AAMA 1801 SOUND TRANSMISSION LOSS TEST REPORT

Rendered to:

MI WINDOWS AND DOORS, INC.

SERIES/MODEL: 3580

TYPE: Horizontal Sliding Window

Summary of Test Results					
ATI Data File No.	**Glazing Option (Nominal Dimensions)**	**Operating Force**	**Air Infiltration**	**STC**	**OITC**
75311.01A	29/32" IG (3/32" annealed exterior, 11/16" air space, 1/8" annealed interior) Glass temperature - 74F	Pass	Pass	32	25
75311.01B	7/8" IG (1/8" annealed exterior, 9/16" air space, 3/16" annealed interior) Glass temperature - 75F	Pass	Pass	29	23

ACOUSTICAL PERFORMANCE TEST REPORT

Rendered to:

MI WINDOWS AND DOORS, INC.
P.O. Box 370
650 West Market Street
Gratz, Pennsylvania 17030-0370

Report No:	75311.01-113-11
Test Date:	10/09/07
Report Date:	11/02/07
Expiration Date:	10/09/11

Test Sample Identification:

Series/Model: 3580

Type: Horizontal Sliding Window

Performance Class: Residential

Overall Size: 72" by 48"

Glazing Option A (Nominal Dimensions): 29/32" IG (3/32" Annealed Exterior, 11/16" Air Space, 1/8" Annealed Interior)

Glazing Option B (Nominal Dimensions): 7/8" IG (1/8" Annealed Exterior, 9/16" Air Space, 3/16" Annealed Interior)

Project Scope: Architectural Testing, Inc. was contracted by MI Windows and Doors, Inc. to conduct operating force, air leakage, and sound transmission loss tests on a Series/Model 3580, horizontal sliding window with two glazing options. A summary of the results is listed in the Test Results section and the complete test data is included as Appendix B of this report. The samples were provided by the client.

Test Procedure:

Operating Force Test - The Type B method, which utilizes a force gage, was used to determine the breakaway and operating forces required to open and close both sash.

Air Leakage Test - The sash were closed and locked for this test. A negative pressure of 1.57 psf was applied inside the chamber that was placed around the interior side of the window. The total air leakage and extraneous air leakage measurements were used to calculate the specimen air leakage. Barometric pressure corrections were applied to the air leakage calculations.

Sound Transmission Loss Test - The sash were closed and locked for this test. One background noise sound pressure level and five sound absorption measurements were conducted at each of the five microphone positions. Two sound pressure level measurements were made simultaneously in both rooms at each of the five microphone positions. The air temperature and relative humidity conditions were monitored and recorded during the background, absorption, source, and receive room measurements.

Sample Descriptions:

Frame Construction:

		Frame
Size		72" by 48"
Thickness		2-7/8"
Corners		Mitered
	Fasteners	Welds
	Seal Method	None
Material		Vinyl
	Reinforcement	Steel / located in keeper stile
	Thermal Break Material	N/A
Daylight Opening Size		32-15/16" by 44-1/8"

Sample Descriptions: (Continued)

Glazing Option B:

Measured Overall Insulation Glass Unit Thickness	0.882"
Spacer Type	Reinforced butyl

	Exterior Sheet	**Gap**	**Interior Sheet**
Measured Thickness			

Architectural Testing

Detailed drawings, data sheets, representative samples of test specim1

Revision Log

Appendix A

Instrumentation:

Instrument	Manufacturer	Model	Description	ATI Number
Analyzer	Agilent Technologies	35670A	Dynamic signal analyzer	Y002929
Receive Room Microphone	G.R.A.S.	40AR	1/2", pressure type, condenser microphone	Y003246
Source Room Microphone	G.R.A.S.	40AR	1/2", pressure type, condenser microphone	Y003245
Receive Room Preamp	G.R.A.S.	26AK	1/2" preamplifier	Y003249
Source Room Preamp	G.R.A.S.	26AK	1/2" preamplifier	Y003248
Microphone Calibrator	Bruel & Kjaer	4228	Pistonphone cPistonphone	

