

636804

FINAL REPORT NUMBER 201U-MGA-03-007

**SAFETY COMPLIANCE TESTING FOR FMVSS 201U
Occupant Protection In Interior Impact
Upper Interior Head Impact Protection**

**Fuji Heavy Industries, Ltd., Japan
2003 Subaru Forester 2.5x 4-Door MPV
NHTSA No. C35502**

**MGA RESEARCH CORPORATION
446 Executive Drive
Troy, Michigan 48083**



**Test Dates: April 16-17, 2003
Report Date: April 18, 2003**

FINAL REPORT

PREPARED FOR:

**U.S. DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION
SAFETY ASSURANCE
OFFICE OF VEHICLE SAFETY COMPLIANCE
400 SEVENTH STREET, SW
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WASHINGTON, D.C. 20590**

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16. Abstract A compliance test was conducted on the subject 2003 Subaru Forester 2.5x, 4-Door MPV, NHTSA No. C35502, in accordance with the specifications of the Office of Vehicle Safety Compliance Test Procedure No. TP-201U-01 for the determination of FMVSS 201U compliance. The test was conducted at the MGA Research Corporation in Troy, Michigan on April 16-17, 2003. Test failures identified were as follows: NONE The data recorded seems to indicate that the 2003 Subaru Forester 2.5x, 4-Door MPV tested appears to comply with the requirements for FMVSS 201U which were set forth by the National Highway Traffic Safety Administration.			
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1.0 PURPOSE OF COMPLIANCE TEST

The purpose of this head impact compliance test was to determine whether the subject vehicle, a 2003 Subaru Forester 2.5x, 4-Door MPV, meets the performance requirements of FMVSS 201U, Occupant Protection in Interior Impact - Upper Interior Head Impact Protection.

Tests were conducted during April 16-17, 2003 on a 2003 Subaru Forester 2.5 x 4-Door MPV, manufactured by Fuji Heavy Industries Ltd., Japan.

All tests were conducted in accordance with the U. S. Department of Transportation, National Highway Traffic Safety Administration's Laboratory Test Procedure TP-201U-01 dated April 3, 1998 and the corresponding MGA Research Corporation's FMVSS 201U procedure number MGATP201U_FRAME#2 dated March 20, 2003.

All tests were conducted at MGA Research Corporation in Troy, Michigan and were performed by MGA engineers and technicians. The FMVSS 201U impactor test machine was used to conduct the testing. Target locations were determined by using a Coordinate Measurement Machine in conjunction with the MGA EZ-Target™ program and MGA procedure MGATP201U_Test Series dated March 20, 2003.

2.0 COMPLIANCE TEST DATA SUMMARY

The 2003 Subaru Forester 2.5x, 4-Door MPV was equipped with A, B, C, and D-Pillars, an adjustable seat belt anchorage on each B and C-Pillar, a grab handle above each front and rear door, an overhead seat belt anchor for the middle rear SgRP, and an overhead lighting/storage console.

Upon completion of targeting the test vehicle, ten (10) targets were chosen to be impacted based upon engineering judgement and certification test data provided by Fuji Heavy Industries, Ltd., Japan. Targets were chosen which appeared most likely to give high HIC(d) values. The ten (10) targets chosen were:

AP1	BP1	OP1	UR2
AP2	BP2	SR2A	
AP3	BP4	UR1	

The 2003 Subaru Forester 2.5x 4-Door MPV tested appears to comply with the performance criteria for FMVSS 201U. The HIC(d) measured using the Part 572L (Free Motion Headform) was below 1000 for each tested component.

TABLE 2-1
SUMMARY TABLE OF TEST RESULTS

VEH. MOD YR/MAKE/MODEL/BODY: 2003 Subaru Forester 2.5x, 4-Door MPV

VEH. NHTSA NO.: C35502 VIN: JF1SG63683G748214 COLOR: Pearl Blue

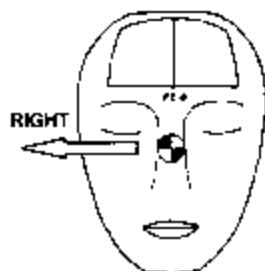
VEH. BUILD DATE: November, 2002 TEST DATES: April 16-17, 2003

TEST LABORATORY: MGA Research Corporation

OBSERVERS: David Gotwals, Scott Kreiger

TARGET	VEHICLE SIDE	HORIZONTAL ANGLE (deg)	VERTICAL ANGLE (deg)	VELOCITY (kph)	HIC(d)	FMH HIC	IMPACT ON FMH (mm)	
							Above	Left/Right
AP1	Right	114	24	23.7	421	338	11	3 Right
AP2	Left	202	40	23.7	668	666	2	5 Left
AP3	Right	159	36	23.8	646	635	8	3 Left
BP1	Right	90	8	23.8	458	386	55	2 Right
BP2	Left	270	4	24.0	614	593	5	10 Left
BP4	Right	150	-3	23.8	505	449	4	4 Left
OP1	Right	90	8	23.7	665	661	1	1 Left
SR2A	Right	90	10	23.5	429	348	14	3 Left
UR1	Left	270	21	23.5	831	616	84	1 Left
UR2	Left	270	26	24.0	522	472	55	10 Left

Above and left/right refers to the position relative to reference pt. 0 where the target made contact with the Free Motion Headform. See the diagram below for details.



POST TEST COMMENTS:

The following description lists any post-test damage or other test observations for each target.

BP1 Right: Slight deformation.

SR2A Right: The side rail was compressed and the anchorage cover was separated during the test.

UR1 Left: The side rail was compressed and the anchorage cover cracked off during the test.

UR2 Left: Headliner deformation.

No damage was observed for any other targets.

REMARKS:

The targets listed were impacted in the following order:

Right: AP3, AP1, SR2A, BP4, BP1, OP1,

Left: AP2, UR1, BP2, UR2

The 150 mm rule was observed for targets horizontal to each other and the 200 mm rule was observed for vertical components.

RECORDED BY: David G. Gotwals

DATE: April 16, 2003

APPROVED BY: Helen A. Kaleto

TABLE 2-2
GENERAL TEST AND VEHICLE PARAMETER DATA

VEH. MOD YR/MAKE/MODEL/BODY: 2003 Subaru Forester 2.5x, 4-Door MPV
 VEH. NHTSA NO.: C35502 VIN: JF1SG63683G748214 COLOR: Pearl Blue
 VEH. BUILD DATE: November, 2002 TEST DATES: April 16-17, 2003
 TEST LABORATORY: MGA Research Corporation
 OBSERVERS: David Gotwals, Scott Kreiger

INTERIOR TRIM INFORMATION: A, B, C, and D-Pillars, an adjustable seat belt anchorage on each B and C-Pillar, a grab handle above each front and rear door, an overhead seat belt anchorage for the middle rear SgRP, and an overhead lighting/storage console.

SUNROOF INFORMATION:

Installed: Yes X No
 Operation: Electric Manual

ROLL-BAR INFORMATION:

Installed: Yes X No
 Padded: Yes X No
 Braces: Yes X No

GENERAL INFORMATION:

Date Received: 3/26/03; Odometer Reading: 32.2 miles

DATA FROM VEHICLE'S CERTIFICATION LABEL:

Vehicle Manufactured By: Fuji Heavy Industries, Ltd., Japan
 Date of Manufacture: 11/02 VIN: JF1SG63683G748214

GVWR: 1880 kg; GAWR FRONT: 930 kg
 GAWR REAR: 1000 kg

DATA FROM TIRE PLACARD:

Tire Pressure with Maximum Capacity Vehicle Load:

FRONT: 200 kpa REAR: 250 kpaRecommended Tire Size: P215/60R16

Recommended Cold Tire Pressure:

FRONT: 200 kpa REAR: 190 kpaSize of Tire on Test Vehicle: P215/60R16Type of Spare Tire: P215/60R16; Space Saver: ; Standard: X

VEHICLE CAPACITY DATA:

Type of Front Seats: Bench ; Bucket X; Split Bench Number of Occupants: Front 2; Rear 3; TOTAL 5VEHICLE CAPACITY WEIGHT (VCW) = 410 kgNo. of Occupants x 68 kg = 340 kgRated Cargo/Luggage Weight (RCLW) = 70 kg (difference)

WEIGHT OF TEST VEHICLE AS DELIVERED AT LABORATORY: (with maximum fluids)

Right Front = 373.5 kg Right Rear = 300.5 kgLeft Front = 398.5 kg Left Rear = 315.0 kgTOTAL FRONT = 772.0 kg TOTAL REAR = 615.5 kg% Total Weight = 55.6 % % Total Weight = 44.4 %TOTAL DELIVERED WEIGHT = 1387.5 kg

CALCULATION OF VEHICLE'S TARGET TEST WEIGHT:

Total Delivered Weight = 1387.5 kgRated Cargo/Luggage Wt. = 70 kgTARGET TEST WEIGHT 1457.5 kg

WEIGHT OF TEST VEHICLE:

Right Front =	<u>368.0</u> kg	Right Rear =	<u>339.5</u> kg
Left Front =	<u>394.5</u> kg	Left Rear =	<u>353.5</u> kg
TOTAL FRONT =	<u>762.5</u> kg	TOTAL REAR =	<u>693.0</u> kg
% Total Weight =	<u>52.4</u> %	% Total Weight =	<u>47.6</u> %
TOTAL TEST WEIGHT = <u>1455.5</u> kg			
Weight of ballast secured in vehicle's cargo area = <u>68</u> kg			

TEST VEHICLE ATTITUDE:

AS DELIVERED: Right Front 762 mm; Left Front 757 mm;
 Right Rear 774 mm; Left Rear 770 mm;
 Pitch Angle at Right Door Sill = 0.7° rear higher
 Pitch Angle at Left Door Sill = 0.4° rear higher
 Roll Angle at Front Bumper = 0.4° right higher
 Roll Angle at Rear Bumper = 0.0°

FULLY LOADED: Right Front 764 mm; Left Front 760 mm;
 Right Rear 762 mm; Left Rear 755 mm;
 Pitch Angle at Right Door Sill = 0.1° rear higher
 Pitch Angle at Left Door Sill = 0.1° rear higher
 Roll Angle at Front Bumper = 0.3° right higher
 Roll Angle at Rear Bumper = 0.0°

AS TARGETED:

Pitch Angle at Right Door Sill = 0.4° rear higher
 Pitch Angle at Left Door Sill = 0.1° rear higher
 Roll Angle at Front Bumper = 0.3° right higher
 Roll Angle at Rear Bumper = 0.0°

AS TESTED (Targets Impacted on Right Side):

Pitch Angle at Right Door Sill = 0.4° rear higherPitch Angle at Left Door Sill = 0.1° rear higherRoll Angle at Front Bumper = 0.3° right higherRoll Angle at Rear Bumper = 0.0°

AS TESTED (Targets Impacted on Left Side):

Pitch Angle at Right Door Sill = 0.3° rear higherPitch Angle at Left Door Sill = 0.3° rear higherRoll Angle at Front Bumper = 0.3° right higherRoll Angle at Rear Bumper = 0.0°VEHICLE WHEELBASE = 2520 mm

REMARKS: The seat travel distance was measured to be 215 mm for both the driver and passenger front seats.

RECORDED BY: David G. GotwalsDATE: April 16, 2003APPROVED BY: Helen A. Kaleta

TABLE 2-3
HORIZONTAL IMPACT ANGLE RANGE FOR A AND B PILLARS

VEH. MOD YR/MAKE/MODEL/BODY: 2003 Subaru Forester 2.5x, 4-Door MPV
 VEH. NHTSA NO.: C35502 VIN: JF1SG63683G748214 COLOR: Pearl Blue
 VEH. BUILD DATE: November, 2002 TEST DATES: April 16-17, 2003
 TEST LABORATORY: MGA Research Corporation
 OBSERVERS: David Gotwals, Scott Kreiger

HORIZONTAL IMPACT ANGLE RANGE FOR A AND B PILLARS

	HORIZONTAL ANGLE SPECIFIED RANGE		MINIMUM HORIZONTAL ANGLE	MAXIMUM HORIZONTAL ANGLE
A-PILLAR	L	195°-255°	L 201.7°	L 246.1°
	R	105°-165°	R 113.5°	R 159.0°
B-PILLAR	L	195°-345°	L 199.7°	L 272.0°
	R	15°-165°	R 89.1°	R 160.4°

AS DETERMINED USING THE PROCEDURES SPECIFIED IN S8.13.4.1

REMARKS:

RECORDED BY: David G. Gotwals

DATE: April 16, 2003

APPROVED BY: Helen A. Kaleto

TABLE 2-4

VERTICAL IMPACT ANGLE RANGES

VEH. MOD YR/MAKE/MODEL/BODY: 2003 Subaru Forester 2.5x, 4-Door MPVVEH. NHTSA NO.: C35502 VIN: JF1SG63683G748214 COLOR: Pearl BlueVEH. BUILD DATE: November, 2002 TEST DATES: April 16-17, 2003TEST LABORATORY: MGA Research CorporationOBSERVERS: David Gotwals, Scott Kreiger

VERTICAL IMPACT ANGLE RANGES

		VERTICAL ANGLE SPECIFIED RANGE	MINIMUM VERTICAL ANGLE	MAXIMUM VERTICAL ANGLE
FRONT HEADER	FH1	L 0°-50°	L 0°	L 50°
		R 0°-50°	R 0°	R 50°
	FH2	L 0°-50°	L 0°	L 50°
		R 0°-50°	R 0°	R 50°
SIDE RAIL	SR1	L 0°-50°	L 0°	L 20°
		R 0°-50°	R 0°	R 26°
	SR2A	L 0°-50°	L 0°	L 7°
		R 0°-50°	R 0°	R 10°
	SR2B	L 0°-50°	L 0°	L 24°
		R 0°-50°	R 0°	R 21°
	SR3A	L 0°-50°	L 0°	L 24°
		R 0°-50°	R 0°	R 29°
	SR3B	L 0°-50°	L 0°	L 25°
		R 0°-50°	R 0°	R 30°
	SR3C	L 0°-50°	L 0°	L 49°
		R 0°-50°	R 0°	R 50°
A-PILLAR	AP1	L -5°-50°	L -5°	L 30°
		R -5°-50°	R -5°	R 24°
	AP2	L -5°-50°	L -5°	L 40°
		R -5°-50°	R -5°	R 40°

		VERTICAL ANGLE SPECIFIED RANGE	MINIMUM VERTICAL ANGLE	MAXIMUM VERTICAL ANGLE
B-PILLAR	AP3	L -5°-50°	L -5°	L 36°
		R -5°-50°	R -5°	R 36°
	BP1	L -10°-50°	L -10°	L 7°
		R -10°-50°	R -10°	R 8°
	BP2*	L 0°-50°	L 0°	L 4°
		R 0°-50°	R 0°	R 4°
	BP3	L -10°-50°	L -10°	L -8°
		R -10°-50°	R -10°	R -6°
BP4	L -10°-50°	L -10°	L -3°	
	R -10°-50°	R -10°	R -3°	
OTHER PILLAR	OP1*	L 0°-50°	L 0°	L 9°
		R 0°-50°	R 0°	R 8°
	OP2	L -10°-50°	L -10°	L -1°
		R -10°-50°	R -10°	R -4°
UPPER ROOF 1		0°-50°	0°	

As determined using the Procedures specified in S8.13.4.2. *Targets BP2 and OP1 are seat belt anchorage locations

RECORDED BY: David G. Gotwals

DATE: April 16, 2003

APPROVED BY: Helen A. Kaleto

TABLE 2-5
TARGET MEASUREMENTS

VEH. MOD YR/MAKE/MODEL/BODY: 2003 Subaru Forester 2.5x, 4-Door MPV

VEH. NHTSA NO.: C35502 VIN: JF1SG63683G748214 COLOR: Pearl Blue

VEH. BUILD DATE: November, 2002 TEST DATES: April 16-17, 2003

TEST LABORATORY: MGA Research Corporation

OBSERVERS: David Gotwals, Scott Kreiger

Measurement	Description	Left Side	Right Side
M	Seat Fore/Aft Travel (Front seats)	215 mm	215 mm
T°	Horizontal ∠ {CG-F1 (Left Seat) to (Right A-Pillar)}	113.9°	--
A1°	360° - T°	246.1°	--
W°	Horizontal ∠ {CG-2 (Left Seat) to (Left A-Pillar)}	201.7°	--
A2°	A2° = W°	201.7°	--
U°	Horizontal ∠ {CG-2 (Left Seat) to (Left B-Pillar)}	272.0°	--
B1°	B1° = U°	272.0°	--
V°	Horizontal ∠ {CG-R (Left Seat) to (Left B-Pillar)}	199.7°	--
B2°	B2° = V°	199.7°	--
W° (right)	Horizontal ∠ {CG-F2 (Right Seat) to (Right A-Pillar)}	--	159.0°
A1° (right)	A1° (right) = W° (right)	--	159.0°
T° (right)	Horizontal ∠ {CG-F1 (Right Seat) to (Left A-Pillar)}	--	246.5°
A2° (right)	360° - T° (right)	--	113.5°
V° (right)	Horizontal ∠ {CG-R (Right Seat) to (Right B-Pillar)}	--	160.4°
B1° (right)	B1° (right) = V° (right)	--	160.4°
U° (right)	Horizontal ∠ {CG-F2 (Right Seat) to (Right B-Pillar)}	--	89.1°
B2° (right)	B2° (right) = U° (right)	--	89.1°
J	A-Pillar {(Plane 3) - (Plane 5)}	315.3 mm	313.2 mm
J/2	J + 2	157.7 mm	156.6 mm
D1	Upper Roof {(Plane A) - (Plane B)}	2300 mm	
D1/2	D1 + 2	1150 mm	
D2	Upper Roof {(Plane C) - (Plane D)}	1206.9 mm	

TABLE 2-5
TARGET MEASUREMENTS

VEH. MOD YR/MAKE/MODEL/BODY: 2003 Subaru Forester 2.5x, 4-Door MPV

VEH. NHTSA NO.: C35502 VIN: JF1SG63683G748214 COLOR: Pearl Blue

VEH. BUILD DATE: November, 2002 TEST DATES: April 16-17, 2003

TEST LABORATORY: MGA Research Corporation

OBSERVERS: David Gotwals, Scott Kreiger

Measurement	Description	Left Side	Right Side
M	Seat Fore/Aft Travel (Front seats)	215 mm	215 mm
T°	Horizontal ∠ {CG-F1 (Left Seat) to (Right A-Pillar)}	113.9°	—
A1°	360° - T°	246.1°	--
W°	Horizontal ∠ {CG-2 (Left Seat) to (Left A-Pillar)}	201.7°	—
A2°	A2° = W°	201.7°	—
U°	Horizontal ∠ {CG-2 (Left Seat) to (Left B-Pillar)}	272.0°	--
B1°	B1° = U°	272.0°	--
V°	Horizontal ∠ {CG-R (Left Seat) to (Left B-Pillar)}	199.7°	--
B2°	B2° = V°	199.7°	--
W° (right)	Horizontal ∠ {CG-F2 (Right Seat) to (Right A-Pir)}	--	159.0°
A1° (right)	A1° (right) = W° (right)	--	159.0°
T° (right)	Horizontal ∠ {CG-F1 (Right Seat) to (Left A-Pillar)}	--	246.5°
A2° (right)	360° - T° (right)	--	113.5°
V° (right)	Horizontal ∠ {CG-R (Right Seat) to (Right B-Pillar)}	—	160.4°
B1° (right)	B1° (right) = V° (right)	—	160.4°
U° (right)	Horizontal ∠ {CG-F2 (Right Seat) to (Right B-Pir)}	--	89.1°
B2° (right)	B2° (right) = U° (right)	--	89.1°
J	A-Pillar {(Plane 3) - (Plane 5)}	315.3 mm	313.2 mm
J/2	J + 2	157.7 mm	156.6 mm
D1	Upper Roof {(Plane A) - (Plane B)}	2300 mm	
D1/2	D1 + 2	1150 mm	
D2	Upper Roof {(Plane C) - (Plane D)}	1206.9 mm	

Measurement	Description	Left Side	Right Side
D2/2	D2 + 2	603.5 mm	
.35D1	.35 x D1	805.0 mm	
.35D2	.35 x D2	422.4 mm	
N	B-Pillar {(BPR) - (lowest point on daylight opening forward of B-Pillar)}	446.3 mm	453.1 mm
N/2	B-Pillar {(BP3) - (lowest point on daylight opening forward of B-Pillar)}	223.2 mm	226.6 mm
N/4	B-Pillar {(BP4) - (lowest point on daylight opening forward of B-Pillar)}	111.6 mm	113.3 mm
Q	O-Pillar {(OPR) - (lowest point on daylight opening)}	436.1 mm	436.0 mm
Q/2	Q + 2	218.1 mm	218.0 mm
D	R-Pillar (Point 7 - Point M)	905 mm	925 mm
3D/7	3D / 7	387.9 mm	396.4 mm

As determined using the Procedures specified in S10.1-10.13.

SgRP Locations (vehicle coordinates)						
	Left (mm)			Right (mm)		
	x	y	z	x	y	z
Front	1303.8	-350.0	298.3	1303.8	350.0	298.3
Rear Row	2039.8	-365.0	318.3	2039.8	365.0	318.3

SgRP Locations (world coordinates)

	Left (mm)			Right (mm)		
	x	y	z	x	y	z
Front	2414.6	-349.9	1532.5	2415.0	350.3	1532.4
Rear Row	3150.5	-365.1	1551.9	3150.9	365.2	1551.9

CG Locations (world coordinates)

	Left (mm)			Right (mm)		
	x	y	z	x	y	z
CGF1	2359.6	-349.9	2192.5	2360.0	350.3	2192.4
CGF2	2574.6	-349.9	2192.5	2575.0	350.3	2192.4
CGR	3310.5	-365.1	2211.9	3310.9	365.2	2211.9

REFERENCE FOR VEHICLE COORDINATE SYSTEM:

Driver door striker upper bolt hole (x, y, z) = (1356.6, -754.0, 390.8)

REMARKS:

RECORDED BY: David G. Gotwals

DATE: April 16, 2003

APPROVED BY: Helen A. Kaleto

TABLE 2-6
SUMMARY OF TARGETING RESULTS

VEH. MOD YR/MAKE/MODEL/BODY: 2003 Subaru Forester 2.5x, 4-Door MPV

VEH. NHTSA NO.: C35502 VIN: JF1SG63683G748214 COLOR: Pearl Blue

VEH. BUILD DATE: November, 2002 TEST DATES: April 16-17, 2003

TEST LABORATORY: MGA Research Corporation

OBSERVERS: David Gotwals, Scott Kreiger

SUMMARY OF TARGETING RESULTS								
Target	Location (mm)			Horizontal Angle (deg)	Vertical Angle (deg)	Relocation (Yes/No)	Extension (# of 25 mm Spheres)	Impact (Yes/No)
	x	y	z					
A-Pillar Left Side								
AP1	980.3	-545.5	1047.2	246	30	No		No
AP2	849.3	-590.5	959.9	202	40	No		Yes
AP3	757.0	-819.9	890.7	202	36	No		No
A-Pillar Right Side								
AP1	988.2	545.0	1044.7	114	24	No		Yes
AP2	850.1	591.7	957.7	159	40	No		No
AP3	757.2	618.9	889.1	159	38	No		Yes
B-Pillar Left Side								
BP1	1526.4	-468.2	1150.1	270	7	No		No
BP2	1484.6	-565.8	895.6	270	4	No		Yes
BP3	1461.7	-586.9	928.5			Yes		
REL	1445.5	-594.7	910.7	272	-8		1	No
BP4	1533.9	-634.8	817.4	210	-3	No		No
B-Pillar Right Side								
BP1	1522.5	465.1	1154.1	90	8	No		Yes
BP2	1483.1	563.4	896.1	90	4	No		No
BP3	1463.9	585.2	928.1			Yes		
REL	1446.1	591.3	916.1	89	-6		1	No
BP4	1537.0	637.3	814.8	150	-3	No		Yes

SUMMARY OF TARGETING RESULTS

Target	Location (mm)			Horizontal Angle (deg)	Vertical Angle (deg)	Relocation (Yes/No)	Extension (# of 25 mm Spheres)	Impact (Yes/No)
	x	y	z					
Other Pillar Left Side								
OPR	2198.0	-476.7	1171.9					
OP1	2259.5	-570.1	943.4	270	9	No		No
OP2	2263.3	-603.8	955.3			Yes		
REL	2300.8	-612.9	921.7	270	-1		2	No
Other Pillar Right Side								
OPR	2193.6	478.0	1172.6					
OP1	2258.2	572.4	944.4	90	8	No		Yes
OP2	2258.1	606.5	955.7			Yes		
REL	2304.3	615.7	926.2	90	-4		2	No
Rear Pillar Left Side								
RP1	2907.7	-505.6	1106.8	Exempt from testing				No
RP2	2913.3	-614.8	957.4	Exempt from testing				No
Rear Pillar Right Side								
RP1	2912.2	510.0	1100.6	Exempt from testing				No
RP2	2916.0	616.5	949.9	Exempt from testing				No
Front Header Left Side								
FH1	933.8	-480.2	1119.6			Yes		
REL	901.9	-446.8	1119.6	180	50		2	No
FH2	898.2	-340.4	1136.5	180	50	No		No
Front Header Right Side								
FH1	927.8	473.8	1096.7			Yes		
REL	940.3	440.3	1118.4	180	50		2	No
FH2	889.3	328.4	1134.2	180	50	No		No
Side Rail Left Side								
SR1	1139.3	-509.5	1134.8			Yes		
REL	1114.1	-496.4	1096.6	270	20		2	No
SR2(A)	1289.3	-504.0	1144.4			Yes		
REL	1290.8	-486.3	1122.6	270	7		1	No
SR2(B)	1226.9	-505.5	1143.5			Yes		

SUMMARY OF TARGETING RESULTS								
Target	Location (mm)			Horizontal Angle (deg)	Vertical Angle (deg)	Relocation (Yes/No)	Extension (# of 25 mm Spheres)	Impact (Yes/No)
	x	y	z					
REL	1265.3	-490.2	1109.7	270	24		2	No
SR3A	1806.9	-474.3	1131.4	270	24	No		No
SR3B	1991.9	-472.6	1135.4	270	25	No		No
SR3C	2348.4	-475.7	1164.8			Yes		
REL	2349.5	-489.9	1140.0	270	49		1	No
Side Rail Right Side								
SR1	1138.9	505.9	1136.5			Yes		
REL	1112.9	496.2	1098.1	90	26		2	No
SR2(A)	1287.9	502.2	1141.9			Yes		
REL	1293.1	484.7	1117.9	90	10		1	Yes
SR2(B)	1221.5	502.8	1141.6			Yes		
REL	1263.0	485.5	1108.7	90	21		2	No
SR3A	1798.2	476.2	1132.2	90	29			No
SR3B	1999.6	476.5	1130.6	90	30			No
SR3C	2342.7	478.9	1163.5			Yes		
REL	2342.1	492.2	1141.5	90	50		1	No
RH Left Side								
RH	2845.2	-363.7	1149.1	Exempt from testing				No
RH Right Side								
RH	2840.9	365.6	1142.8	Exempt from testing				No
Upper Roof Left Side								
UR1	1294.3	-416.9	1176.1	270	21	No		Yes
UR2	1531.3	-416.2	1170.8	270	26	No		Yes
UR3	2195.7	-405.1	1197.5	270	25	No		No
Upper Roof Right Side								
UR4	1292.3	420.9	1177.4	90	19	No		No
UR5	1522.0	417.8	1169.7	90	27	No		No
UR6	2196.8	418.6	1195.2	90	24	No		No

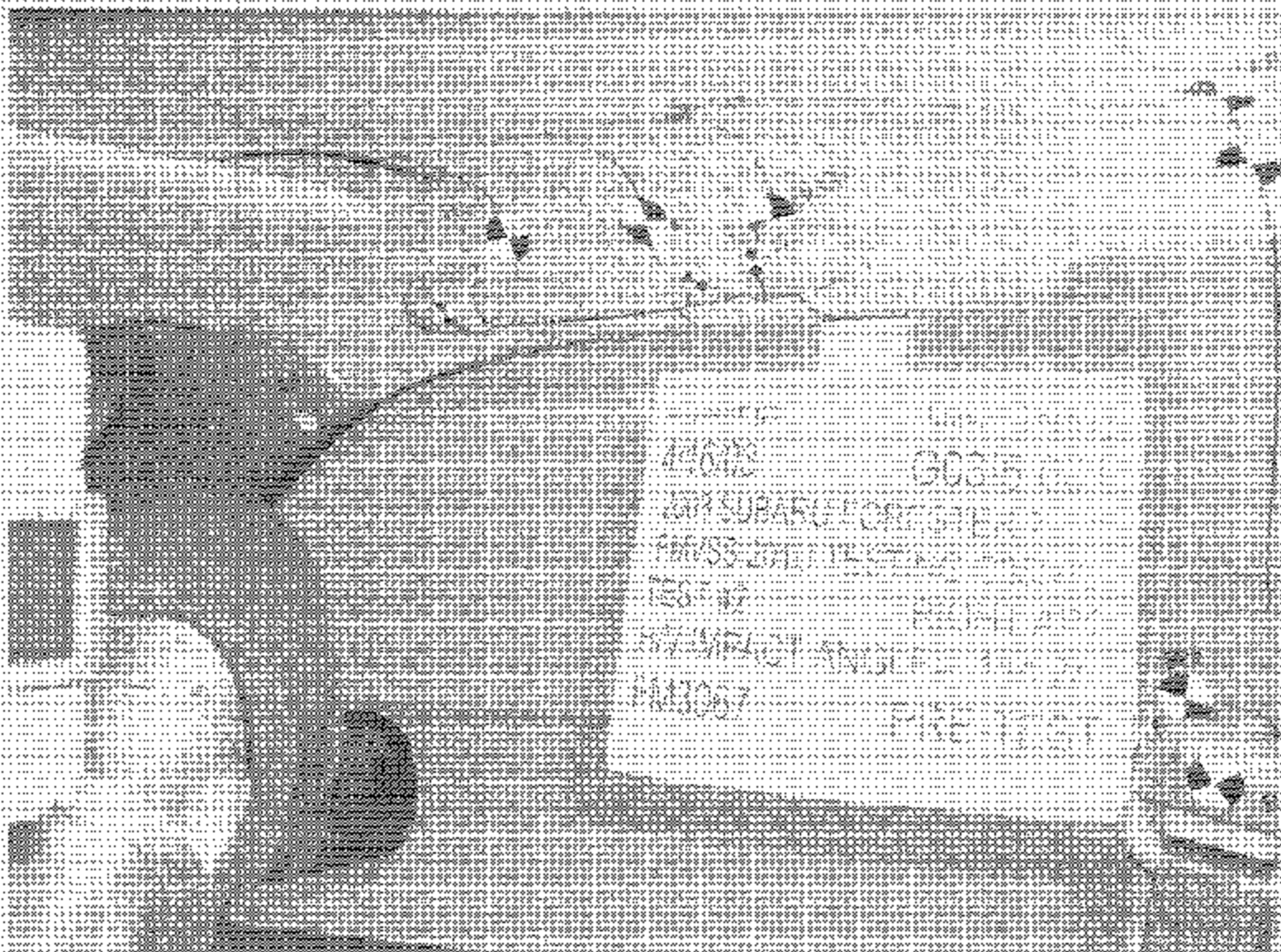
As determined using the Procedures specified in S10.1-10.13.

REMARKS: Targets RP1, RP2, and RH (right and left side) were found to be located greater than 600 mm rearward of the rearmost SgRP. These targets are therefore exempt from testing.

RECORDED BY: David G. Gotwals

DATE: April 16, 2003

APPROVED BY: Helen A. Kaleto



44012

000

AIR SURFACE CORRELATION

PROBABILITY OF DETECTION

100%

100%

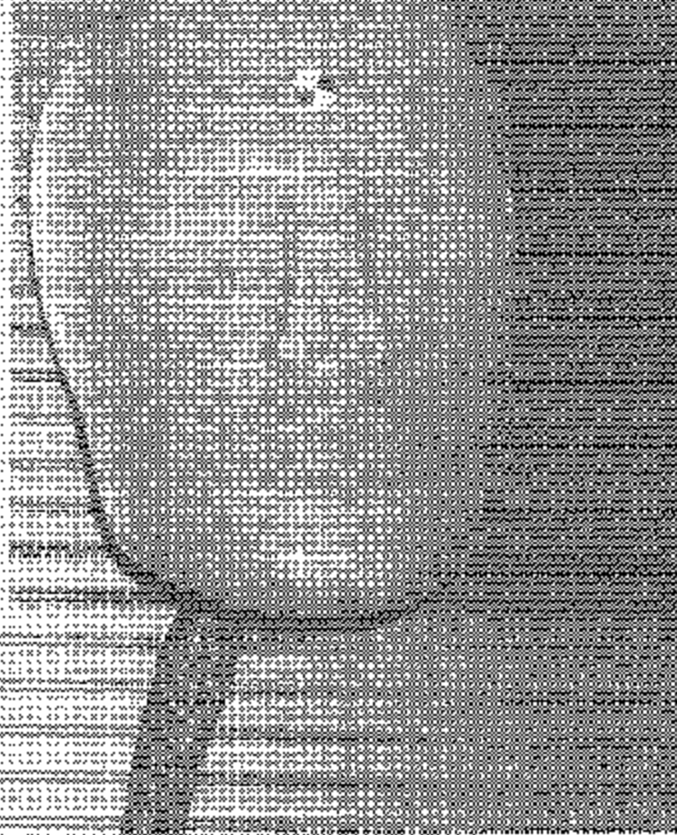
PROBABILITY OF DETECTION

100%

100%

41509 60310-00
2013 YEAR FORESTER
MUSE 2013 TESTING
TEST 2
IMPACT ANGLE: 14124
FM3037 POST-TEST

4/16/03 00015-001
2003 SUBARU FORESTER EX
FMVSS 2010 TESTING
TEST #2 RIGHT SIDE
HV IMPACT ANGLE = 34.7°
FM3067 PORT H/T



MICHIGAN OPERATIONS
DATE: 3/20/03
SUPERCEDES: MGATP201U_FRAME #2.4

DOC NO: MGATP201U_FRAME #2
REVISION NO.: 3
PAGE 9 OF 9

SUMMARY OF FMVSS 201U TEST

JOB/NHTSA NO: C0315001 VEHICLE YR/MAKE/MODEL: 2003 SUSAN FORESTER

GENERAL TEST PARAMETERS:

Test Number: 2

Target (Vehicle Side): Left AP1

Temperature: 22 °F CC

MGA Test Reference No.: FM3067

Humidity: 28 %

Approach Angles: Horizontal 114 °

Time of Test: 2:00 am pm

Vertical 27 °

FMH Serial No: 36

TEST RESULTS:

HIC(d)	HIC	Δt (msec)	Velocity (kph)	Impact location on FMH (mm)	
				Above Pt. O	Left/Right Pt. O
<u>421</u>	<u>338</u>	<u>9.3</u>	<u>23.7</u>	<u>11</u>	<u>3</u>

INSTRUMENTATION INFORMATION: (all accelerometers are Endevco 7264-2000)

Axis	Channel	Serial No.	DLR Value	ΔV Pre-Test	ΔV Post-Test
<u>X</u>	<u>5</u>	<u>J35123</u>	<u>-100.7</u>	<u>1.21</u>	<u>1.21</u>
<u>Y</u>	<u>6</u>	<u>J35916</u>	<u>100.7</u>	<u>1.23</u>	<u>1.23</u>
<u>Z</u>	<u>7</u>	<u>J35918</u>	<u>100.9</u>	<u>1.51</u>	<u>1.51</u>

REMARKS (Summary of test, damage, non-compliance, invalid test, etc.):

NO VISIBLE DAMAGE

Recorded By: [Signature] Approved By: Helen A. Kalota Date: 4/16/03

*Only necessary for NHTSA (Government) Compliance testing.

