avg.	NA	NA
Recovery Performance Stop	GVWR	100	65	378	One of the two stops between 74.1 and 40.9 meters	5	444.5 (259.3)	47.3	Pass
Recovery Performance Stop	GVWR	100	65	500		5	419.1 (291.9)	48.9	
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. *See Appendix C.

DATA SHEET 3 - VEHICLE WEIGHT

VEHICLE: 2003 HONDA PILOT 5DR EX

NHTSA No. C35300 Date: 11/22/02

Tire Pressure(cold): Front (kpa) 221 Rear (kpa) 221

Odometer: Start 175 MI. End 668 MI.

Scale(s) Used: TRC Toledo Scales

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

GVWR/GAWR INFORMATION

(From Veh. Certification Label)

GVWR(Kg): 2699

GAWR Front(Kg): 1300

GAWR Rear(Kg): 1431

UNLOADED VEHICLE WEIGHT(UVW)

L Front(Kg): 560 L Rear(Kg): 453

R Front(Kg): 552 R Rear(Kg): 424

T Front(Kg): 1111 T Rear(Kg): 876

Total UVW(Kg): 1988

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): 609 L Rear(Kg): 496

R Front(Kg): 599 R Rear(Kg): 466

T Front(Kg): 1208 T Rear(Kg): 962

Total LLVW(Kg): 2170

L Front(Kg): 610 L Rear(Kg): 494

R Front(Kg): 598 R Rear(Kg): 468

T Front(Kg): 1208 T Rear(Kg): 962

Total Actual Test LLVW(Kg): 2170

Load: Driver/Observer 73(Kg) + Instru. 41(Kg) + Ballast 68(Kg) = 182(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): 635 L Rear(Kg): 715

R Front(Kg): 648 R Rear(Kg): 699

T Front(Kg): 1284 T Rear(Kg): 1414

Total Fully Loaded GVWR(Kg): 2698

Load: Driver/Observer 73(Kg) + Instru. 41(Kg) + Ballast 596(Kg)= 710(kg)

Technician: Karen Easterday
KAREN EASTERDAY

Date: 11/27/02

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.

(B) 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 jr
(KAREN EASTERDAY)

Date: 1/17/03

Quality Assurance: Ken Webster
KEN WEBSTER

DATA SHEET 5 - VEHICLE MAX SPEED

VEHICLE: 2003 HONDA PILOT 5DR EX

NHTSA No. C35300 Date: 11/22/02

Ambient Temperature: 33 C(°F)

Wind Velocity: 11 00(MPH)

Road PFG: .99

Wind Direction: 329°

Odometer: Start 203(mi) End 216(mi)

TEST WEIGHT: Total (Kg): *Calc Error Front (Kg): 1208 Rear (Kg): 962

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	177.4km/h	177.4	10.46
Run No. 2	North	176km/h	176.0	9.87

AVERAGE - 176.7 km/h

COMMENTS: INV DATA, Section 0001, 11/25/02, 11:47:45

Tester/Technician: Karen Easterday
KAREN EASTERDAY

Date: 1/17/03

Quality Assurance: Ken Webster
KEN WEBSTER

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35366
Make: HONDA
Model: PILOT SDR EX
Body Style: MPV
Front Cold Tire Pressure: 221 (Kpa)
Rear Cold Tire Pressure: 221 (Kpa)

Transportation Research Center, Inc.
10820 State Route 347
Reas Liberty, Ohio 43119
(937)666-2011 www.trcpg.com

Date Tested: 11/25/02

DATA SHEET 6 - BURNISH AT GVWR

Testing Conditions: INV DATA, Section 0002, 11/25/02, 14:16:41

Weather Conditions: 31°F Wind: 7 mph 7° Start Odo.: 215 End Odo.: 484

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 IBT 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	RIGHT	LEFT	RIGHT	MAX.	AVG.	AVG.
#	SPD	FRONT	FRONT	REAR	REAR	PEDAL	PEDAL	DECEL
	(kph)	(°C)	(°C)	(°C)	(°C)	(N)	(N)	(m/sec ²)
1	80.79	54	56	47	47	82.26	48.74	2.99
10	80.88	92	94	121	129	67.77	30.90	2.84
20	80.88	91	96	126	133	46.76	32.19	2.73
30	80.43	94	103	123	128	47.56	28.92	2.86
40	81.15	91	101	120	127	55.29	35.35	2.91
50	80.59	95	103	111	117	66.04	37.25	2.71
60	79.76	92	99	114	124	42.01	31.77	2.83
70	81.19	86	88	107	117	45.12	30.40	2.81
80	81.52	93	98	117	127	52.47	36.60	2.81
90	80.08	100	95	120	130	43.63	33.14	2.86
100	81.04	97	102	110	120	46.49	30.63	2.74
110	80.71	98	102	121	130	49.12	29.49	2.88
120	82.32	94	99	110	124	56.85	35.35	2.63
130	82.18	78	99	117	125	48.48	31.81	3.08
140	80.02	98	96	117	124	49.42	32.91	2.70
150	80.99	94	99	116	123	48.74	34.82	2.85
160	81.18	84	97	113	121	43.61	30.23	2.78
170	80.71	98	99	114	122	45.32	29.95	2.93
180	80.61	93	83	113	119	42.58	31.66	2.68
190	80.78	96	99	113	118	52.61	32.53	2.74
200	80.18	91	94	113	118	50.51	33.56	2.77

COMMENTS: THIS VEHICLE WAS 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 INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTSEIDAY Observer: NONE
Recorded Data Processed by: CHUCK JEWELING Date: 12/20/02
Approving Laboratory Official: KEW WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: DITOT 5DR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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 10820 State Route 347
 East Liberty, Ohio 43119
 (937)666-2011 www.trcrg.com

Date Tested: 11/26/02

DATA SHEET 11 - COLD EFFECTIVENESS AT GVWR

Testing Conditions: INV DATA, Section 0015, 11/26/02, 11:42:37

Weather Conditions: 11°F Wind: 3 mph SE Start Odo.: 436 End Odo.: 504

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 0.3 sec above 15 km/h
 Vehicle must stay in lane of 3.5m

	UNIT	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE	CORRECTED DISTANCE	MAX. PEDAL FORCE	AVG. PEDAL FORCE	MAX. DECEL	AVG. DECEL
STOP #	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec ²)	(m/sec ²)
1	98.28	77	84	60	61	50.9	51.7	468.77	377.77	9.93	7.22
2	99.59	78	98	59	62	52.8	53.2	450.29	366.64	10.13	7.28
3	98.97	84	92	68	73	50.1	50.1	457.10	378.33	10.89	7.54
4	99.91	81	87	69	74	51.6	51.7	518.70	370.87	11.45	7.49
5	98.98	81	88	72	78	50.0	51.1	488.72	334.42	10.97	7.39
6	99.84	84	94	82	86	51.2	51.4	456.09	322.13	12.07	6.97

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

Corrected Distances are used to determine shortest stopping distance.

DATA INDICATES COMPLIANCE: YES (X) NO []

Driver: JAREN EASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/30/02
 Approving Laboratory Official: KEN WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35306
 Make: HONDA
 Model: PILOT SDR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

Transportation Research Center, Inc.
 10820 State Route 347
 East Liberty, Ohio 43319
 (937) 666-2011 www.trcpg.com

Date Tested: 11/26/02

DATA SHEET 12 - HIGH SPEED EFFECTIVENESS AT GVWR

Testing Conditions: INV DATA, Section 0020, 11/26/02, 13:18:33

Weather Conditions: 31°F Wind: 8 mph 2' Start Odo: 508 End Odo: 518

Schedule:

Initial Brake Temperature: 65-100°C
 Initial Speed: 80% max km/h, not greater than 160km/h
 6 stops with transmission in gear

Performance Requirements:

One Stop with:
 Stopping Distance less than: 147.9 meters
 Pedal Force between 65N and 600N
 No Lock-Up allowed longer than 0.1 sec above 15 km/h
 Vehicle Must stay in Lane of 3.5m

		LEFT	RIGHT	LEFT	RIGHT	CORRECTED		MAX.	AVG.		
STOP	INIT	FRONT	FRONT	REAR	REAR	ACTUAL	DISTANCE	PEDAL	PEDAL	MAX.	AVG.
#	(Kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(SAE 299) (meter)	FORCE (N)	FORCE (N)	DECEL (m/sec²)	DECEL (m/sec²)
1	141.46	86	89	60	72	104.2	104.0	447.24	353.43	11.14	7.28
2	140.47	78	84	72	82	95.7	96.9	427.04	306.91	12.46	7.78
3	141.47	82	90	70	76	100.9	100.5	440.01	196.91	10.77	4.38
4	139.67	62	71	55	47	99.7	101.1	432.86	357.98	11.23	8.51
5	141.05	77	83	62	61	105.1	105.5	296.30	227.73	10.72	8.84
6	141.07	68	81	50	51	101.5	101.8	452.56	375.59	11.10	8.48

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

COMMENTS: STOP #1, DAS CONTINUE RECORDING - LOW AVERAGE.

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTERDAY Observer: MONB
 Recorded Data Processed by: CHUCK JENKINS Date: 12/20/02
 Approving Laboratory Official: KEN BASTERDAY Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT SDR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 11/24/02

DATA SHEET 13 - STOPS WITH ENGINE OFF AT GVWR

Testing Conditions: INV DATA, Section 0025, 11/26/02, 14:22:16

Weather Conditions: 38°F Wind: 5 mph 352° Start Odo.: 518 End Odo.: 527

Schedule:

Initial Brake Temperature: 55-100°C
 Initial Speed 100 km/h to zero
 5 stops with transmission in neutral

Performance Requirements:

One Stop with:
 Stopping Distance less than 79m
 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	DISTANCE	PEDAL	PEDAL	DECEL	DECEL
#	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(meter)	(N)	(N)	(m/sec²)	(m/sec²)
1	99.75	81	91	63	59	57.2	57.5	359.88	323.43	10.75	7.78
2	99.92	77	88	73	70	53.6	53.7	461.05	405.12	11.59	8.30
3	100.58	82	93	87	85	52.0	51.4	598.95	378.90	10.19	8.42
4	99.82	82	95	92	90	54.3	54.5	436.47	372.10	9.58	7.99
5	99.30	89	97	89	91	52.5	53.1	438.63	356.51	9.70	8.72
6	98.52	82	97	92	93	54.0	55.6	413.83	318.90	10.07	8.08

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: EAREN EASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/20/02
 Approving Laboratory Official: EEN WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT SDR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 227 (Kpa)

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Date Tested: 11/29/02

DATA SHEET 14 - COLD EFFECTIVENESS AT LLOW

Testing Conditions: INV DATA, Section 0030, 11/29/02, 08:45:51

Weather Conditions: 34°F Wind: 22 mph 186° Start Odo.: 535 End Odo.: 543

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 20m
 Pedal force between 45N 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
	(kph)	(°C)	(°C)	(°C)	(°C)	(meter)	(SAE 299) (meter)	(N)	(N)	(m/sec²)	(m/sec²)
1	97.85	73	72	44	43	44.3	46.2	382.97	311.46	12.32	7.65
2	99.28	61	67	61	57	46.0	46.7	452.33	317.92	12.85	7.55
3	99.41	61	68	45	43	42.9	44.4	463.61	327.82	12.85	7.92
4	99.98	79	84	46	42	42.4	45.4	470.08	330.37	11.83	7.63
5	99.30	66	66	41	38	46.9	47.6	490.91	354.13	11.76	7.64
6	99.71	71	84	44	39	46.6	46.9	475.68	360.62	11.57	7.65