Appendix B

Complete Test Results

SOUND TRANSMISSION LOSS

ASTM E90

ATI No.	75311.01A	**Date**	
Client	MI Windows and Doors, Inc.		
Specimen			
Specimen Area	24.00 Sq Ft		
Filler Area	116.00 Sq Ft		
Operator	Kurt A. Golden		

	Bkgrd	Absorp	Source	Receive	Filler	Specimen
Temp F	74.5	75.9	74.1	74.8	71.8	74.8
RH %	43.0	41.4	44.9	42.8	62.9	43.0

	Bkgrd	Absorp	Source	Receive	Filler	Specimen	95%	No. of	Trans

ATI No. 75311.01A **Date**

AAMA 1801 Data Sheets

ATI Job Number :	75311.01A
Client Name :	MI Windows and Doors, Inc.
Test Date :	10/9/2007
Tests Performed by:	Kurt Golden
Specimen Type :	Horizontal Sliding Window
Series/Model Number :	3580
Sample Size :	48" x 72"

Air Leakage per ASTM test method ASTM E283

Total Air flow (ft^3/min) :	9.25		
Extraneous Leakage (ft3/min) :	7.00		
Temperature (^oF) at Specimen:	74		
Barometric Pressure at Specimen (in mbar):	1003	(Inches of Hg) :	29.62
Specimen Area in square feet :	24.00		
Density of air at reference standard conditions (lb/ft^3)	0.075		

Total air flow w/ air density correction (ft3/min)	Extraneous leakage with air density correction (ft3/min)	Air leakage through the specimen with air density correction (ft3/min)	Rate of air leakage per unit area (ft3/min)/sq.ft.
9.160	6.932	2.228	0.09

ATI Job Number : 75311.01A
Client Name : MI Windows and Doors, Inc.
Test Date : 10/09/07
Tests Performed by: Kurt Golden
Specimen Type : Horizontal Sliding Window
Series/Model Number : 3580
Sample Size : 48" x 72"

Operating Force per ASTM test method E2068 Method B - Force Gauge Y004774

Top Sash

Trial No.	Opening Breakaway	Opening In-Motion	Closing Breakaway	Closing In-Motion
1	11	11	9	10
2	11	12	10	10
3	11	11	10	11