RESULTS OF HIC36 PROGRAM

The input file is \NHTSA\FM3067AV.A05

HIC = 337.99 calculated over 9.3 msec

T1 = 3.80 msec T2 = 13.10 msec

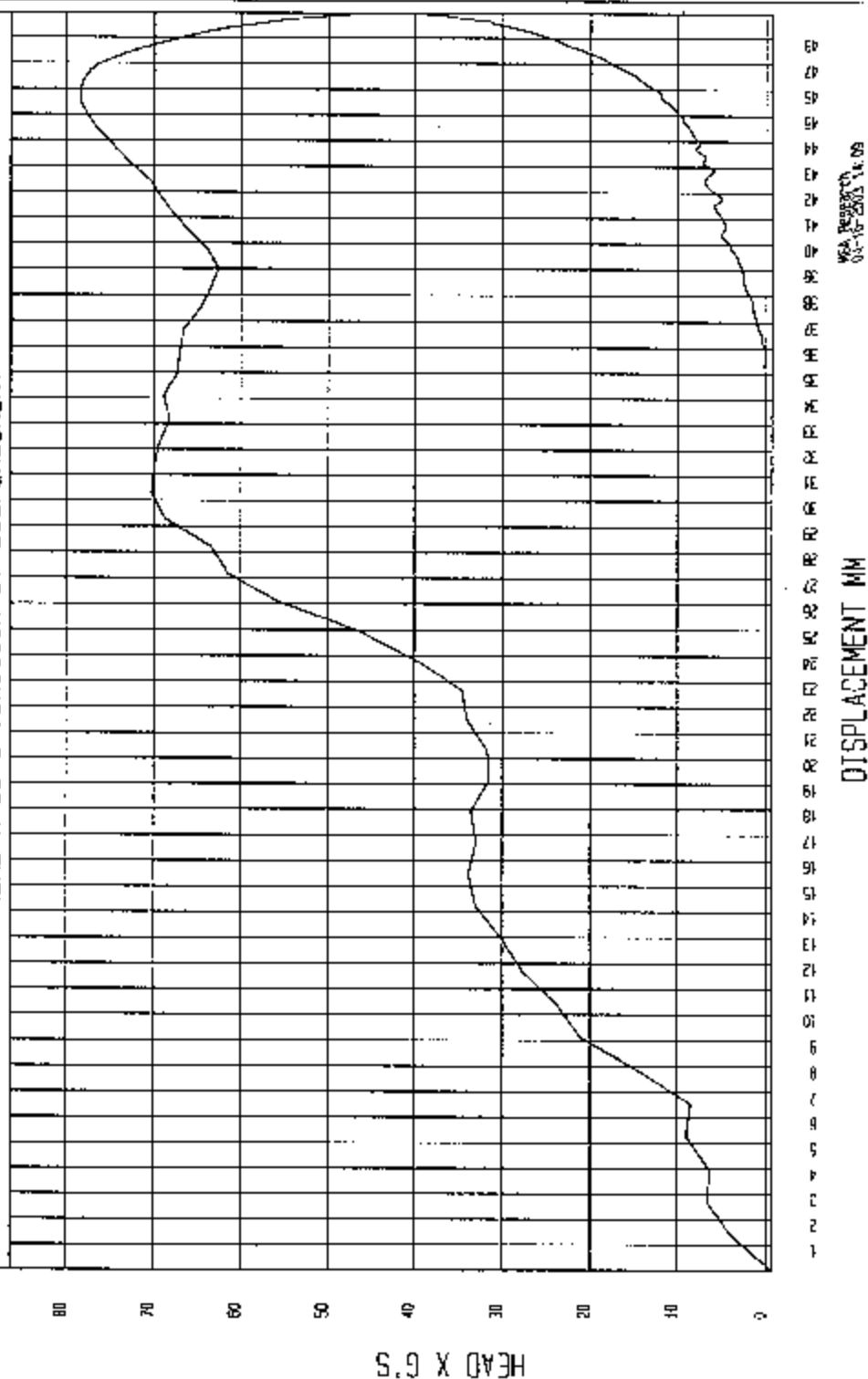
HIC(d) = 421

Impact Velocity = 23.7 (km/h)

TEST: 2003 SURARU FORESTER 2.5X FMVSS 201U G03I5-001 4/16/03

COMPONENT: TEST #2 (FM3067) RIGHT AP1, H/V = 114/24

HEAD X as a function of DISPLACEMENT



TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G0315-001 4/16/03

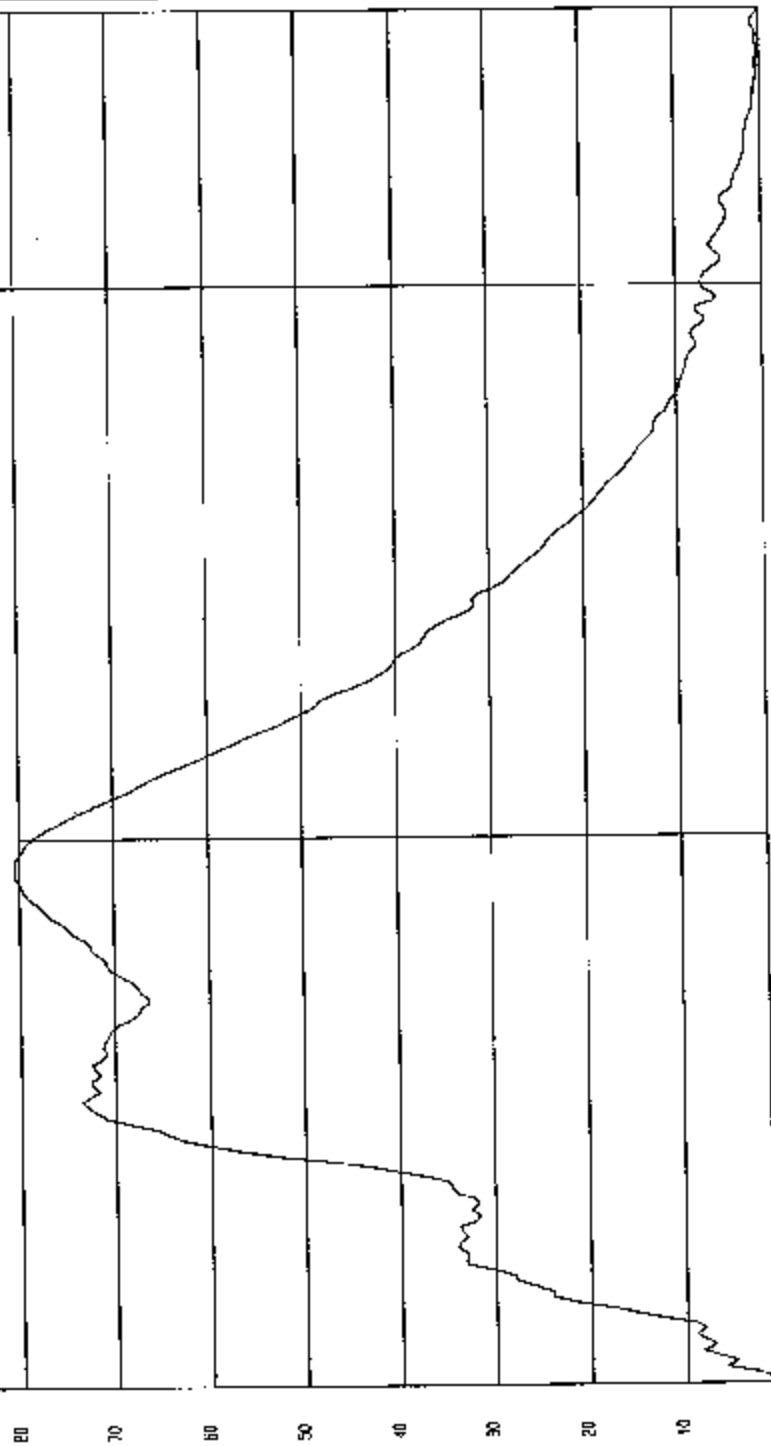
COMPONENT: TEST #2 (FM3067) RIGHT AP1, H/V = 114/24

YMIN= 1.09/254 G'S at 9.99 msec

YMAX= 89.51476 G'S at 9.3 msec

FMH RESULTANT

Resultant G'S from JV 4015



WGA REPORT
04-16-2003 12:09

TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U 60315-001 4/16/03

COMPONENT: TEST #2 (FM3067) RIGHT AP1, H/V - 114/24

YMDN= 182.5644 MM at 9.99 msec

YMDN= 231.8259 MM at 12.18 msec

DISPLACEMENT

Class FF DISPLACEMENT MM (mm) at 0.05

250

240

230

220

210

200

190

180

170

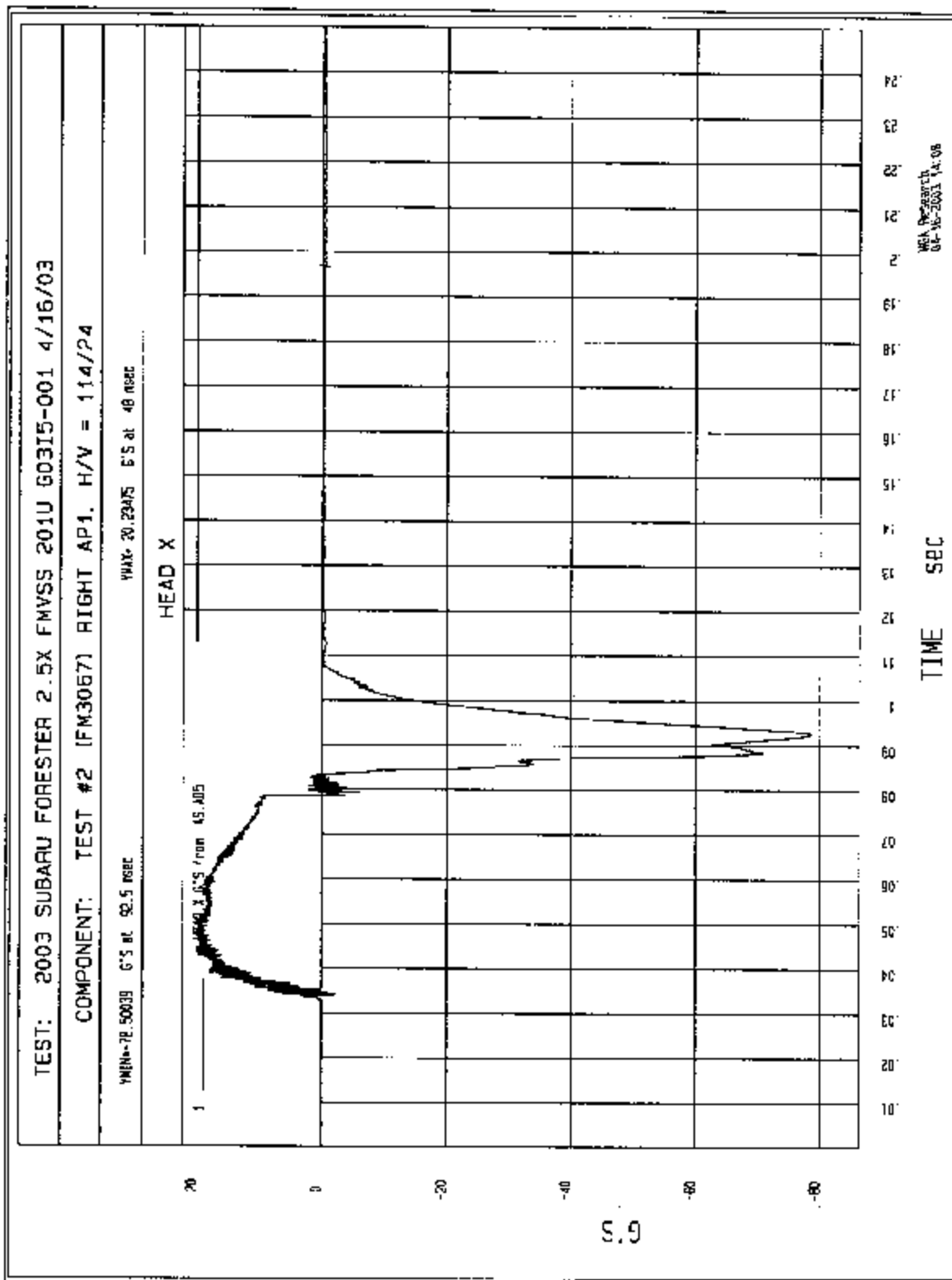
MM

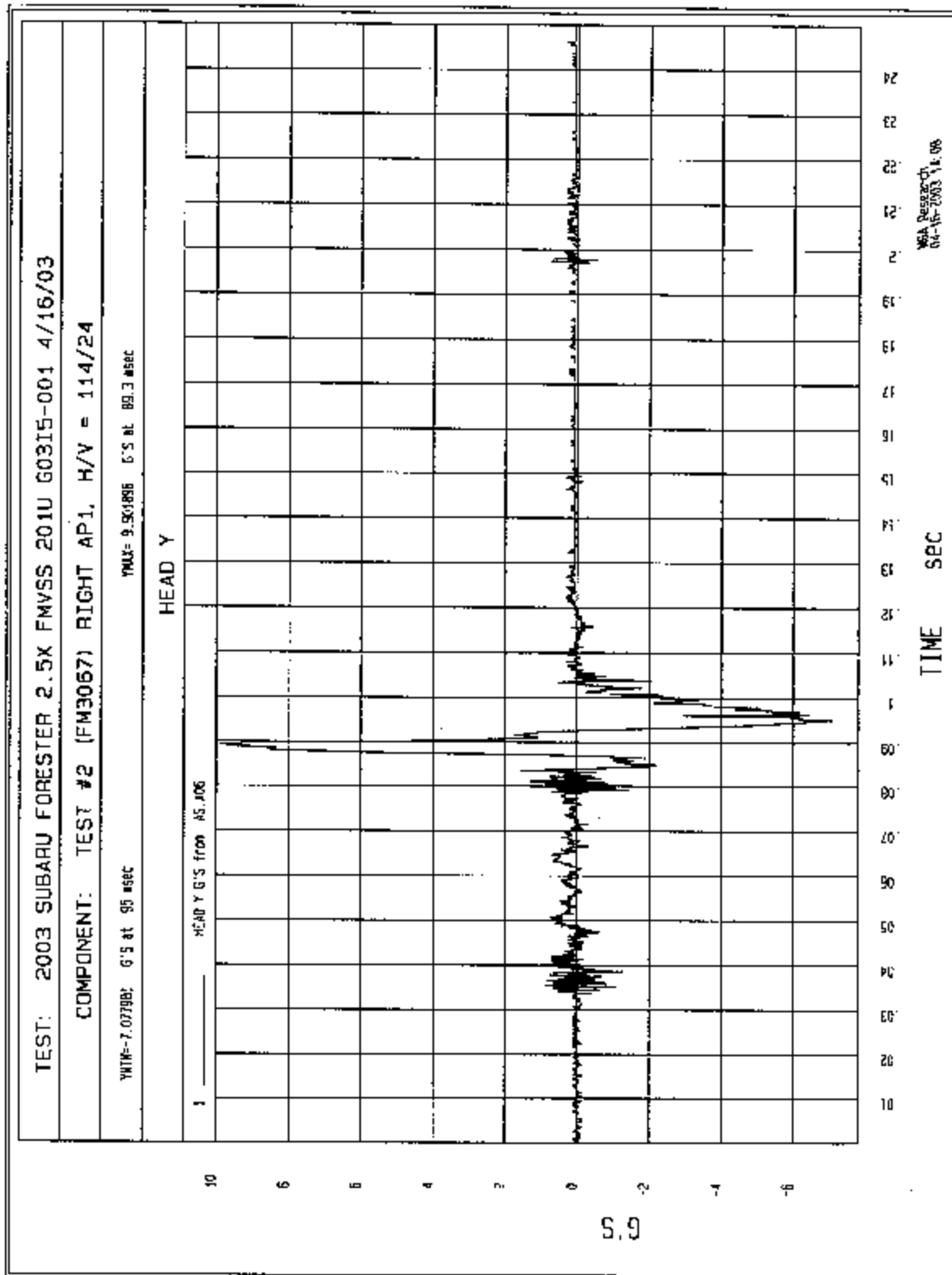
28

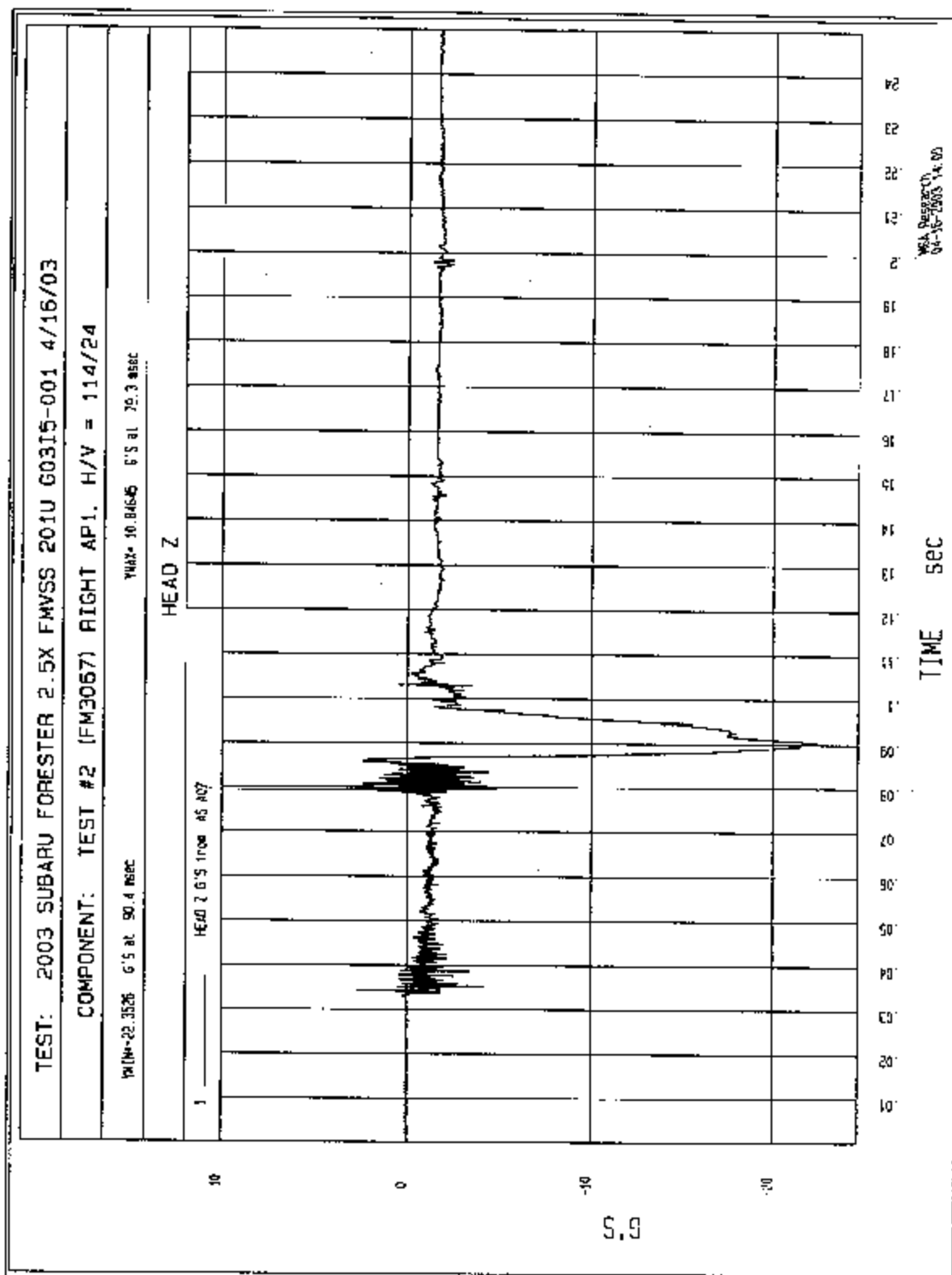
10

TIME SECONDS

SEA Research
04-16-2003 14:03







TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U 60315-001 4/16/03

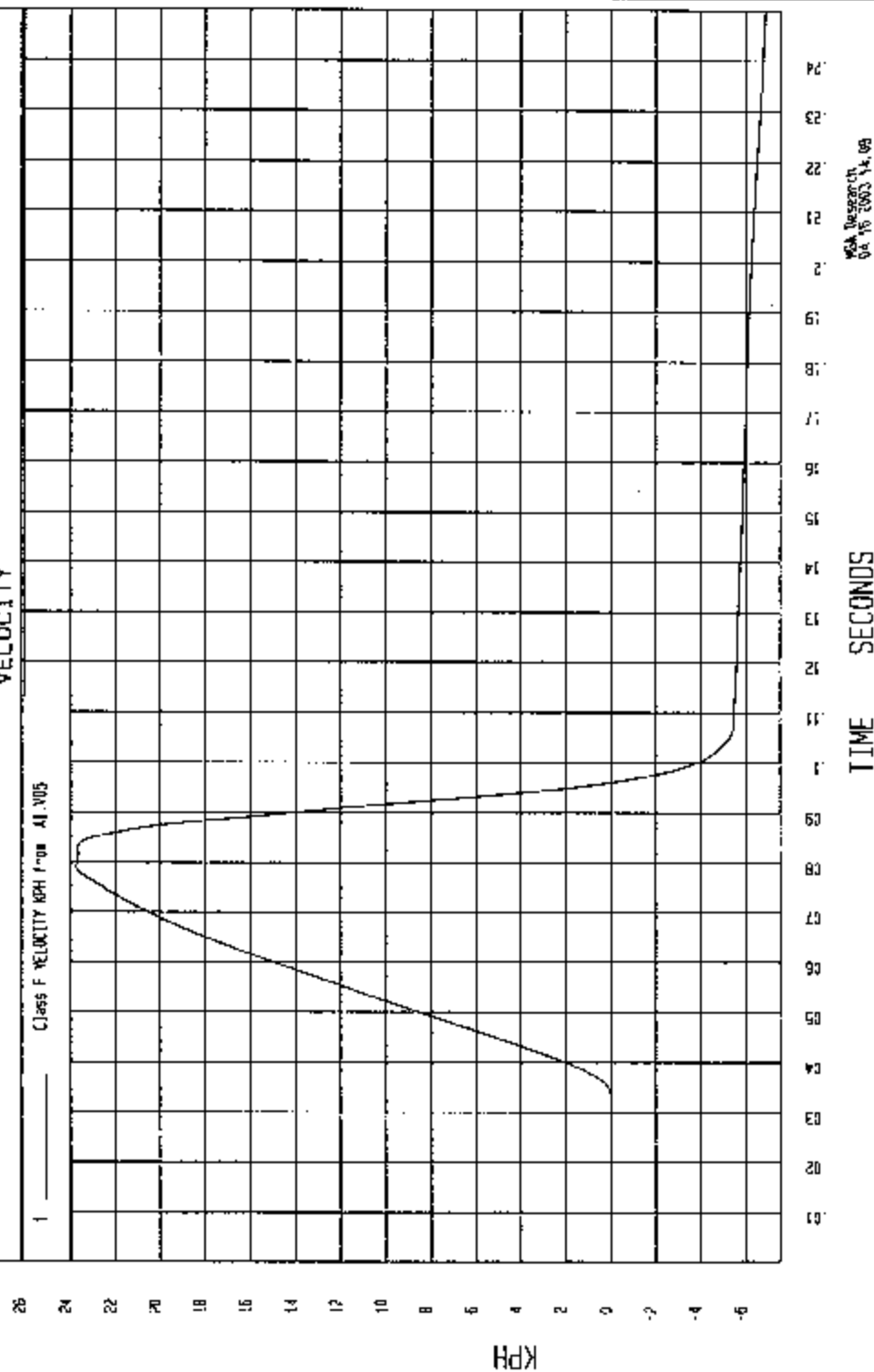
COMPONENT: TEST #2 (FM3067) RIGHT AP1, H/V = 114/24

YMIN=-E.643125 KPH at 250 msec

YMAX= 23.7536 KPH at 79 msec

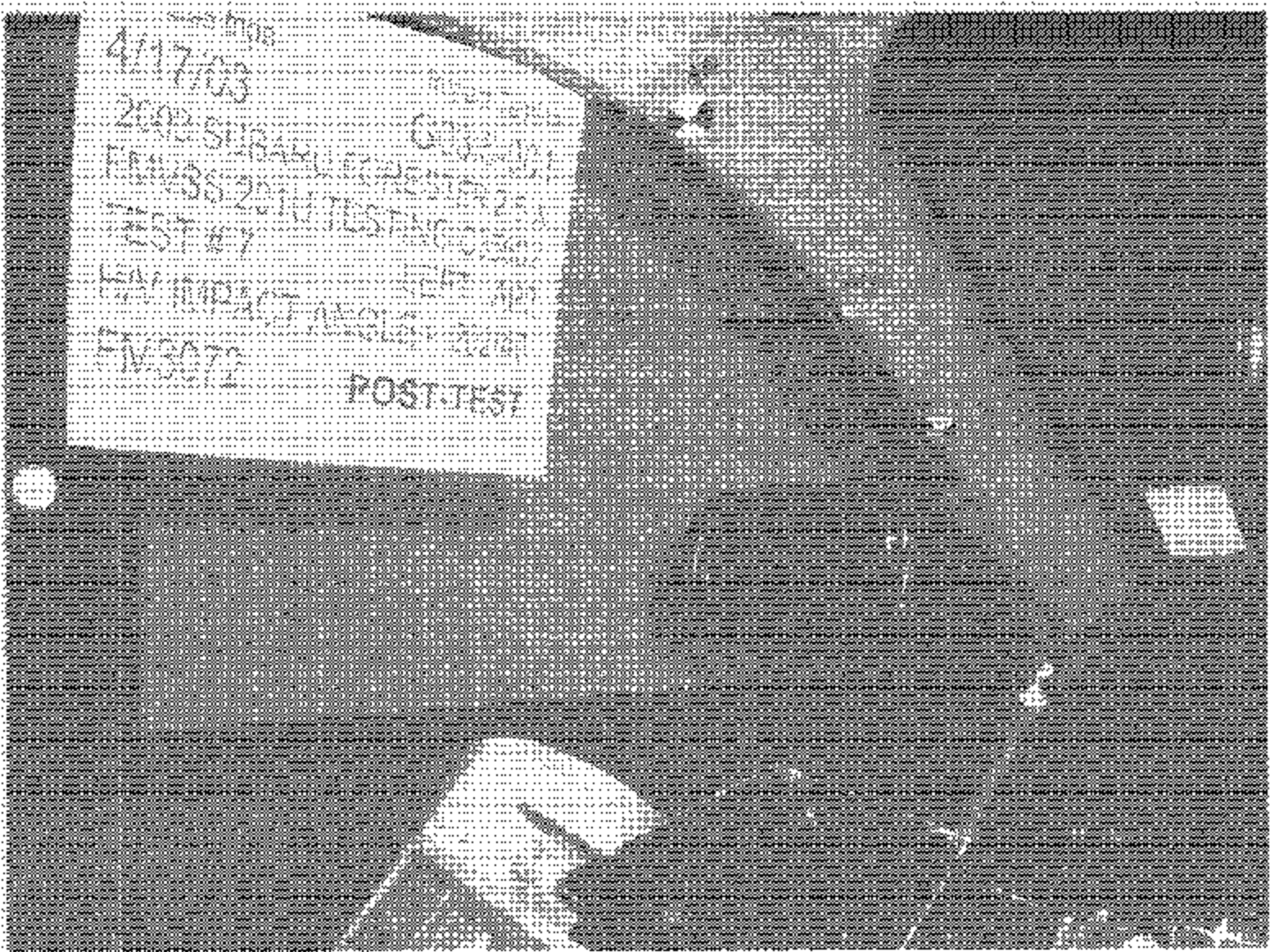
VELOCITY

1 Class F VELOCITY KPH from AL V05





630402
FM 2072
LIS AP2
202140



4/17/03

2002 SUBARU

FMV38-201V

TEST #7

IMPACT ANALYST

FMV3072

POST-TEST

4/17/03 6037530
2003 SUBARU FORESTER
FARSS 2005 TESTING
TEST #7 11-11-02
H/V IMPACT ANGLE
FM3072 POST TEST



MICHIGAN OPERATIONS
DATE: 3/20/03
SUPERCEDES: MGATP201U_FRAME #2.4

DOC. NO: MGATP201U_FRAME #2
REVISION NO: 5
PAGE 9 OF 9

SUMMARY OF FMVSS 201U TEST

JOB/NHTSA NO: C35502 VEHICLE YR/MAKE/MODEL: 1993 SUSAN FORESTER

GENERAL TEST PARAMETERS:

Test Number: 7

Target (Vehicle Side) Left Right APZ

Temperature: 22 °F (C)

MGA Test Reference No.: 603072

Humidity: 20 %

Approach Angles: Horizontal 202 °

Time of Test: 12:10 am pm

Vertical 40 °

FMH Serial No: 35

TEST RESULTS:

HIC(d)	HIC	Δt (msec)	Velocity (kph)	Impact location on FMH (mm)	
				Above Pt. O	Left/Right Pt. O
<u>668</u>	<u>666</u>	<u>7.3</u>	<u>23.7</u>	<u>2</u>	<u>5</u>

INSTRUMENTAION INFORMATION: (all accelerometers are Endevco 7264-2000)

Axis	Channel	Serial No.	DLR Value	ΔV Pre-Test	ΔV Post-Test
<u>X</u>	<u>5</u>	<u>J35924</u>	<u>-93.1</u>	<u>1.21</u>	<u>1.21</u>
<u>Y</u>	<u>6</u>	<u>J35919</u>	<u>95.3</u>	<u>1.23</u>	<u>1.23</u>
<u>Z</u>	<u>7</u>	<u>J31051</u>	<u>95.1</u>	<u>1.51</u>	<u>1.51</u>

REMARKS (Summary of test, damage, non-compliance, invalid test, etc.):

NO VISIBLE DAMAGE

Recorded By: [Signature] Approved By: Heleen A. Kalisto Date: 4/17/00

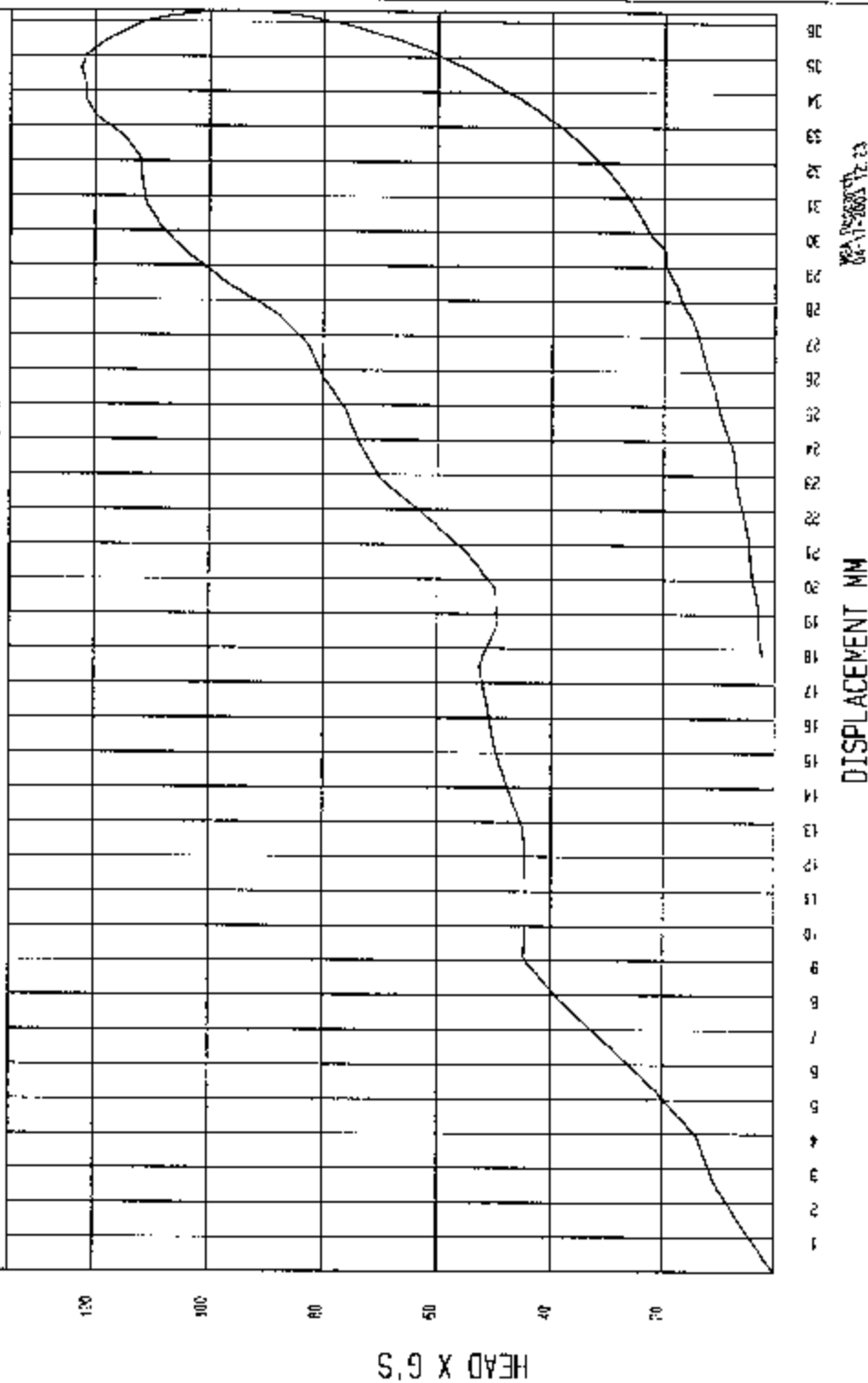
*Only necessary for NHTSA (Government) Compliance testing.

```
*****
RESULTS OF HIC36 PROGRAM
*****
input file is \NHTSA\FM3072AV.A05
HIC = 665.56 calculated over 7.3 msec
T1 = 3.40 msec T2 = 10.70 msec
*****
HIC(d) = 668
Impact Velocity = 23.7 (km/h)
```