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 EASTERDAY Observer: NONE
 Recorded Data Processed by: CRUCE JENKINS Date: 12/28/02
 Approving Laboratory Official: KEW WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT SDR EX
 Body Style: MPV
 Front Cold Tire Pressure: 22: (Kpa)
 Rear Cold Tire Pressure: 22: (Kpa)

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Date Tested: 11/29/02

DATA SHEET 15 - HIGH SPEED EFFECTIVENESS AT LLWV

Testing Conditions: INV DATA, Section 0035, 11/29/02, 09:55:02

Weather Conditions: 40°F Wind: 22 mph 212° Start Odo.: 548 End Odo.: 557

Schedule:

Initial Brake Temperature: 65-120°C
 Initial Speed: 80% max km/h
 6 stops with transmission in gear

Performance Requirements:

One Stop with:
 Stopping Distance less than 147.9m
 Pedal force between 55N and 500N
 No Lock-Up allowed longer than 0.7 sec Above 15 km/h
 Vehicle Must stay in lane of 3.5m

		LEFT	RIGHT	LEFT	RIGHT		CORRECTED	MAX.	AVG.		
	INIT	FRONT	FRONT	REAR	REAR	ACTUAL	DISTANCE	PEDAL	PEDAL	MAX.	AVG.
STOP	SPD	187	187	187	187	DISTANCE	(SAE 299)	FORCE	FORCE	DECEL	DECEL
#	[kph]	[G]	[G]	[G]	[G]	[meters]	[meters]	[N]	[N]	(m/sec ²)	(m/sec ²)
---	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
1	139.44	77	103	73	72	88.7	51.0	454.43	348.92	12.58	8.19
2	137.96	86	85	48	46	87.7	52.0	438.44	299.60	13.80	6.65
3	141.51	83	79	41	36	88.4	68.1	438.17	379.70	14.03	8.53
4	140.96	85	87	53	62	87.8	88.0	487.79	399.92	13.70	8.37
5	140.41	74	85	61	72	90.0	91.2	529.46	412.93	19.05	8.15
6	139.80	77	86	52	67	87.7	89.5	478.31	380.61	13.89	8.12

STOP # DRIVER VEHICLE STOP COMMENTS
 [Wheel Lock-Up - Direction of Stop - Stay in Lane]

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

DATA INDICATING COMPLIANCE: YES (X) NO :)

Driver: KAREN EASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/19/02
 Approving Laboratory Official: BEN WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NETSA NUMBER: C35300

Make: HONDA

Model: PILOT SDR EX

Body Style: MPV

Front Cold Tire Pressure: 221 (Kpa)

Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 11/29/02

DATA SHEET 16 - ANTILOCK FUNCTIONAL FAILURE AT LLVW

Testing Conditions: INV DATA, Section 0040, 11/29/02 11:29:51

Weather Conditions: 40°F Wind: 25 mph 230°

Start Odo.: 563

End Odo.: 565

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 25m

Pedal force between 65N and 500N

No Lock-Up allowed longer than 0.3 sec above 35 km/h

Vehicle must stay in lane of 1.5M

STOP #	INIT SPD (kph)	LEFT FRONT T° (°C)	RIGHT FRONT T° (°C)	LEFT REAR T° (°C)	RIGHT REAR T° (°C)	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (SAE 199) (meters)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
1	99.84	75	74	60	46	54.3	54.5	224.15	115.22	10.05	6.00
2	100.29	86	86	59	52	55.6	55.2	205.98	116.02	10.29	6.02
3	99.32	71	66	43	34	51.6	54.3	156.50	125.69	9.47	7.89
4	99.39	81	73	57	47	53.6	54.3	185.24	117.15	9.45	7.10
5	99.66	97	88	67	56	52.9	53.3	232.45	121.01	10.18	6.94
6	99.22	93	87	67	57	57.7	58.6	164.54	110.87	9.27	6.70

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

How was the ABS failure induced: REMOVED 20 AMP FUSE FROM FUSE BOX LOCATED BESIDE THE BATTERY.

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

Variable proportioning valve integral w/ABS can't separately diagnose Data Sheet 17 not included.

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTEROY Observer: NONE

Recorded Data Processed by: CHUCK JENKINS

Date: 12/20/02

Approving Laboratory Official: KEN WZBETER

Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT SDR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 11/29/02

DATA SHEET 18 - HYDRAULIC CIRCUIT FAILURE #1 AT LLVW

Testing Conditions: INV DATA, Section 0050, 11/29/02, 13:57:45

Weather Conditions: 46°F Wind: 37 mph 229° Start Odo.: 568 3rd Odo.: 573

Method of simulating Failure: Disconnected Brake Line & M/C Front Port

System Portion Failed: LF & RR

Schedule:

Initial Brake Temperature: 65-120°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 #	SPD [km/h]	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
		INT [°C]	INT [°C]	INT [°C]	INT [°C]						
1	99.58	22	84	62	19	100.0	100.8	449.93	378.03	7.93	5.92
2	99.29	19	88	73	18	99.2	100.6	449.82	377.42	6.96	5.86
3	99.39	20	86	69	17	98.6	99.8	499.15	368.35	6.49	5.86
4	99.29	18	91	79	16	101.3	102.8	481.96	391.40	10.16	5.72

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

Force Needed to Activate Brake Failure Lamp (N): N/A
 Fluid Removed (mL) to Activate Brake Failure Lamp: 379

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

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERSDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/30/02
 Approving Laboratory Official: KEN WEBSTER Date: 12/31/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT 5DR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 12/02/02

DATA SHEET 19 - HYDRAULIC CIRCUIT FAILURE #2 AT LLVM

Testing Conditions: INV DATA, SECTION 0055, 12/02/02, 09:36:21

Weather Conditions: 12°F Wind: 13 mph 200° Start Odo.: 582 End Odo.: 586

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 160m
 Pedal force between 65N and 300N
 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 (SAE 299) (meter)	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	100.04	74	16	16	58	90.9	90.8	452.25	324.66	6.42	4.24
2	100.05	91	13	11	63	89.6	89.5	490.88	330.43	7.09	4.21
3	100.46	76	9	9	40	91.1	90.3	476.75	376.01	6.69	4.20
4	99.41	71	6	8	41	89.9	90.9	477.46	388.76	7.55	4.13

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

1	-	NOK	SOUTH	YES
2	-	NOK	SOUTH	YES
3	-	NOK	SOUTH	YES
4	-	NOK	SOUTH	YES

Force Needed to Activate Brake Failure Lamp (N): N/A
 Fluid Removed (mL) to Activate Brake Failure Lamp: 179

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

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTENBAY Observer: NONE
 Recorded Data Processed by: CROCK JONKINS Date: 12/30/02
 Approving Laboratory Official: KEN WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT SDR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 12/01/02

DATA SHEET 20 - HYDRAULIC CIRCUIT FAILURE #1 AT GVWR

Testing Conditions: INV DATA, Section 0060, 12/02/02, 13:30:39

Weather Conditions: 37°F Wind: 13 mph 223° Start Odo.: 598 End Odo.: 602

Method of simulating failure: disconnected Brake Line @ R/C Front Port

System Portion Failed: LF & RR

Schedule:

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

Performance Requirements:

000 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 IBT (°C)	RIGHT FRONT IBT (°C)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)	ACTUAL DISTANCE (meter)	CONNECTED DISTANCE (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
1	100.70	20	74	47	16	109.5	108.0	504.82	385.19	6.32	3.68
2	99.91	17	73	50	13	106.4	106.6	476.50	391.35	6.37	3.55
3	98.90	13	74	57	11	101.9	104.1	502.57	409.55	6.25	3.59
4	100.88	14	93	76	11	106.9	105.0	477.49	384.24	6.24	3.74

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

1	-	NOX	SDUTH	YES
2	-	NOX	SDUTH	YES
3	-	NOX	SDUTH	YES
4	-	NOX	SDUTH	YES

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

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/20/02
 Approving Laboratory Official: KEN WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT SDX EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (kpa)
 Rear Cold Tire Pressure: 221 (kpa)

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Date Tested: 12/02/02

DATA SHEET 21 - HYDRAULIC CIRCUIT FAILURE #2 AT GVWR

Testing Conditions: INV DATA, Section 0365, 12/02/02, 10:46:44

Weather Conditions: 34°F Wind: 7 mph 200° Start Odo.: 589 End Odo.: 594

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 SPD	LEFT FRONT IBT	RIGHT FRONT IBT	LEFT REAR IBT	RIGHT REAR IBT	ACTUAL DISTANCE (meters)	CORRECTED DISTANCE (SAS 299) (meters)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
#	(kph)	(°C)	(°C)	(°C)	(°C)						
1	100.47	02	2	11	60	104.2	103.2	498.76	407.15	6.38	2.88
2	100.34	73	3	8	51	101.9	100.8	503.45	390.02	6.43	3.94
3	99.47	96	9	12	87	102.6	103.8	498.92	365.39	6.08	1.65
4	99.72	88	8	7	69	100.0	100.5	480.68	412.78	6.15	3.90

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

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 BASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/20/02
 Approving Laboratory Official: KEN WENSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35306
 Make: HONDA
 Model: PILOT SDR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 12/02/02

DATA SHEET 22 - ANTILOCK FUNCTIONAL FAILURE AT GVWR

Testing Conditions: INV DATA, SECTION 0070, 12/31/02, 15:53:56

Weather Conditions: 38°F Wind: 5 mph 488° Start Odo.: 695 End Odo.: 612

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 IBC (°C)	RIGHT FRONT IBC (°C)	LEFT REAR IBC (°C)	RIGHT REAR IBC (°C)	ACTUAL DISTANCE (meter)	CONNECTED DISTANCE (SAB 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
1	99.23	68	88	72	56	63.6	64.8	178.30	122.64	8.43	6.25
2	99.28	78	94	69	56	59.4	60.3	255.13	138.48	8.85	6.52
3	99.65	82	91	72	61	56.5	56.9	180.34	132.53	8.70	6.50
4	99.68	88	96	76	70	51.9	52.3	265.68	140.91	10.21	7.08
5	100.65	91	93	80	77	61.3	60.6	199.03	127.89	8.94	6.43
6	100.90	95	93	86	86	59.4	53.5	239.37	147.91	10.09	6.96

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

How was the ABS failure induced: REMOVED 20 AMP FUSE FROM FUSE BOX LOCATED BESIDE THE BATTERY.

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

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

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/20/02
 Approving Laboratory Official: KEN WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT SDR SX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 12/03/02

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

Testing Conditions: INV DATA, Section 0080, 12/03/02, 08:45:28

Weather Conditions: 12°F Wind: 5 mph 347° Start Odo.: 622 End Odo.: 629

Failure Simulation: Disconnect primary source of power.