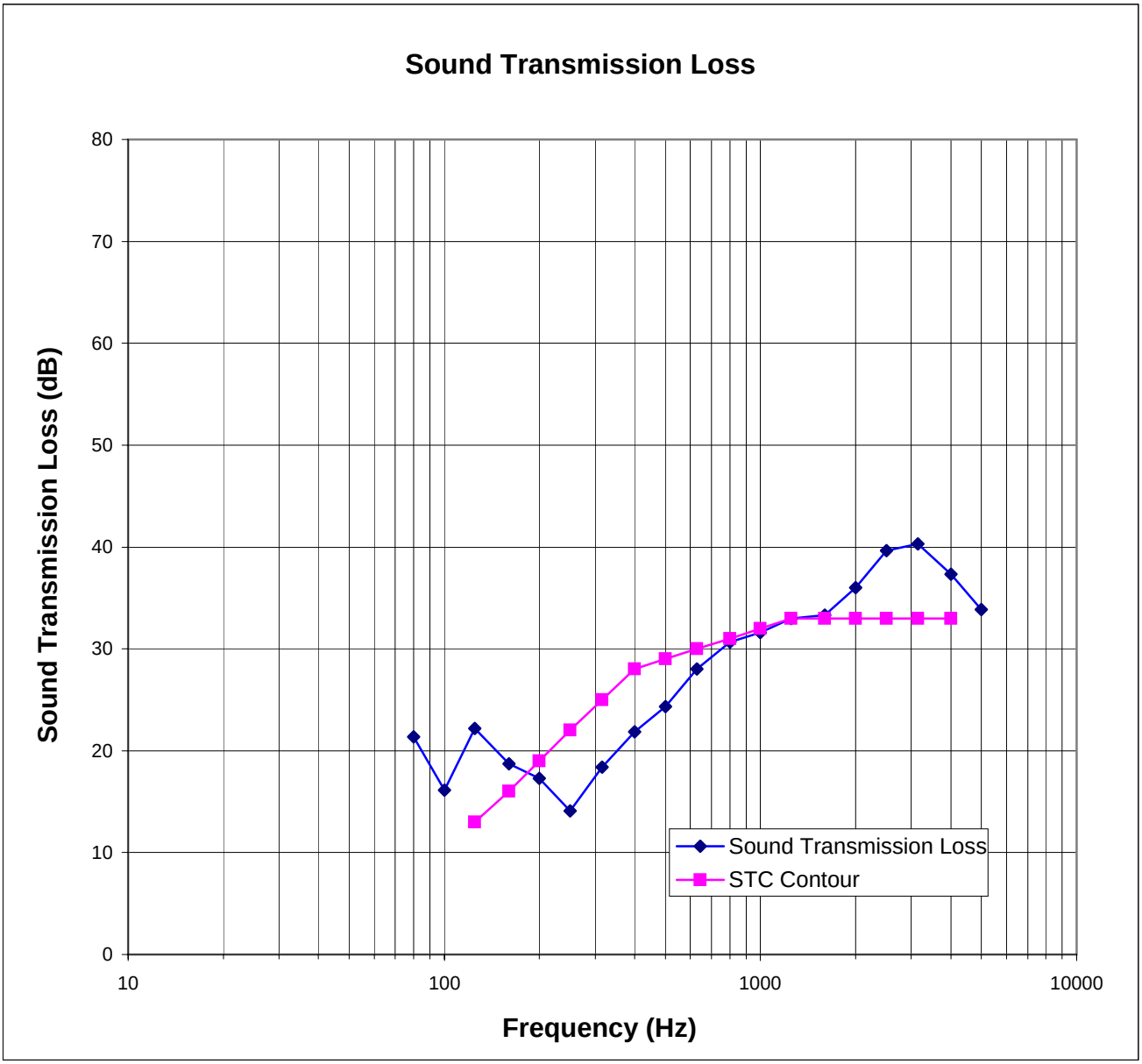
3 Trial Ave.	11.00	11.33	9.67	10.33
10% of 3 trial avg	1.1	1.1	1.0	1.0
8 Trial Average w/o high & low	11.0	11.3	9.7	10.3

SOUND TRANSMISSION LOSS

ASTM E90

ATI No.

ATI No.	75311.01B	**Date**	10/09/07
Client	MI Windows and Doors, Inc.		
Specimen	Series Model 3580, horizontal sliding window with 7/8" IG (1/8" annealed exterior, 9/16" air space, 3/16" annealed interior) Glass temperature 75F		
Specimen Area	24.00 Sq Ft		
Filler Area	116.00 Sq Ft		
Operator	Kurt A. Golden		



	Architectural Testing, Inc is accredited by the International Accreditation Service, Inc. (IAS) under the specific test methods listed under lab code TL-144, in accordance with the recognized International Standard ISO/IEC 17025:2005. The laboratory's accreditation or test report in no way constitutes or implies product certification, approval, or endorsement by IAS. This test report applies only to the specimen that was tested.