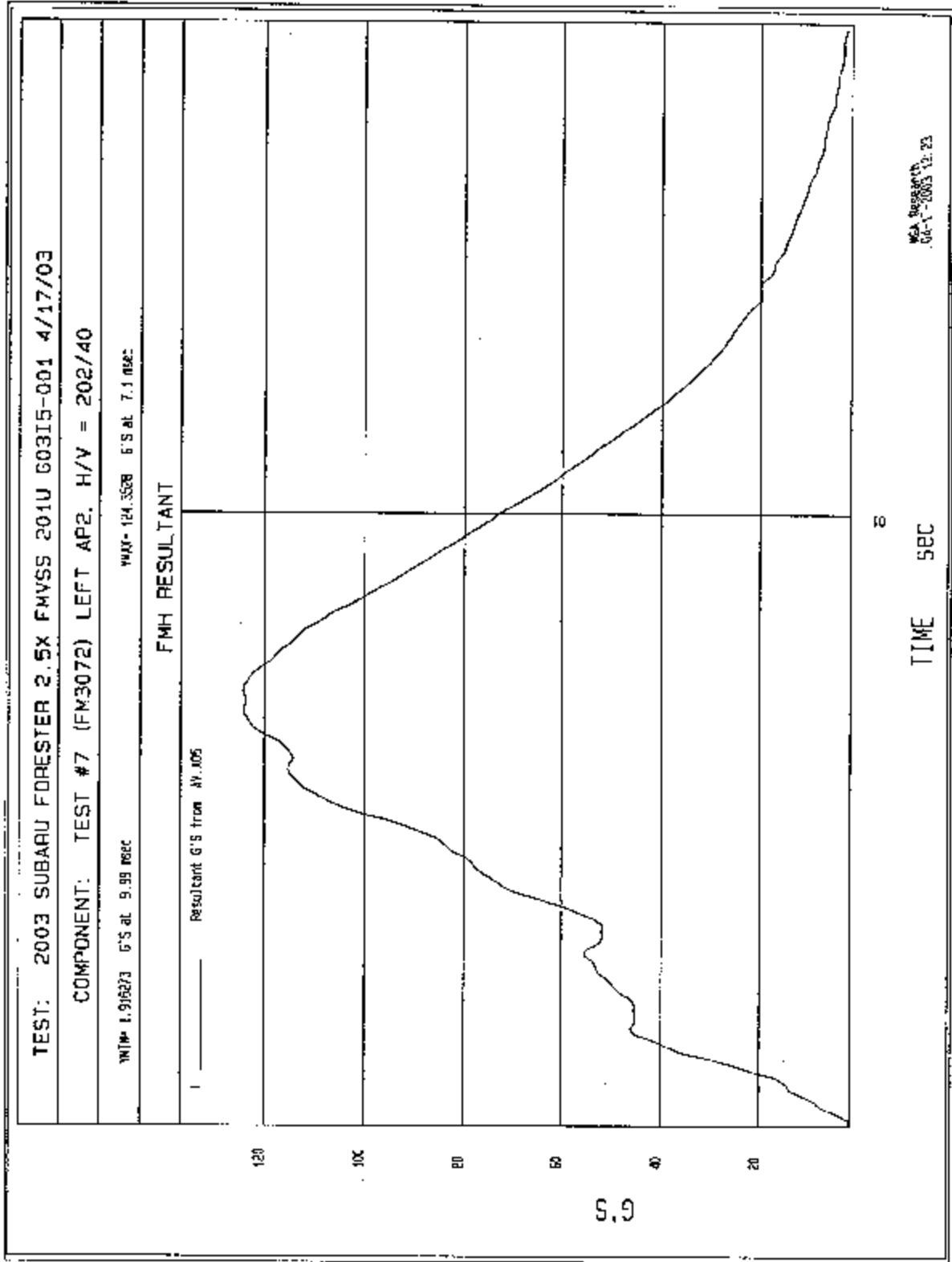
TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G0315-001 4/17/03

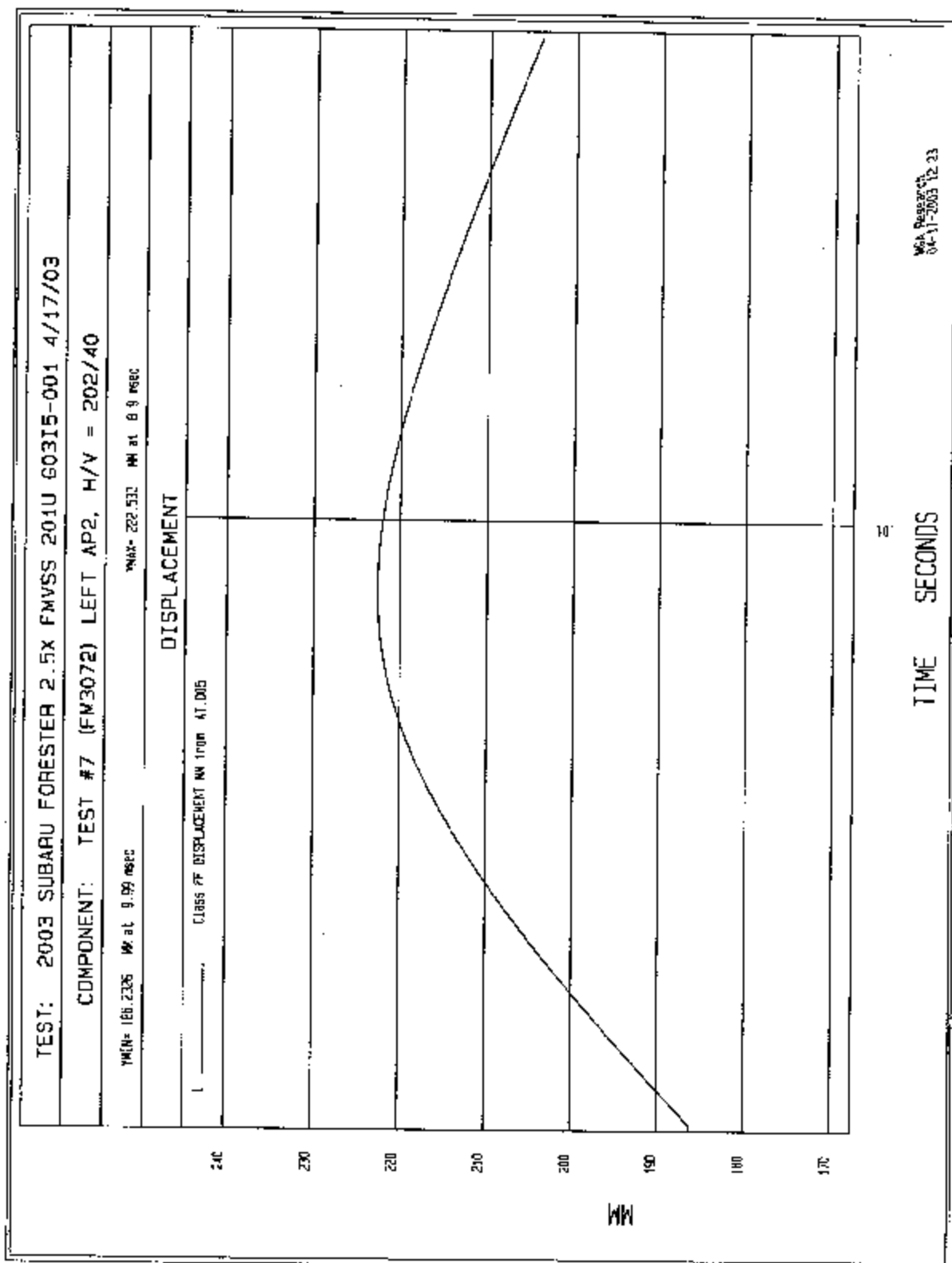
COMPONENT: TEST #7 (FM3072) LEFT AP2, H/V = 202/40

HEAD X as a function of DISPLACEMENT



SEA-15-2003-12-23





TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G0315-001 4/17/03

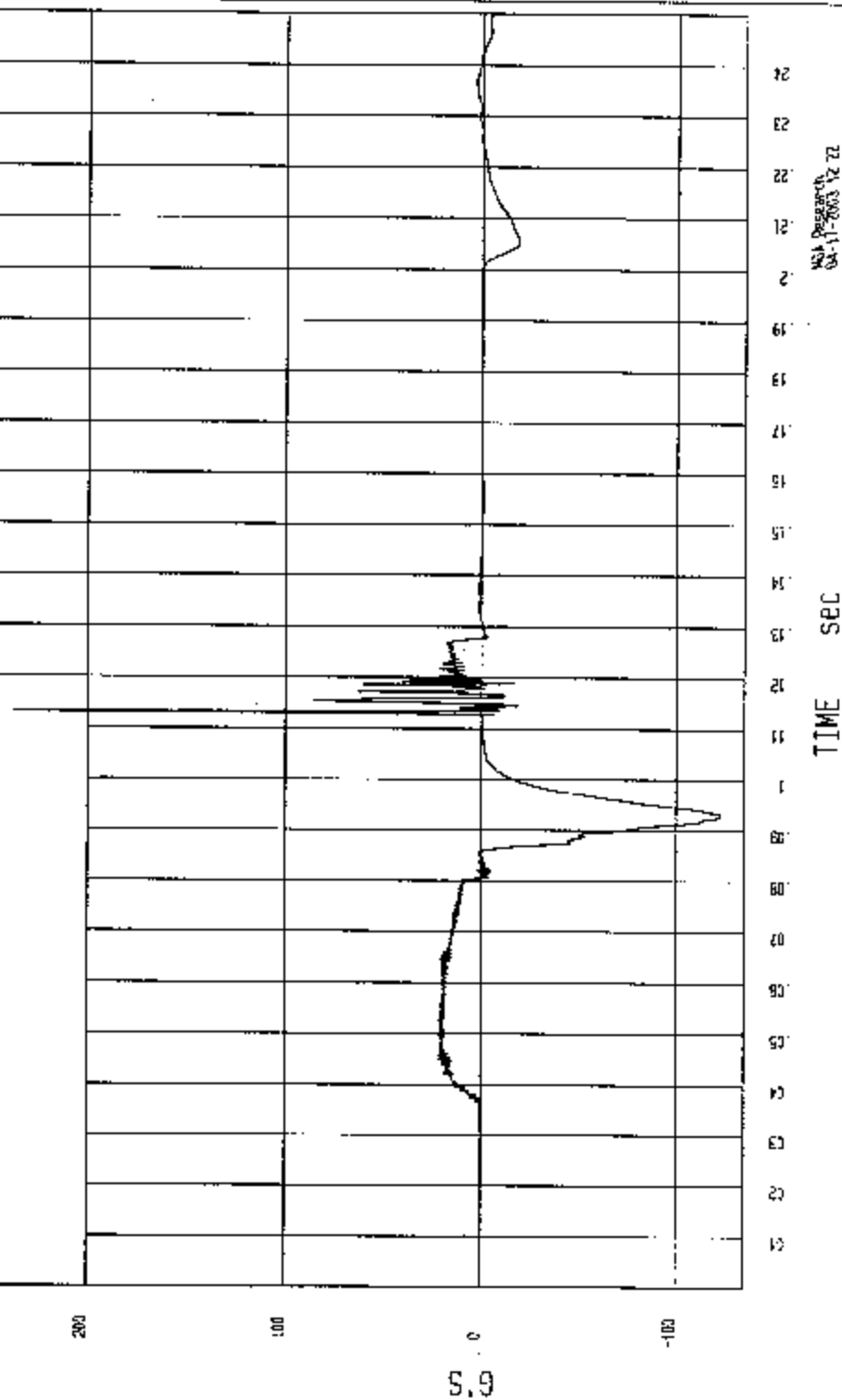
COMPONENT: TEST #7 (FM3072) LEFT AP2, H/V - 202/40

YHJH--122.4555 G'S at 93 MSEC

YHJH--237.2240 G'S at 113 MSEC

HEAD X

1 HEAD X G'S from AS AGS



TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G0315-001 4/17/03

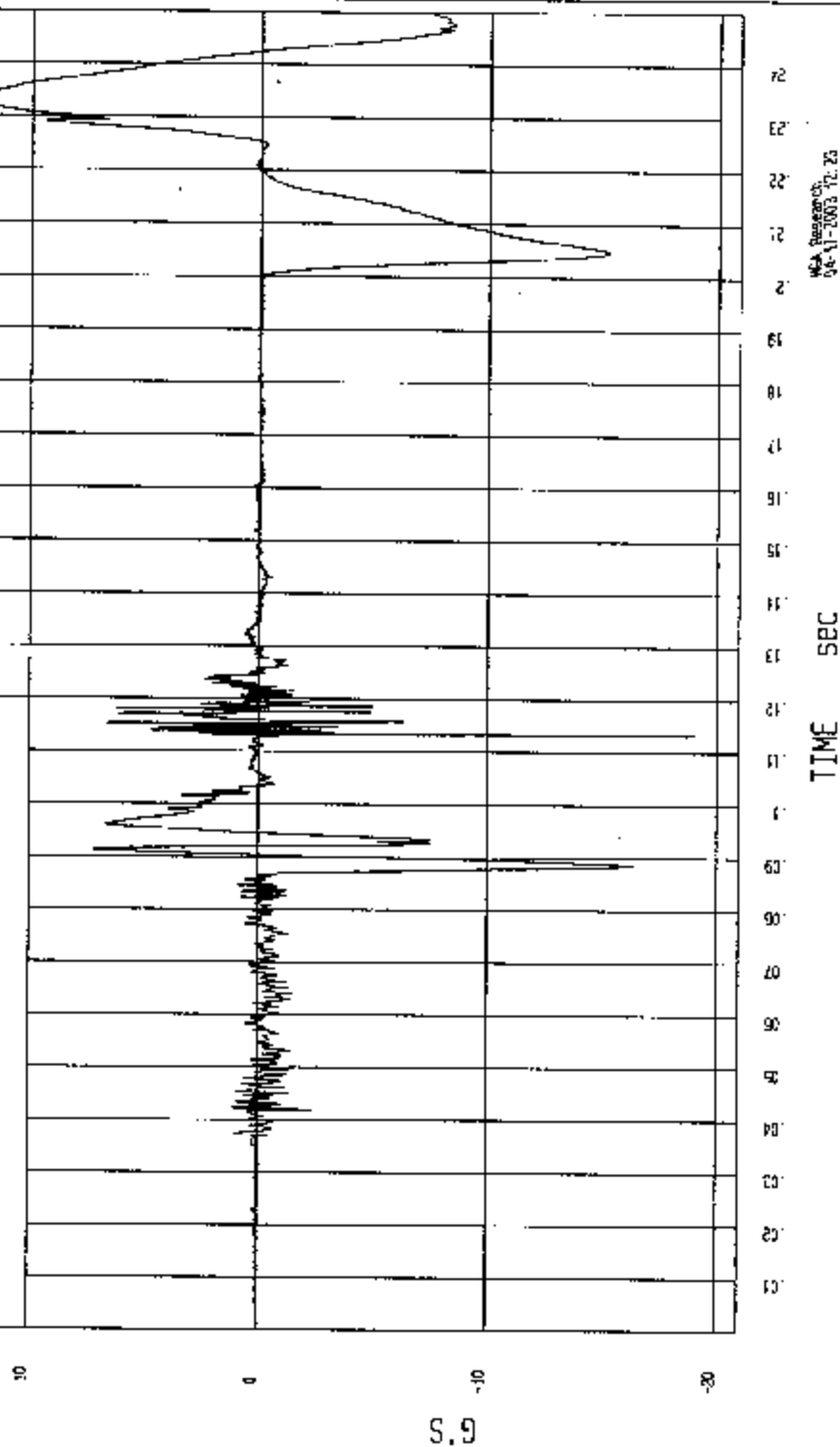
COMPONENT: TEST #7 (FM3072) LEFT AP2, H/V = 202/40

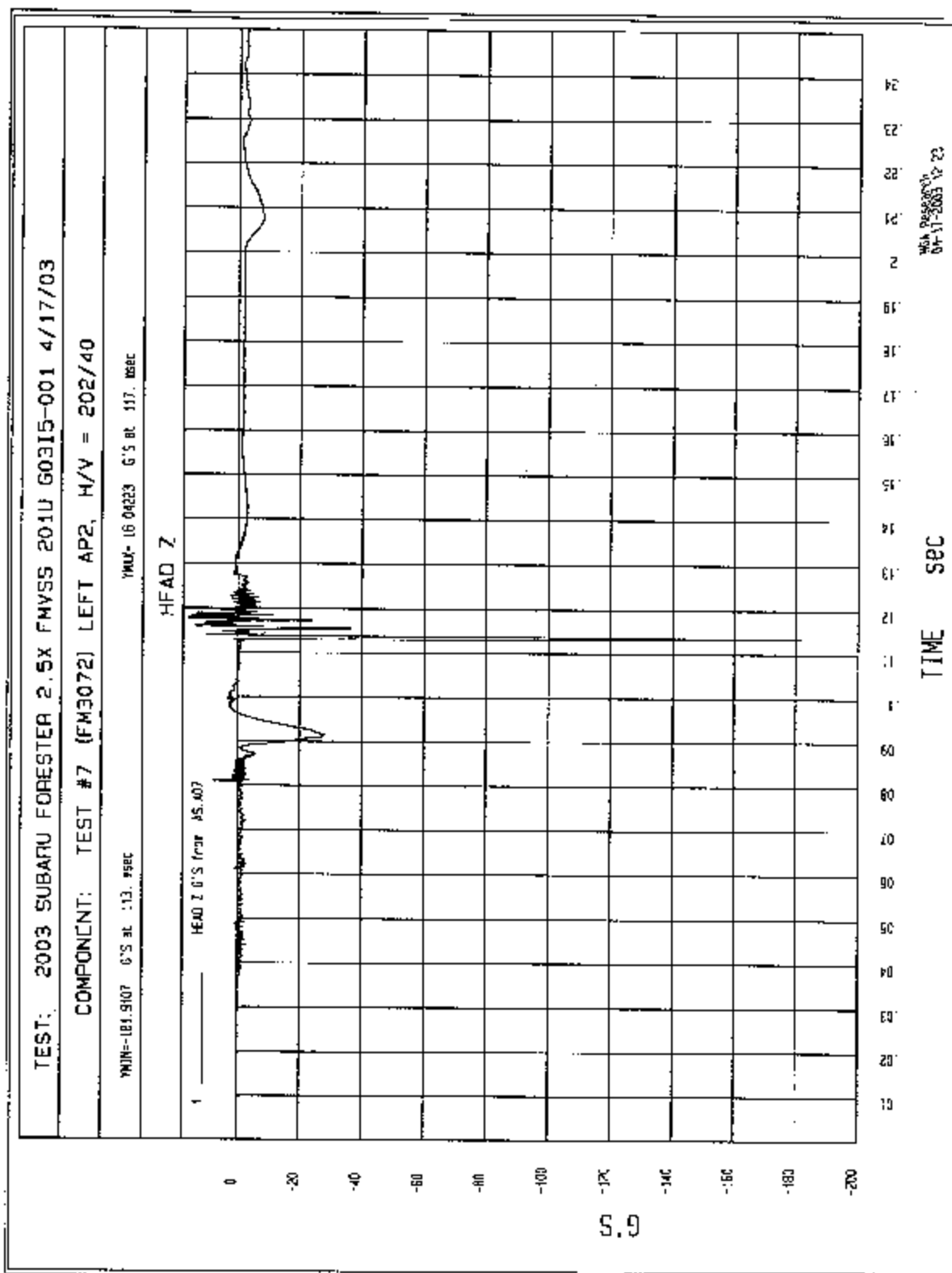
YH01-19.04033 G'S at 11.3 msec

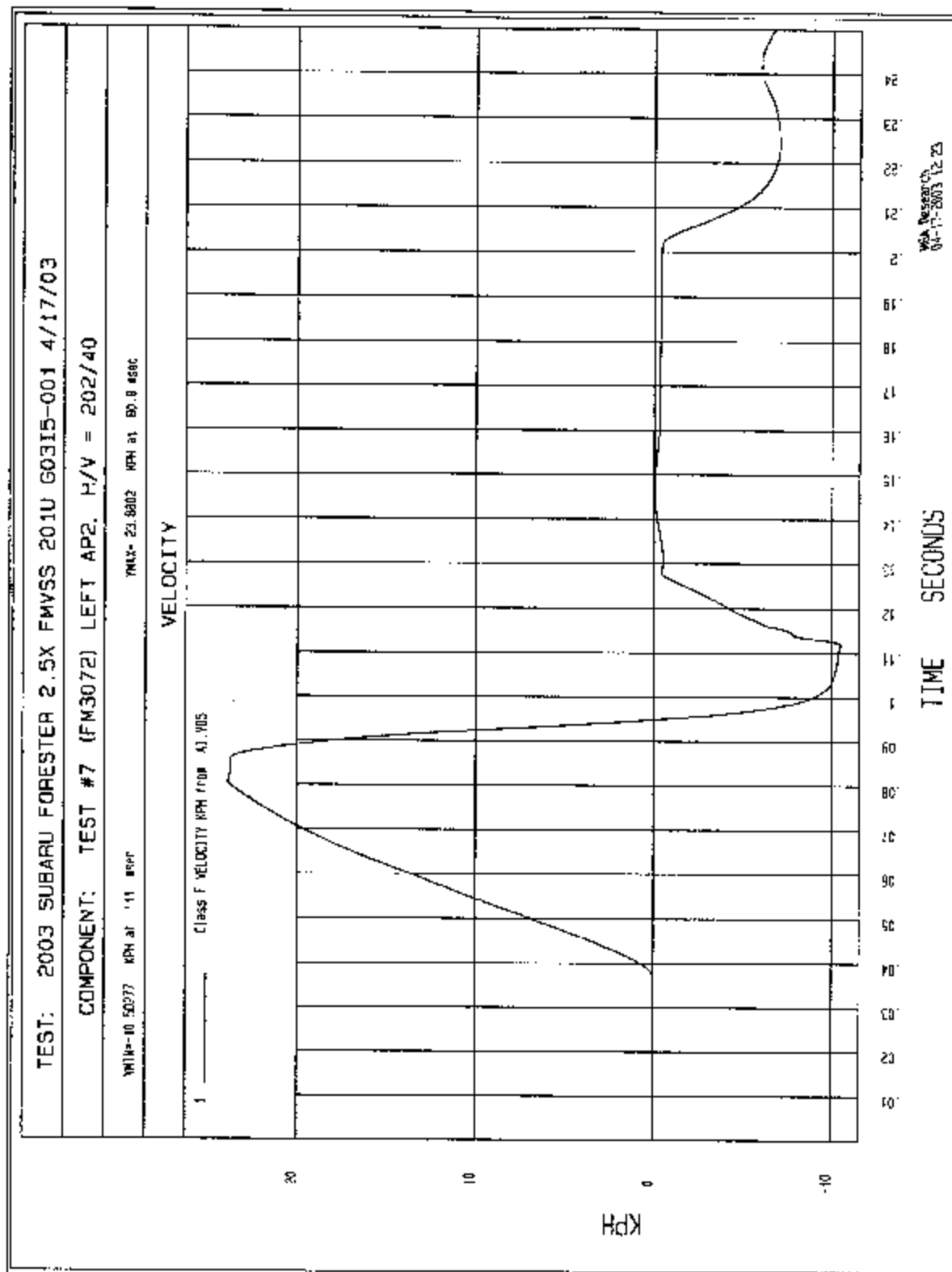
YH01-12.06514 G'S at 233 msec

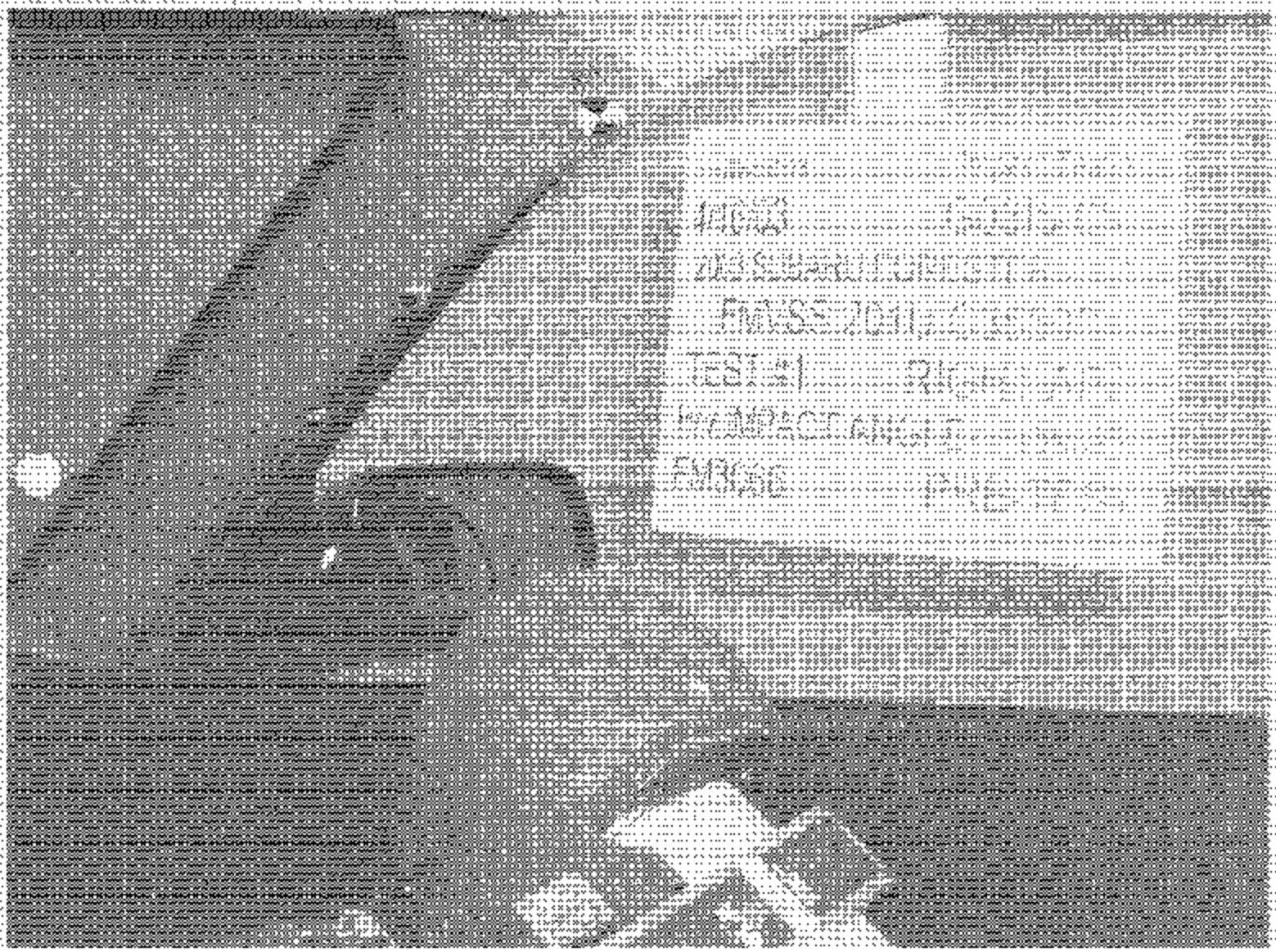
HEAD Y

1 HEAD Y G'S from AS.AOE









140-23

10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM

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10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM

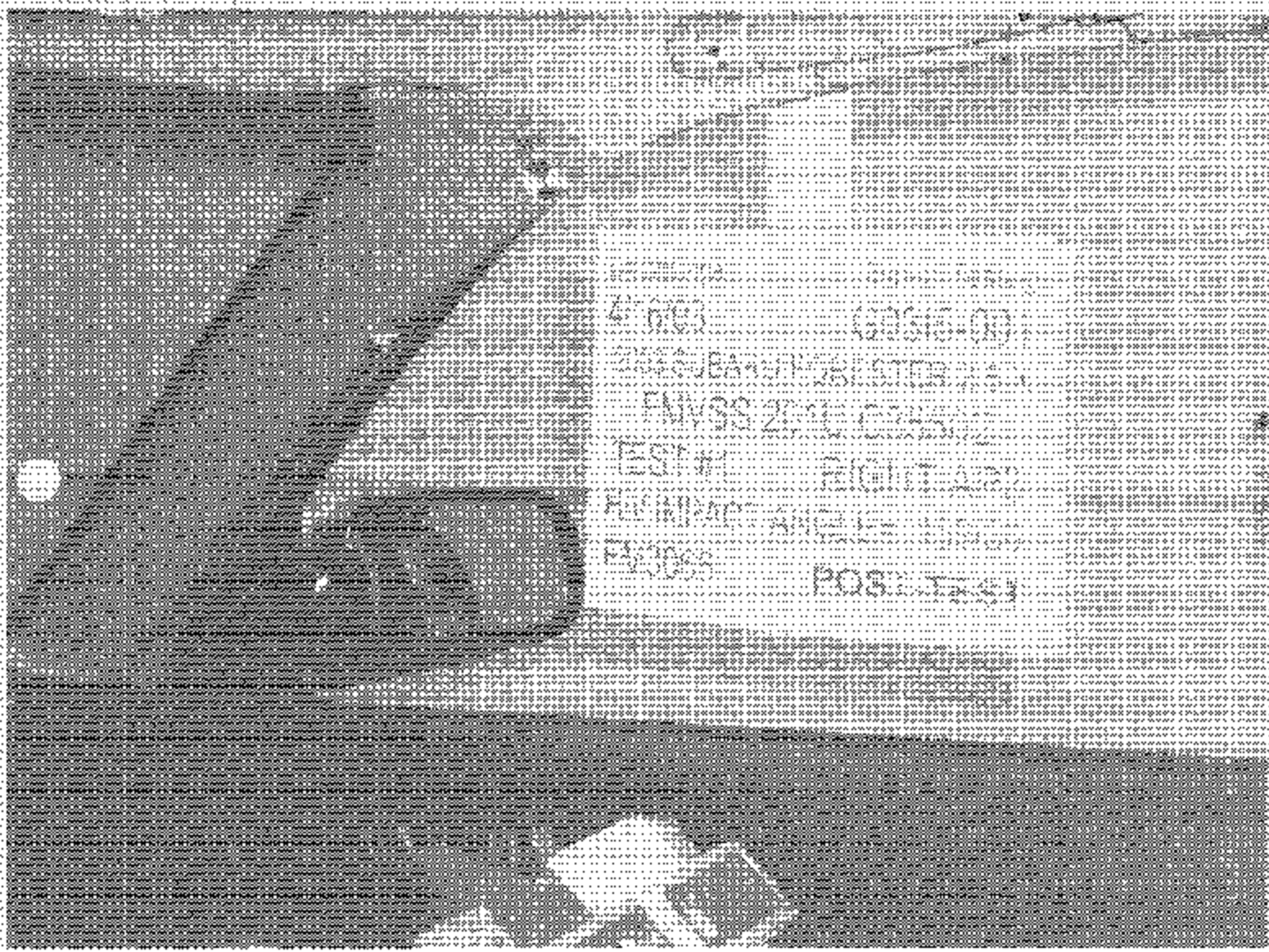
10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM

10/3/2011 10:11 AM



4-083
244 East 1st Street
FLYSS 201
EST
FLYSS 201
FLYSS 201
PO Box 1234

4/16/03 Impact Testing
2003 SUBARU OUTBACK
FMVSS 2010 C01500
TEST #1 PASSENGER
HV IMPACT ANGLE 15°
FM3086

MICHIGAN OPERATIONS
DATE: 3/20/03
SUPERCEDES: MGATP201U_FRAME #2.4

DOC. NO.: MGATP201U_FRAME #3
REVISION NO.: 5
PAGE 9 OF 9

SUMMARY OF FMVSS 201U TEST

JOB/NHTSA NO: C35502 VEHICLE YR/MAKE/MODEL: 2003 SUZUKI FORESTER

GENERAL TEST PARAMETERS:

Test Number: 1

Target (Vehicle Side): left/right AP3

Temperature: 22 °F (C)

MGA Test Reference No.: FM3066

Humidity: 28 %

Approach Angles: Horizontal 159 °

Time of Test: 12:30 am/pm (pm)

Vertical 36 °

FMH Serial No: 35

TEST RESULTS:

HIC(d)	HIC	Δt (msec)	Velocity (kph)	Impact location on FMH (mm)	
				Above Pt. O	Left/Right Pt. O
<u>646</u>	<u>635</u>	<u>6.5</u>	<u>23.8</u>	<u>8</u>	<u>3</u>

INSTRUMENTATION INFORMATION: (all accelerometers are Endevco 7264-2000)

Axis	Channel	Serial No.	DLR Value	ΔV Pre-Test	ΔV Post-Test
<u>X</u>	<u>9</u>	<u>J35924</u>	<u>-93.1</u>	<u>1.21</u>	<u>1.21</u>
<u>Y</u>	<u>6</u>	<u>J35919</u>	<u>95.3</u>	<u>1.23</u>	<u>1.23</u>
<u>Z</u>	<u>7</u>	<u>J31051</u>	<u>95.1</u>	<u>1.51</u>	<u>1.51</u>

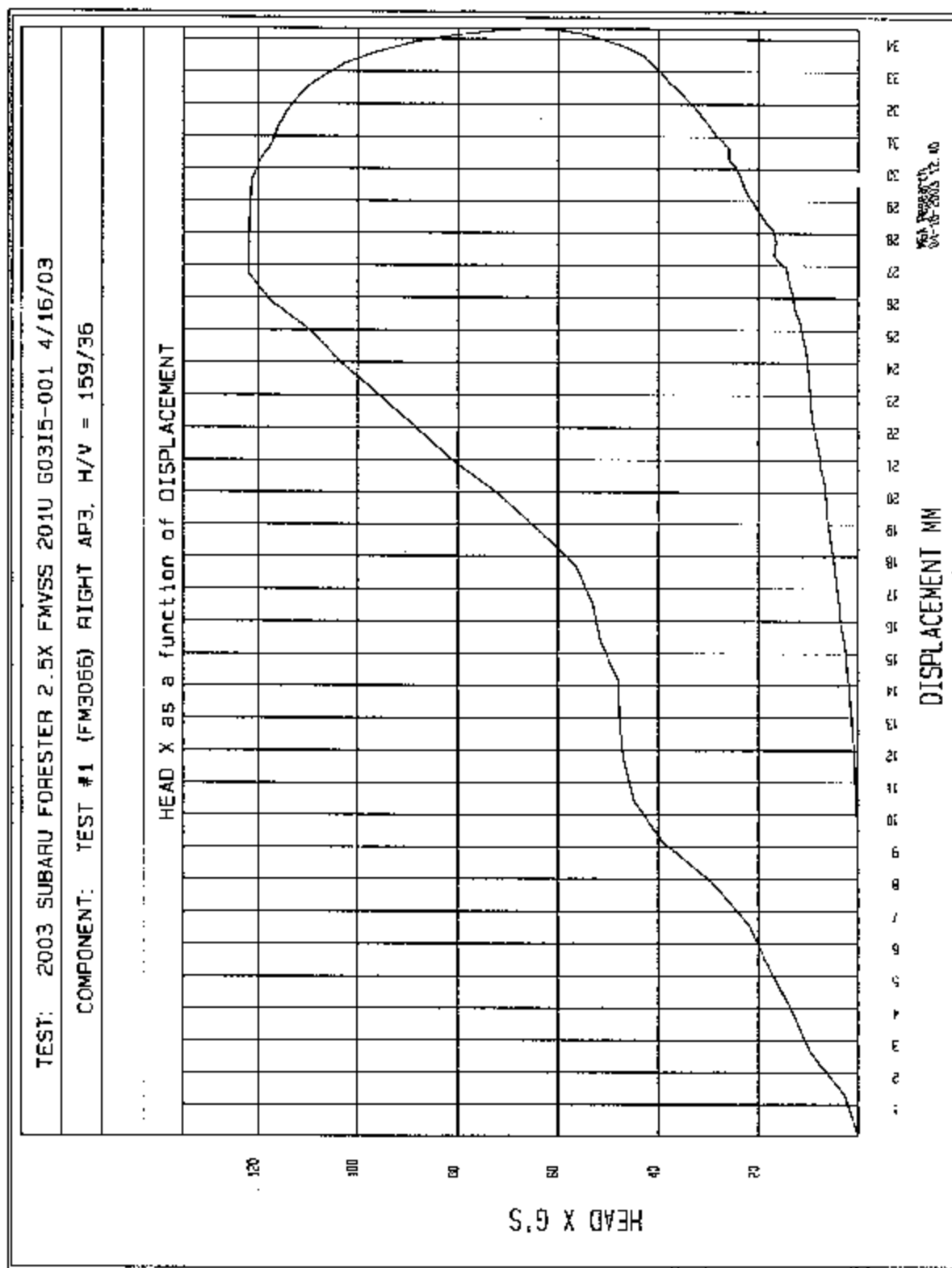
REMARKS (Summary of test, damage, non-compliance, invalid test, etc.): _____