Method of rendering inoperative: Removed Engine Vacuum Hose 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 IBT (°C)	RIGHT FRONT IBT (°C)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)	ACTUAL DISTANCE (meter)	CONNECTED LEAK TEST (meter)	MAX. PEDAL FORCE (N)	AVG PEDAL FORCE (N)	MAX DECEL (m/sec²)	AVG. DECEL (m/sec²)
	SPD	IBT	IBT	IBT	IBT	DISTANCE	LEAK TEST	FORCE	FORCE	DECEL	DECEL
1	99.67	64	76	57	59	161.7	162.7	497.47	461.58	4.46	2.60
2	99.44	75	89	54	69	161.1	161.9	498.99	459.84	4.20	2.64
3	99.61	71	86	63	66	155.1	156.3	497.97	451.28	4.37	2.66
4	99.36	73	93	63	66	155.6	157.5	496.49	464.58	4.32	2.62
5	99.90	68	90	59	61	162.7	163.3	495.13	459.75	4.01	2.56
6	99.52	66	86	58	58	159.0	160.5	495.68	453.43	5.10	2.54

STOP # DRIVER VEHICLE STOP COMMENTS
 (Wheel Lock-Up - Direction of 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

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

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BARTERDAY Observer: NONE
 Recorded Data Processed By: CHUCK JEWELINS Date: 12/20/02
 Approving Laboratory Official: KEN WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT SDR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 12/03/02

DATA SHEET 25 - PARKING BRAKE AT GVWR

Testing Conditions: INV DATA, Section 0085, 12/03/02, 10:21:08

Parking brake: AUTOMATIC TR Non-service type: FOOT-OPERATED

Service type: N/A

Weather Conditions: 17°F

Wind: 10 mph 356°

Start Ode.: 631

End Ode.: 631

Test Weight: Total: 1608kg

Front: 1284kg

Rear: 1414kg

Schedule:

Initial Brake Temperature <100°C or (Ambient temp.

if non-service brake type materials)

Loaded to GVWR with transmission in neutral

Drive onto 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 1ST (°C)	RIGHT REAR 1ST (°C)	AVG REAR 1ST (°C)	DRIVER VEHICLE STOP COMMENTS			
						(Direction of Stop (Up/Down) - Brake holds/tails)			
1	85.6	499.9	26	21	23.3	C REAPPLY	UPHILL	WOLFS	20%
2	72.2	497.9	17	17	16.9	U REAPPLY	DONKILL	HOLDS	20%

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

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTERDAY

Observer: NONE

Recorded Data Processed By: CRUCE JENKINS

Date: 12/20/02

Approving Laboratory Official: KEVIN WEBSTER

Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 12/10/02

DATA SHEET 26 - HEATING SNUBS AT GVWR

Testing Conditions: INV DATA, Section 0090, 12/10/02, 11:30:03

Schedule:

Conduct 15 snubs from 120 Km/h or 80% Vmax, whichever is slower, to 1/2 of initial speed.
 Attain required decel in 1 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 3.0 m/s/s deceleration
 Vehicle must stay in lane of 3.5m

SNUB	AVG. DECEL	Time Between Snubs	AVG. PEDAL FORCE	LEFT FRONT IBT	RIGHT FRONT IBT	LEFT REAR IBT	RIGHT REAR IBT	INIT SPD
#	(m/sec ²)	(seconds)	(N)	(°C)	(°C)	(°C)	(°C)	(kph)
1	3.52	NA--	57.69	47	50	46	50	119.45
2	3.14	47	50.07	93	90	84	90	118.84
3	3.23	44	43.34	132	132	121	131	120.39
4	2.80	45	45.05	165	164	153	169	121.00
5	2.86	47	43.53	109	101	104	103	120.97
6	2.79	46	38.77	206	203	208	226	119.34
7	2.51	45	41.40	224	230	232	251	120.50
8	2.79	47	48.59	238	258	251	272	121.24
9	2.75	46	44.60	254	261	260	289	119.88
10	2.88	44	46.42	261	272	284	304	120.29
11	2.83	45	42.12	269	280	298	318	119.79
12	2.64	45	36.07	275	288	310	329	119.17
13	2.88	45	45.24	281	293	319	338	120.28
14	2.50	47	35.12	284	297	327	346	119.38
15	2.86	44	37.10	286	296	335	352	120.14

STOP

DRIVER VEHICLE SNUB COMMENTS

(Wheel Lock-Up - Direction of Stop - Stay in Lane)

#	WHEEL LOCK-UP	DIRECTION OF STOP	STAY IN LANE
1	-	NORTH	YES
2	-	EAST	YES
3	-	SOUTH	YES
4	-	SOUTH	YES
5	-	SOUTH	YES
6	-	WEST	YES
7	-	WEST	YES
8	-	NORTH	YES
9	-	NORTH	YES
10	-	NORTH	YES
11	-	EAST	YES
12	-	EAST	YES
13	-	SOUTH	YES
14	-	SOUTH	YES
15	-	SOUTH	YES

DATA INDICATES COMPLIANCE: YES (X) NO []

Driver: KAREN EASTENDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/20/02
 Approving Laboratory Official: KEN WENSTER Date: 12/27/02

Vehicle: 2003 HONDA CP CANADA NETSA NUMBER: C35300
 Make: HONDA
 Model: PILOT 5DR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 12/10/02

DATA SHEET 27 - HOT PERFORMANCE AT GVWR

Testing Conditions: INV DATA. Section 1095, 12/10/02, 11:49:06

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: 3
 Initial speed of stop: 99.97 (kph)
 Actual distance of stop: 50.1 (meter)
 Average pedal force: 374.3 (N)

Performance Requirements:

Stop Number 1 must be less than: 80.0 (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 (SAE 299) (meter)	MAX. PEDAL FORCE (N)	AVG. PEDAL FORCE (N)	MAX. DECEL (m/sec ²)	AVG. DECEL (m/sec ²)
		(°C)	(°C)	(°C)	(°C)						
1	99.22	297	311	348	352	55.2	56.0	424.08	291.13	10.33	6.29
2	98.87	314	324	361	372	56.0	57.3	564.07	338.32	10.67	4.19

See Appendix C

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

DATA INDICATOR COMPLIANCE: YES (X) NO ()

Driver: KAREN EASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/20/02
 Approving Laboratory Official: KEN WEBSTER Date: 12/27/02

Vehicle: 2003 HONDA OF CANADA NHTSA NUMBER: C35300
 Make: HONDA
 Model: PILOT SDX EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 12/10/02

DATA SHEET 28 - BRAKE COOLING STOPS AT GVWR

Testing Conditions: LMV DATA, Section 0200, 12/10/02, 11:51:54

Schedule:

Initial Brake Temperature:
 Achieved on completing No: Performance
 Initial Speed 50 km/h to zero
 4 stops with transmission in gear

Performance Requirements:

Constant Decel rate: 3.6 m/s/s
 Pedal force adjusted as necessary
 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)	AVG. DECEL (m/sec ²)	AVG. PEDAL FORCE (N)	LEFT FRONT IBT (°C)	RIGHT FRONT IBT (°C)	LEFT REAR IBT (°C)	RIGHT REAR IBT (°C)
1	49.47	2.30	58.18	180	299	316	327
2	48.74	2.41	49.31	231	253	268	279
3	50.29	2.54	42.81	187	208	219	237
4	50.50	2.94	45.01	152	175	197	203

STOP #	DRIVER VEHICLE STOP COMMENTS (Wheel Lock up - direction of stop - Stay in Lane)
1	NOX NORTH YES
2	NOX NORTH YES
3	NOX NORTH YES
4	NOX EAST YES

DATA INDICATES COMPLIANCE: YES (I) NO ()

Driver: KAREN EASTERDAY Observer: NONE
 Recorded Data Processed by: CHUCK JENKINS Date: 12/20/02
 Approving Laboratory Official: KEN WEBSTER Date: 12/27/02

Vehicle: 2001 HONDA OF CANADA NHTSA NUMBER: C35100
 Make: HONDA
 Model: PILOT SDR EX
 Body Style: MPV
 Front Cold Tire Pressure: 221 (Kpa)
 Rear Cold Tire Pressure: 221 (Kpa)

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Date Tested: 12/10/02

DATA SHEET 29 - RECOVERY PERFORMANCE AT GVWR

Testing Conditions: INV DATA, Section 0105, 12/10/02, 11:58:56

Weather Conditions: 34°F Wind: 2 mph 75° Start Odo.: 546 End Odo.: 664

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: 71.4 (meter)
 Lower limit of corrected stopping distance: 40.9 (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: Stop3

Initial speed of stop: 99.57 (kph)

Actual distance of stop: 50.1 (meter)

Average pedal force: 378.3 (N)

STOP #	INIT SPD (kph)	LEFT FRONT	RIGHT FRONT	LEFT REAR	RIGHT REAR	ACTUAL DISTANCE (meter)	CORRECTED DISTANCE (SAE 299) (meter)	MAX PEDAL FORCE (N)	AVG. PEDAL (N)	MAX. DECEL (m/sec²)	AVG. DECEL (m/sec²)
		IST (°C)	IST (°C)	IST (°C)	IST (°C)						
1	99.48	136	159	184	189	46.8	47.3	444.47	259.29	12.10	7.15
2	99.13	149	179	199	207	48.1	48.8	419.77	291.85	10.98	7.61

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

DATA INDICATES COMPLIANCE: YES (X) NO ()

Driver: KAREN BASTERDAY Observer: WDBE
 Recorded Data Processed by: CHUCK JEWELINS Date: 12/20/02
 Approving Laboratory Official: KEN WEBSTER Date: 12/27/02

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

VEHICLE: 2003 Honda Pilot EX NHTSA NO.: C35300 DATE: 12/12/02

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	Piston seal possessed one, one-quarter to one-half inch opening (split).	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: K. Easterday

DATA SHEET 30 (Part 2 of 5)
TEST COMPLETION INSPECTION (§7.17)

VEHICLE: 2003 Honda Pilot EX; NHTSA NO.: C35300; GVWR: 2699 kg
MASTER CYLINDER RESERVOIR:

DATE	12/11/02	Requirements	Pass	Fall
Reservoir Compartments (§5.4.1)				
(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	
	No			
Reservoir Capacity (§5.4.2)				
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)	300 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.	X	
Fluid displaced from new to worn linings (ALL linings)	171.2 ml*			
*Value calculated from Data Sheet 31				

Comments: None

DATA SHEET 30 (Part 3 of 5)
TEST COMPLETION INSPECTION (S7.18)

VEHICLE: 2003 Honda Pilot EX; NHTSA NO.: C35300; GVWR: 2699 kg

MASTER CYLINDER RESERVOIR:

DATE	12/11/02	Requirements	Pass	Fail
Master Cylinder Piston Displacement(S5.4.2) [If Common Reservoir Supply - continued from previous page]				
Fluid displaced by three strokes of master cylinder piston for Primary (Subsystem No. 1)	26.5 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)	26.5 ml			
Fluid displaced per stroke, Primary	8.8 ml			
Fluid displaced per stroke, Secondary	8.8 ml			
Fluid available in partial compartment Subsystem No. 1	62 ml		X	
Fluid available in partial compartment Subsystem No. 2	50 ml		X	
Brake Power Unit Reservoir (S5.4.2)				
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 on 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 (S5.4.3)				
Exact copy of reservoir label: On master cylinder reservoir cap: <u>WARNING, USE ONLY DOT 3 OR DOT 4 BRAKE FLUID FROM A SEALED CONTAINER. CLEAN FILLER CAP BEFORE REMOVING.</u>		Label shall read: "Warning, clean filler cap before removing; use only * fluid from a sealed container". * Fluid type specified in 49 CFR 571.116	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 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	
	<u>No</u>			

Comments: None

Technician: K. Easterday

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

VEHICLE: 2003 Honda Pilot EX; NHTSA NO.: C35300; DATE: 12/11/02

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>Lower left quadrant 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 manufacture 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.	Yes			
(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? _____	Yes-Cont.			
Audible warning -continuous or flashing? _____	No			

Comments: None.