AAMA 1801 Data Sheets

ATI Job Number :	75311.01B
Client Name :	MI Windows and Doors, Inc.
Test Date :	10/9/2007
Tests Performed by:	Kurt Golden
Specimen Type :	Horizontal Sliding Window
Series/Model Number :	3580
Sample Size :	48" x 72"

Air Leakage per ASTM test method ASTM E283

Total Air flow (ft^3/min) :	6.75		
Extraneous Leakage (ft3/min) :	5.00		
Temperature (^oF) at Specimen:	74		
Barometric Pressure at Specimen (in mbar):	1000	(Inches of Hg) :	29.53
Specimen Area in square feet :	24.00		
Density of air at reference standard conditions (lb/ft^3)	0.075		

Total air flow w/ air density correction (ft3/min)	Extraneous leakage with air density correction (ft3/min)	Air leakage through the specimen with air density correction (ft3/min)	Rate of air leakage per unit area (ft3/min/sq ft)
6.674	4.944	1.730	0.07

ATI Job Number : 75311.01B
Client Name : MI Windows and Doors, Inc.
Test Date : 10/09/07
Tests Performed by: Kurt Golden
Specimen Type : Horizontal Sliding Window
Series/Model Number : 3580
Sample Size : 48" x 72"

Operating Force per ASTM test method E2068 Method B - Force Gauge Y004774

Active Sash

Trial No.	Opening Breakaway	Opening In-Motion	Closing Breakaway	Closing In-Motion
1	16	18	19	18
2	16	17	19	18
3	17	17	18	18

3 Trial Ave.	16.33	17.33	18.67	18.00
10% of 3 trial avg	1.6	1.7	1.9	1.8
8 Trial Average w/o high & low	16.3	17.3	18.7	18.0