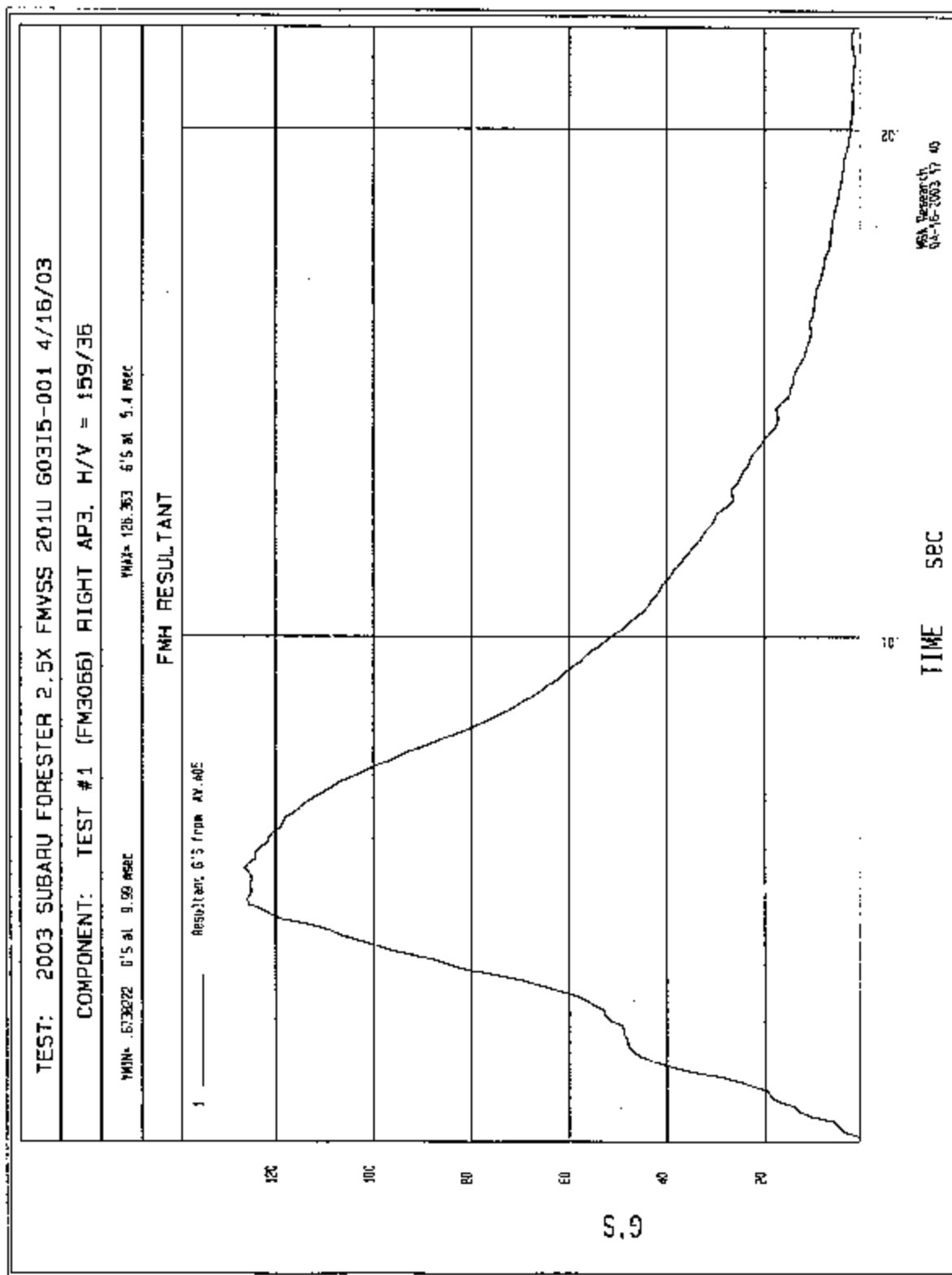
NO VISIBLE DAMAGE

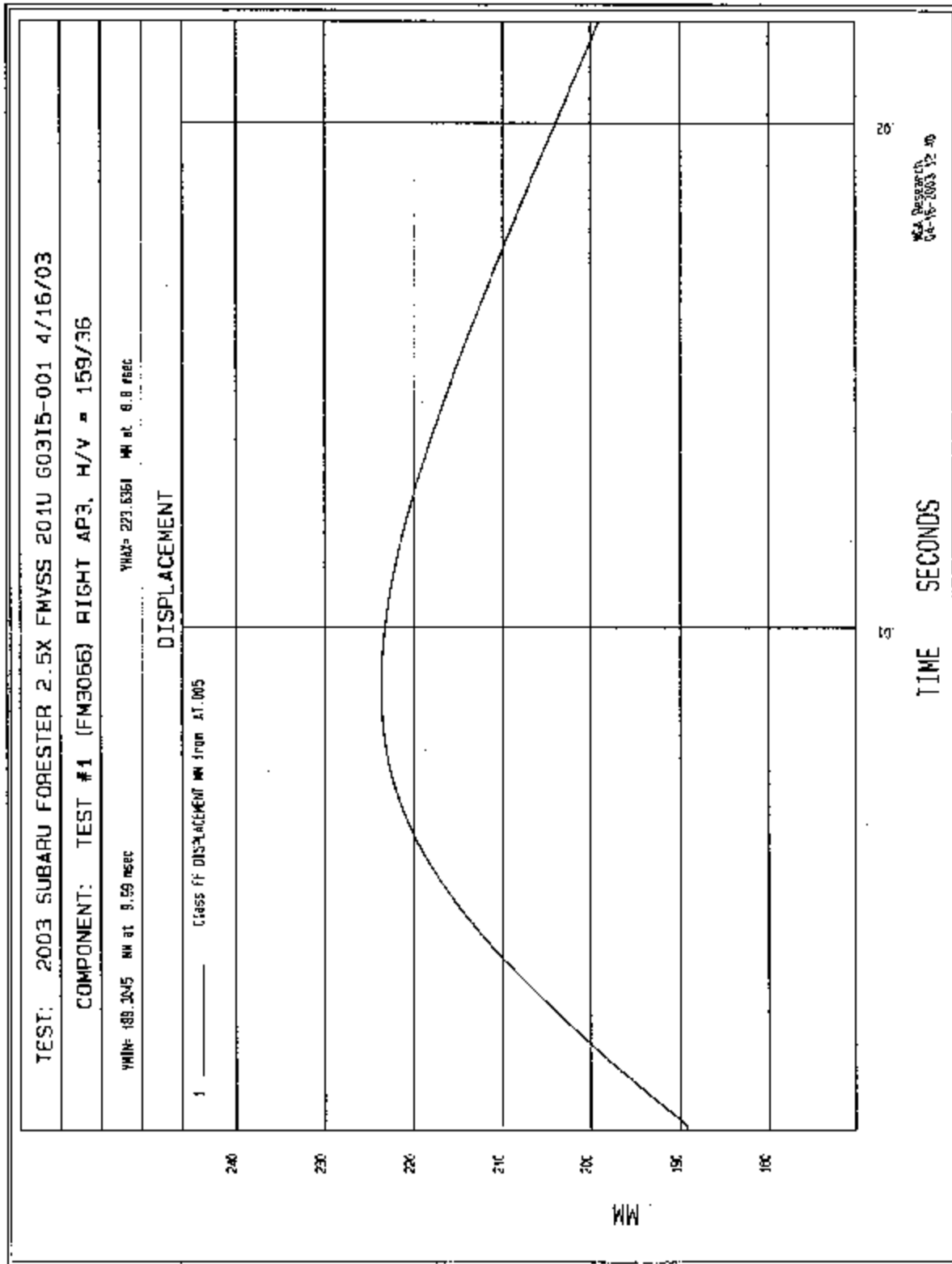
Recorded By: [Signature] Approved By: Heleen A. Kalota Date: 4/16/03

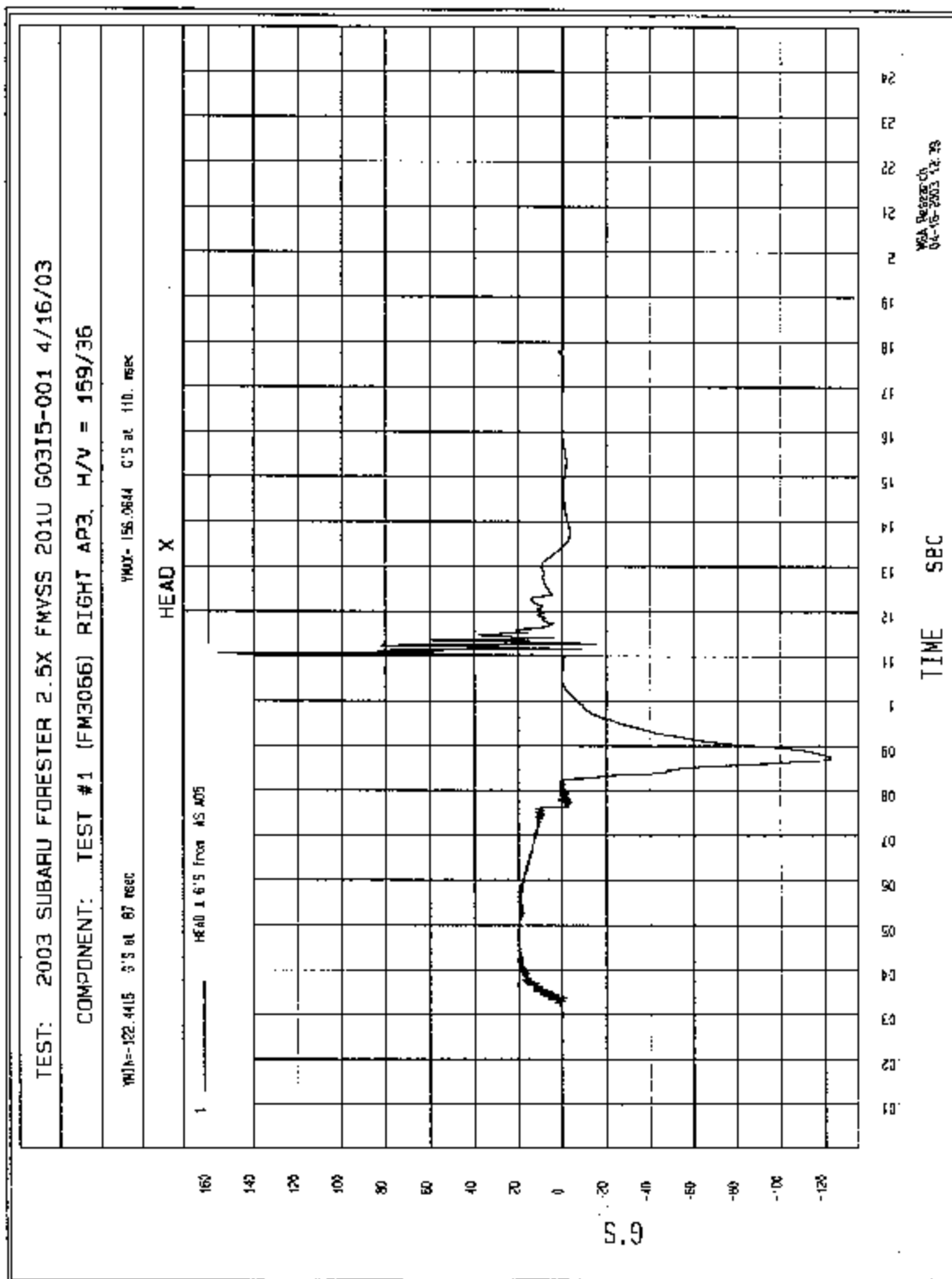
*Only necessary for NHTSA (Government) Compliance testing.

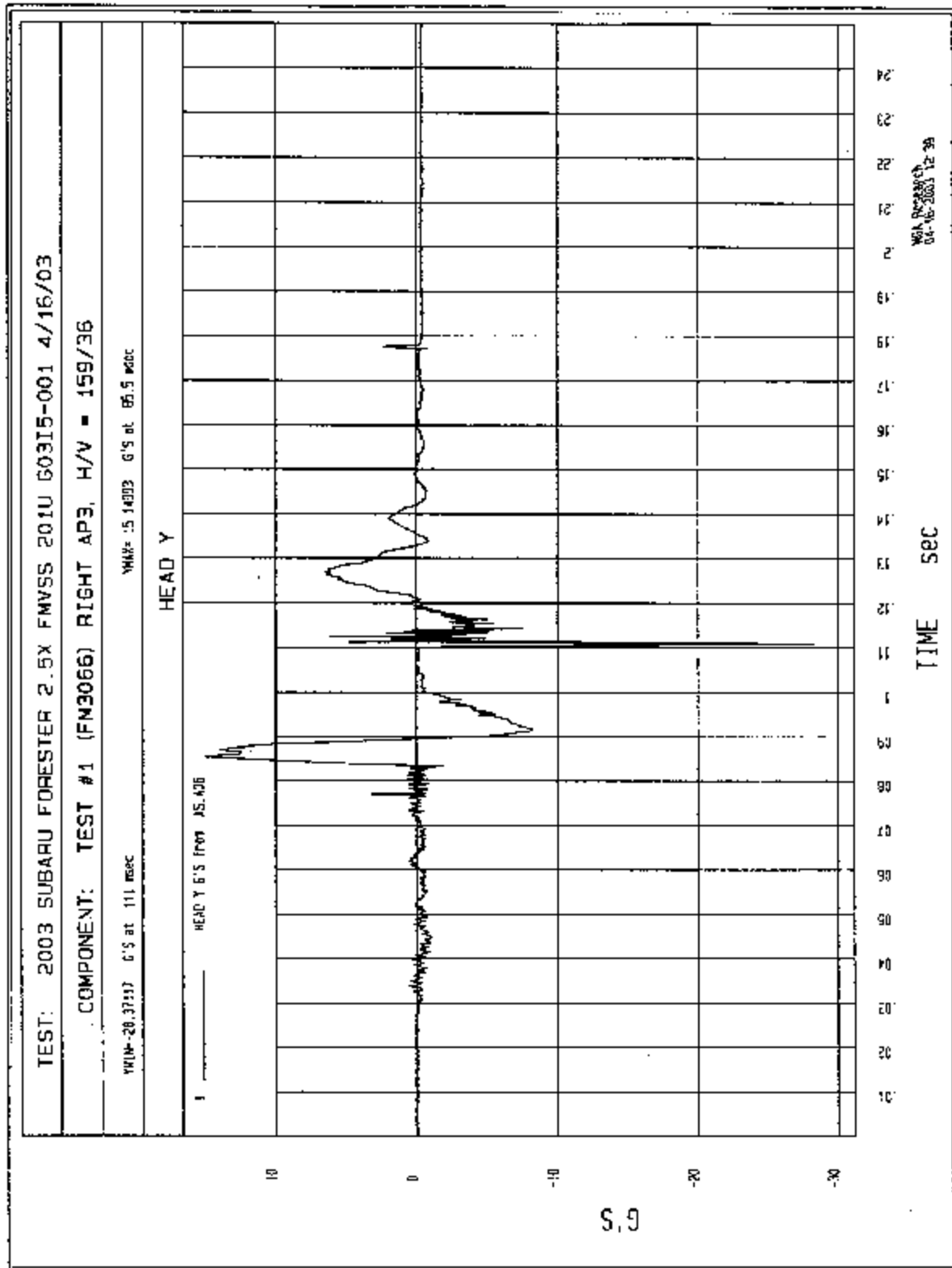
```
*****
RESULTS OF HIC36 PROGRAM
*****
input file is \NHTSA\FM3066AV.A05
HIC = 635.03 calculated over 6.5 msec
T1 = 2.80 msec T2 = 9.30 msec
*****
HIC(d) = 646
Impact Velocity = 23.8 (km/h)
```









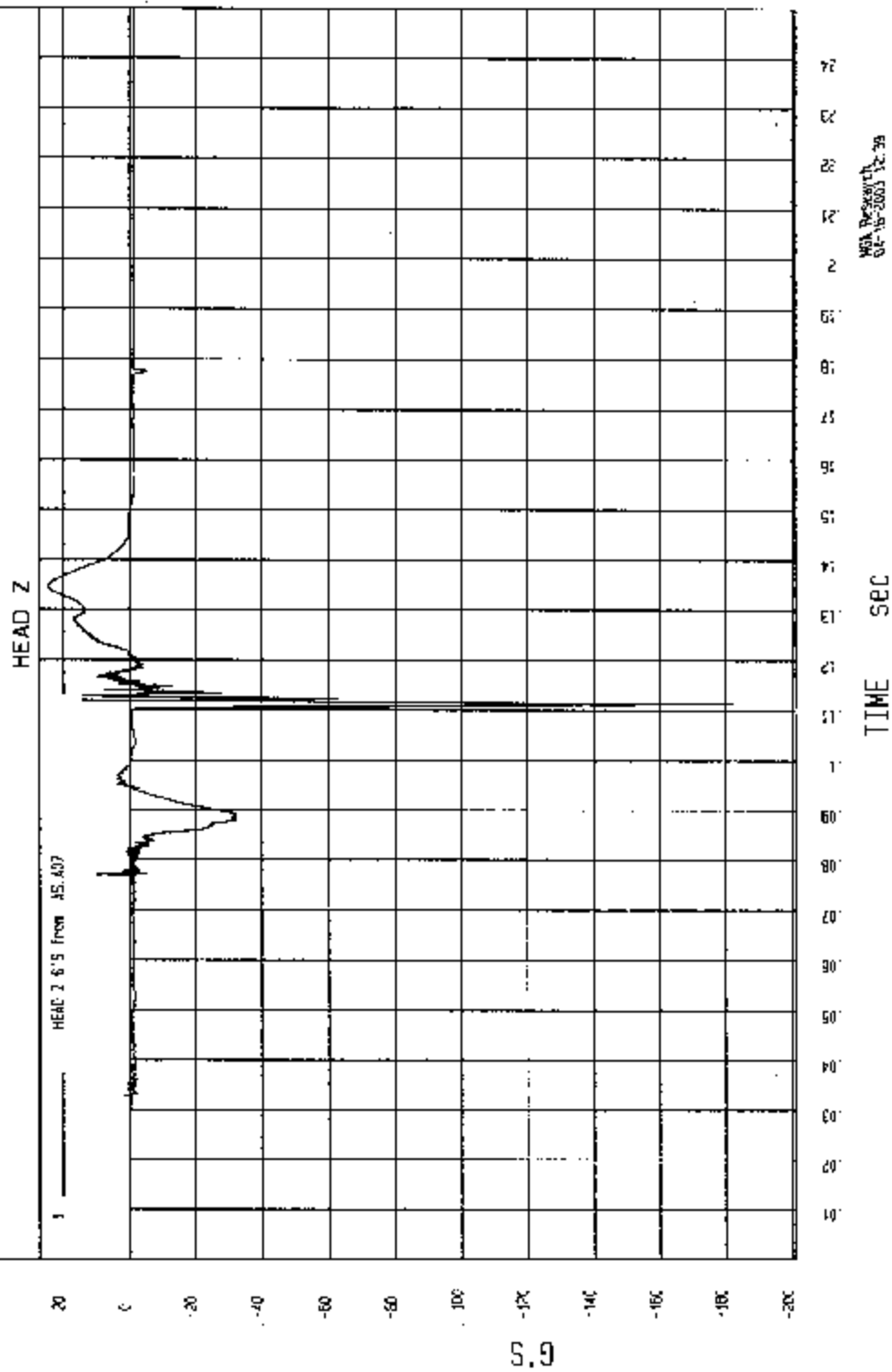


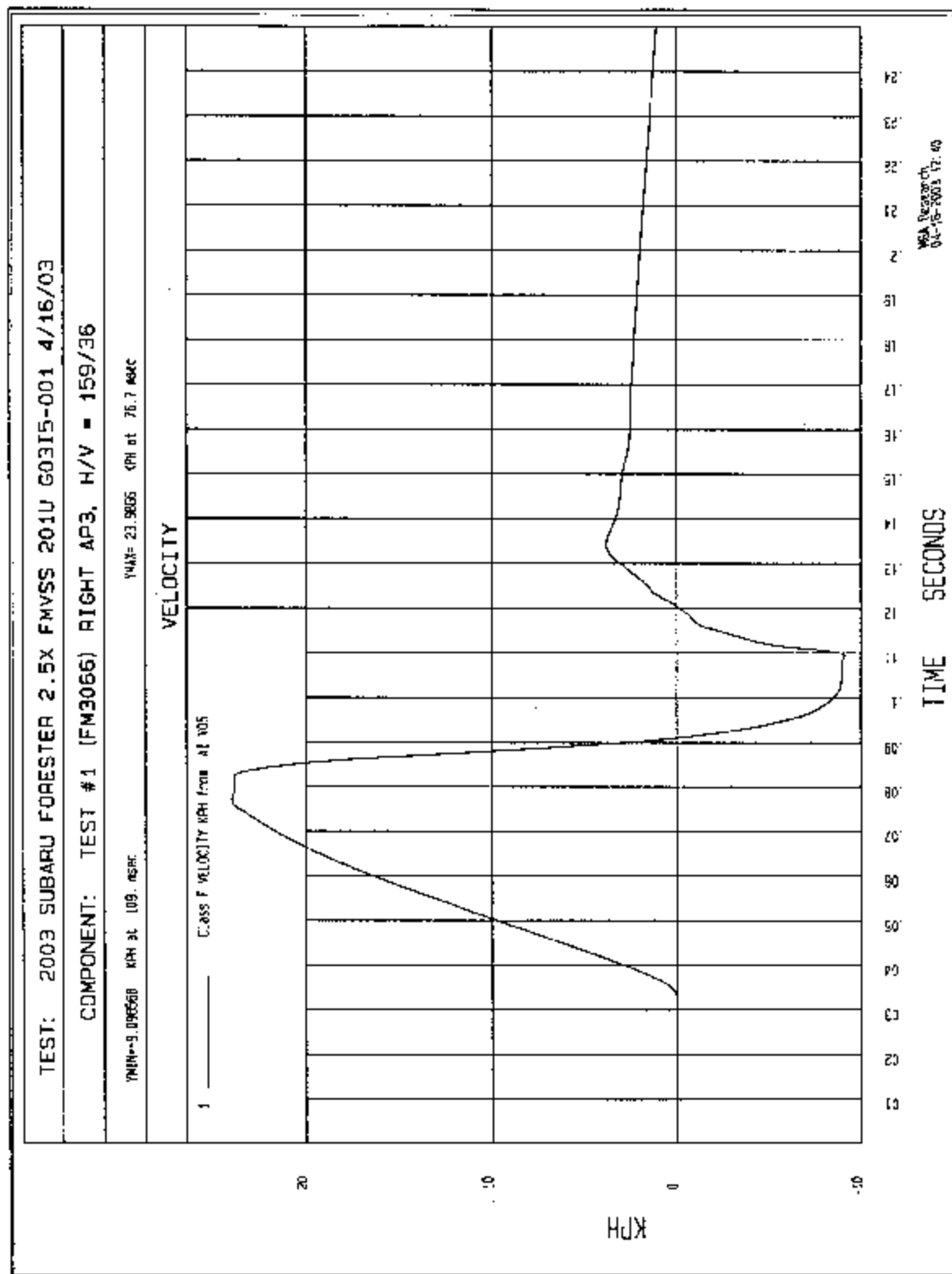
TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U 60315-001 4/16/03

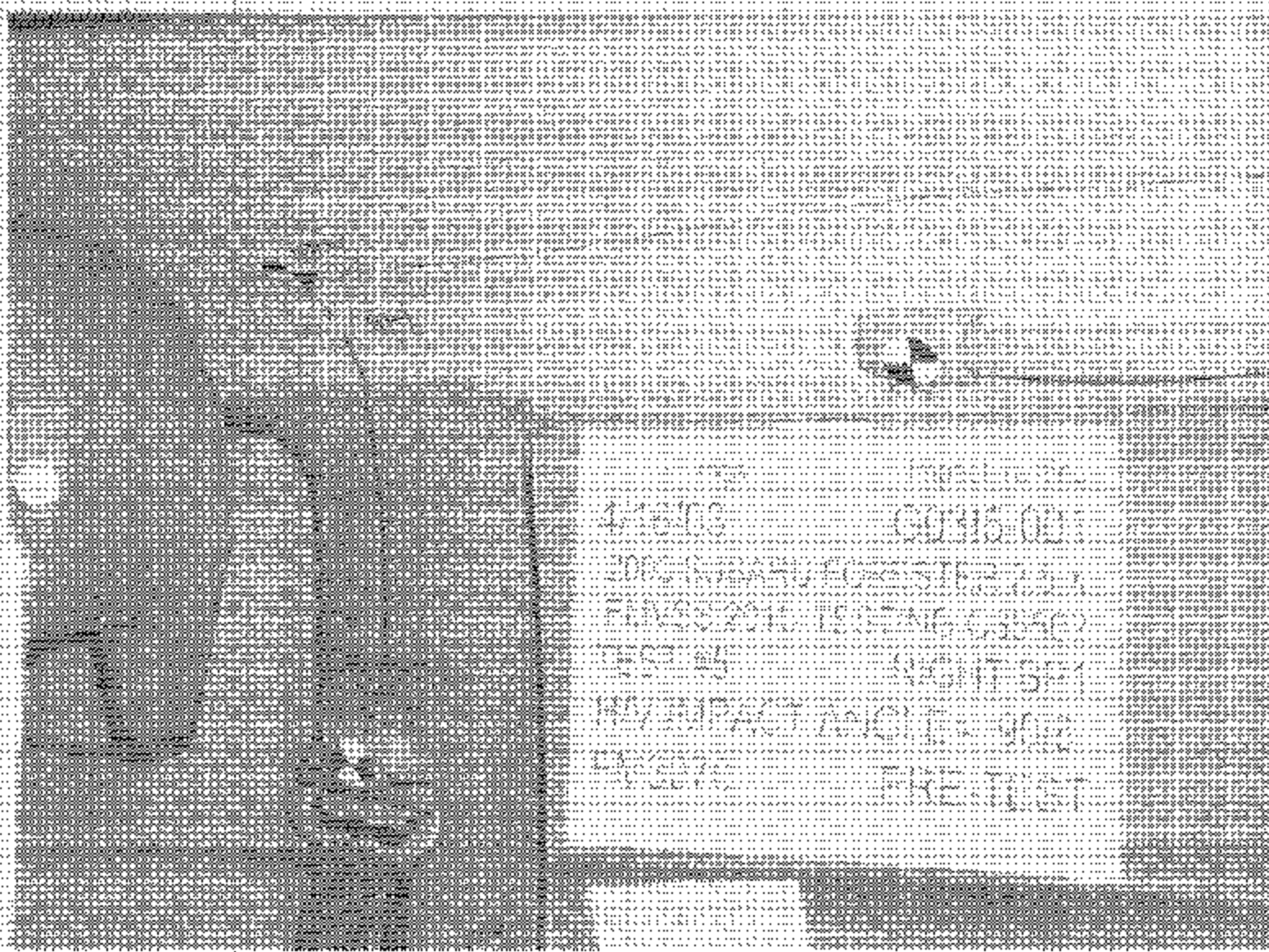
COMPONENT: TEST #1 (FM3066) RIGHT AP3, H/V - 159/36

YMH-192 5425 0'S at 111. msec

YMH-24 53893 0'S at 134. msec







1-1-00 00115-00
DO NOT ATTEMPT TO RE-ENTER
FIRESCAPES IF NOT ADVISED
BY THE
FIRE DEPARTMENT
FIRE TIGHT



4/10/03

3:15-3:31

2003-2004 FORD F-150

CRASH TESTING

TEST 1

MAX IMPACT

FM3070

POST-TEST

4/16/03
2003 SUBARU FORESTER EX
FMVSS 2010 TESTING CODE
TEST #5
HV IMPACT ANGLE = 90
FM3070
FOOT 1

MICHIGAN OPERATIONS
DATE: 3/20/03
SUPERCEDES: MGATP201U_FRAME #2.4

DOC. NO.: MGATP201U_FRAME #2
REVISION NO.: 5
PAGE 9 OF 9

SUMMARY OF FMVSS 201U TEST

JOB/NHTSA NO: 135502 VEHICLE YR/MAKE/MODEL: 2003 SUZUKI FORESTER

GENERAL TEST PARAMETERS:

Test Number: 4

Target (Vehicle Side): left/right BPY

Temperature: 22 °F CO

MGA Test Reference No.: FM3065

Humidity: 28 %

Approach Angles: Horizontal 150 °

Time of Test: 3:30 am/pm pm

Vertical -3 °

FMH Serial No: 35

TEST RESULTS:

HIC(d)	HIC	At (msec)	Velocity (kph)	Impact location on FMH (mm)	
				Above Pt. O	Left/Right Pt. O
505	449	10.5	23.8	4	4

INSTRUMENTATION INFORMATION: (all accelerometers are Endevco 7264-2000)

Axis	Channel	Serial No.	DLR Value	ΔV Pre-Test	ΔV Post-Test
X	5	J35924	-93.1	1.21	1.21
Y	6	J35919	95.3	1.23	1.23
Z	7	J35951	95.1	1.51	1.23

REMARKS (Summary of test, damage, non-compliance, invalid test, etc.):

NO VISIBLE DAMAGE

RESULTS OF HIC36 PROGRAM

input file is \NHTSA\FM3069AV.A05

HIC = 448.61 calculated over 10.5 msec

T1 = 2.60 msec T2 = 13.10 msec

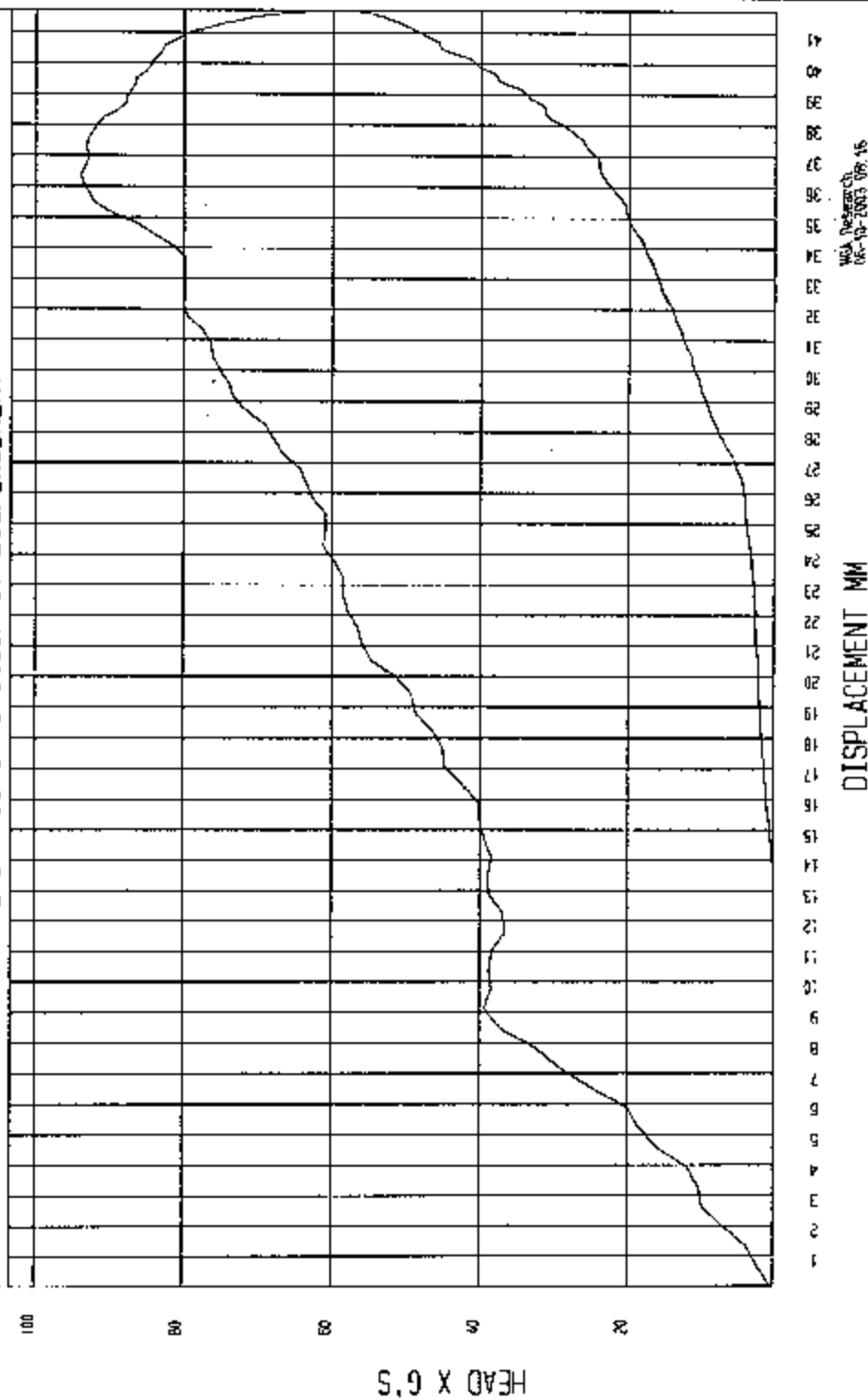
HIC(d) = 505

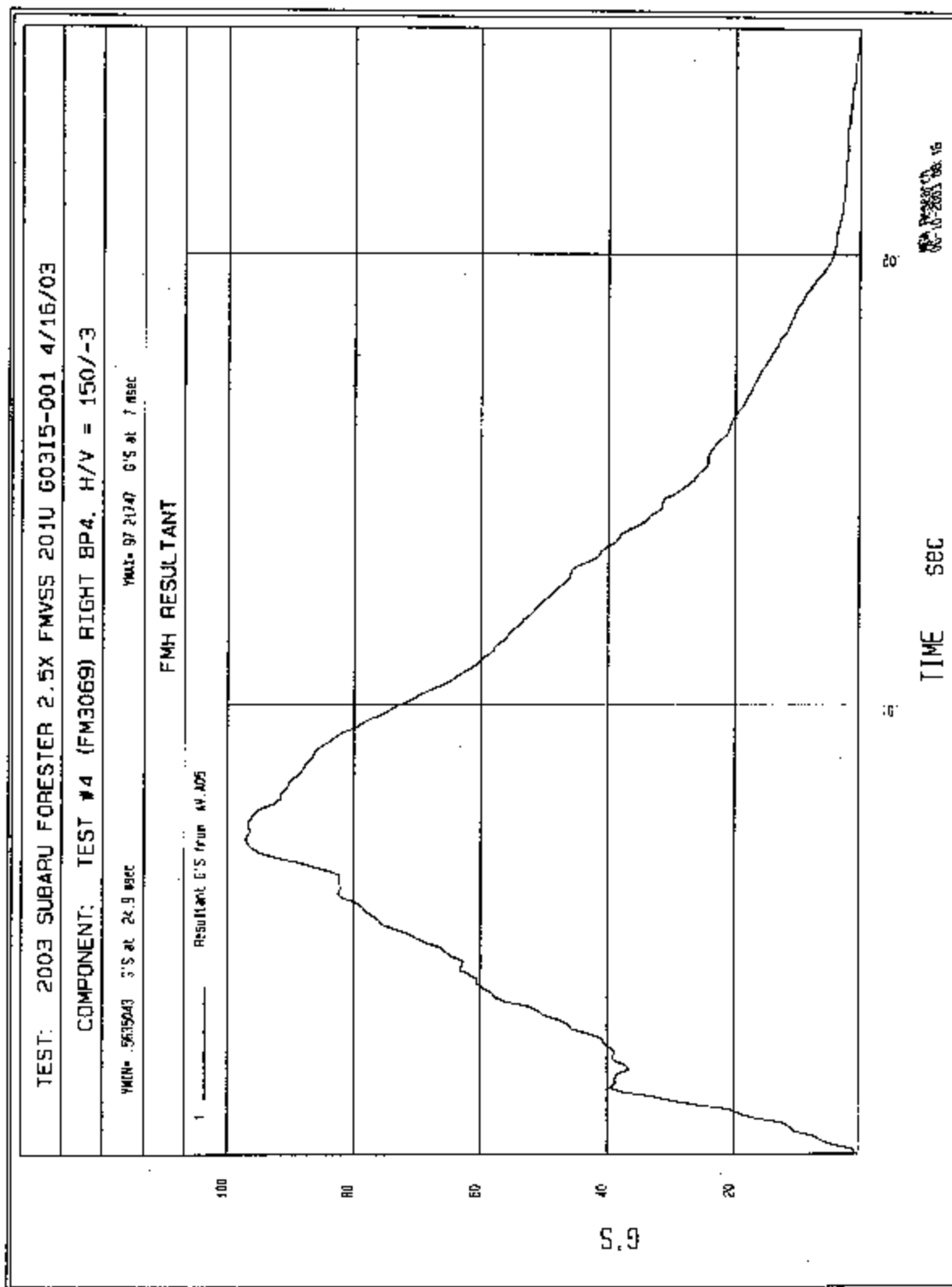
Impact velocity = 23.8 (km/h)