Technician: K. Easterday

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

VEHICLE: 2003 Honda Pilot EX; NHTSA NO.: C35300; DATE: 12/11/02

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 block 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"</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: K. Easterday

DATA SHEET 31 (Part 1 of 2)

CALCULATION OF MINIMUM RESERVOIR VOLUME REQUIREMENTS

VEHICLE: 2003 Honda Pilot EX; NHTSA NO.: C35300; DATE: 12/11/02

BRAKE		LINING		
LOCATION	TYPE	DESCRIPTION	MINIMUM THICKNESS	THICKNESS TO FULLY WORN (1) mm*
Left Front	Drum	Leading	Pre-test 10.67 mm	1.6
		Primary	Post Test 10.13 mm	
		Inboard X	Δ 0.54 mm	
	Disc X	Trailing	Pre-test 10.45 mm	1.6
		Secondary	Post Test 10.16 mm	
		Outboard X	Δ 9.30 mm	
LINING CLEARANCE:	Diametrical (2): N/A	Inboard - 1.0 mm	Outboard - 1.0 mm	
WHEEL CYLINDER DIAMETER (3): N/A		CALIPER PISTON DIAMETER (3): 63.35 mm		
SHOE CAGE DIAMETER (4): N/A ; CENTER POINT OF BRAKE ASSY TO CENTER POINT OF W.C.: N/A				
Right Rear	Drum X	Leading	Pre-test 9.68 mm	1.6
		Primary	Post Test 9.19 mm	
		Inboard X	Δ 0.49 mm	
	Disc	Trailing	Pre-test 9.68 mm	1.6
		Secondary	Post Test 9.27 mm	
		Outboard X	Δ 0.41 mm	
LINING CLEARANCE:	Diametrical (2) - N/A	Inboard - 1.0 mm	Outboard - 1.0 mm	
WHEEL CYLINDER DIAMETER (3): N/A		CALIPER PISTON DIAMETER (3): 38.02 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 - 1.6 mm; Rears - 1.6 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: 63.5 mm; Rear: 38.1 mm.				
(4) RESET POSITION: N/A				

Comments: Manufacturer's new lining thickness: Frt.: 11.0 mm; Rear: 10.0 mm.

Technician: K. Easterday

DATA SHEET 31 – SECTION CONTINUED (Part 2 of 2)

Vehicle: 2003 Honda Pilot EX;

NHTSA No.: C35300;

Date: 01/10/03

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:
(Front)

$$V_r = (\Delta t_i + t_{ic} + \Delta t_o + t_{oc}) \times \frac{\pi d^2}{4}$$
$$\Delta t_i = 9.4 \text{ mm}$$
$$\Delta t_o = 9.4 \text{ mm}$$
$$t_{ic} + t_{oc} = 2.0 \text{ mm}$$
$$d = 63.5 \text{ mm}$$
$$V_r = (9.4 + 1.0 + 9.4 + 1.0) \frac{\pi (63.5)^2}{4}$$
$$= 20.4 (3166.92)$$
$$= 64605.2 \text{ mm}^3 = 64.6 \text{ ml}$$

Disc Brake:
(Rear)

$$V_r = (\Delta t_i + t_{ic} + \Delta t_o + t_{oc}) \times \frac{\pi d^2}{4}$$
$$\Delta t_i = 8.4 \text{ mm}$$
$$\Delta t_o = 8.4 \text{ mm}$$
$$t_{ic} + t_{oc} = 2.0 \text{ mm}$$
$$d = 38.1 \text{ mm}$$
$$V_r = (8.4 + 1.0 + 8.4 + 1.0) \frac{\pi (38.1)^2}{4}$$
$$= 18.4 (1140.09)$$
$$= 20997.7 \text{ mm}^3 = 21.0 \text{ ml}$$

For System 1 (RF, LR)

$$V_{r1} = 64605.2 \text{ mm}^3 + 20997.7 \text{ mm}^3$$

$$V_{r1} = 85602.9 \text{ mm}^3 = (85.6 \text{ ml})$$

For System 2 (LF, RR)

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

$$V_{r2} = 85602.9 \text{ mm}^3 = (85.6 \text{ ml})$$

$$\text{TOTAL VOLUME REQUIRED} = V_1 = V_{r1} + V_{r2} = 171206 \text{ mm}^3 = 171.2 \text{ ml}^*$$

SECTION 6.0

Photographs



NMISA No. C-5500 Left Front View



NIJ-93A No. C35300 High Rear View

MFD. BY HONDA OF CANADA MFG., 09/02
A DIVISION OF HONDA CANADA INC. CANADA
GVWR 5950LBS GAWR F 2865LBS R 3155LBS
THIS VEHICLE CONFORMS TO ALL APPLICABLE
FEDERAL MOTOR VEHICLE SAFETY,
AND THEFT PREVENTION STANDARDS IN EFFECT
ON THE DATE OF MANUFACTURE SHOWN ABOVE

VIN 2HKYF18493H531235



MPV

2003 HONDA PILOT EX
NHTSA NO. C35300
NOVEMBER 2002



2003 HONDA PILOT EX

NHTSA NO. C35300

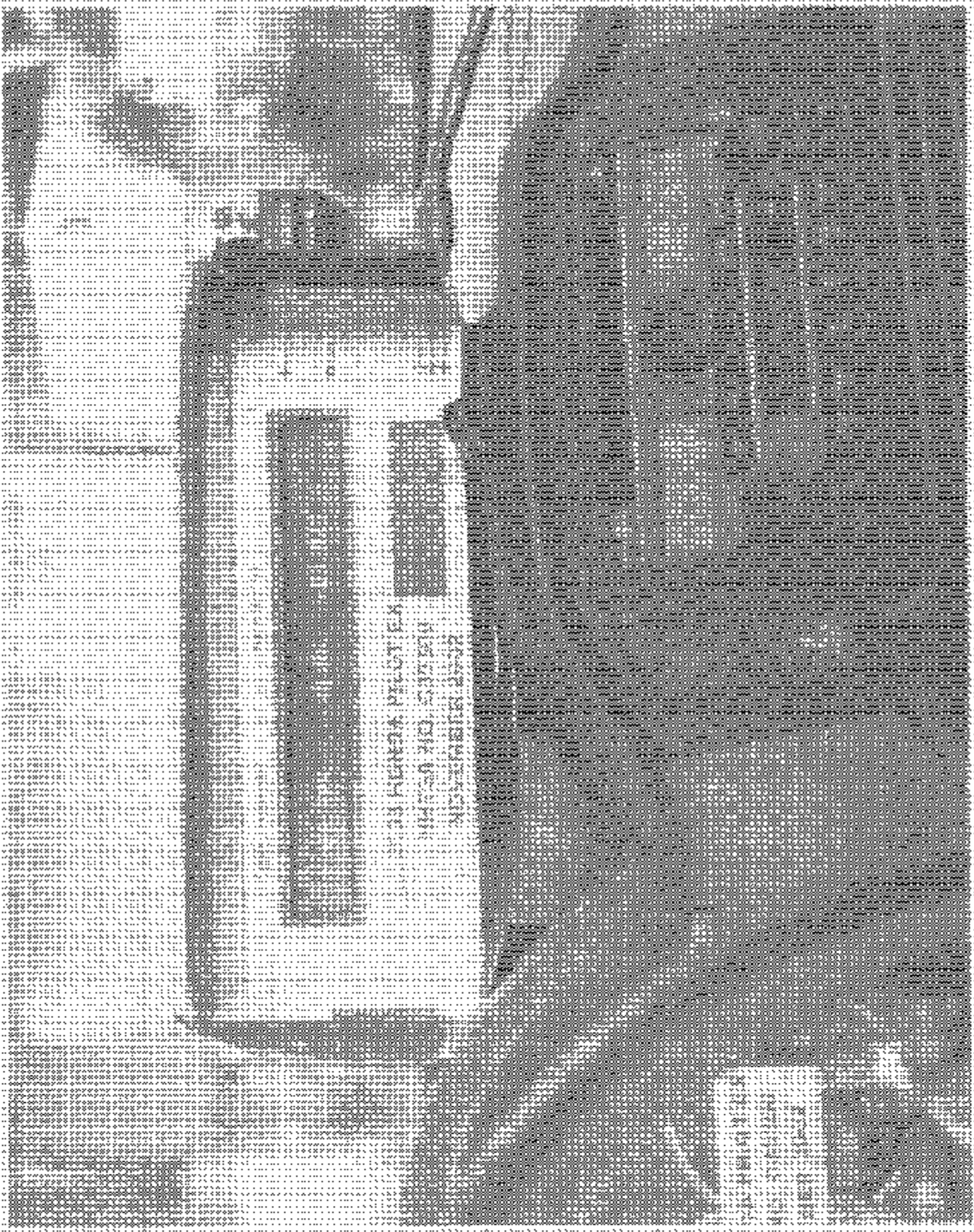
NOVEMBER 2002



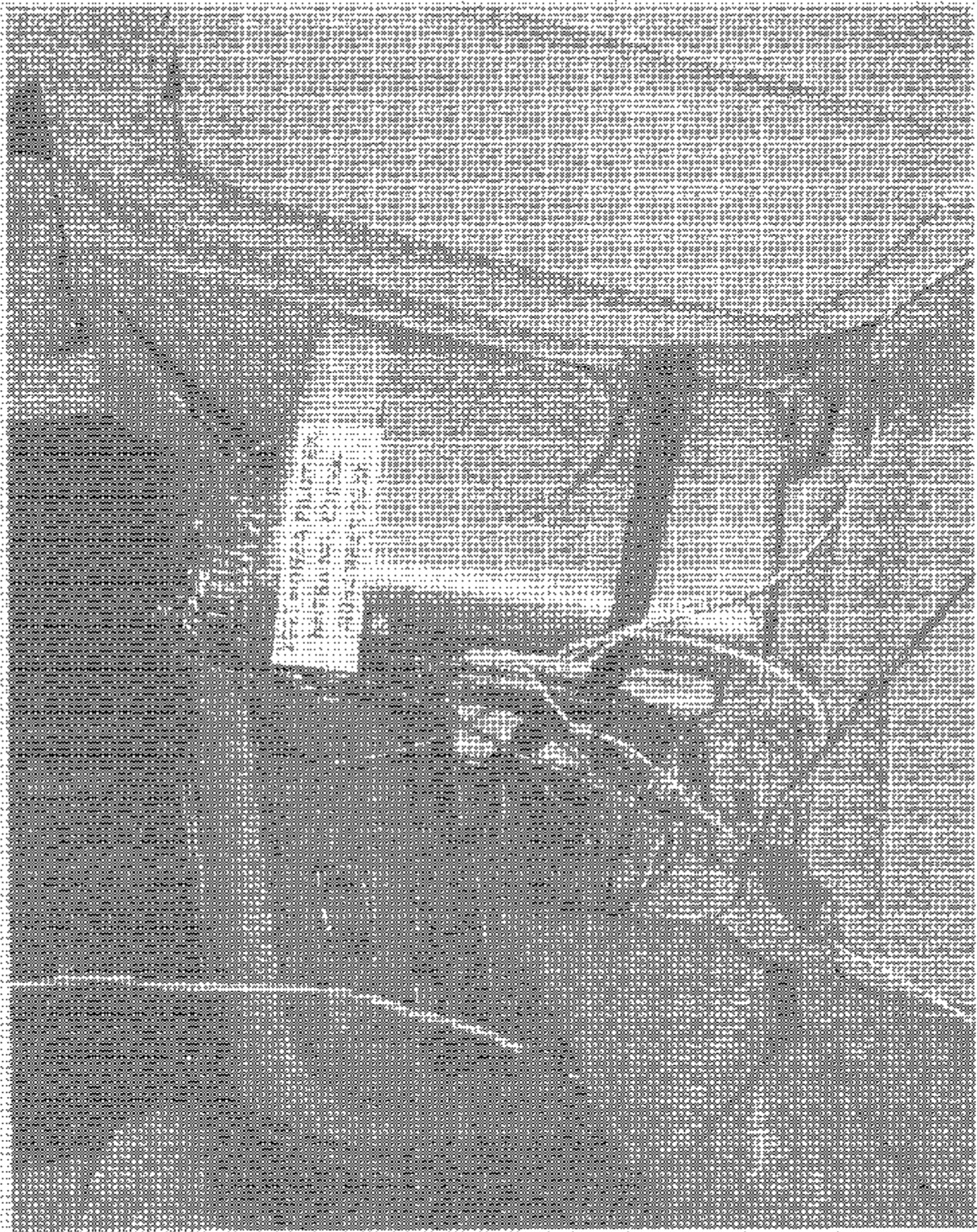
NHTSA No.C35300 Thermocouple Installation Left Front