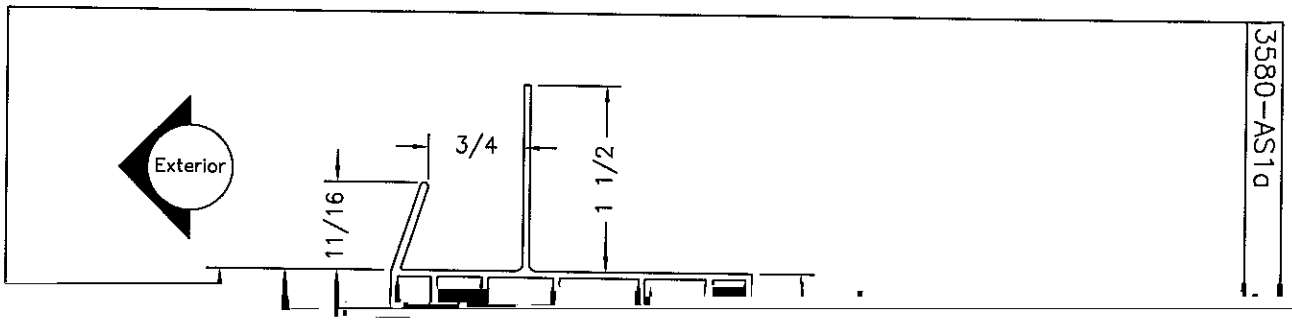
Appendix C

Design Drawings

BILL OF MATERIAL

3580 Horizontal Slider – Insulated

No.	PART DESCRIPTION	PART No.	REQ'D	VENDOR	FINISH	COST or WT/FT
	---------- VINYL EXTRUSIONS ----------					
1	Frame	V-735	4	PROPLASTIX	–	–
2	Roller Track Snap-In	V-569	1	PROPLASTIX	–	–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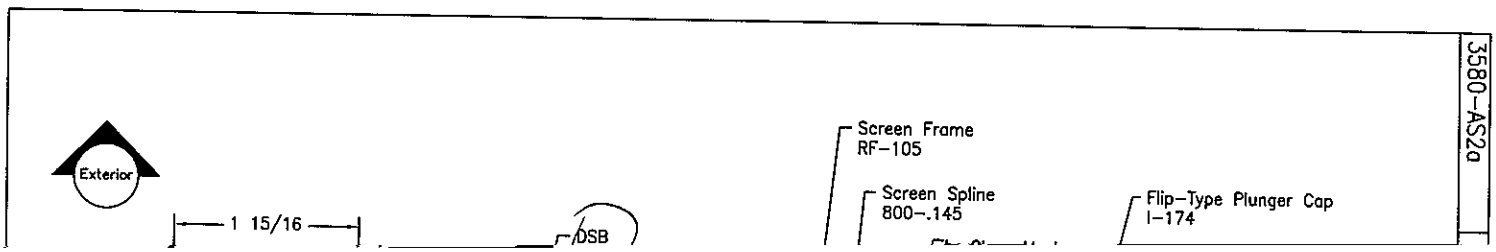