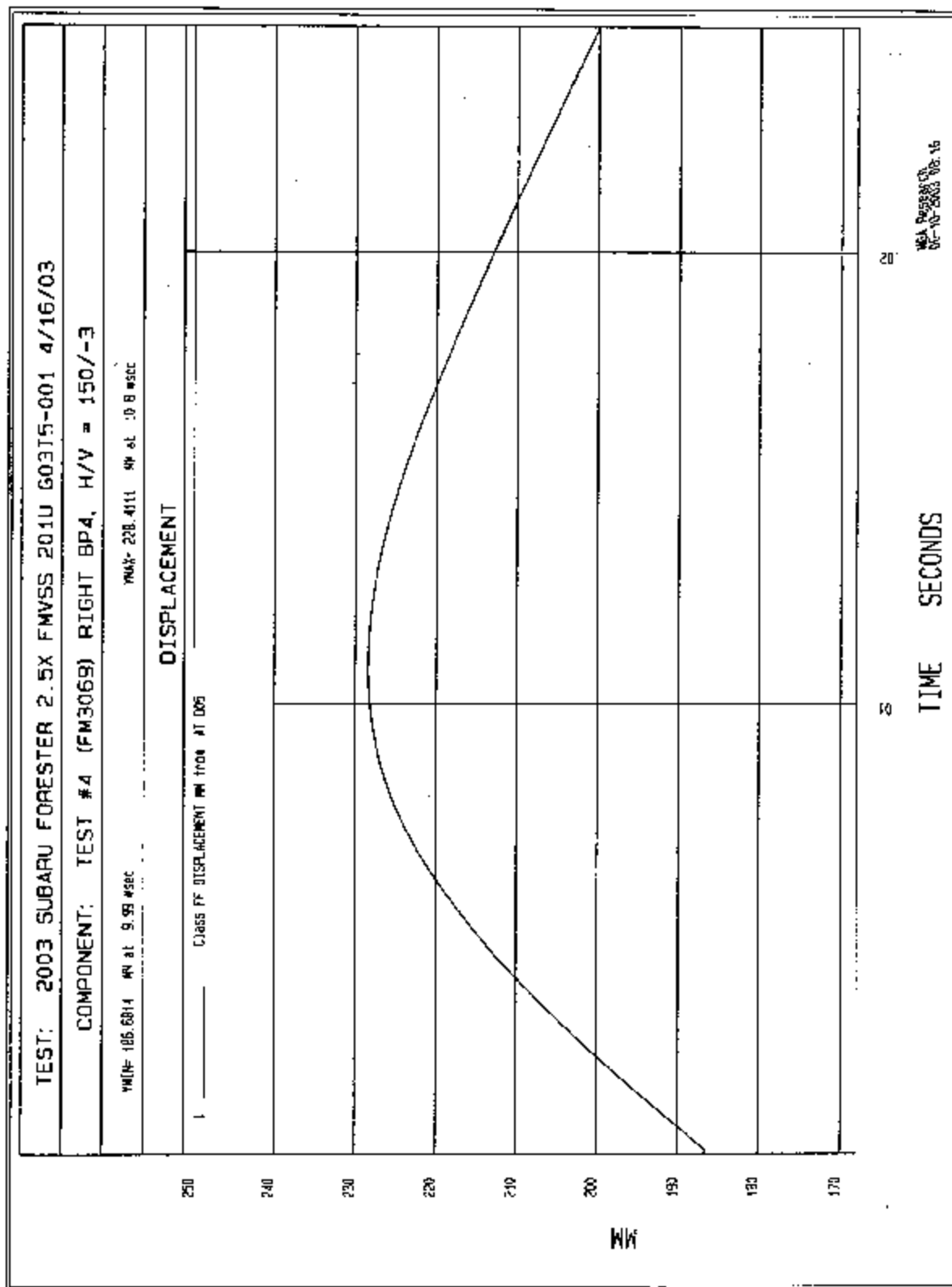
TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G0315-001 4/16/03

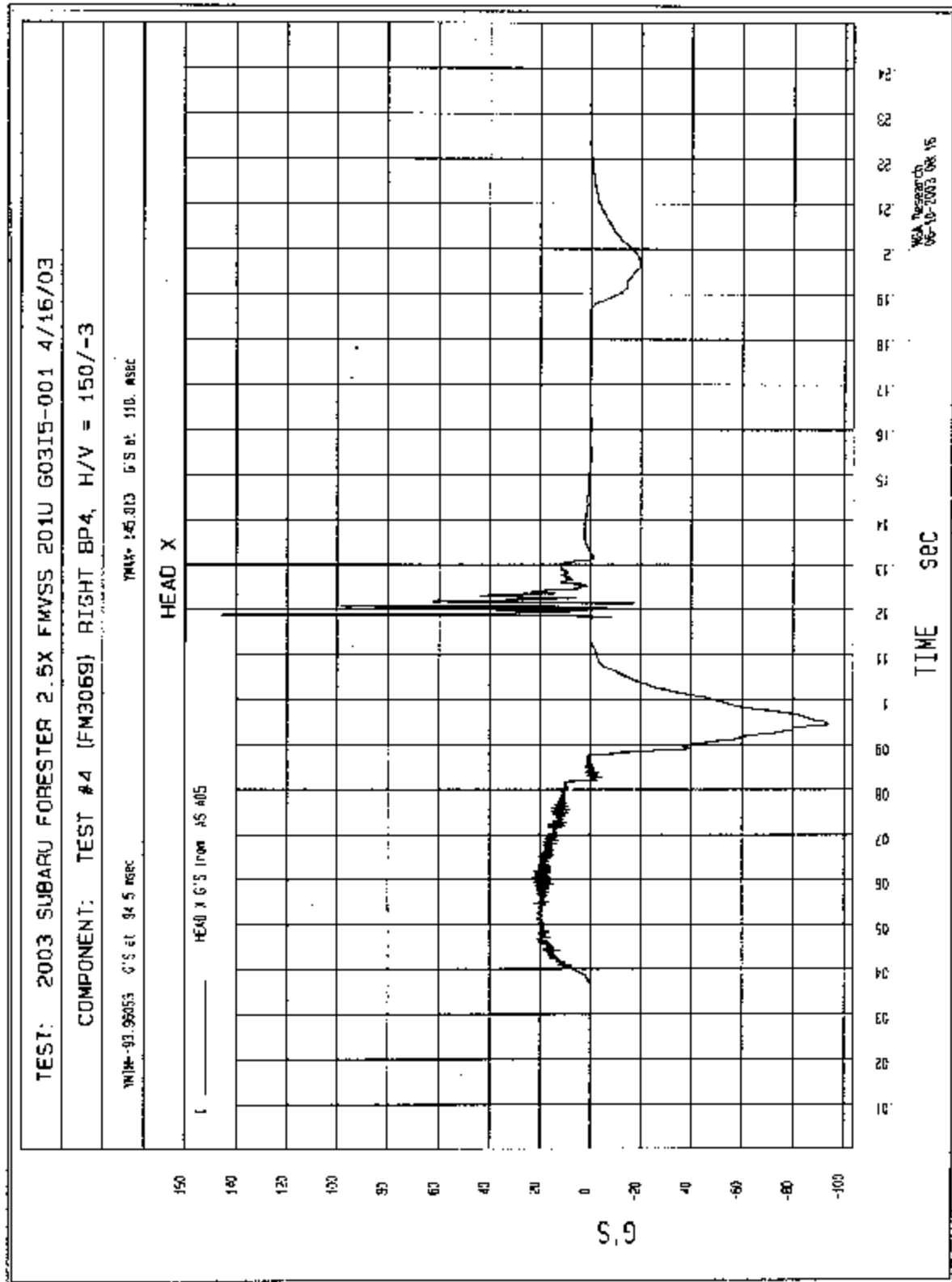
COMPONENT: TEST #4 (FM3069) RIGHT BP4, H/V = 150/-3

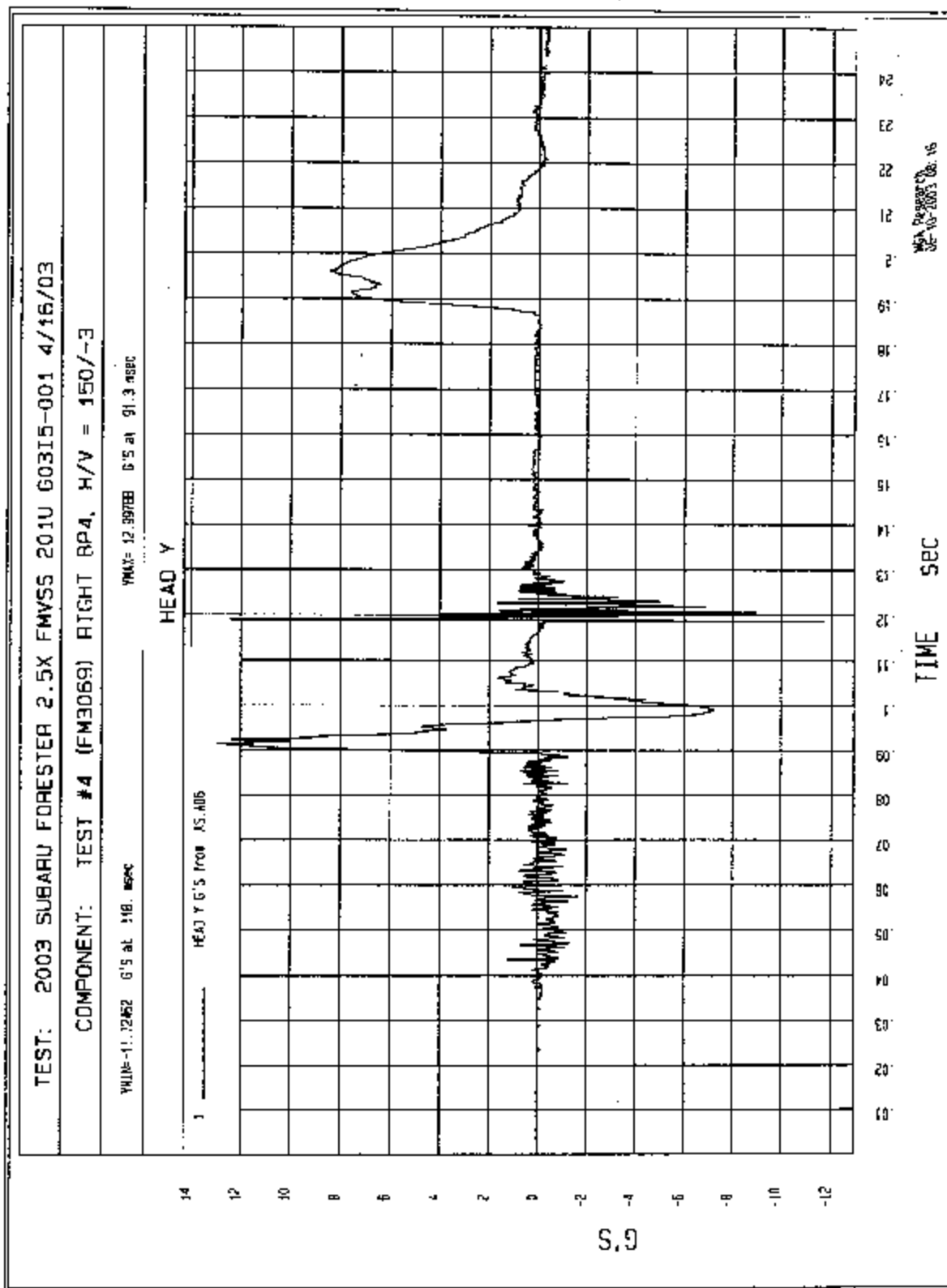
HEAD X as a function of DISPLACEMENT

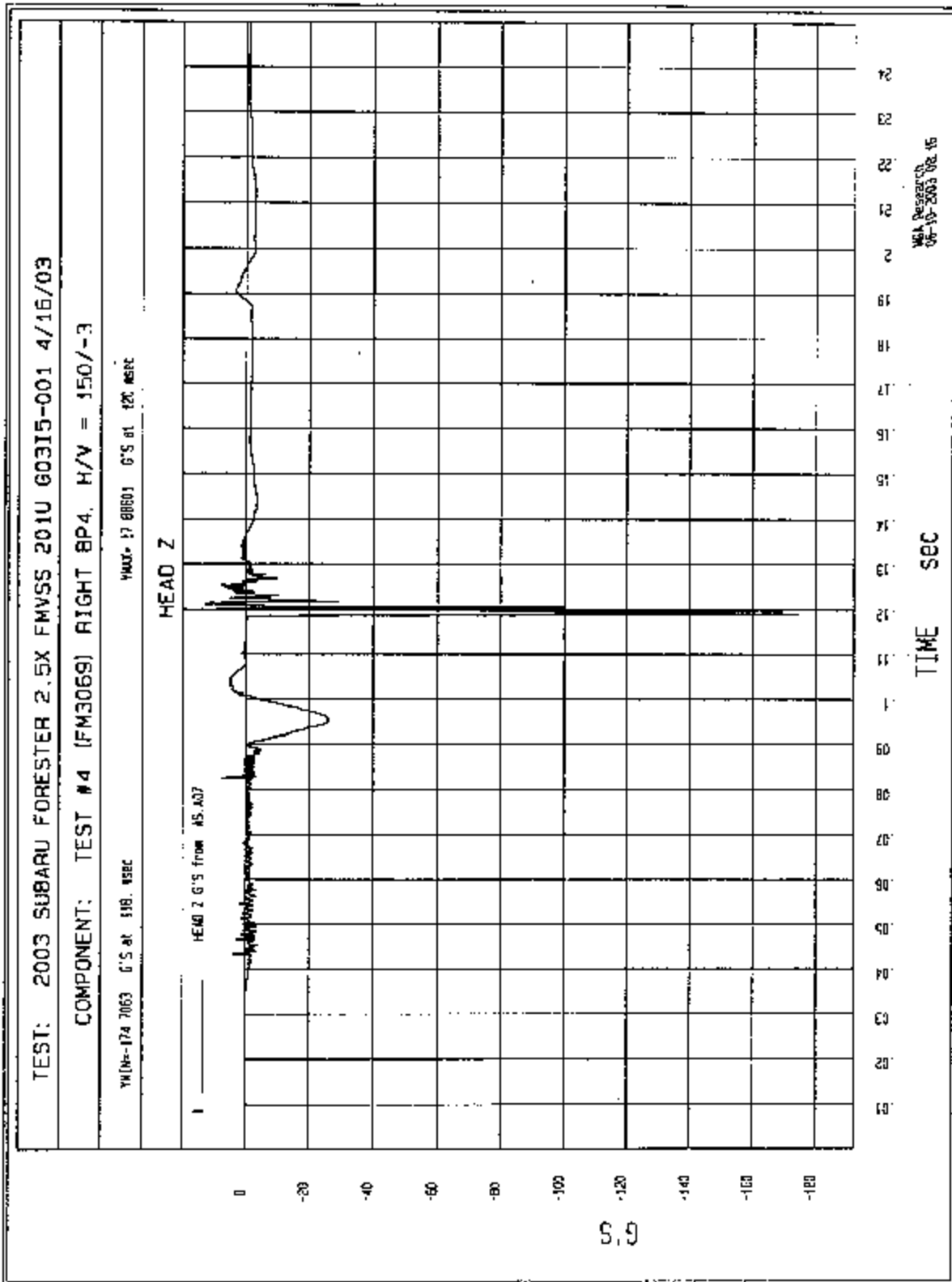


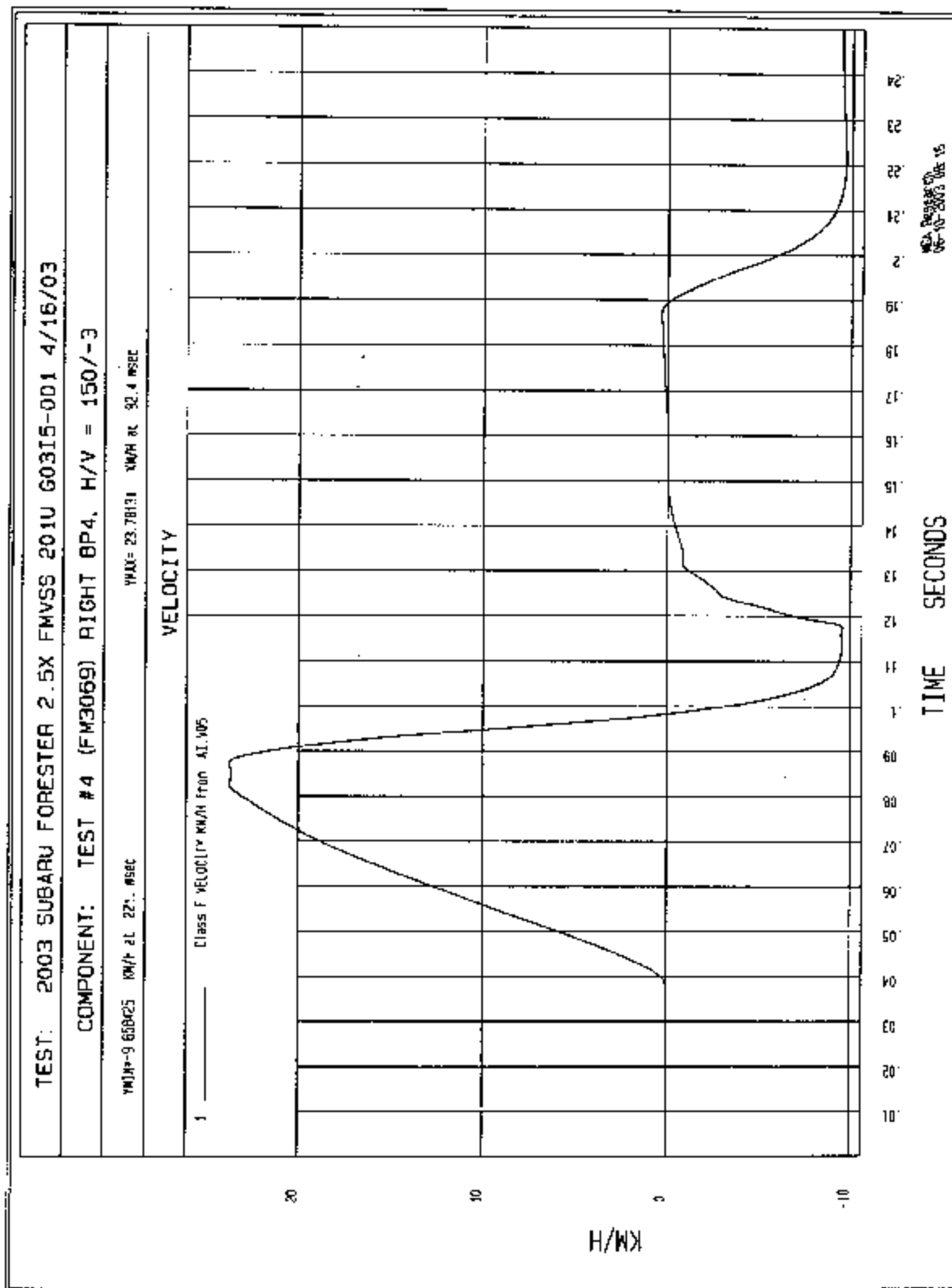


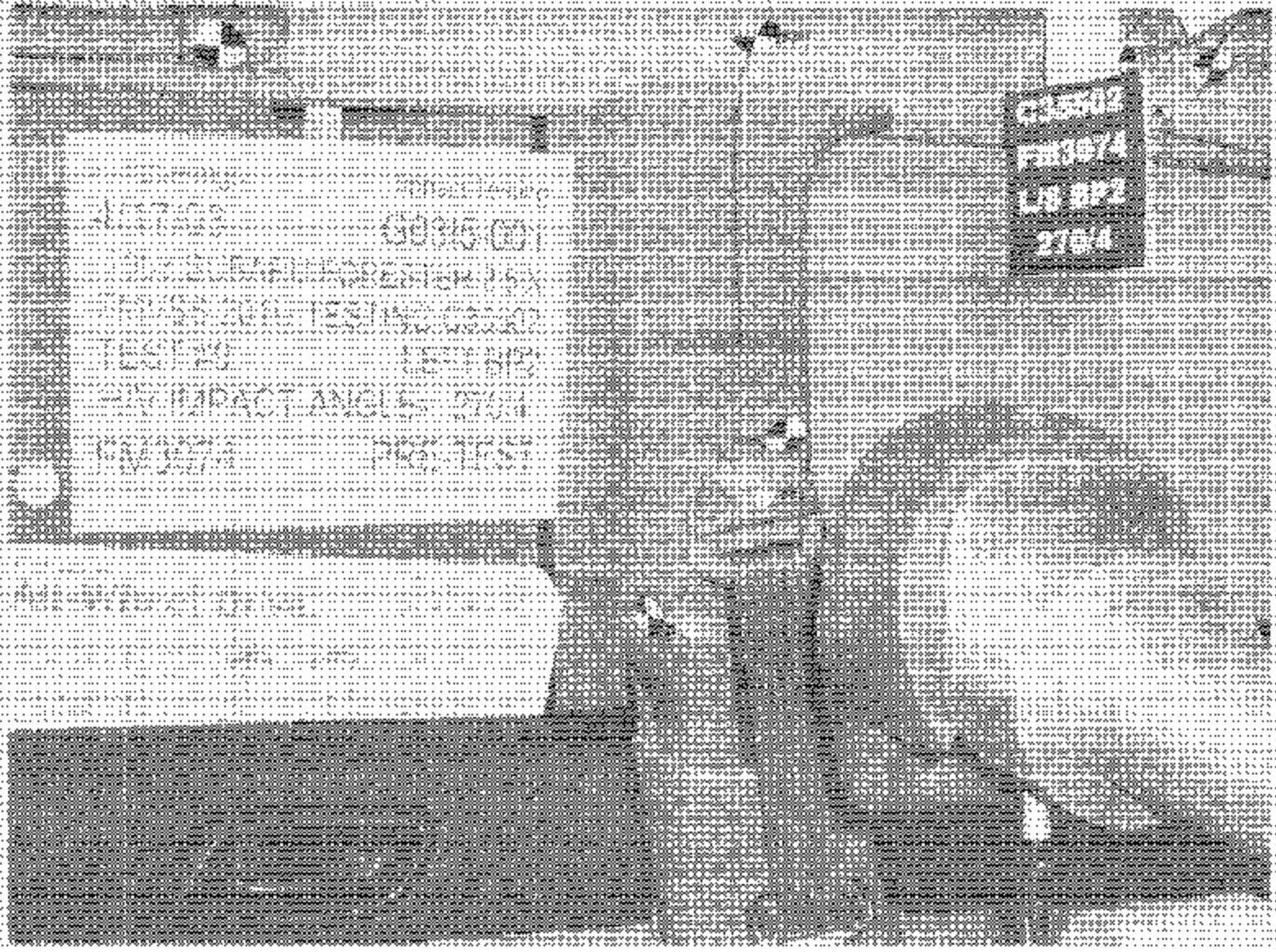












00015 001
TESTING
IMPACT ANGLE 270°
M3574

CH5712
FM3074
LB 8P2
270°

4/17/06

2002-2003

FBI/DOJ

FBI/DOJ

FBI/DOJ

FBI/DOJ

FBI/DOJ

FBI/DOJ

035492

FBI/DOJ

FBI/DOJ

2704

MICHIGAN OPERATIONS
DATE: 3/20/03
SUPERCEDES: MGATP201U_FRAME #2.4

DOC. NO.: MGATP201U_FRAME #2
REVISION NO.: 5
PAGE 9 OF 9

SUMMARY OF FMVSS 201U TEST

JOB/NHTSA NO: C38802 VEHICLE YR/MAKE/MODEL: 2003 Acura Forester

GENERAL TEST PARAMETERS:

Test Number: 9

Target (Vehicle Side) (Left) Right BPZ

Temperature: 22 °F (C)

MGA Test Reference No.: F43074

Humidity: 22 %

Approach Angles: Horizontal 270 °

Time of Test: 3:50 am (pm)

Vertical 4 °

FMH Serial No: 38

TEST RESULTS:

HIC(d)	HIC	Δt (msec)	Velocity (kph)	Impact location on FMH (mm)	
				Above Pt. O	<u>(Left) Right</u> Pt. O
<u>614</u>	<u>593</u>	<u>9.3</u>	<u>24.0</u>	<u>5</u>	<u>10</u>

INSTRUMENTATION INFORMATION: (all accelerometers are Endevco 7264-2000)

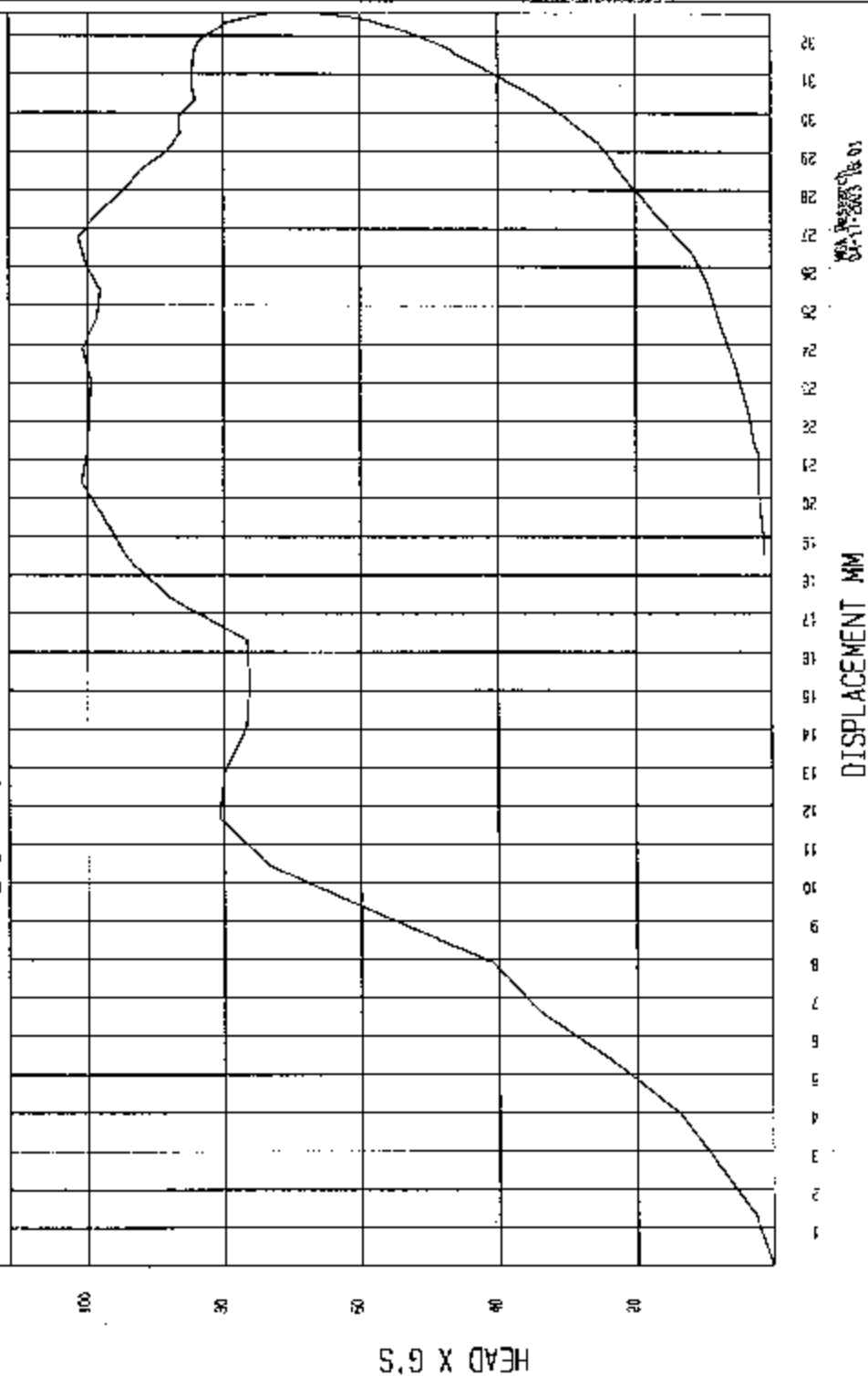
Axis	Channel	Serial No.	DLR Value	ΔV Pre-Test	ΔV Post-Test
------	---------	------------	-----------	---------------------	----------------------

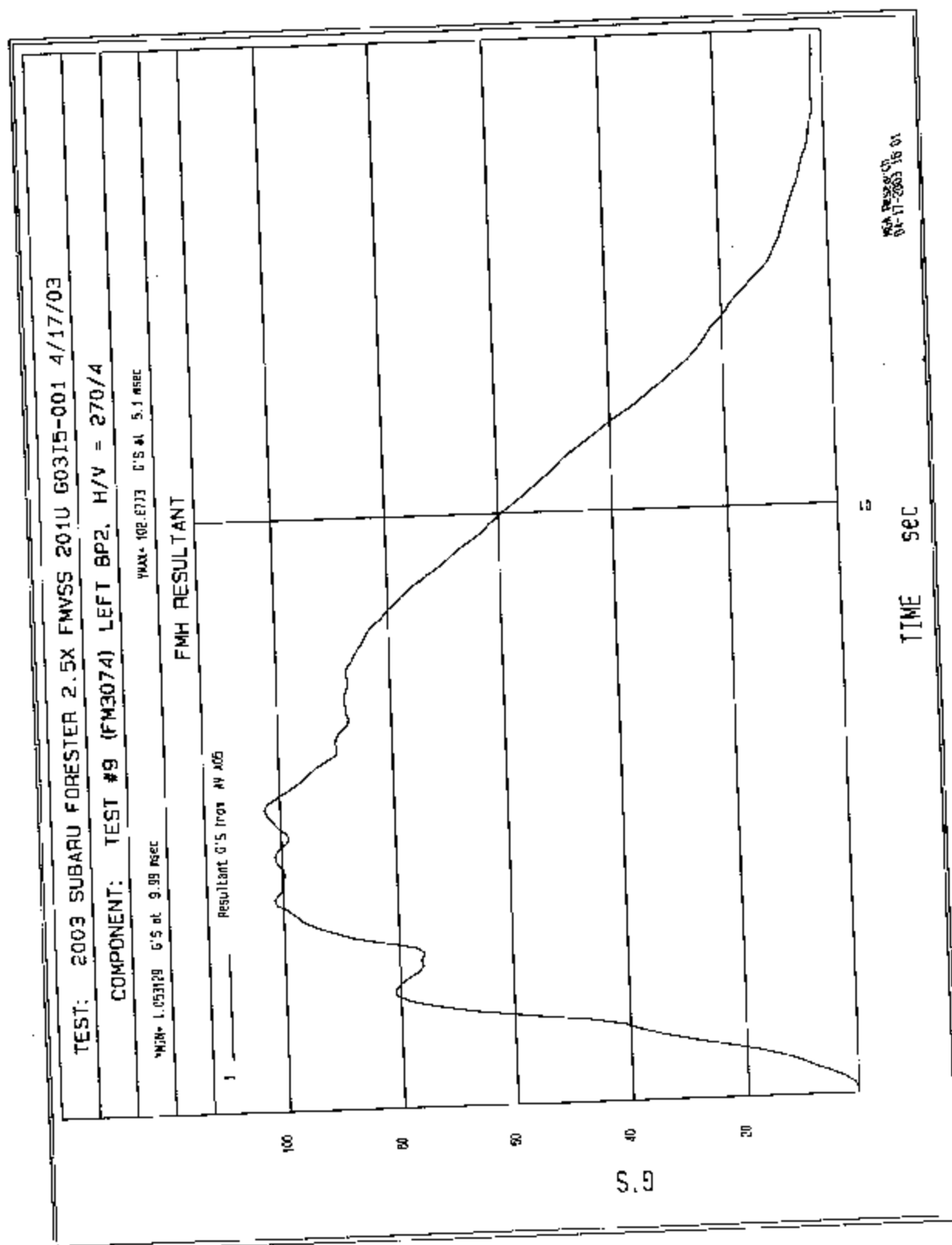
```
*****
RESULTS OF HIC36 PROGRAM
*****
input file is \NHTSA\FM3074AV.A05
HIC = 592.66 calculated over 9.3 msec
T1 = 1.30 msec T2 = 10.60 msec
*****
HIC(d) = 614
Impact Velocity = 24.0 (km/h)
```