NHTSA No.C35300 Thermocouple Installation Right Rear



NHTSA No. 205-100 Instruction Manual for Vehicle



NAKSA no C8420 (astronomical) installed in Vehicle

UNITED STATES DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. 20535

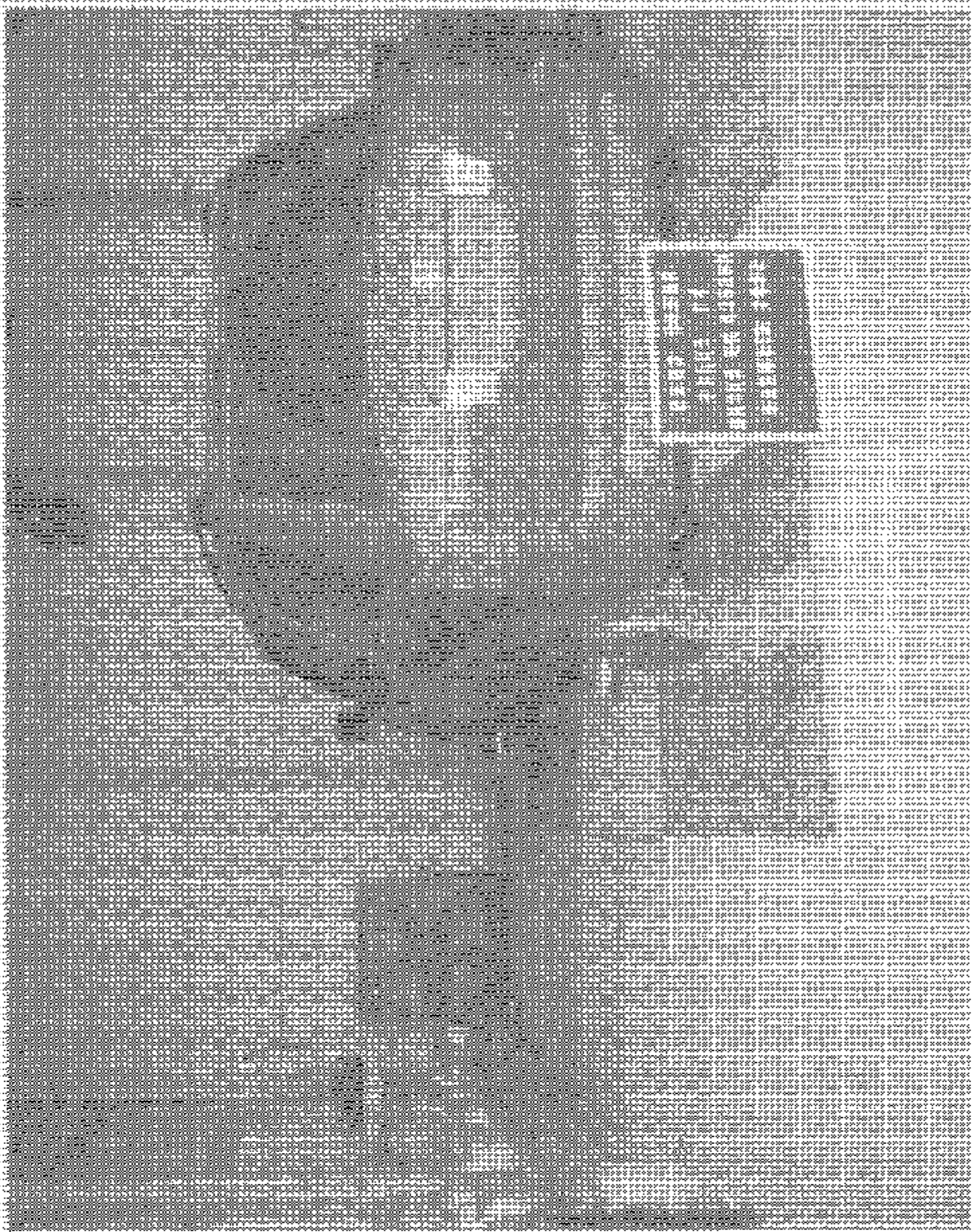
NHTSA No. C85300 Instrumentation Installed in Vehicle

2003 NHTSA FMVOT EX
NHTSA No. C35300
NOVEMBER 2002

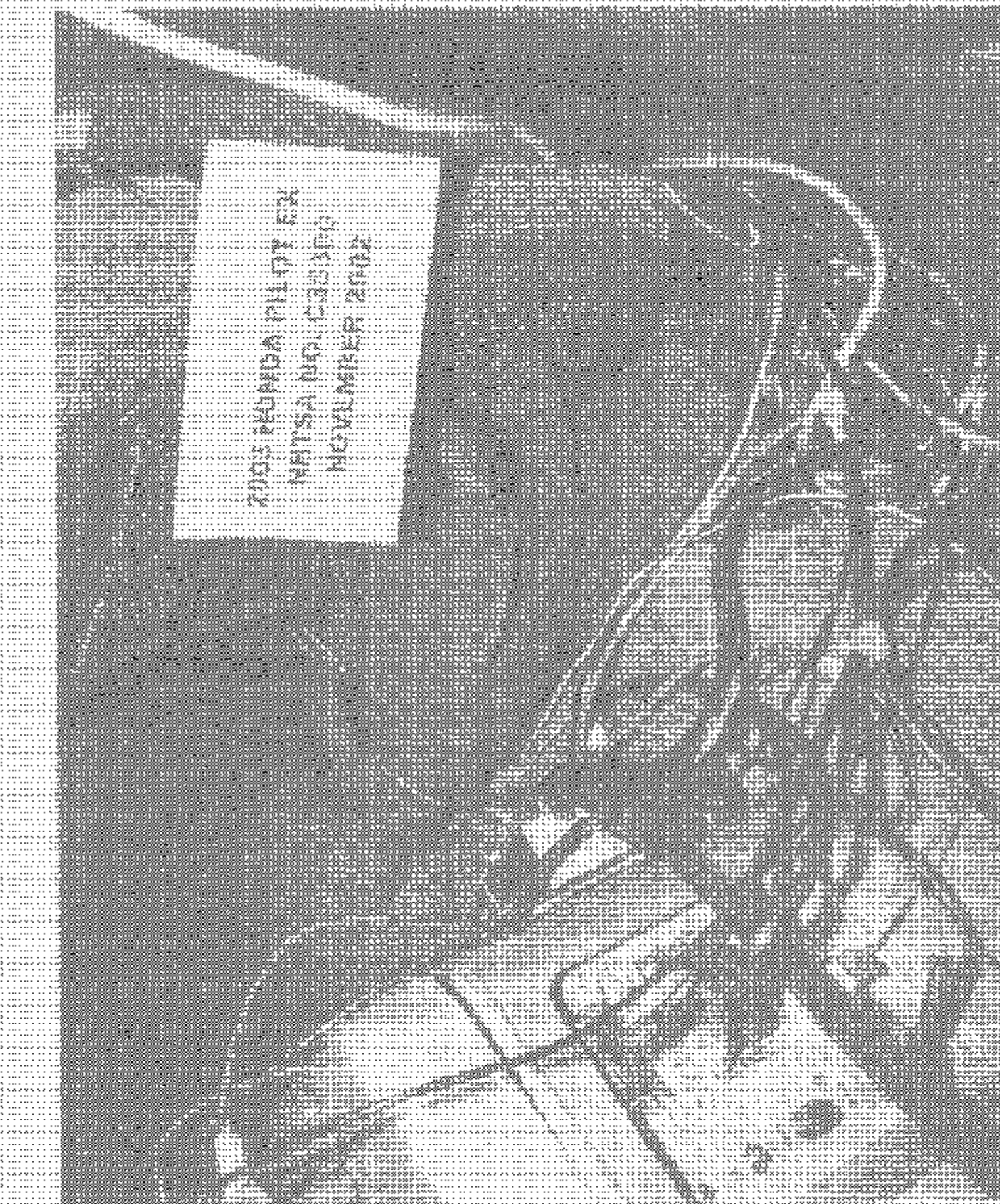
NHTSA No. C35300 Instrumentation Installed in Vehicle