11/16
3/4
1 1/2
3580-AS1a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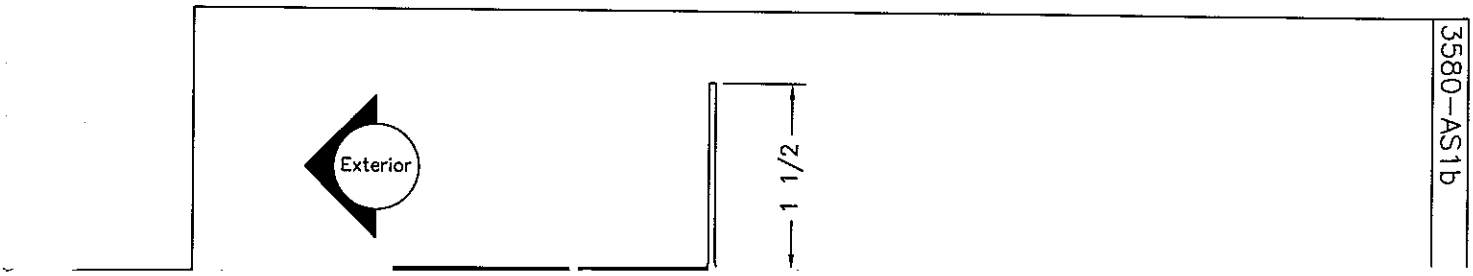
Exterior
1 15/16
DSB
Screen Frame
RF-105
Screen Spline
800-.145
Flip-Type Plunger Cap
I-174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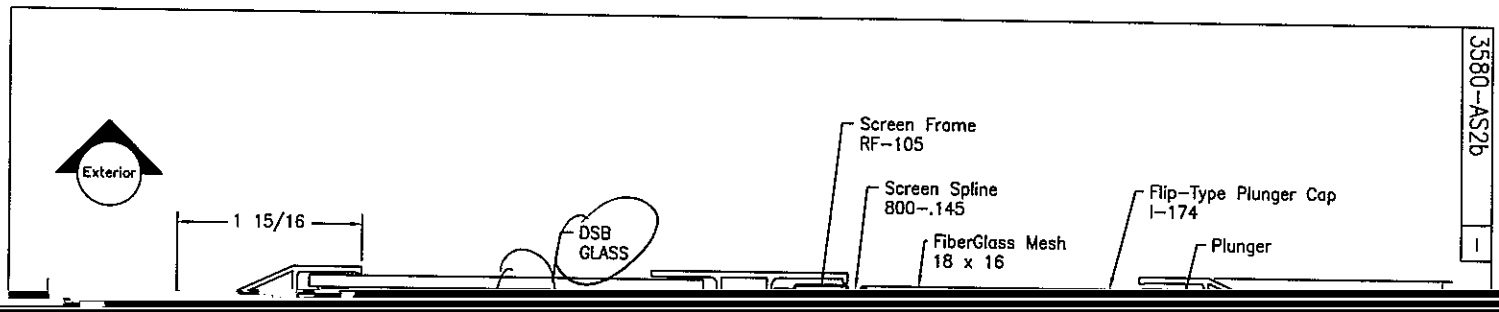
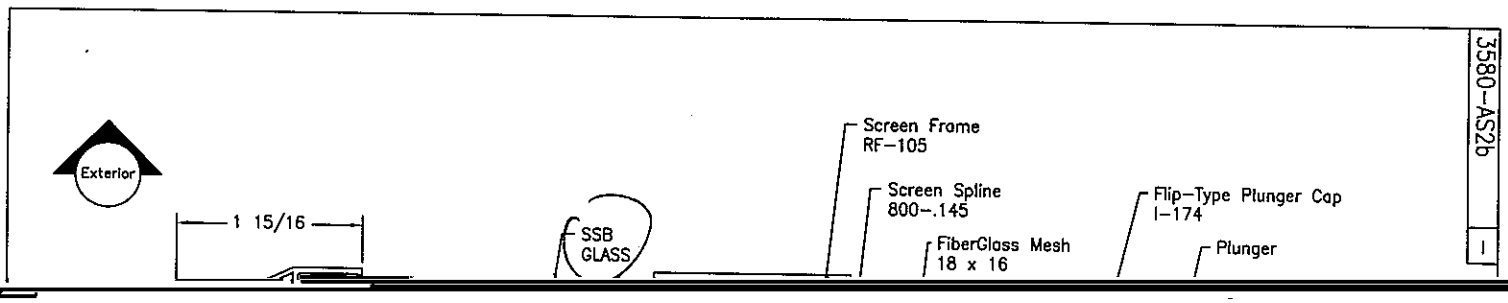
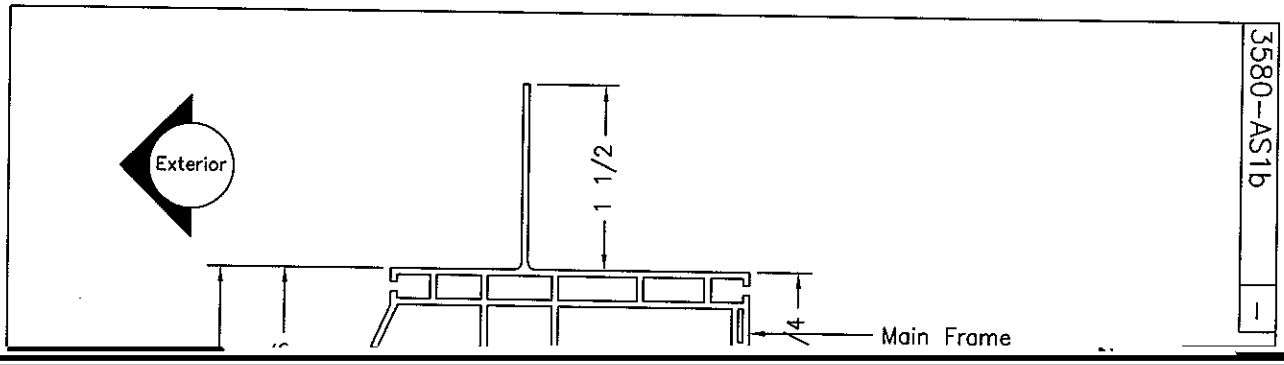
1 1/2
3580—AS1b