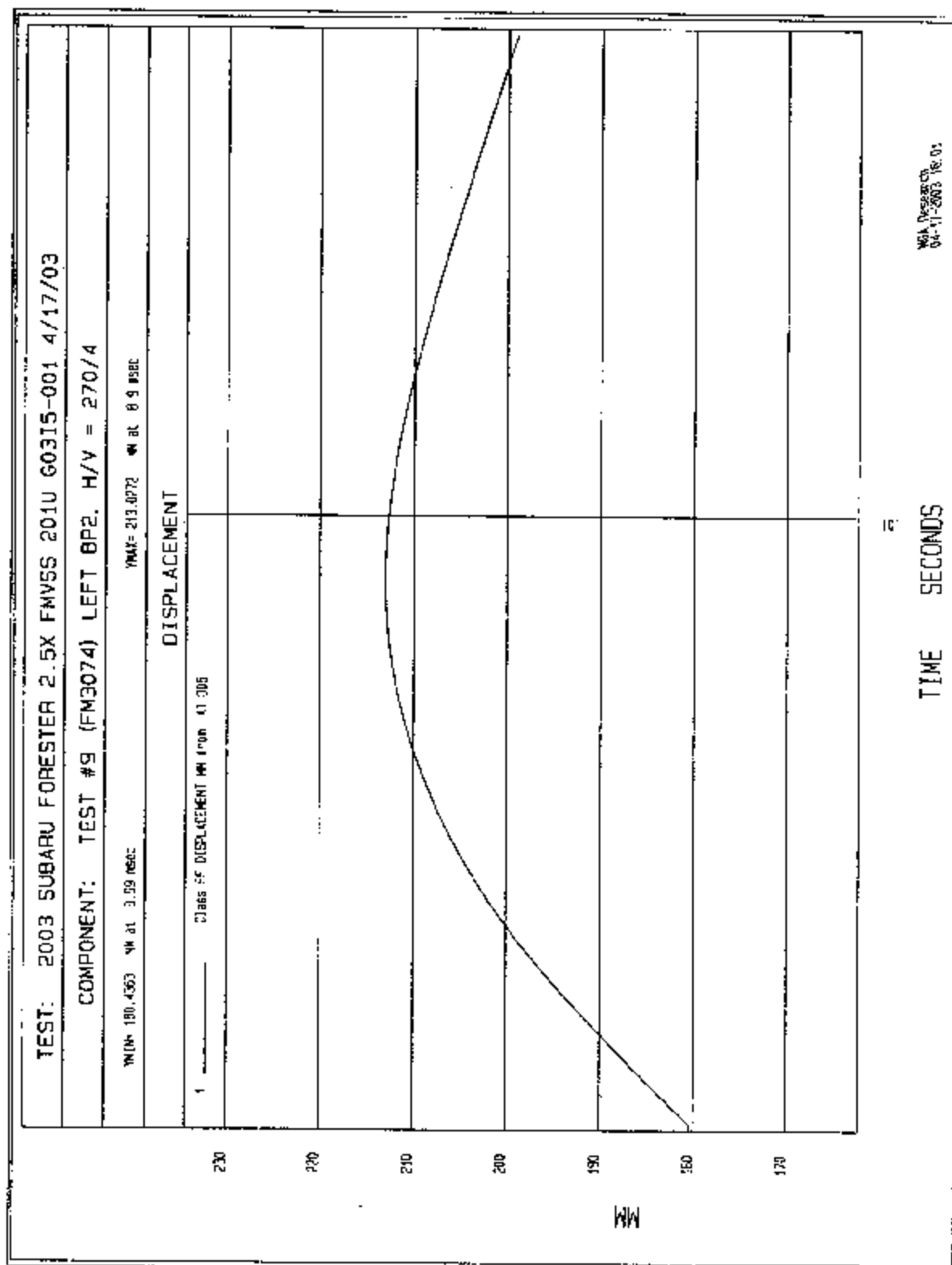
TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G03I5-001 4/17/03

COMPONENT: TEST #9 (FM3074) LEFT BP2, H/V - 270/4

HEAD X as a function of DISPLACEMENT



SEA 00000000
04-17-2003 16:01



TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G0315-001 4/17/03

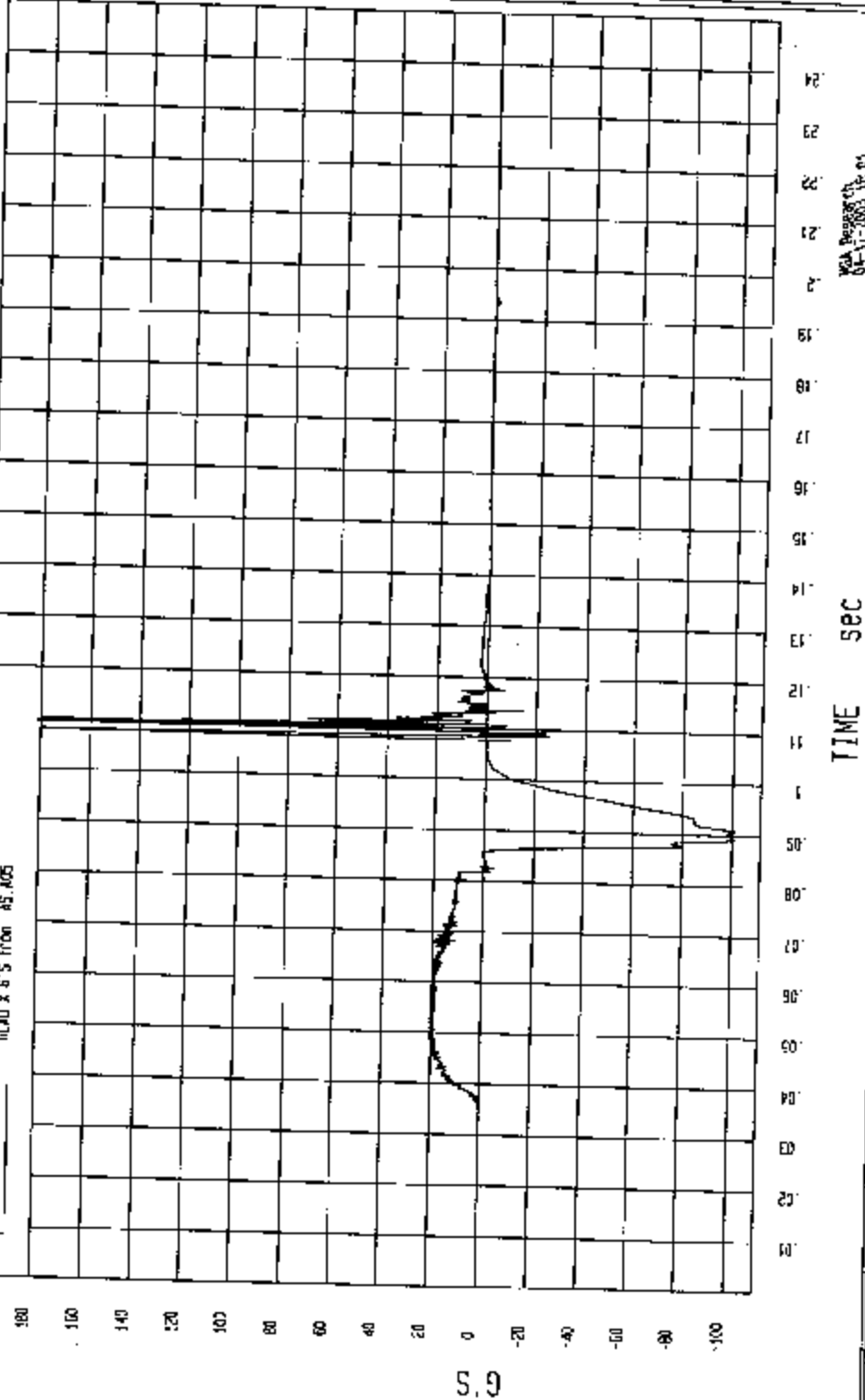
COMPONENT: TEST #9 (FM3074) LEFT BP2. H/V = 270/4

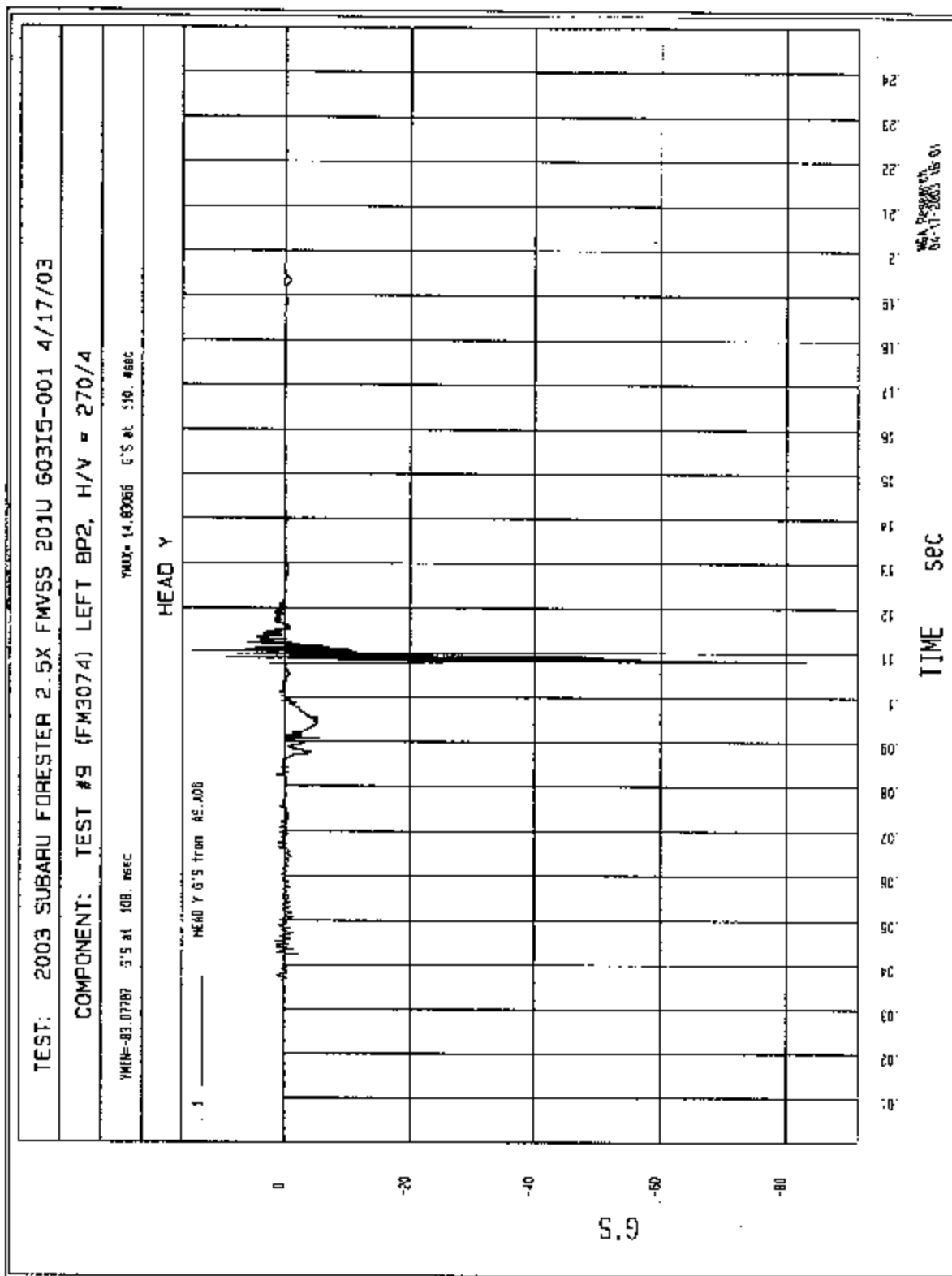
YIM=101.3855 G'S at 90 H msec

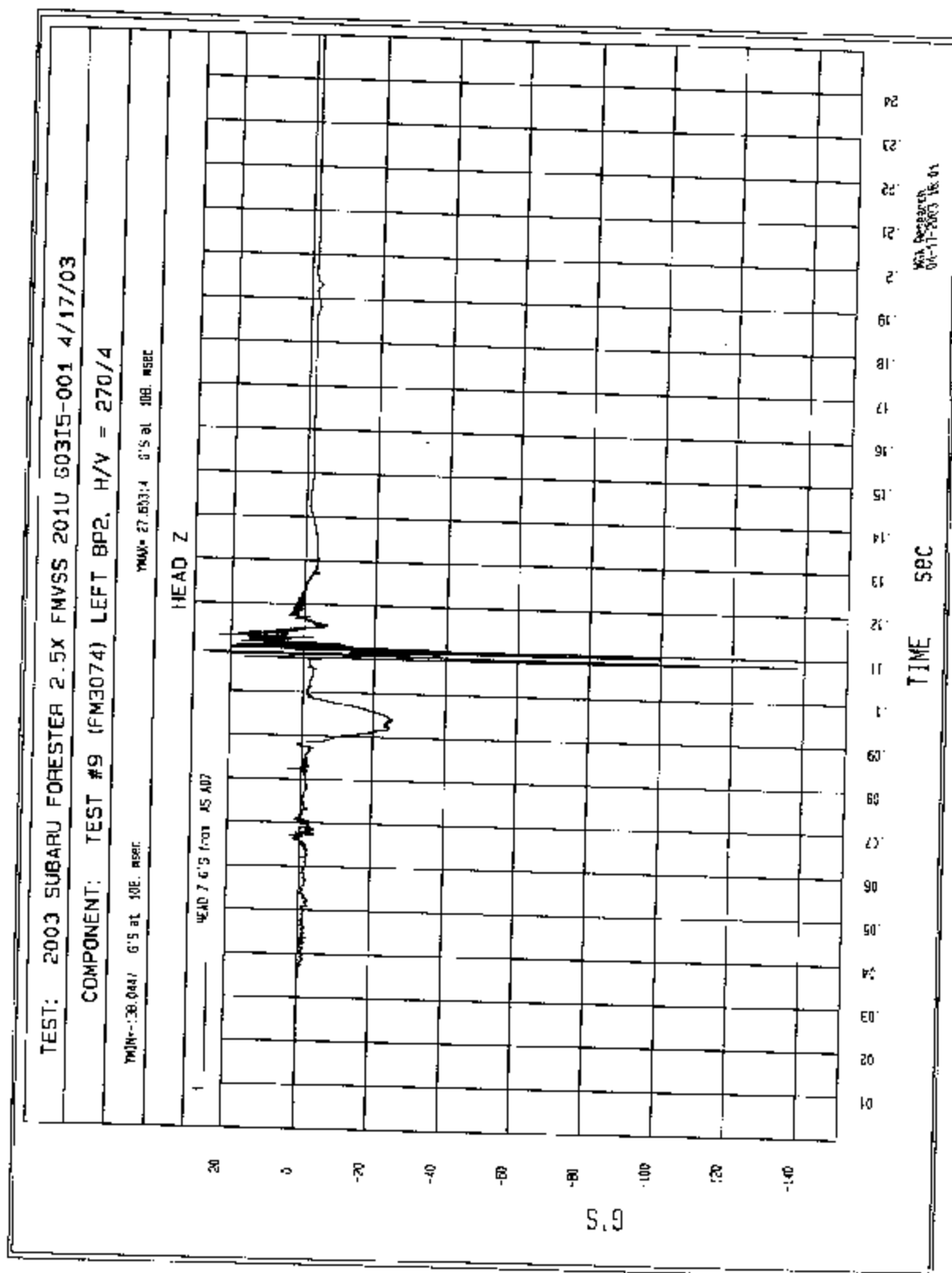
YMAX=101.5407 G'S at 109 msec

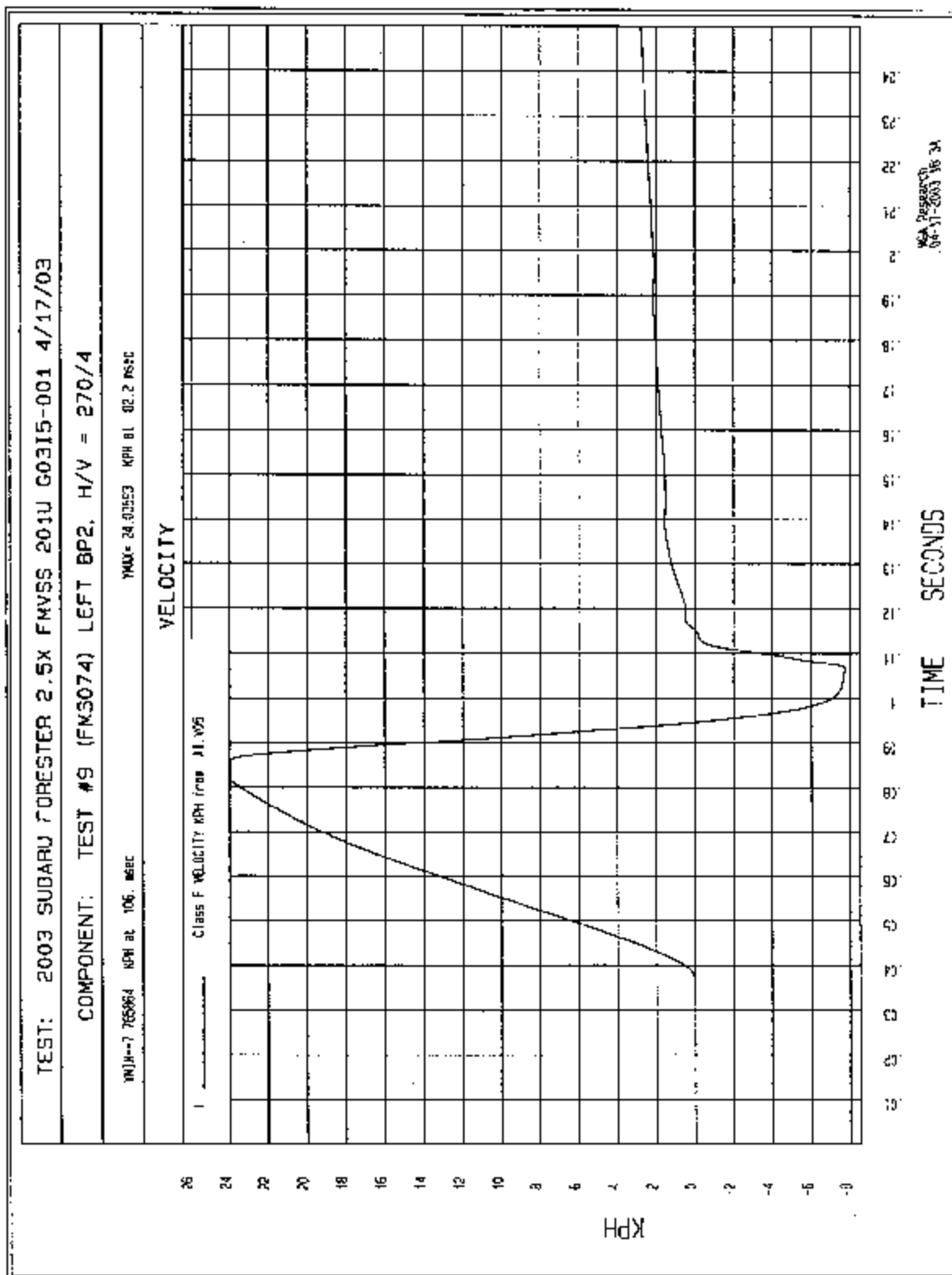
HEAD X

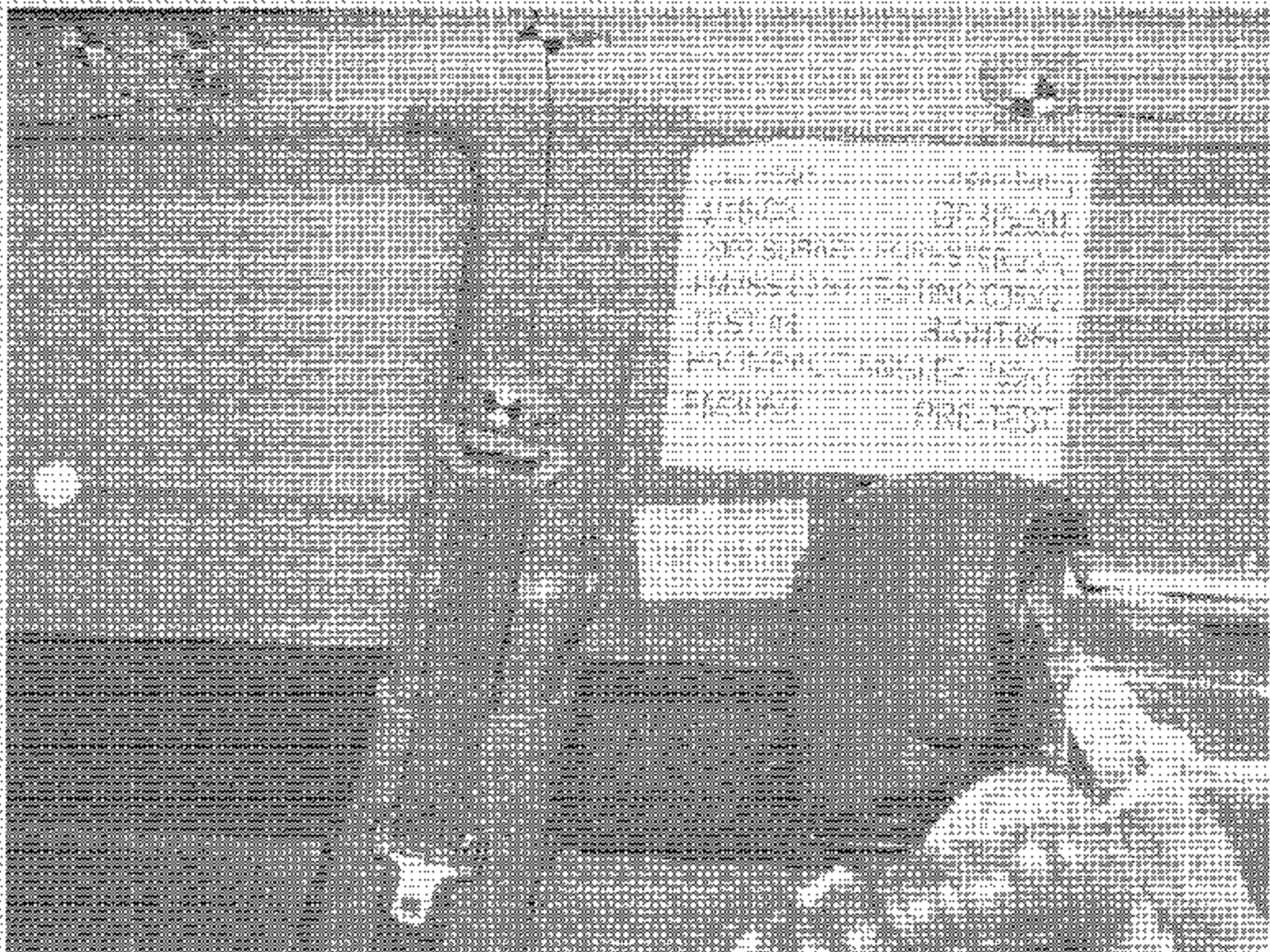
1 HEAD X G'S from AS AD5

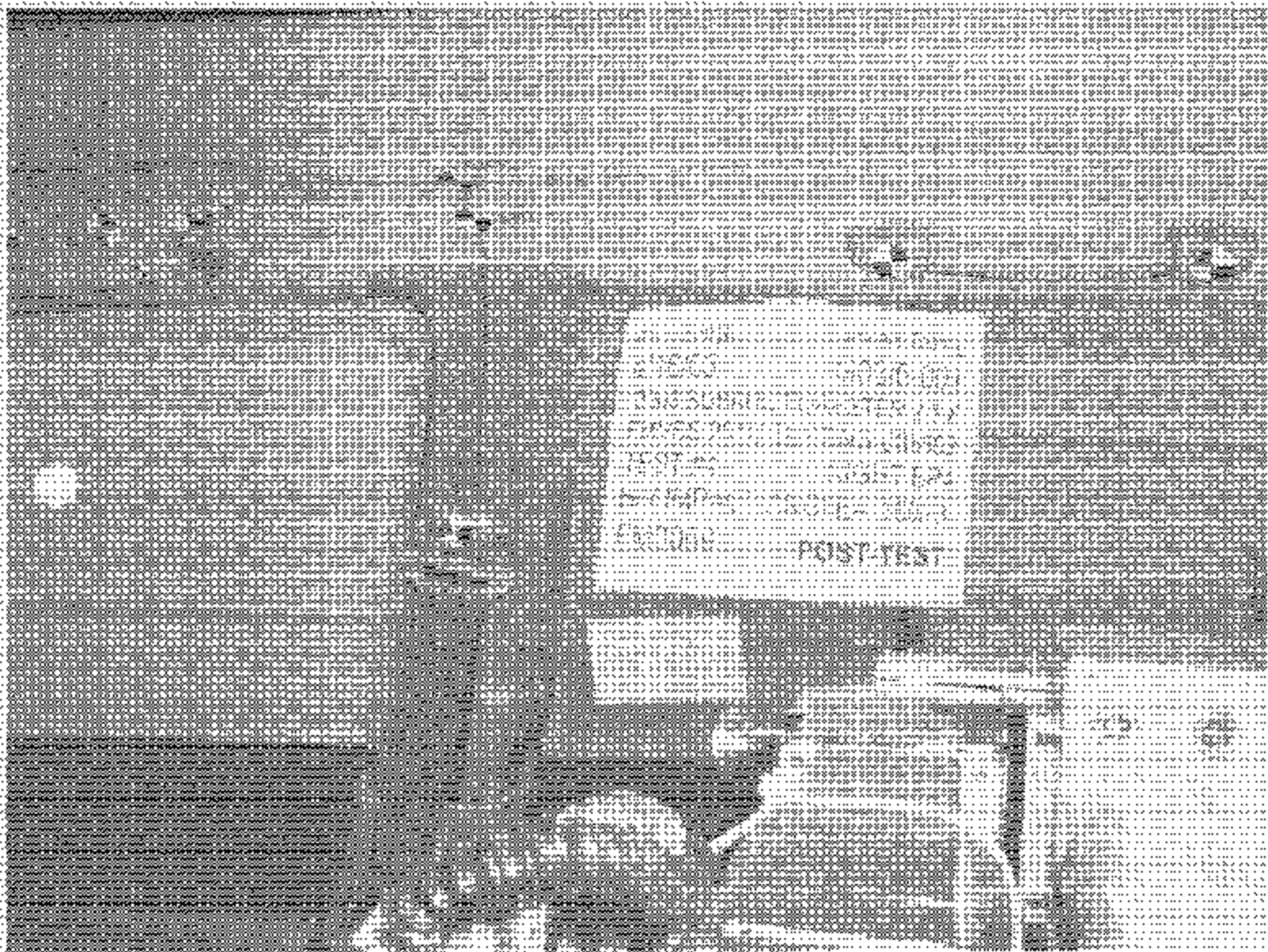












4/16/03 60312-001
2003 SUBARU FORESTER 2.5
FMVSS 201 TESTING OFF-12
TEST #4 RIGHT SIDE
HV IMPACT AND DEF-1040
FM3039 FDOT TEST

MICHIGAN OPERATIONS
 DATE: 3/20/03
 SUPERCEDES: MGATP201U_FRAME #2.4

DOC. NO.: MGATP201U_FRAME #2
 REVISION NO.: 3
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SUMMARY OF FMVSS 201U TEST

JOB/NHTSA NO: C35502 VEHICLE YR/MAKE/MODEL: 2003 SUZUKI FORESTER

GENERAL TEST PARAMETERS:

Test Number: 4

Target (Vehicle Side): left/right BPY

Temperature: 22 °F CD

MGA Test Reference No.: fm3065

Humidity: 20 %

Approach Angles: Horizontal 150 °

Time of Test: 3:30 am/pm pm

Vertical -3 °

RESULTS OF HIC36 PROGRAM

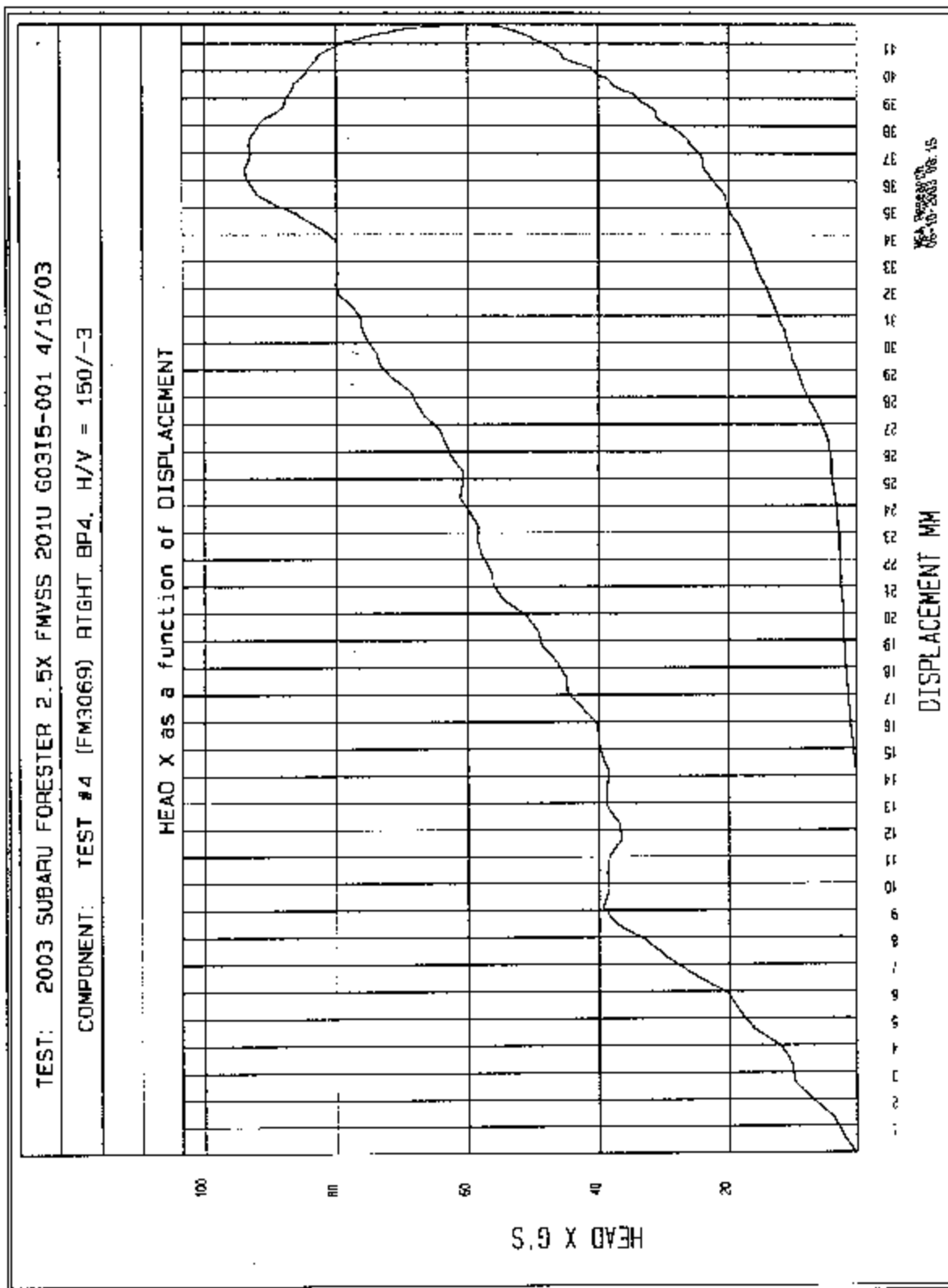
input file is \NHTSA\FM3069AV.A05

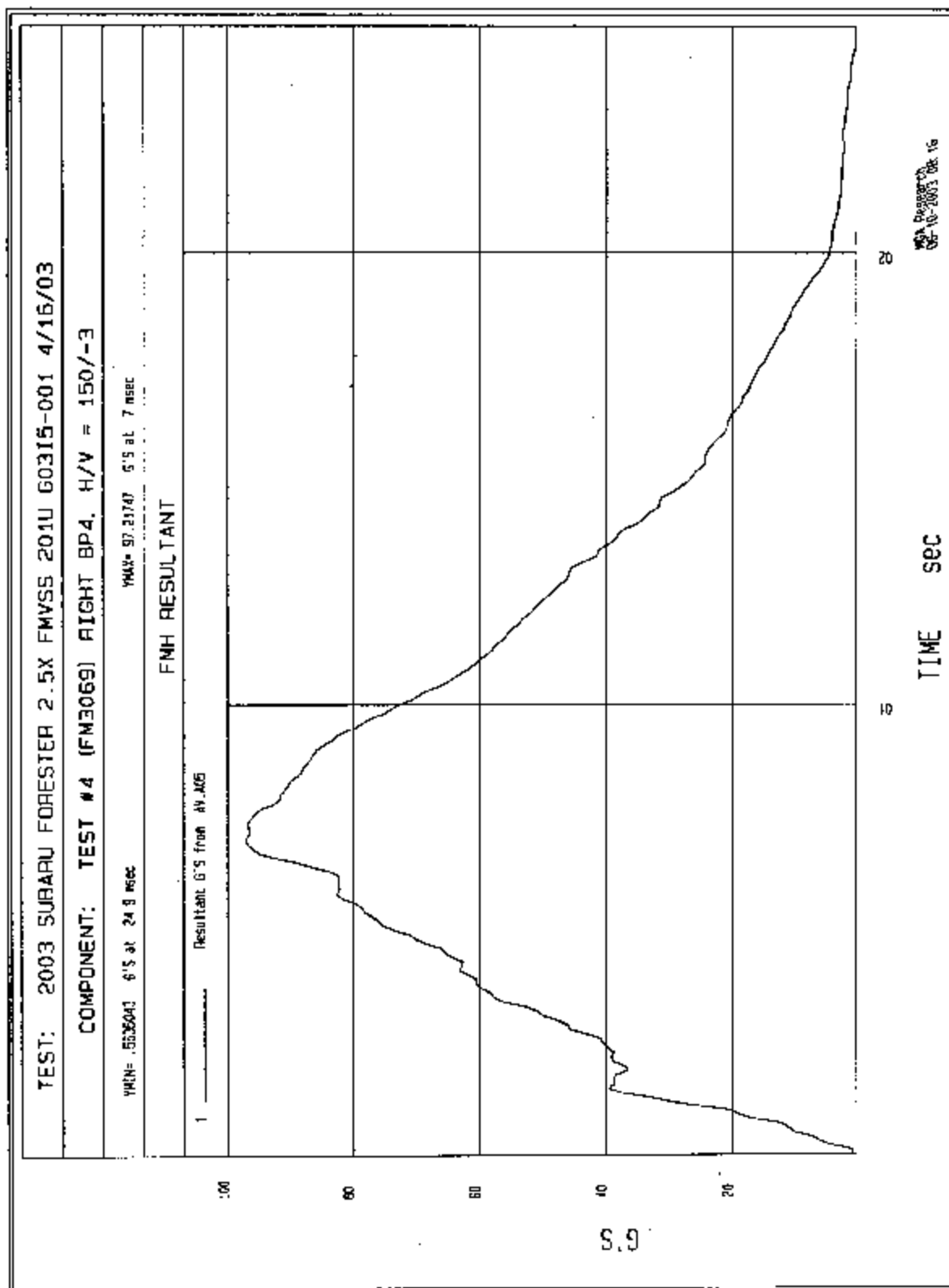
HIC = 448.61 calculated over 10.5 msec

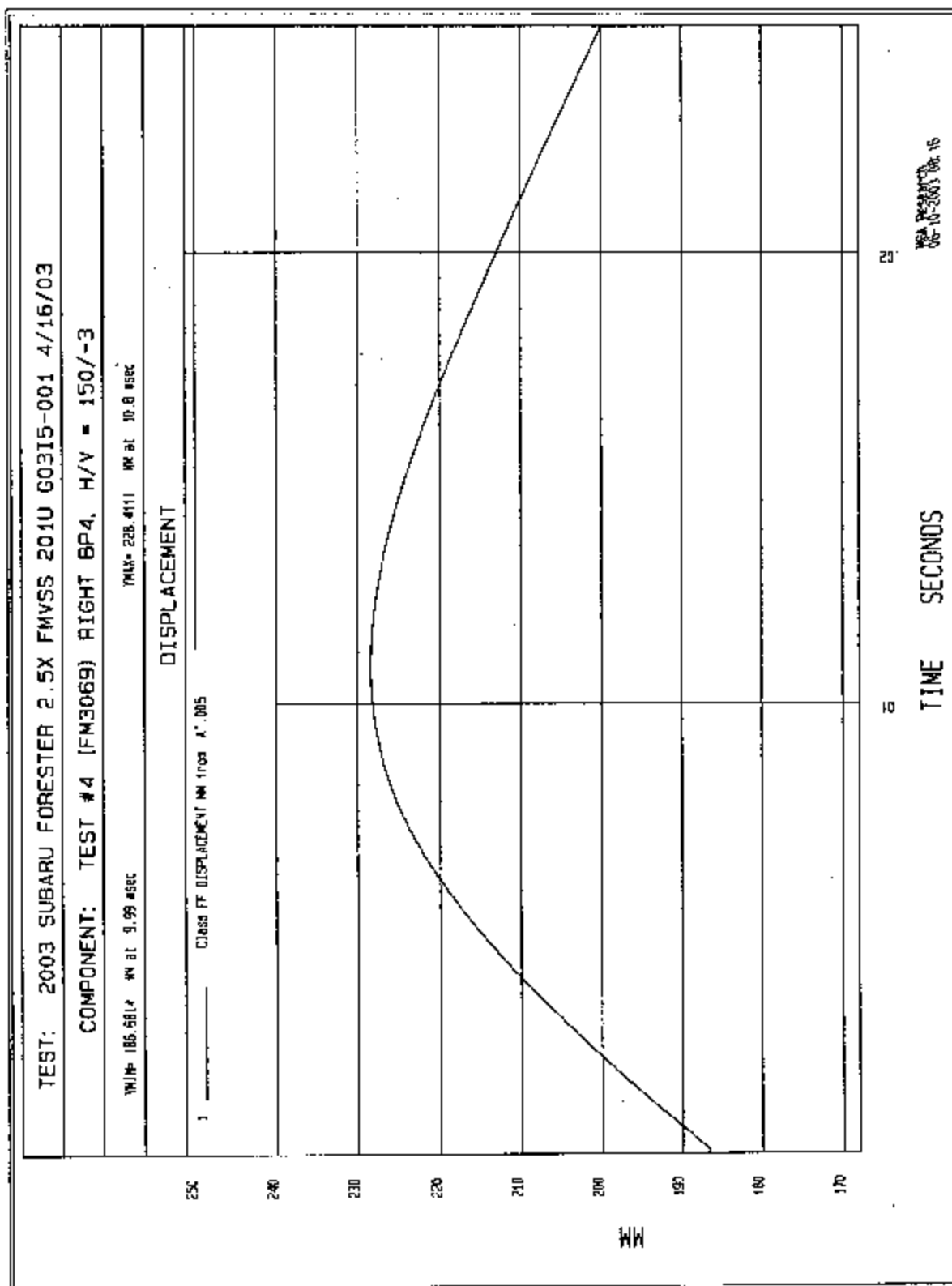
T1 = 2.60 msec T2 = 13.10 msec

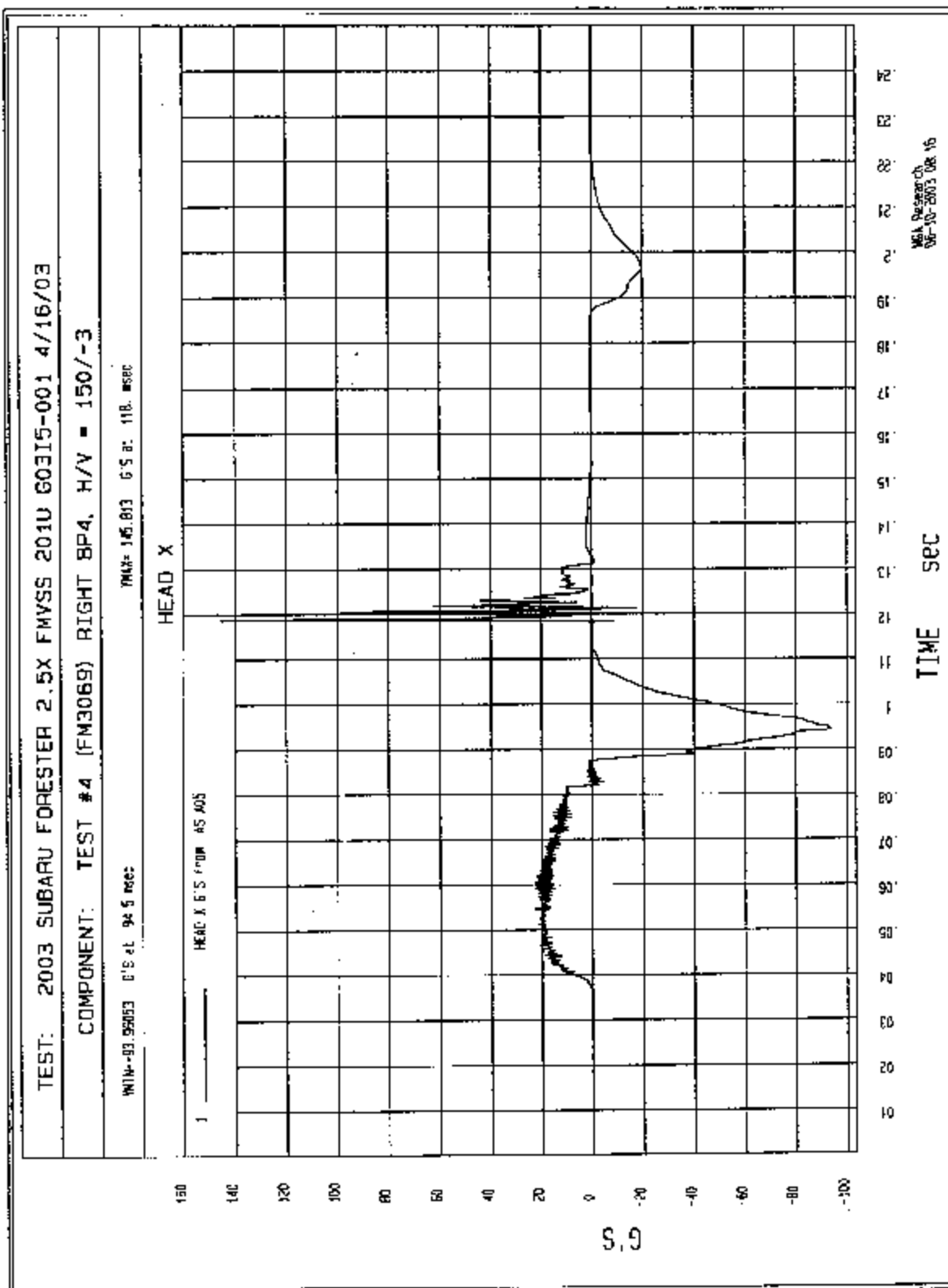
HIC(d) = 505

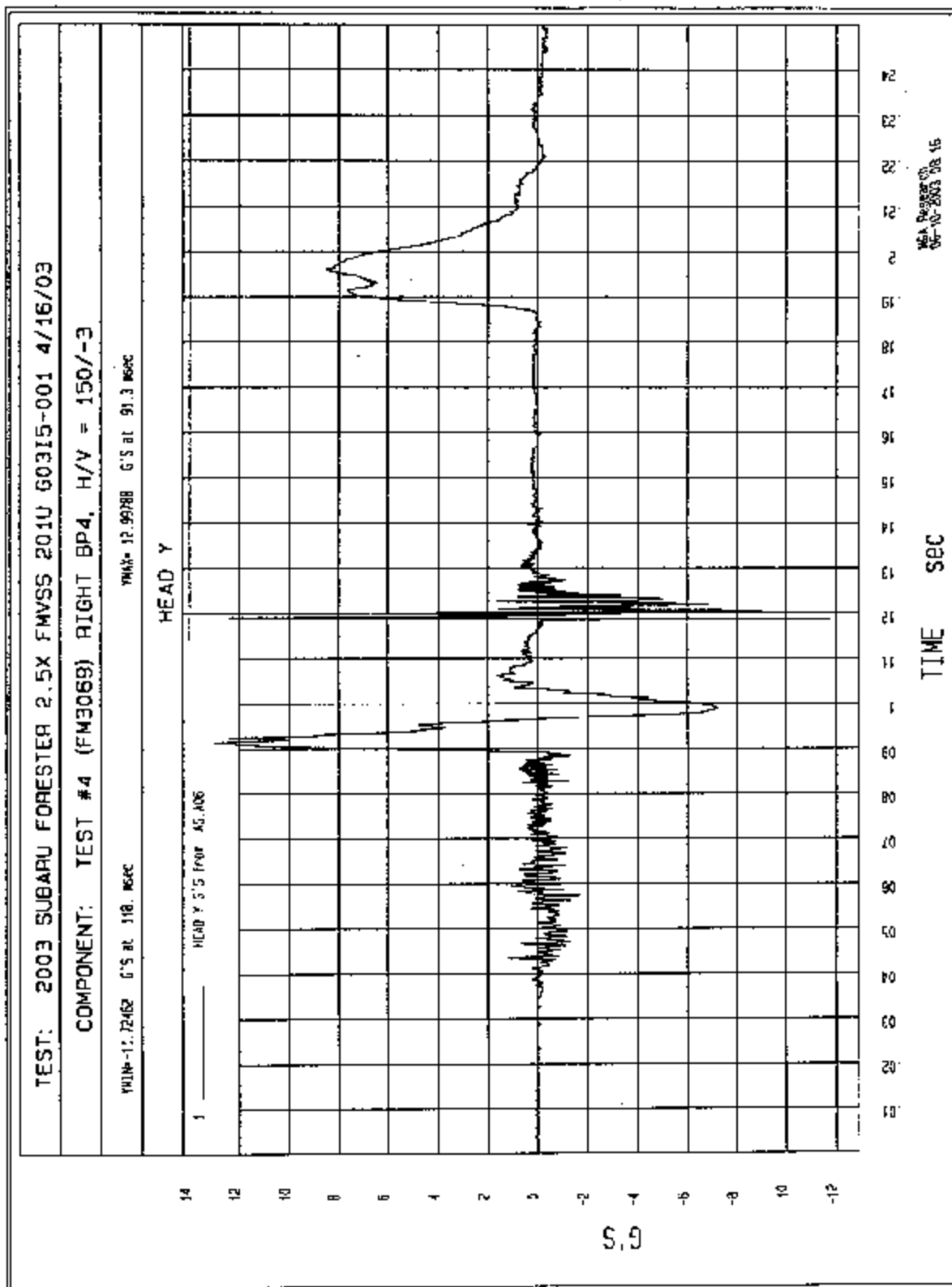
Impact velocity = 23.8 (km/h)

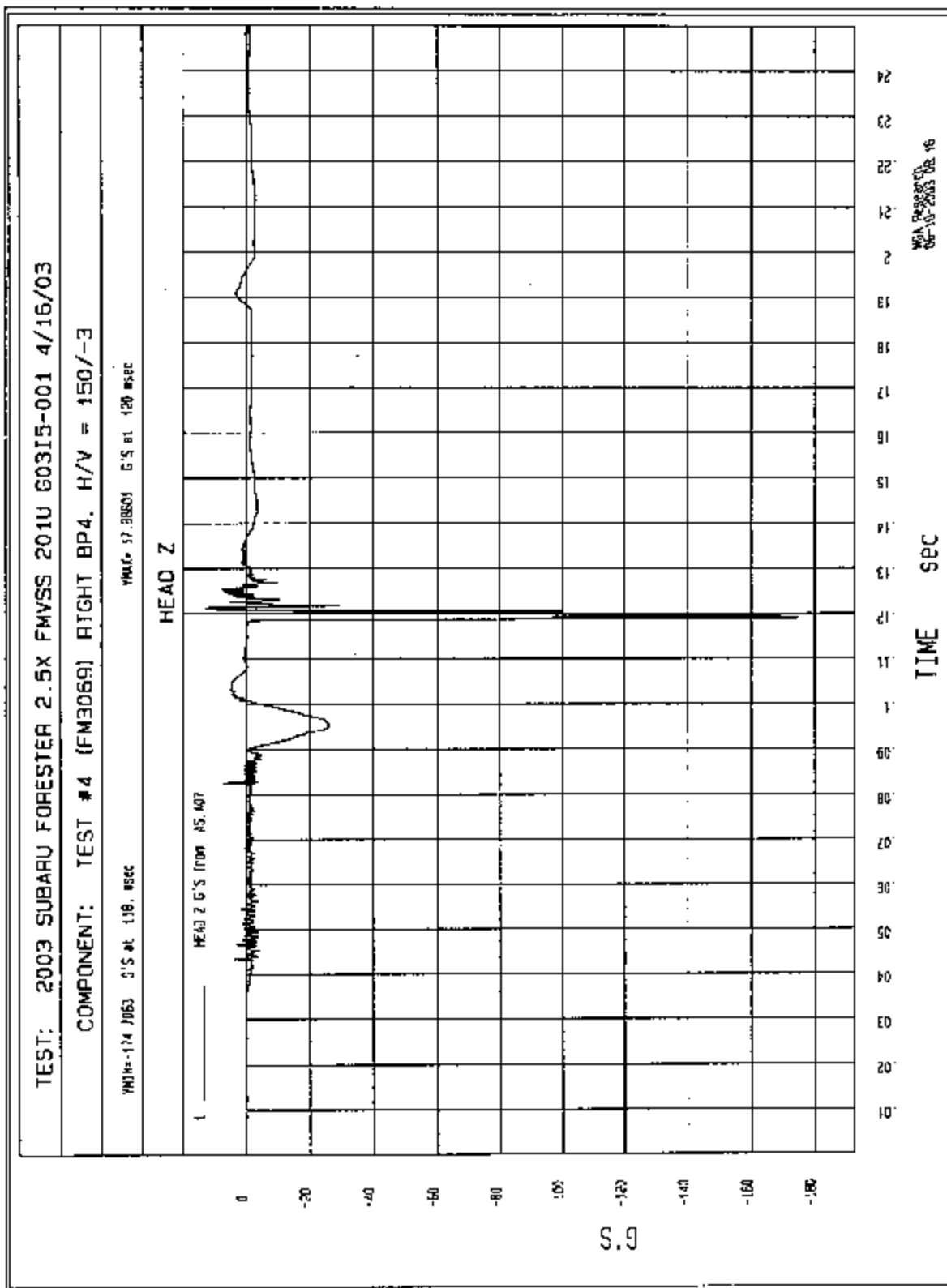


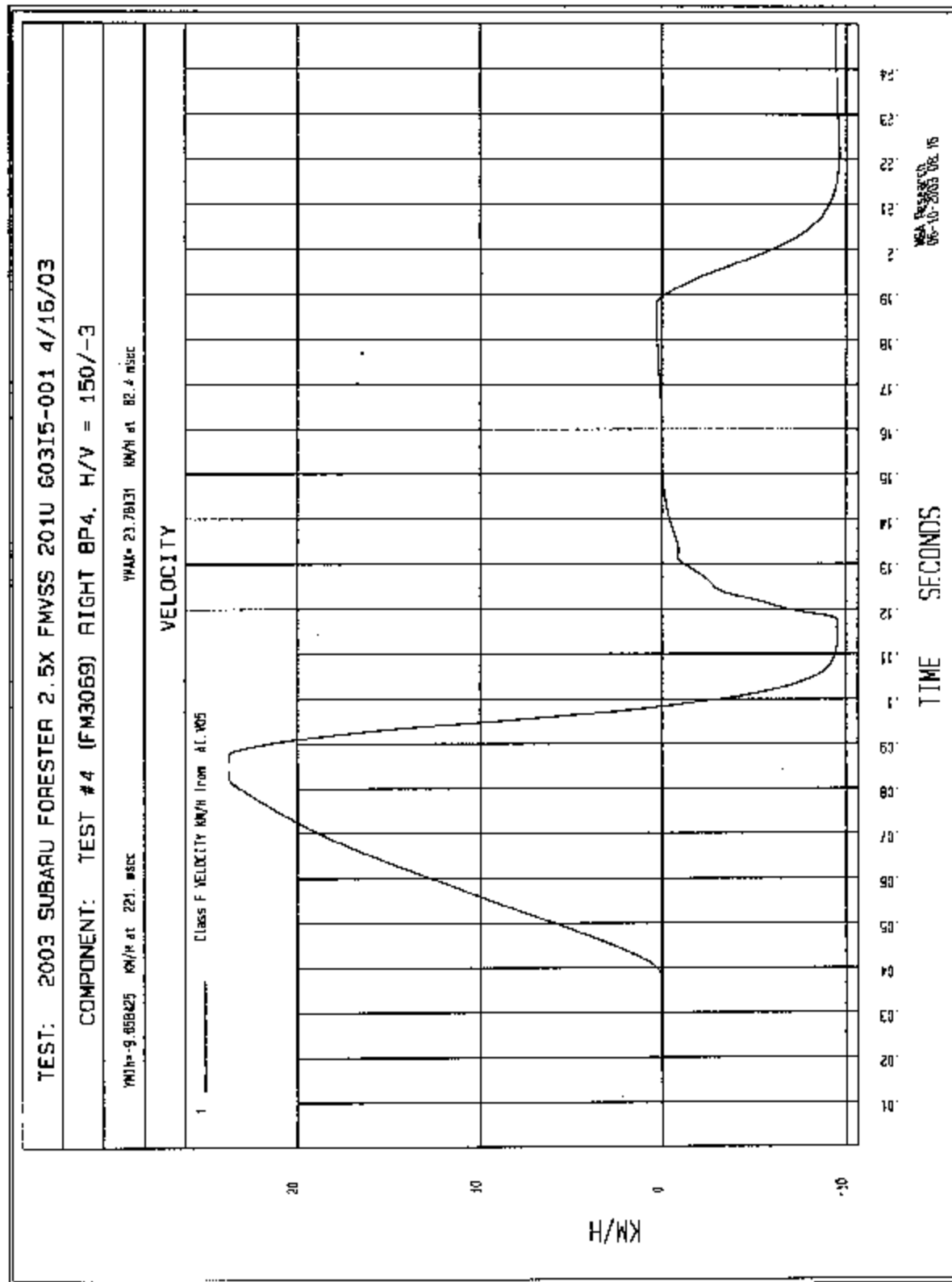












4/17/03

SUBARU TESTING

4/17/03

G0015-001

2003 SUBARU FORESTER 2.5X

FMVSS 2010 TESTING G35502

TEST #8

RIGHT OF 1

HV IMPACT ANGLE = 30°

FM3071

PRE-TEST

4/17/03

G0315-001

2003 SUBARU FORESTER LEX

FMVSS 201U TESTING 0350Z

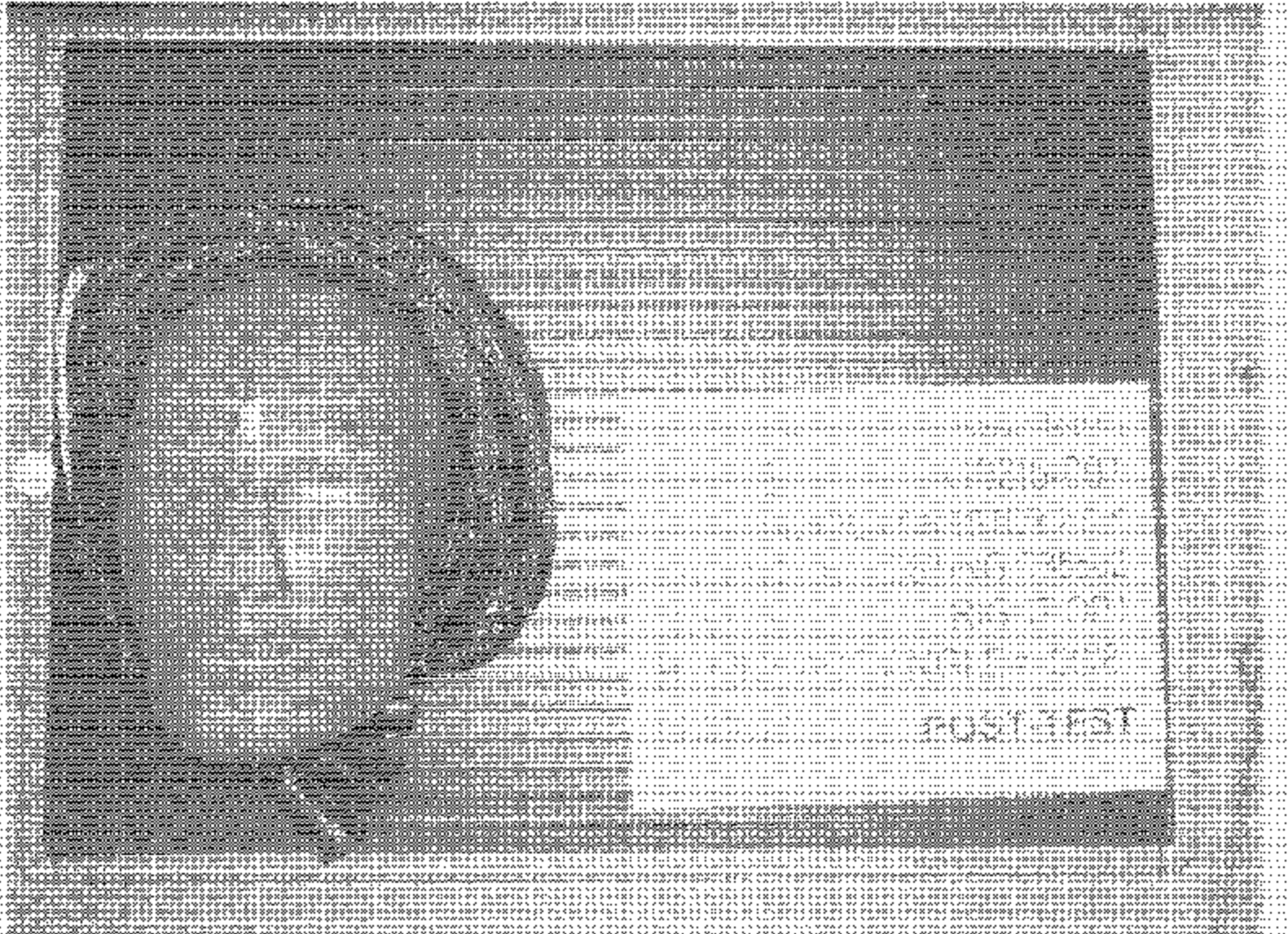
TEST #6

RIGHT SIDE

H/V IMPACT ANGLE = 90°

FM3071

POST-TEST



MICHIGAN OPERATIONS
DATE: 3/20/03
SUPERCEDES: MGATP201U_FRAME #2.4

DOC. NO.: MGATP201U_FRAME #2
REVISION NO.: 3
PAGE 9 OF 9

SUMMARY OF FMVSS 201U TEST

JOB/NHTSA NO: C35502 VEHICLE YR/MAKE/MODEL: 2003 SUBARU FORESTER

GENERAL TEST PARAMETERS:

Test Number: 6

Target (Vehicle Side): left/right OP1

Temperature: 22 °F/CD

MGA Test Reference No.: FM3071

Humidity: 20 %

RESULTS OF HIC36 PROGRAM

The input file is \NHTSA\FM3071AV.A05

HIC = 660.77 calculated over 9.4 msec

T1 = 1.70 msec T2 = 11.10 msec

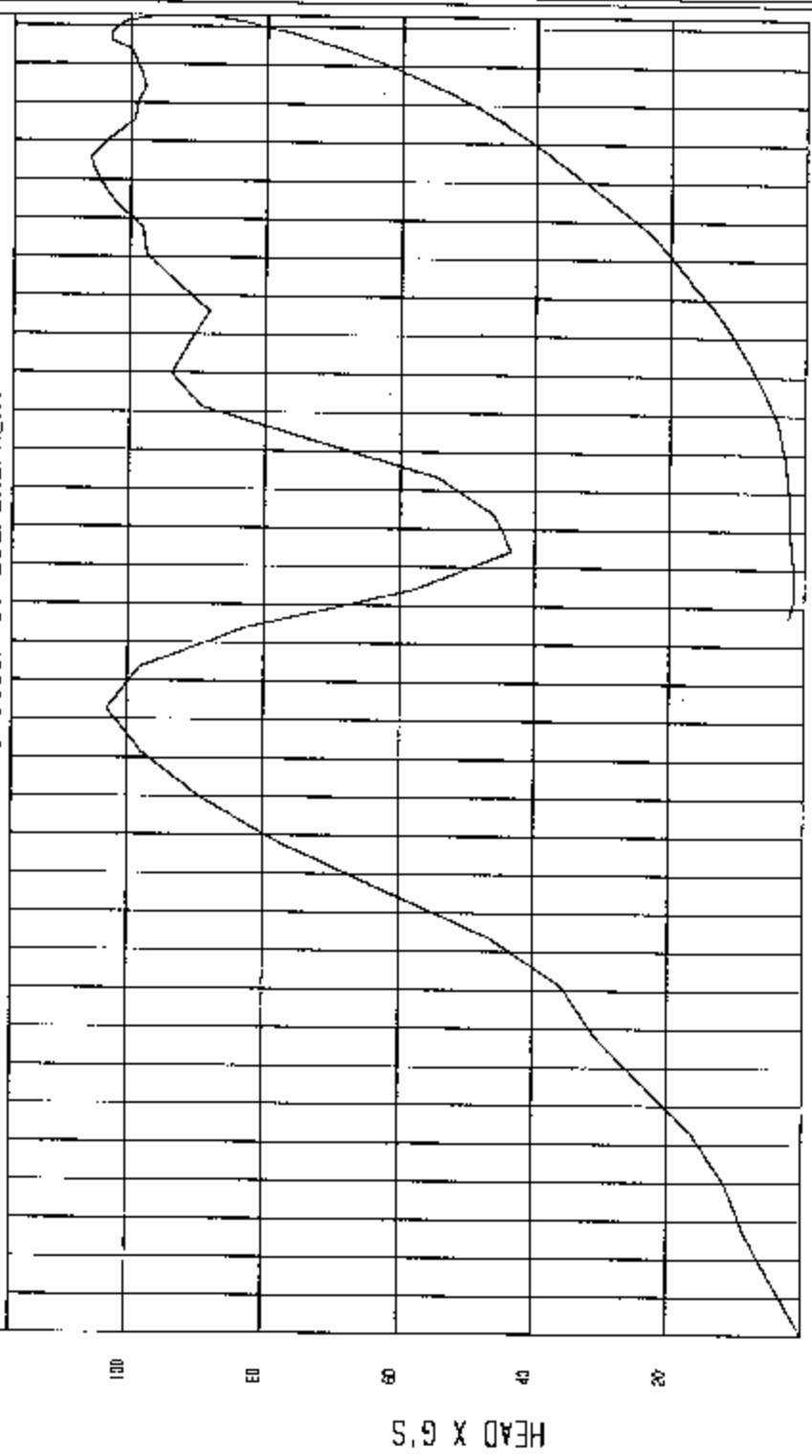
HIC(d) = 665

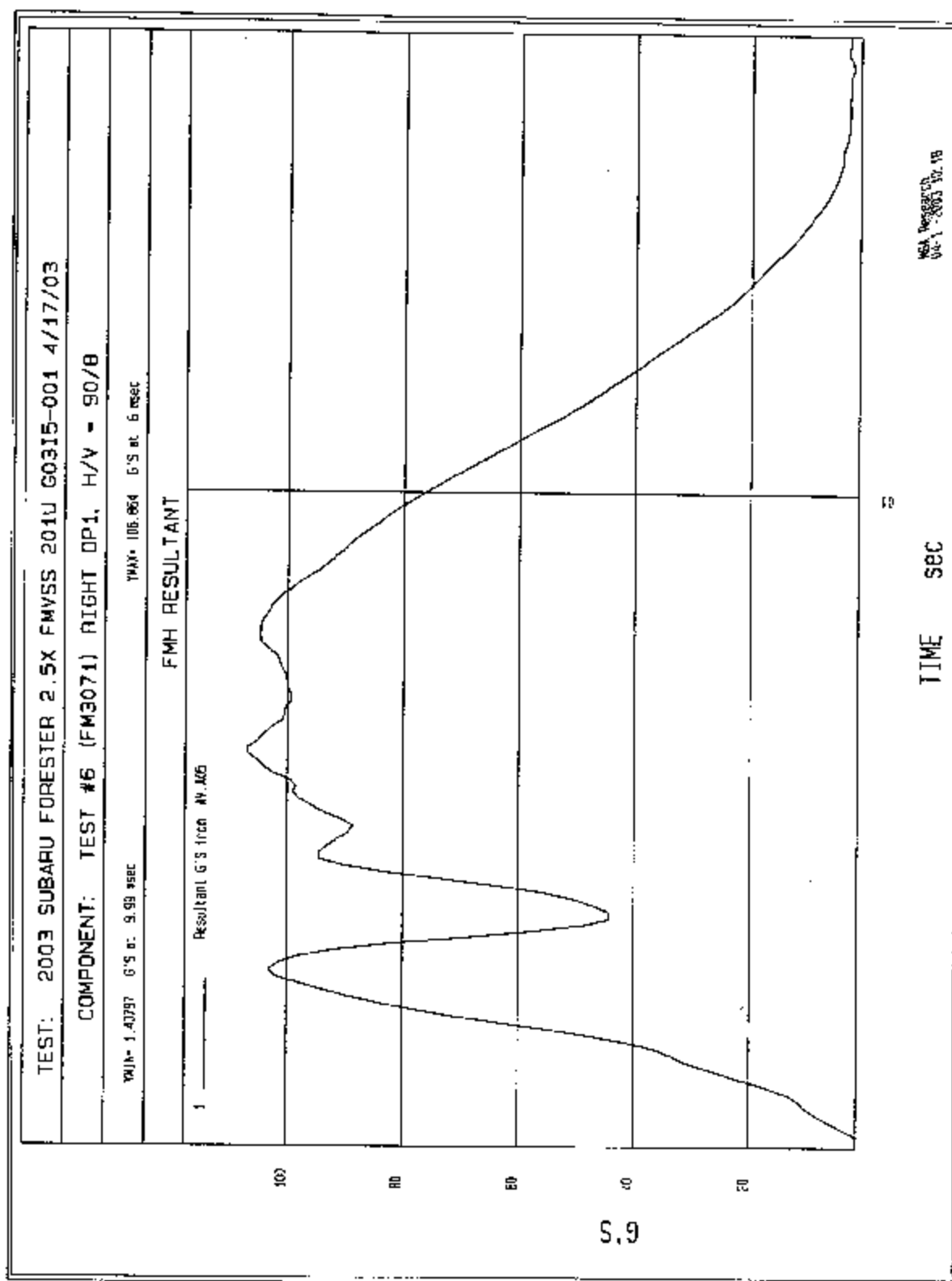
Impact Velocity = 23.7 (km/h)

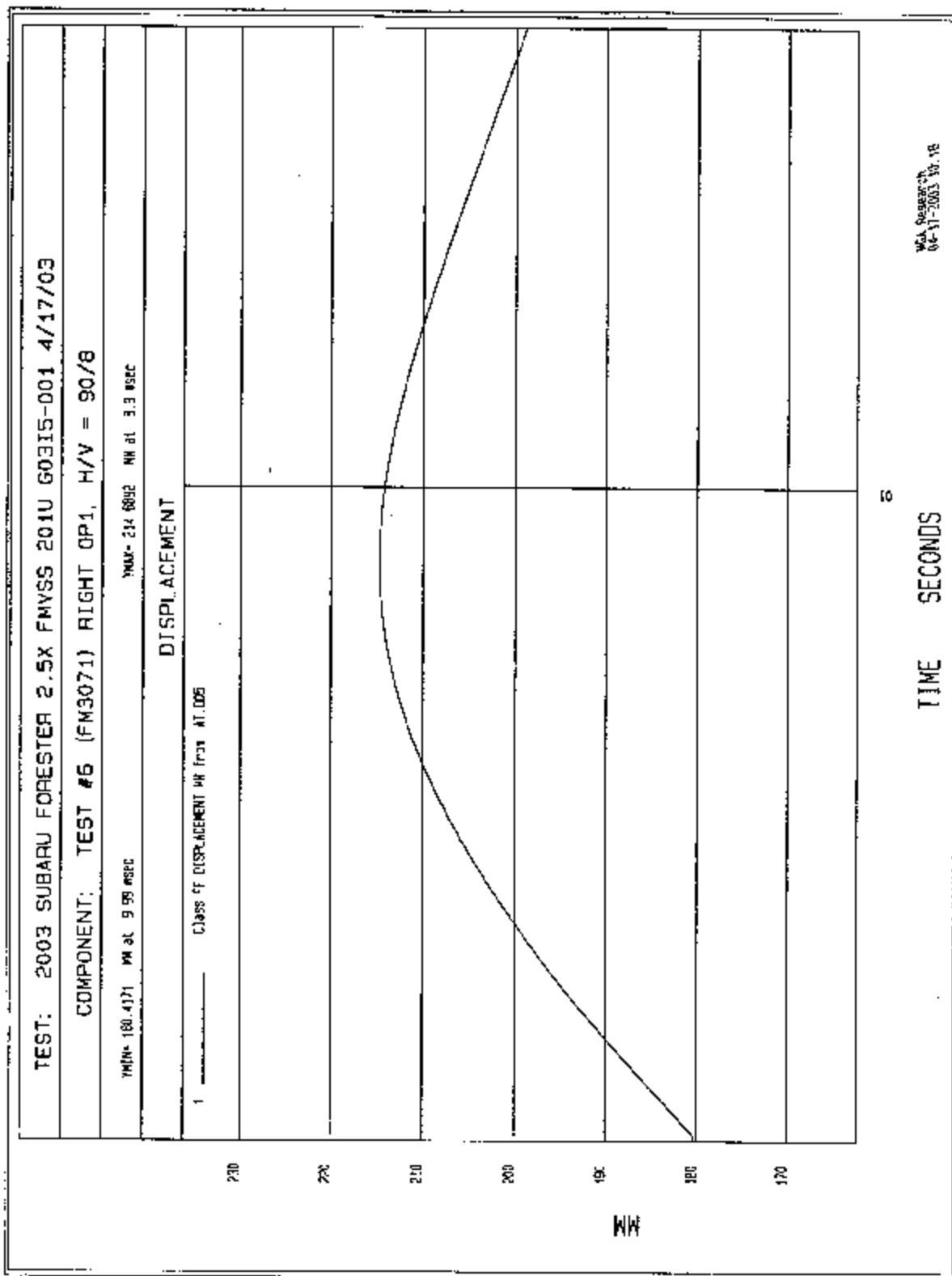
TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U 60315-001 4/17/03