FOR INFORMATION
OCEANOGRAPHY
X-10111 YOHON 2002





NHSCA-110-03530-velocio-Buong-Moines

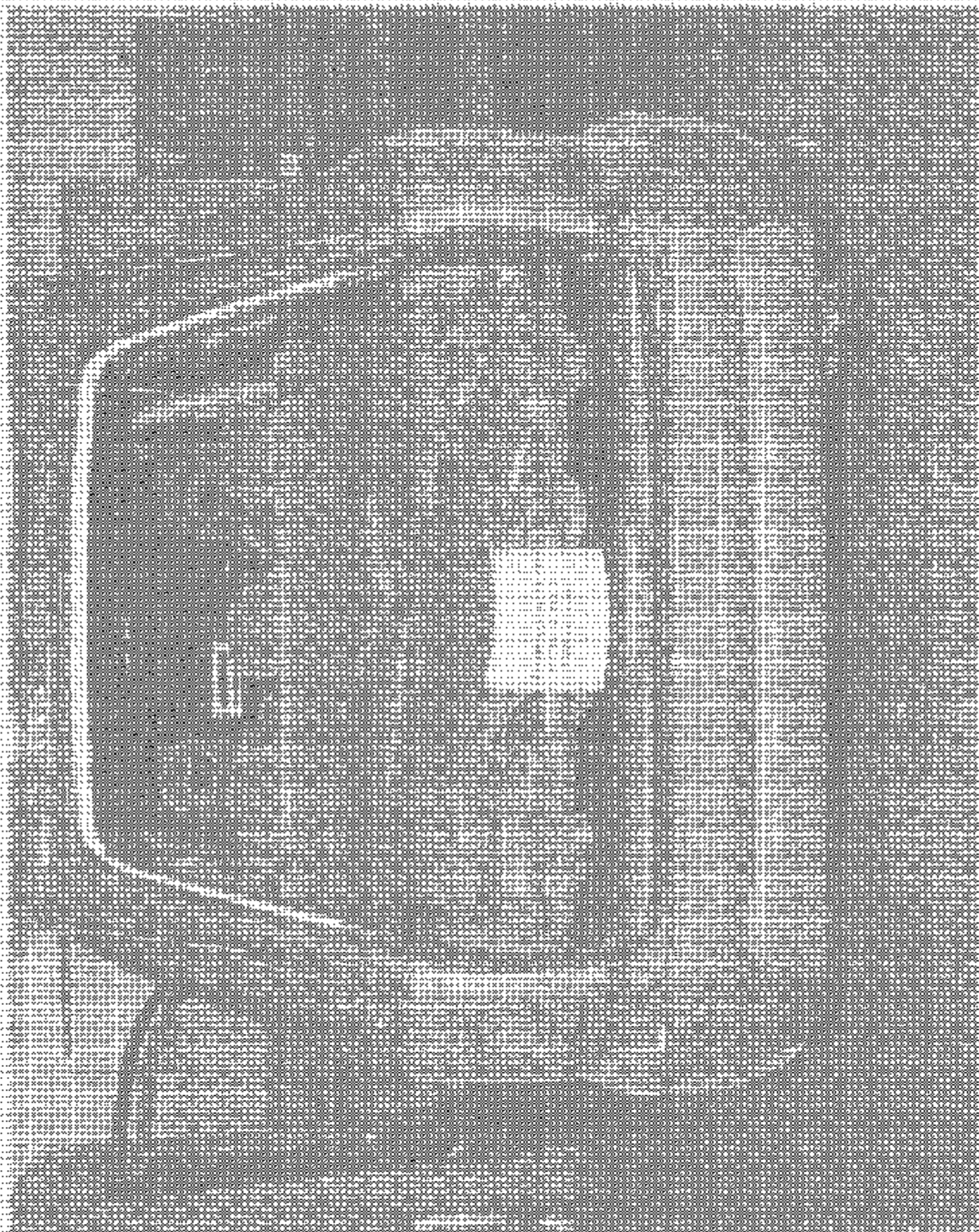


2103 EUROPA PILOT EX
NATSA No. C33370
NOVEMBER 2002

NATSA No. C33370: Baltest in Venice

[illegible]

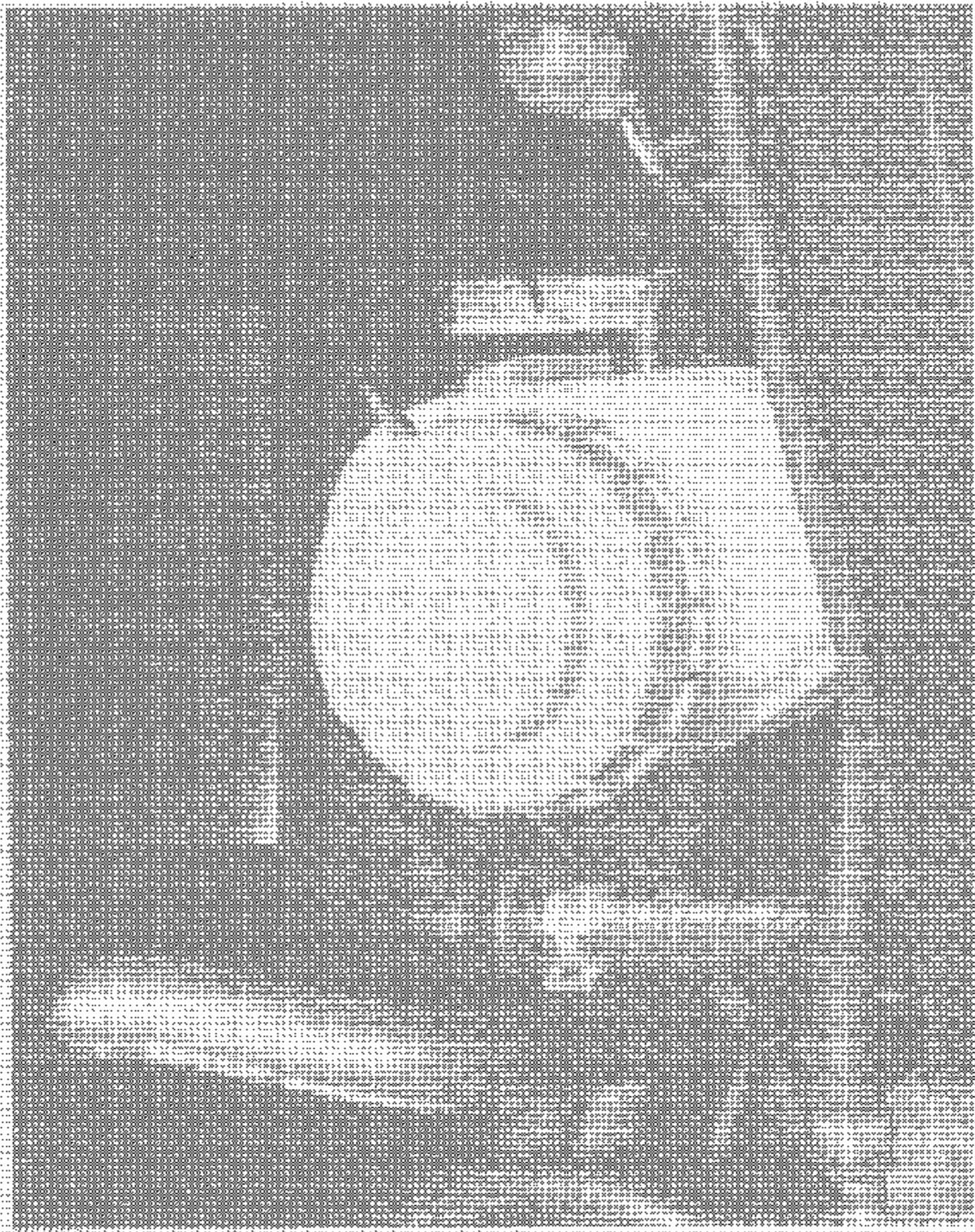
NHTSA No. E-35303-99-001-01-0001



NHTSA No. C36300 Exhibit in Vehicle



NHTSA N-2015-001 ABS & Brake Lamps Activated



NHTSA No. C-25200 Brake Fluid Reservoir

7.0 INSTRUMENT CALIBRATION (12 MONTH MAXIMUM INTERVAL)
VEHICLE: 2003 Honda Pilot EX; NHTSA NO.: C35300; DATE: 11/14/02

INSTRUMENT	SERIAL NUMBER	CALIBRATION DATE	NEXT CALIBRATION
Data Acquisition System - Link DAS 2082	975016	09/13/02	09/13/03
Computer - Dell/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	04/10/02	04/10/03
Tire Pressure Gauge - Ashcroft	AG-05	11/05/02	11/05/03
Frequency Counter - Hewlett Packard	M-1128A00670	09/19/02	09/19/03
Voltage Multimeter - Dana 4300	M-108639	11/16/02	11/16/03
Pedal Force Transducer - Sensor Devel.	169755	Each Test	Each Test
Assorted Pipe-Handle Steel Weights	Not Available	02/13/02	02/13/03
Park Brake Force Transducer - Interfaco	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	Each Test	Each Test
Fifth Wheel - ADAT DSR-06 Radar	140.0119	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	07/03/02	01/03/03

QUALITY ASSURANCE

DAILY CALIBRATIONS (1 of 3)

Vehicle: 2003 Honda Pilot EX

NHTSA No.: C35300

Deceleration Calibration Data for Unit 3350

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"
11/22/02	13:48:11	0.04	9.83
11/25/02	10:01:27	-0.01	9.80
11/26/02	11:24:19	-0.01	9.81
11/26/02	14:50:30	-0.03	9.87
11/29/02	8:25:12	0.00	9.82
11/29/02	15:03:34	-0.02	9.82
12/2/02	9:22:45	-0.06	9.81
12/2/02	15:40:05	-0.06	9.78
12/3/02	8:18:56	0.03	9.74
12/3/02	13:07:20	0.00	9.80
12/10/02	11:25:25	-0.02	9.79
12/10/02	12:06:55	0.05	9.90
12/10/02	13:16:08	-0.01	9.79

PRE-TEST CAL.

POST-TEST CAL.

Pre-Test Linearity Check 11/22/02

Actual (m/s/s)	Rec. (m/s/s)
0.00	0.00
3.00	3.00
6.10	6.10
9.80	9.80

Post-Test Linearity Check 12/10/02

Actual (m/s/s)	Rec. (m/s/s)
0.00	0.00
3.00	3.00
6.10	6.10
9.80	9.80

Distance Calibration for 3350

Desired value is: 1000 m

Allowed deviation is: 3 m

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

"Date"	"Time"	Distance for
"stp"	"stp"	1000 meters
11/25/02	9:47:48	1001.0
11/26/02	11:31:43	1000.5
11/26/02	14:55:20	1001.3
11/29/02	8:36:17	998.8
11/29/02	15:10:51	1000.4
12/2/02	9:30:49	998.0
12/2/02	15:45:28	996.5
12/3/02	8:34:10	997.0
12/3/02	13:15:25	997.0
12/10/02	11:29:18	996.4
12/10/02	12:09:58	996.6

PRE-TEST CAL.

DAILY CALIBRATIONS CONTINUED (2 of 3)

VEHICLE: 2003 Honda Pilot EX

NHTSA No.: C35300

Wheel Tachometer Calibrations for Unit 3350

Wheel tachometer calibrations: all wheel speeds should be 20 km/h

		"Date"	"Time"	Zero	@15kmh	Zero	@15kmh	Zero	@15kmh	Zero	@15kmh	
		stp	stp	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	11/26/02	11:17:38	-0.1	22.6	0.0	16.9	0.0	17.6	0.0	17.0	PRE-TEST CAL.
		11/26/02	14:51:50	0.0	19.1	0.0	16.8	0.0	16.1	0.0	17.0	
		11/29/02	8:32:36	0.0	21.4	0.0	16.7	0.0	16.2	0.0	16.3	
		11/29/02	15:06:13	0.0	20.5	0.0	17.3	0.0	16.1	0.0	16.8	
		12/2/02	9:25:19	0.0	21.7	0.0	17.4	0.0	15.7	0.0	16.6	
		12/2/02	15:41:37	0.0	21.6	0.0	17.6	0.0	16.0	0.0	18.5	POST-TEST CAL.
		12/3/02	8:24:26	0.0	21.3	0.0	18.5	0.0	17.4	0.0	19.7	
		12/3/02	13:12:12	0.0	22.3	0.0	17.7	0.0	16.3	0.0	19.5	
		12/10/02	11:31:58	0.0	21.6	0.0	17.3	0.0	16.0	0.0	16.5	
		12/10/02	12:11:53	0.0	20.1	0.0	16.7	0.0	15.6	0.0	16.3	

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 3350

Target shunt calibration is 500 N.

Desired recorded value is: 392 N

Allowed deviation is 7 N

		"Date"	"Time"	Zero	Cal Val	
		stp	stp	Force	Force N	
Service brk. pedal effort	Driver engages a fixed shunt cal switch.	11/22/02	13:52:48	-0.4	500.2	PRE TEST CAL.
		11/25/02	10:03:35	-0.5	392.4	
		11/26/02	11:26:18	-0.5	392.6	
		11/26/02	14:50:00	-0.5	393.0	
		11/29/02	8:28:12	-0.5	392.6	
		11/29/02	15:04:03	0.0	393.1	POST-TEST CAL.
		12/2/02	9:22:01	-0.3	392.8	
		12/2/02	15:39:34	-0.7	392.5	
		12/3/02	8:21:31	-0.4	392.6	
		12/3/02	13:05:30	0.3	393.0	
		12/10/02	11:25:00	0.0	393.1	
		12/10/02	12:06:10	-0.5	392.6	
		12/10/02	14:53:07	-0.5	498.6	

Pre-Test Linearity Check 11/22/02

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

Post-Test Linearity Check - 12/10/02

Actual	Recorded
Force (N)	Force (N)
0	2
222	223
445	445
498	498

DAILY CALIBRATIONS CONTINUED (3 of 3)

VEHICLE: 2003 Honda Pilot EX

NHTSA No.: C35300

Dynamic Speed Calibration for Unit 3350

Desired speed value is: 100 km/h

Allowed deviation is: 1.5 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
11/25/02	9:51:54	99.7	36.25
11/26/02	11:29:58	99.9	36.18
11/26/02	14:53:59	101.0	36.00
11/29/02	8:35:04	100.0	36.06
11/29/02	15:09:05	100.1	36.06
12/2/02	9:28:14	100.6	36.12
12/2/02	15:43:54	100.8	35.99
12/3/02	8:27:09	100.6	35.78
12/3/02	13:10:20	100.8	36.12
12/10/02	11:27:22	100.2	36.31
12/10/02	12:08:24	100.8	35.96

PRE-TEST CAL.

POST-TEST CAL.

APPENDIX A

Copy of Manufacturer's Sticker



2003 PILOT 5DR EX

VEHICLE NUMBER: 2HKEYF18493H531235

ENGINE NUMBER: J34A4-2535522 EXT: REDROCK PEARL

CONTROL NUMBER: 761728 INT: GRAY

STANDARD EQUIPMENT AT NO EXTRA COST

TECHNICAL FEATURES *

- 243hp 3.5-Liter SOHC 24-Valve VTEC V6 Engine
- EPA & CARB Low Emissions Vehicle Certified (LEV)
- 5-Speed Automatic Transmission with Grade Logic Control
- VTM-4 4-Wheel Drive System
- 4-Wheel Disc Brakes
- Electronic Brake Distribution System (EBD)
- Variable-Assist Power Rack and Pinion Steering
- Front MacPherson Strut Suspension
- Rear Multi-Link Suspension
- Front and Rear Stabilizer Bars
- 105K Miles No Scheduled Tune-Ups (Under Normal Conditions)

SAFETY FEATURES *

- Driver's and Front Passenger's Airbags (SRS)
- Driver's and Front Passenger's Side Air Bags
- Anti-Lock Braking System (ABS)
- 3-Point Seat Belts
- Lower Anchors and Tethers for Children (LATCH)
- Security System and Immobilizer
- Anti-Theft System
- Remote Keyless Entry System

INTERIOR FEATURES *

- Front and Rear Synchronized Automatic Climate Control System with Micro Air Filter

- Multi-Functions Center Console Storage with Cellular Phone Cradle
- AM/FM/Cassette/CD Stereo with Anti-Theft Feature & 7 Speakers Including Subwoofer
- Steering Wheel Audio Controls
- 8 Passenger Seating with Split Folding 2nd and 3rd row
- Driver's 8-Way Power Seat with Adjustable Lumber Support
- Cruise Control
- Power Windows w/ Driver's Side Auto-Up feature
- Power Door Locks
- 2nd Row Fold Down Activity Tray
- 2nd & 3rd Row Grab Rail with Integrated Map Lights
- HomeLink System
- Multiple Storage Compartments
- Grocery Bag Hooks
- Cargo Area Tie-Downs
- Sunglasses Holder
- Front and Rear Beverage Holders
- Floor Mats

EXTERIOR FEATURES *

- 16"x5.5" Alloy Wheels
- 235/70 R15 104S All Season Tires
- Auto-Off Headlights
- Body-Colored Side Molding
- Body-Colored Power Door Mirrors
- Roof Rails
- Rear Privacy Glass
- Rear Window/Wiper Washer
- Rear Window Defroster with Time

Manufacturer's Suggested Retail Price

\$29,270.00

Full Tank of Fuel

No Charge

Destination and Handling

460.00

TOTAL VEHICLE PRICE*
(Includes Pre-Delivery Service)

\$29,730.00

PARTS CONTENT INFORMATION FOR VEHICLES IN THIS CARLINE

U.S./Canadian Parts Content: **70%**
Major Sources of Foreign Parts Content:

JAPAN 10%

NOTE: Parts content does not include final assembly, distribution or other non-parts costs.

FOR THIS VEHICLE
Final Assembly Point:

ALLISTON, ONTARIO, CANADA
Country of Origin: Engine: **USA**
Transmission: **JAPAN**

*This label has been affixed to this motor vehicle by American Honda Motor Co., Inc. in U.S.A. pursuant to PUBLIC LAW 95-505 which prohibits the removal or alteration of this label prior to delivery to the ultimate purchaser.

Gasoline, license and title fees, state and local taxes and dealer installation and accessories are not included in the manufacturer's suggested retail price. Manufacturer's suggested retail price includes manufacturer's recommended pre-delivery service.

Pursuant to California State Vehicle Code Section 24311.2, this vehicle is equipped with equipment that can withstand an impact of 2.5 miles per hour with no damage to the vehicle's body and safety systems, although the bumper and related components may sustain damage. The bumper system on this vehicle conforms to the current federal bumper standard of 2.5 miles per hour.

Compare this vehicle to others in the **FREE FUEL ECONOMY GUIDE** available at the dealer.

CITY MPG

17

HIGHWAY MPG

22



ACTUAL MILEAGE will vary with options, driving conditions, driving habits and vehicle condition. Results reported by EPA indicate that the majority of vehicles with these estimates will achieve between:

14 AND 20 mpg in the city and between
18 AND 26 mpg on the highway

2003 PILOT
3.5 LITER 6-CYL. ENGINE, VTEC
5-SPD AUTOMATIC TRANS
MULTIPOINT FUEL INJECTION
FEEDBACK FUEL SYSTEM

Estimated Annual Fuel Cost
\$1223

FOR COMPARISON SHOPPING, all vehicles classified as SPEC. PURPOSE

have been issued mileage ratings ranging from

10 to 25 mpg city and
13 to 31 mpg highway

see www.fueleconomy.gov

DEALER 208236

JEFF WYLER HONDA OF COLER
8800 COLERAIN AVENUE
CINCINNATI OH 45251

PORT OF ENTRY: BUFFALO
DELIVERY POINT: CHICAGO
SHIP #:
ROWSPACE: 217 U04
TRANSPORTATION METHOD: G30 WALBRIDGE

ORIG. DLR: 208236
REF.NO: 217C3
HN CODE: HN-2986
EMISSION: 50 STA1E

VIN: 2HKEYF18493H531235

APPENDIX B

Discussion on Data

DISCUSSION ON DATA

Symbols for Brake Components

4	-	4 Wheel	G	-	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 INT	-	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 C35300.

For Data Sheets 20 and 21 and, due to the difficulty of accessing the brake lines, the test sequence of these two tests was reversed. Data Sheet 21 was tested immediately prior to Data Sheet 20.

The vehicle is equipped with an Electronic Variable Proportioning system. This system is integral with the ABS system and it cannot be failed separately. Failing the ABS also fails the Variable Proportioning.

For Data Sheet 27 -- Hot Performance at GVWR, the driver momentarily exceeded the maximum allowable pedal force of 500 N by 65 N. The average pedal force, however, was not exceeded and the stopping distance was less than the maximum allowable by a good margin. It is believed that, had the driver not exceeded the maximum allowable pedal effort, the vehicle would have complied with this portion of the Standard.

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.

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

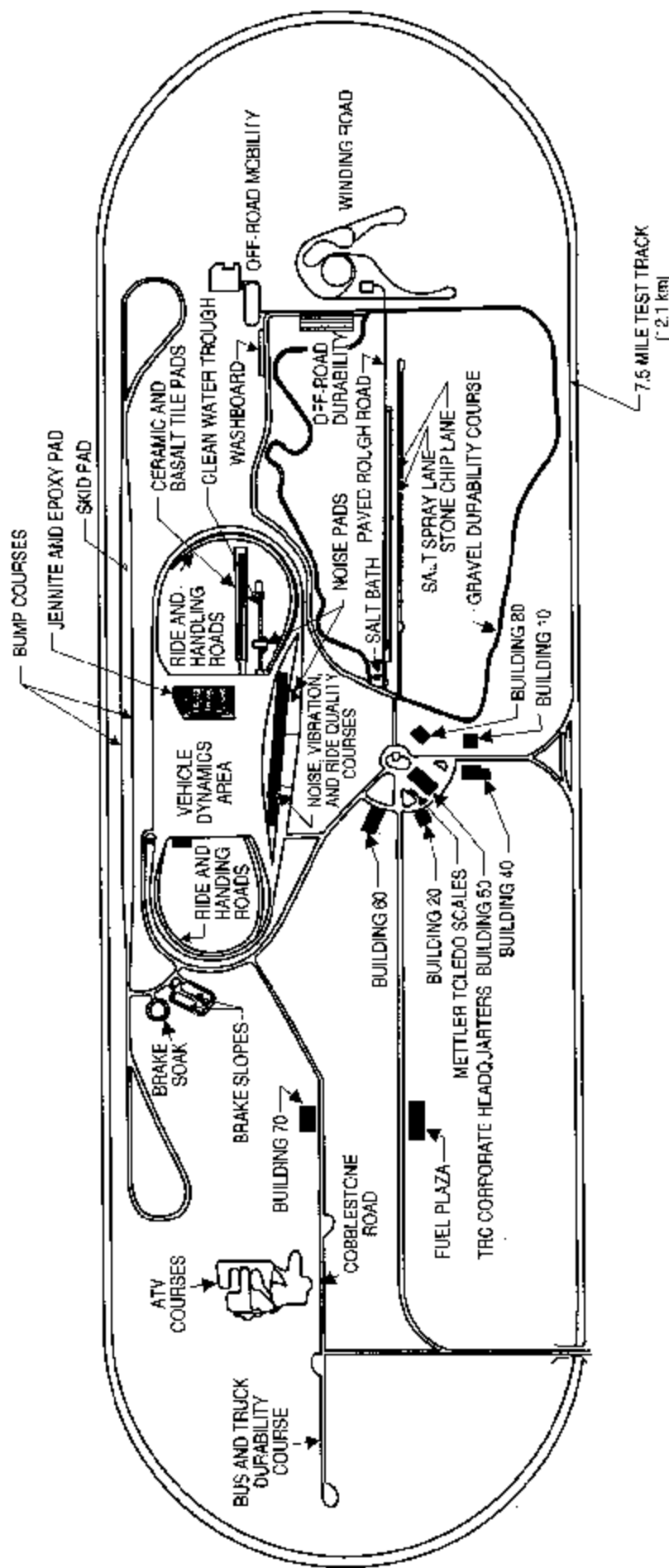
The Skid Pad is a test facility which is utilized primarily for the evaluation of tire and brake systems.