COMPONENT: TEST #6 (FM3071) RIGHT DP1, H/V = 90/B

HEAD X as a function of DISPLACEMENT







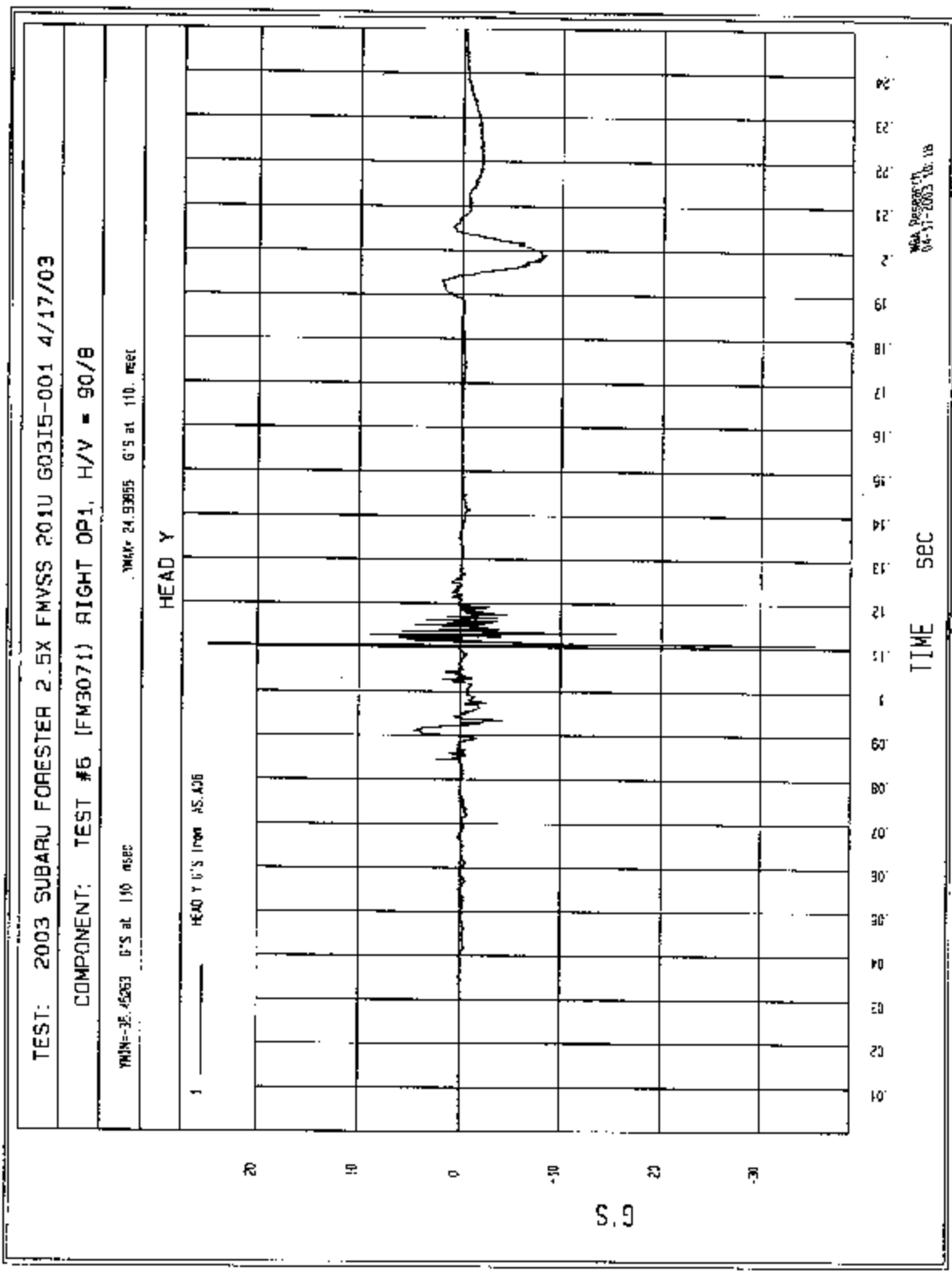
TEST: 2003 SUBARU FORESTER 2.5X FNVSS 201U G03I5-001 4/17/03

COMPONENT: TEST #6 (FM3071) RIGHT DPI, H/V = 90/8

YMIN=-105.232 G'S at 93.5 msec

YMAX= 221.1254 G'S at 110.95sec

HEAD X



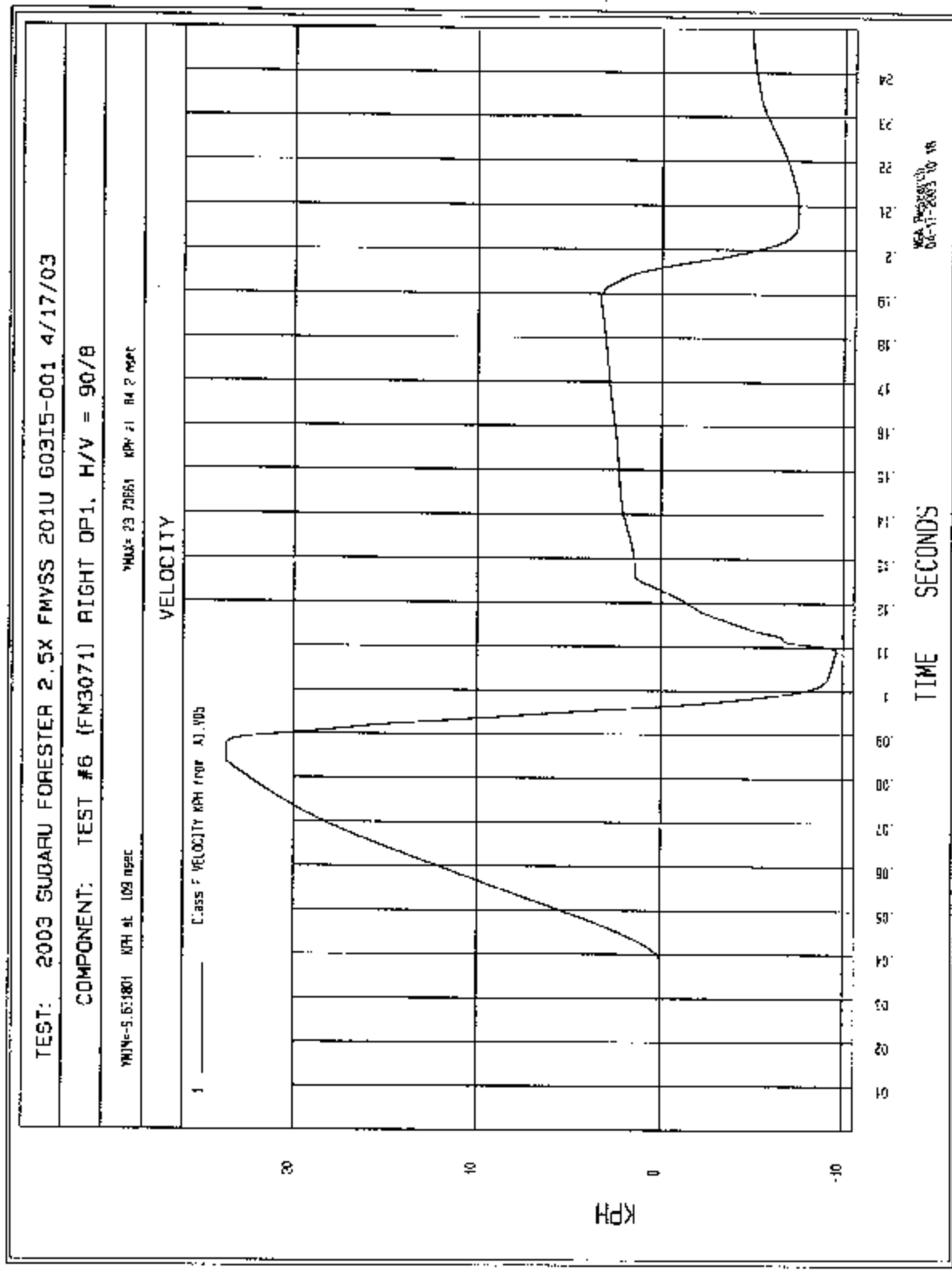
TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G0315-001 4/17/03

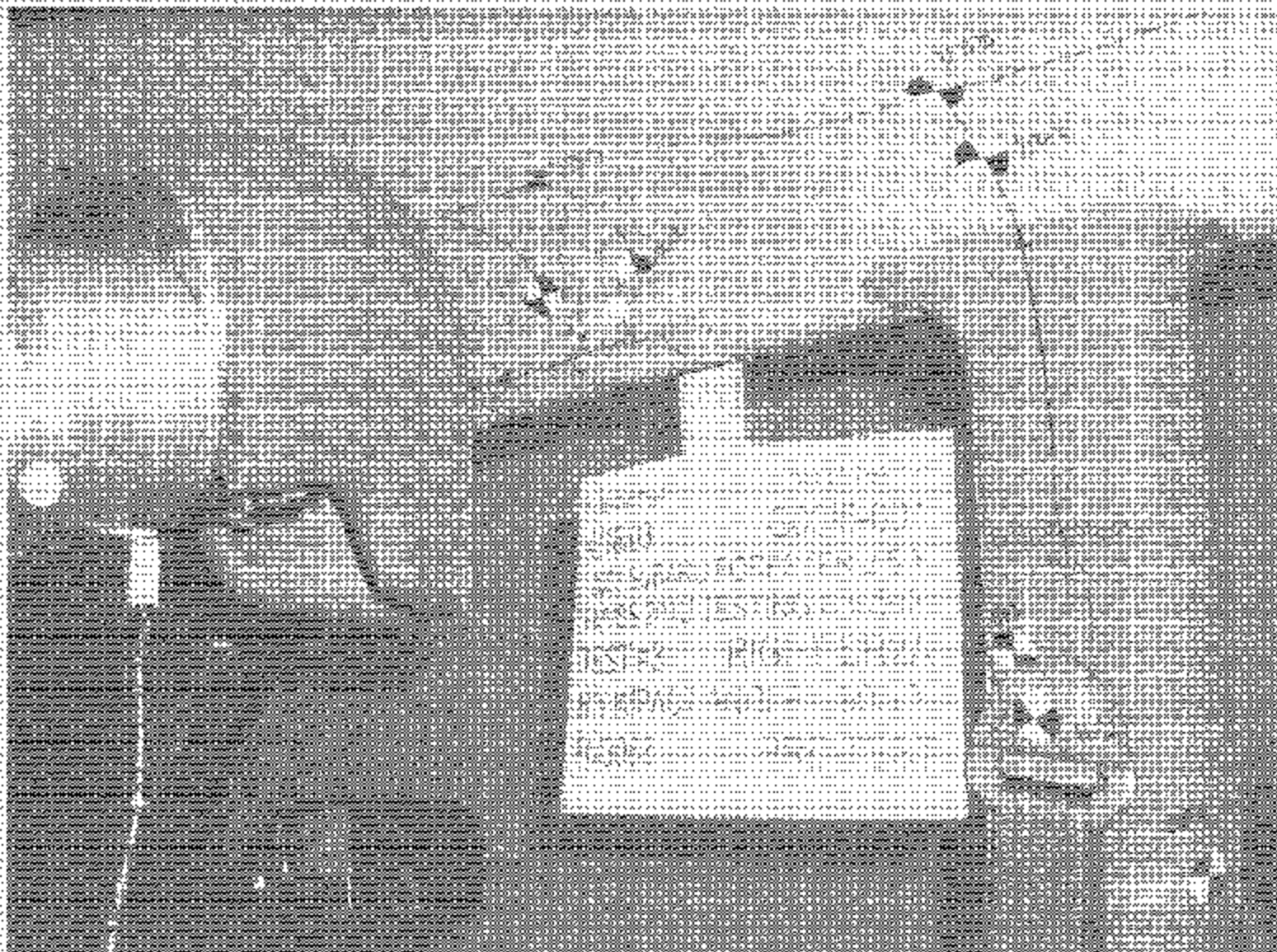
COMPONENT: TEST #6 (FM3071) RIGHT OP1, H/V = 90/8

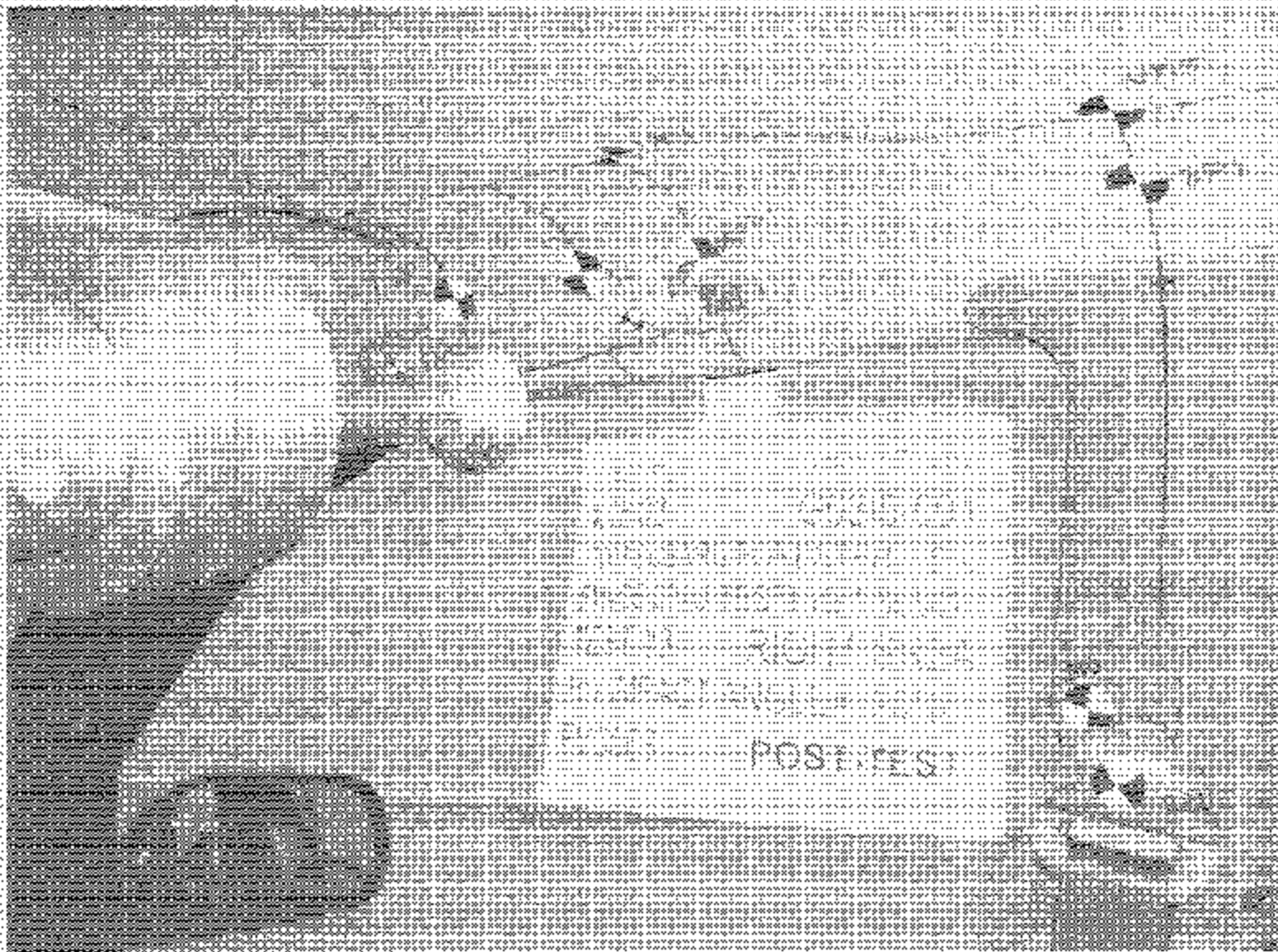
YMAF-73.09968 G'S at 110. msec

YMAF-16.12653 G'S at 113. msec

HEAD Z







4/16/03 00000001
2003 SUBARU FORESTER EX
FMVSS 2010 TESTING 3-74
TEST #3 RIGHT SIDE
HV IMPACT ANGLE 0/0
FM3068 POST 1

MICHIGAN OPERATIONS
DATE: 3/20/03
SUPERCEDES: MGATP201U_FRAME #2.4

DOC. NO. MGATP201U_FRAME #2
REVISION NO.: 5
PAGE 9 OF 9

SUMMARY OF FMVSS 201U TEST

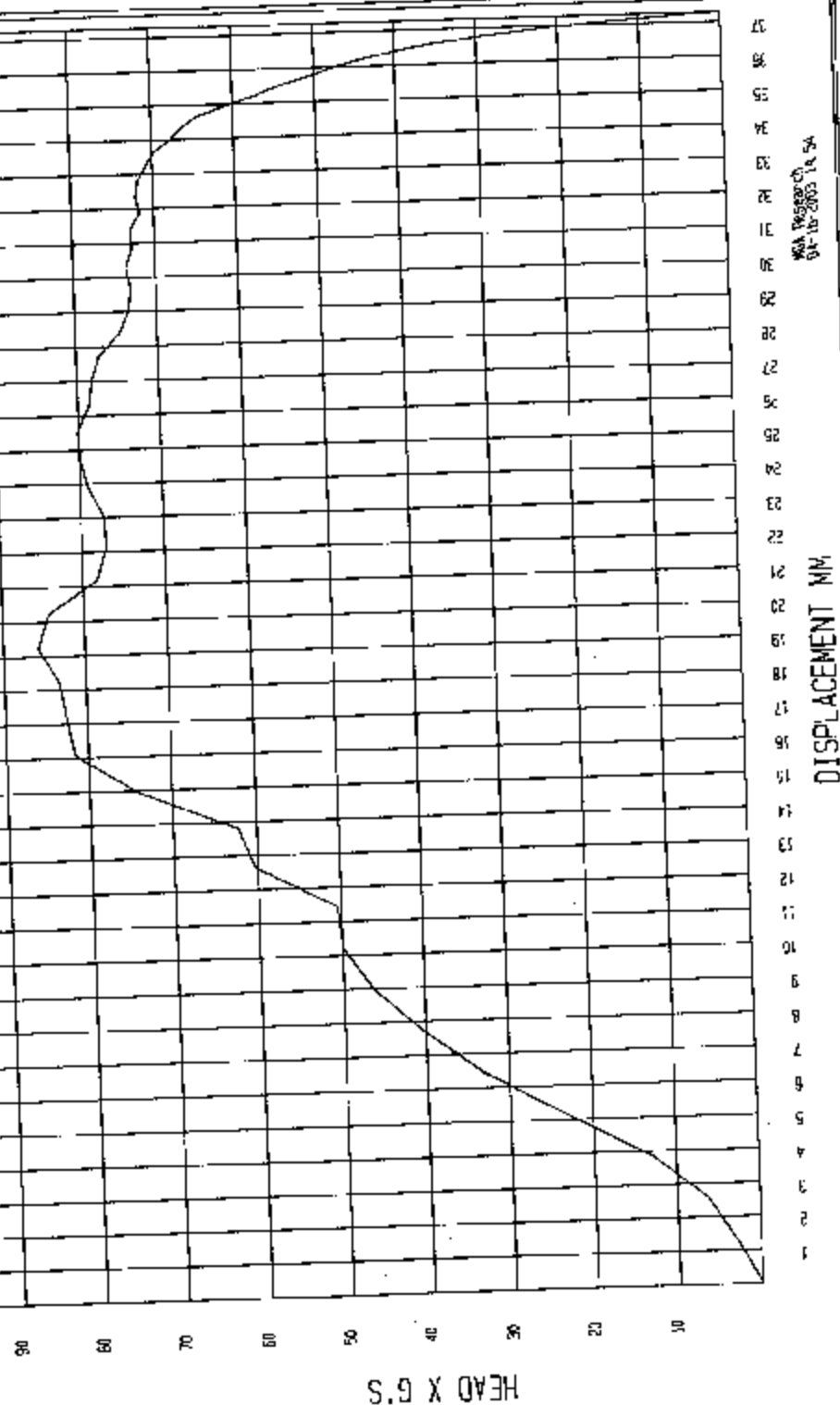
JOB/NHTSA NO: C35502

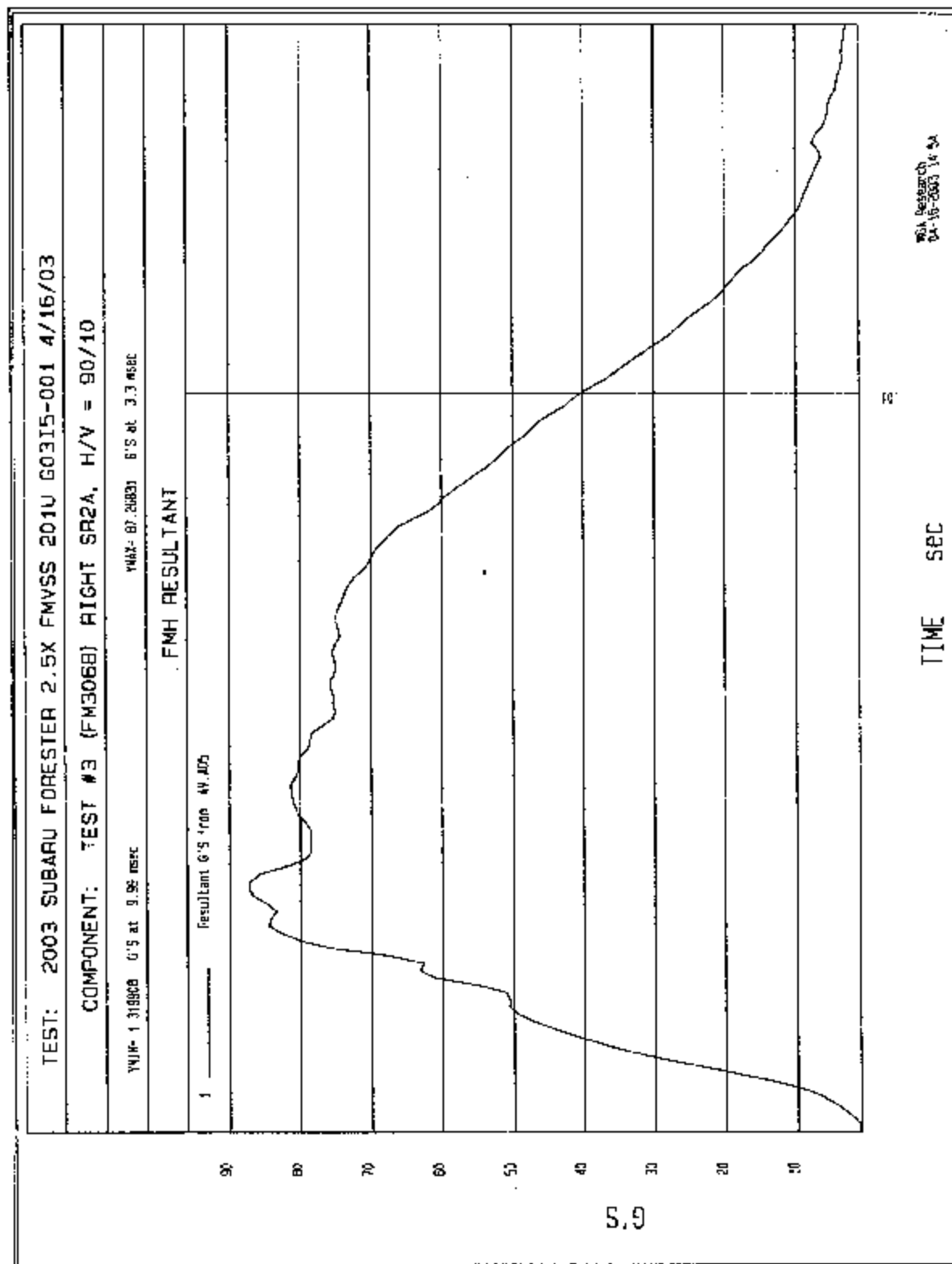
```
*****
RESULTS OF HIC36 PROGRAM
*****
* input file is \NHTSA\FM3068AV.A05
The HIC = 348.25 calculated over 8.6 msec
T1 = 1.20 msec T2 = 9.80 msec
*****
HIC(d) = 429
Impact Velocity = 23.5 (km/h)
```

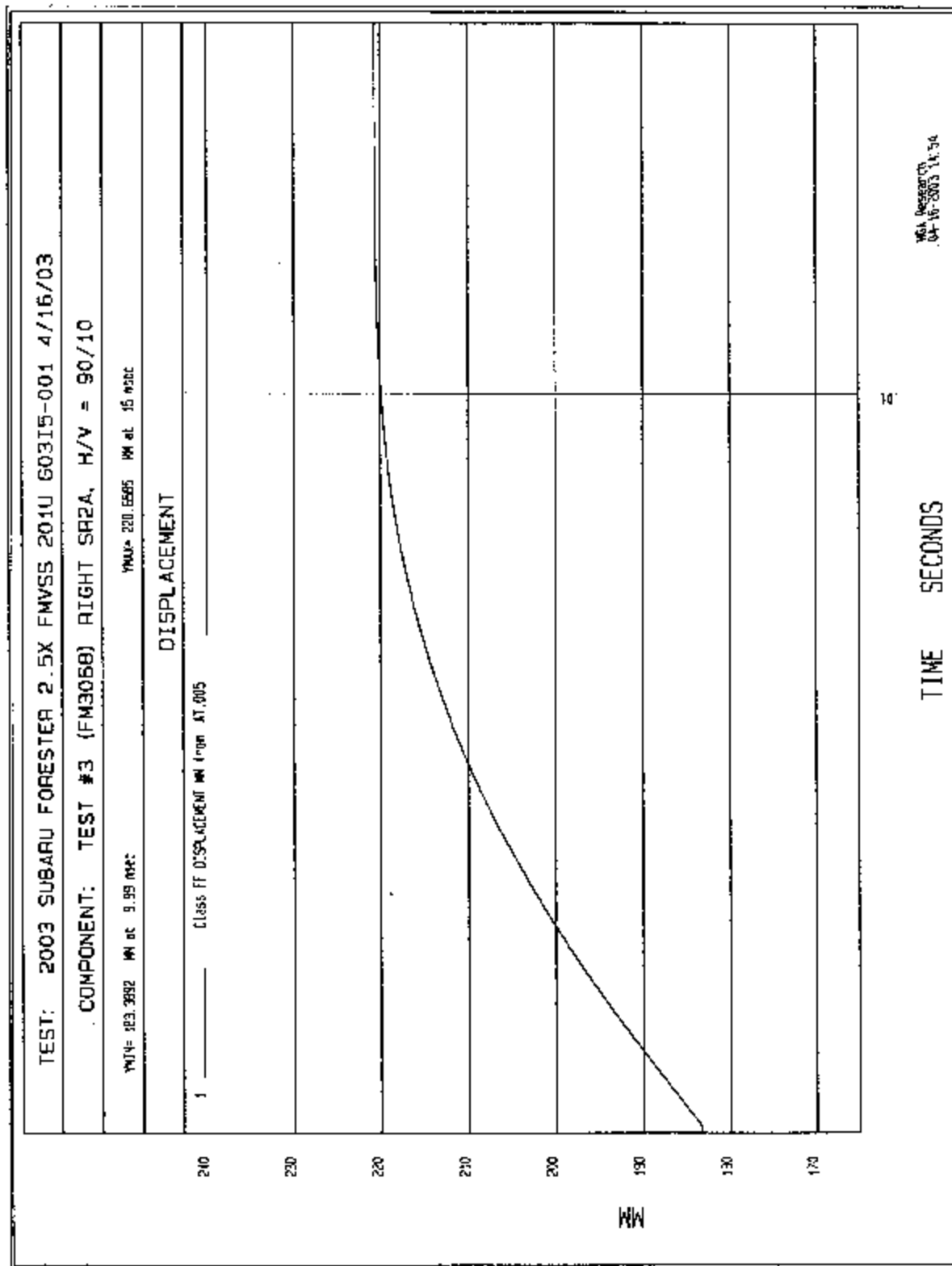
TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G03I5-001 4/16/03

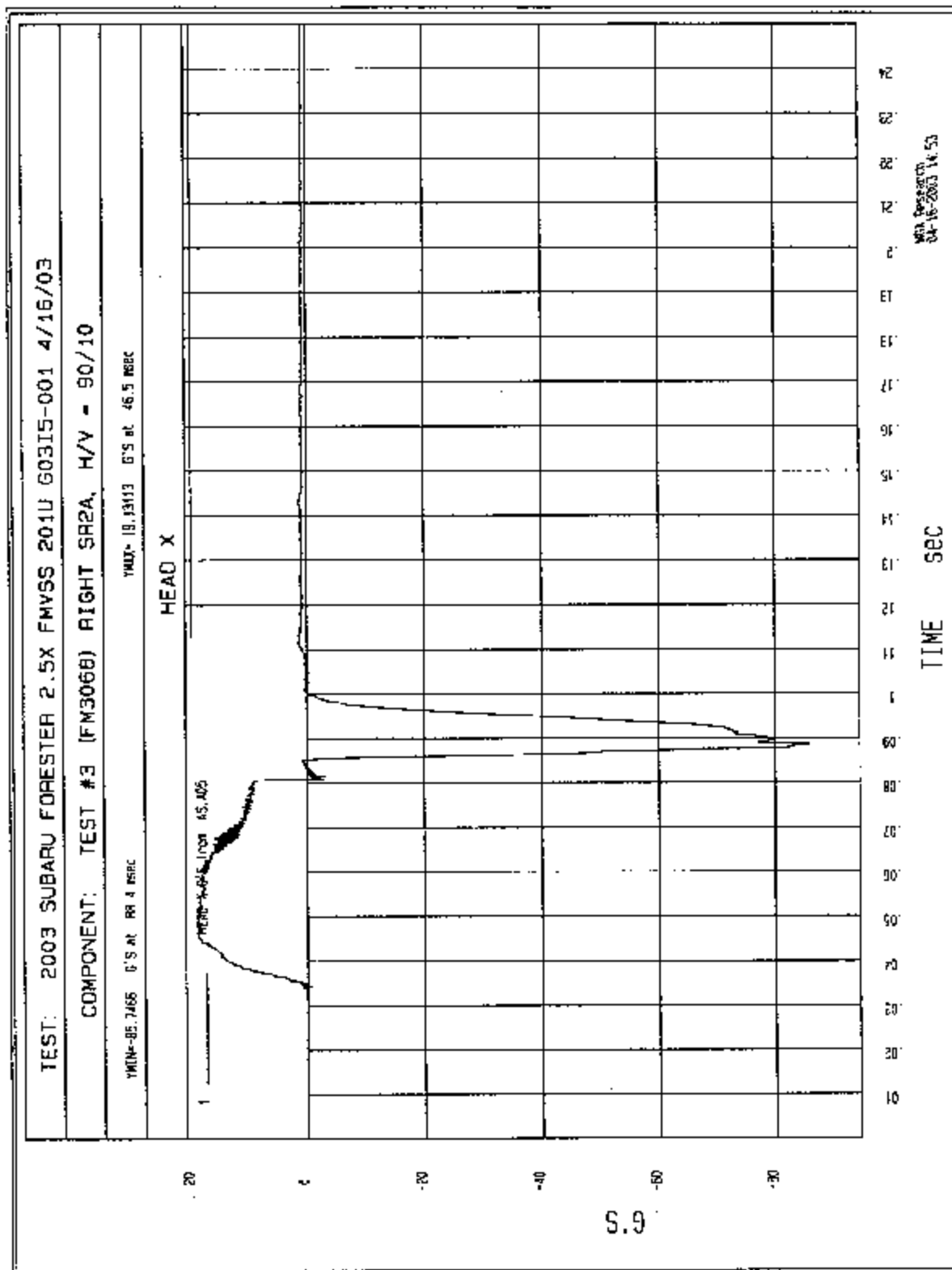
COMPONENT: TEST #3 (FM3069) RIGHT SR2A. H/V = 90/10

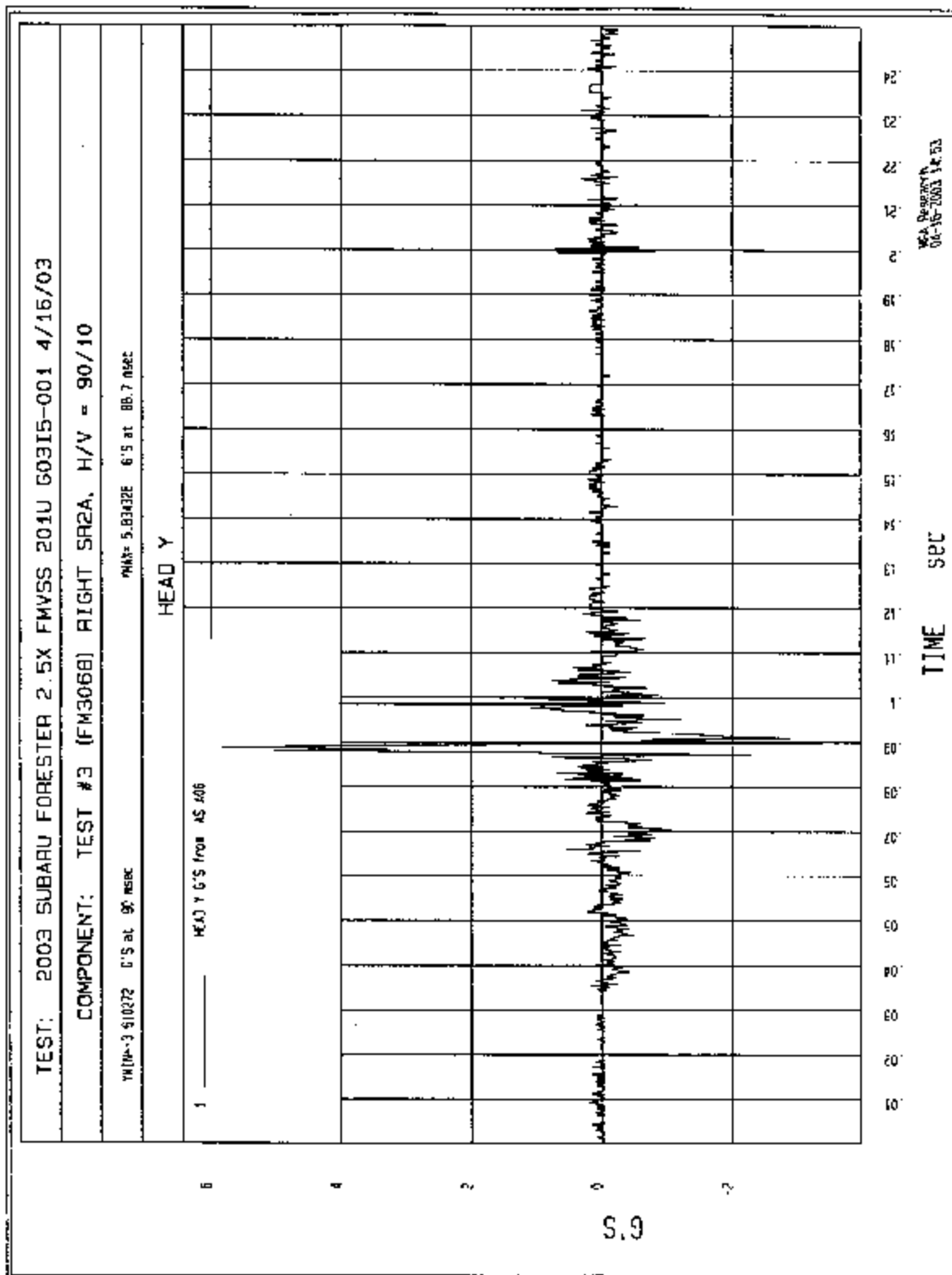
HEAD X as a function of DISPLACEMENT











TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G0315-001 4/16/03

TEST: 2003 SUBARU FORESTER 2.5X FMVSS 201U G0315-001 4/16/03

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