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 g's 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.

EAST LEBER, OHIO 43028-0387

P-50801

The diagram illustrates the layout of a test track with the following specifications:

- Track Dimensions:**
 - Overall length: 9000 ft (2743 m)
 - Segment 1: 6300 ft (1920 m)
 - Segment 2: 3600 ft (1097 m)
- Track Features:**
 - ENTRANCE/EXIT:** Located at the start of the 3600 ft segment, with a width of 3300 ft (1006 m) and a radius of 309 ft (94 m).
 - SPRINKLER SYSTEM:** Located in the middle of the track, with a width of 84 ft (26 m). It includes a section that is 550 ft (167 m) wide and another that is 635 ft (194 m) wide.
 - Each lane is 14 ft (4.3 m) wide.**
 - End of Track:** Located at the end of the 6300 ft segment, with a width of 309 ft (94 m) and a radius of 2700 ft (823 m).
- Track Conditions:**
 - 16 ft (5 m) wide lane
 - 14% or 25% super-elevation
 - Neutral speed 34 mph (55 kph)
- TEST PAD SURFACES:**
 - 1 DURABILITY BUMP COURSE
 - 2 DURABILITY BUMP COURSE
 - 3 DURABILITY BUMP COURSE

1 - PCC POLISHED WET
2 - PCC SMOOTH - ROWELLED WET
3 - PCC PCC COARSE BROOMED DRY

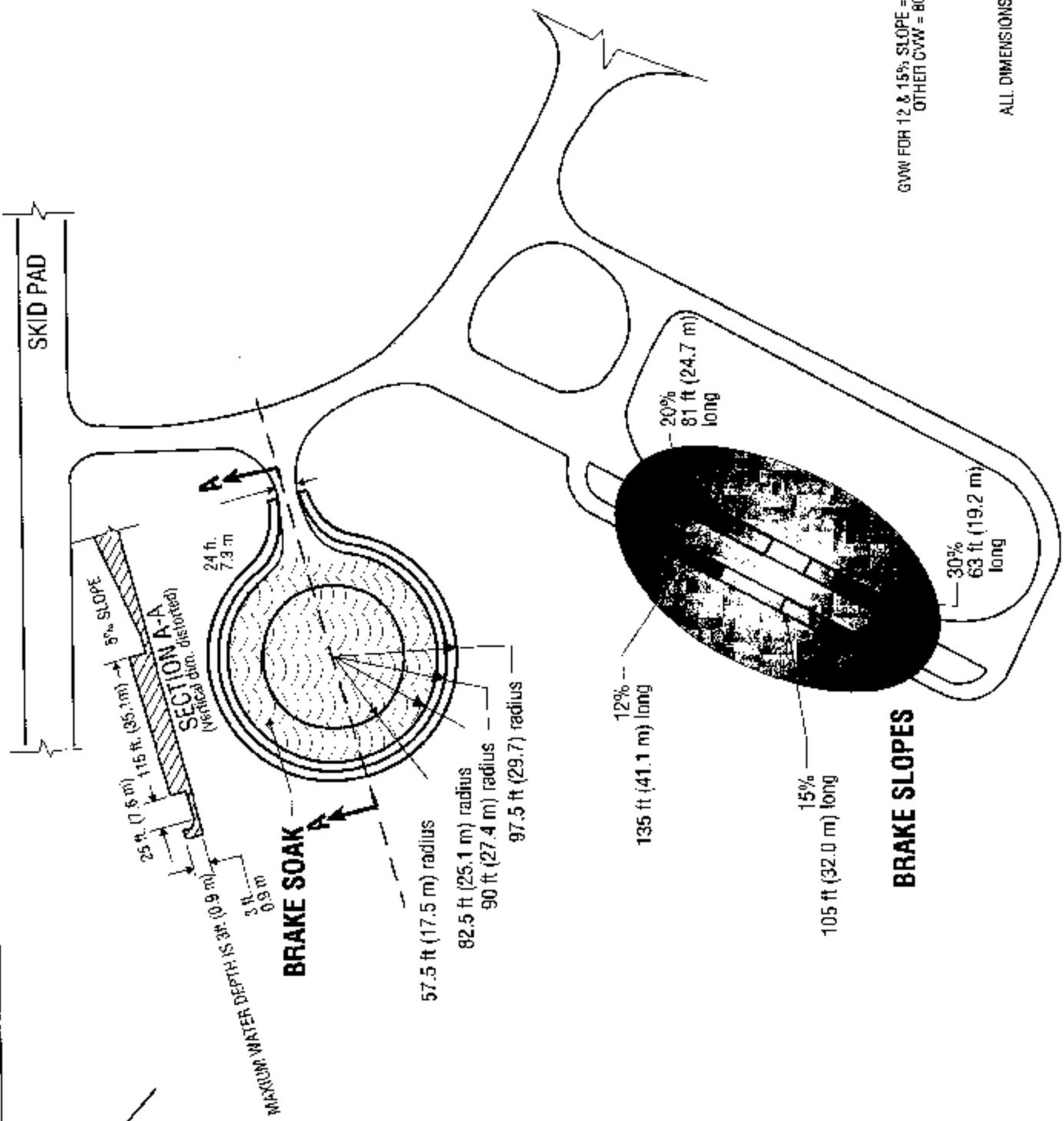
LANE 7 GVW = 8000 lbs (3629 kgs)
GVW = 80,000 LBS (36,298 kgs)

Not to scale
All dimensions are approximate



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

NOT TO SCALE
ALL DIMENSIONS ARE APPROXIMATE

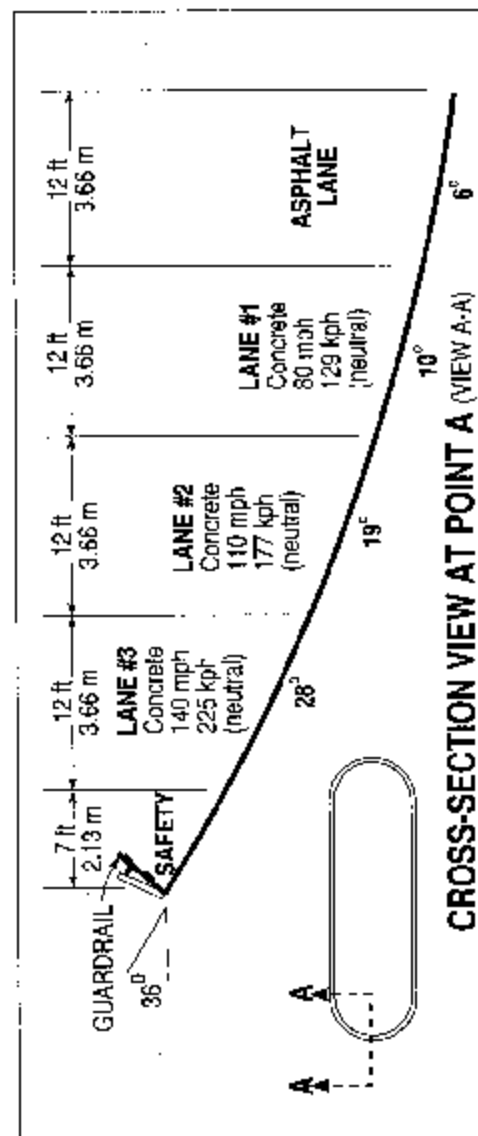
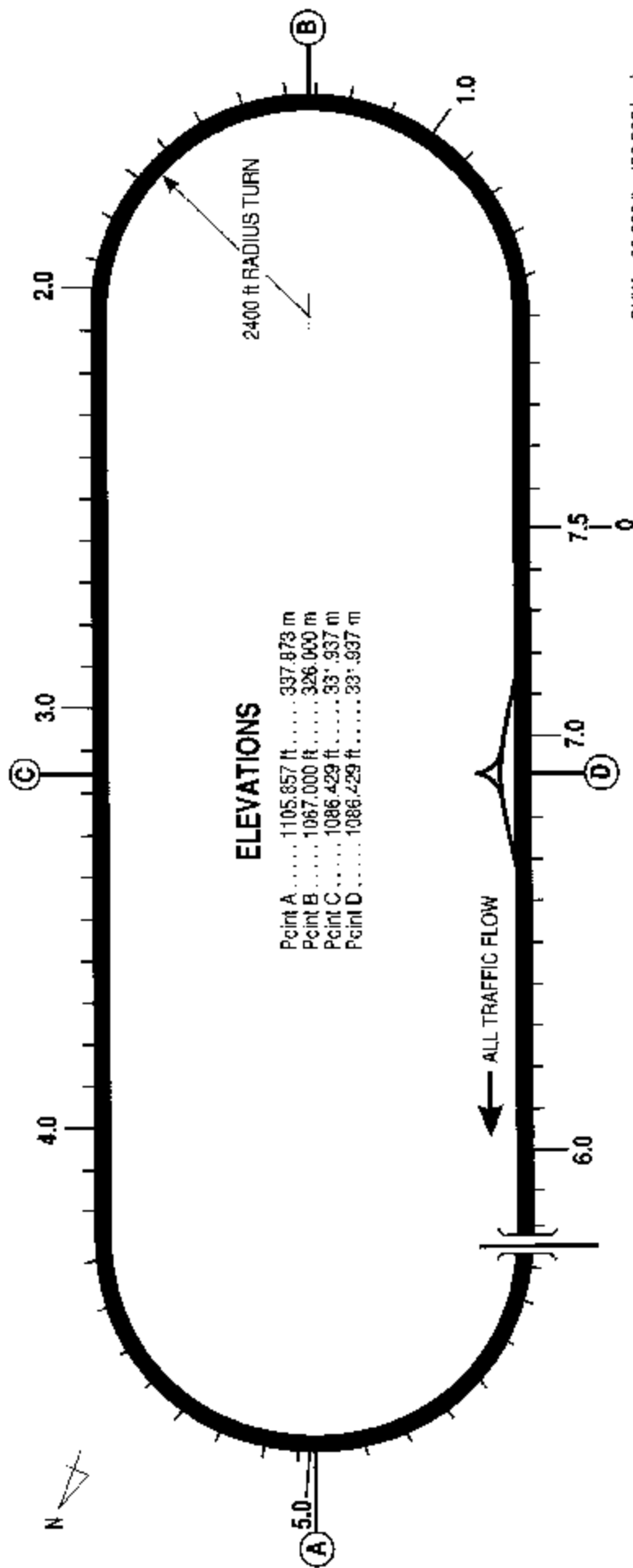
BRAKE SOAK and BRAKE SLOPES

TIRE

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F-3 0590



DISTANCES

Lane 3		539 m		12.133 km
Lane 2		752 m		12.104 km
Lane 1		7507 m		12.081 km
Point A to Point B		3.333 mi		5.364 km
Point C to Point D		.947 mi		1.524 km

NOT TO SCALE

TRC

7.5-MILE TEST TRACK

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P-10-1489

APPENDIX D
Notice of Possible Non-Compliance

This vehicle (C35300) met the requirements.