3580-AS2b
Exterior
1 15/16
DSB
GLASS
Screen Frame
RF-105
Screen Spline
800-.145
FiberGlass Mesh
18 x 16
Flip-Type Plunger Cap
I-174
Plunger


3580-AS2b
Exterior
1 15/16
SSB
GLASS
Screen Frame
RF-105
Screen Spline
800-.145
FiberGlass Mesh
18 x 16
Flip-Type Plunger Cap
I-174
Plunger


Exterior
1 1/2
1/4
Main Frame
3580-AS1b
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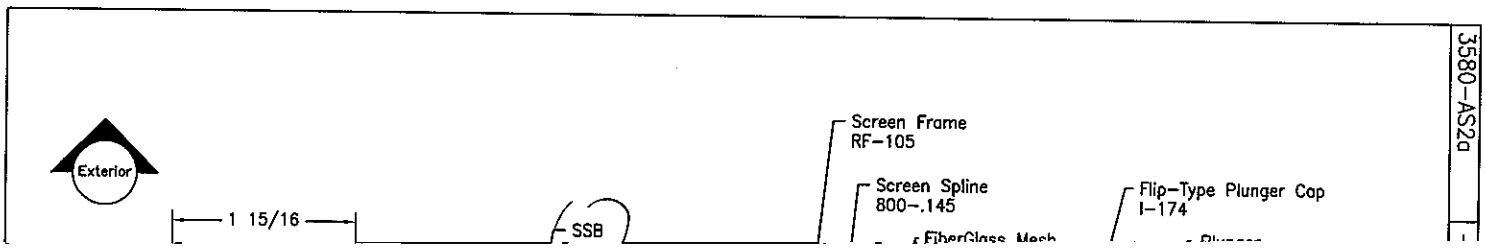
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Exterior
1 15/16
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Screen Frame
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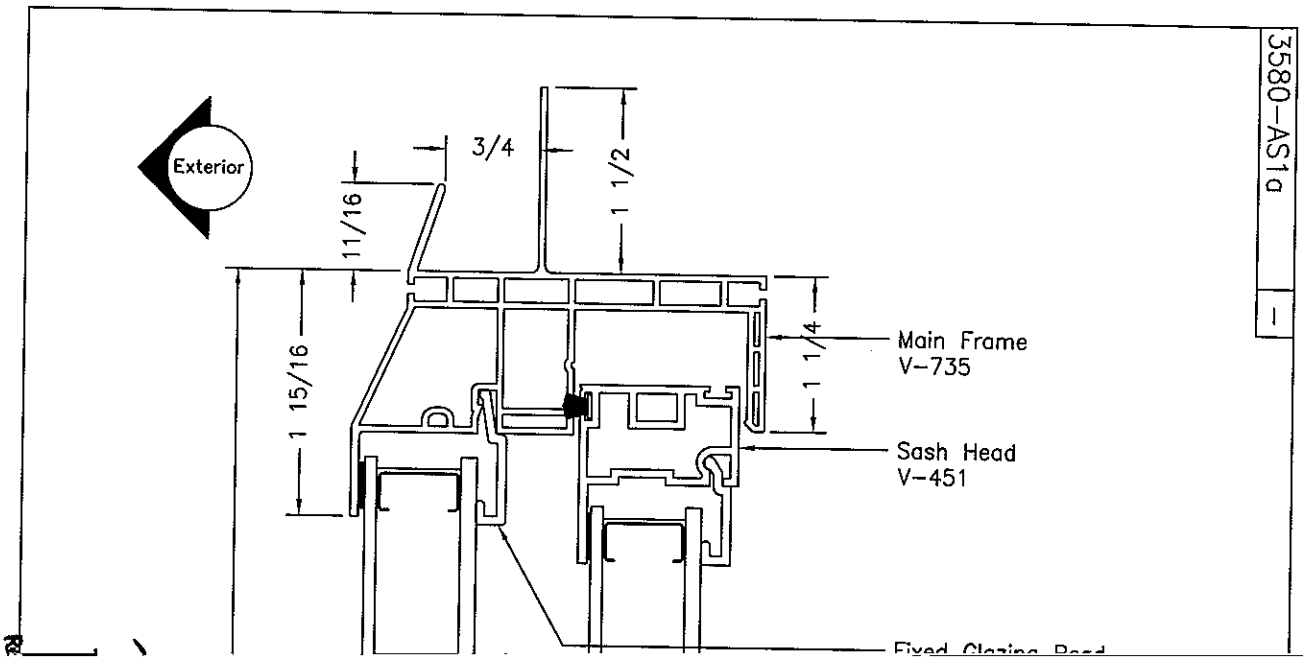
3580-AS1a
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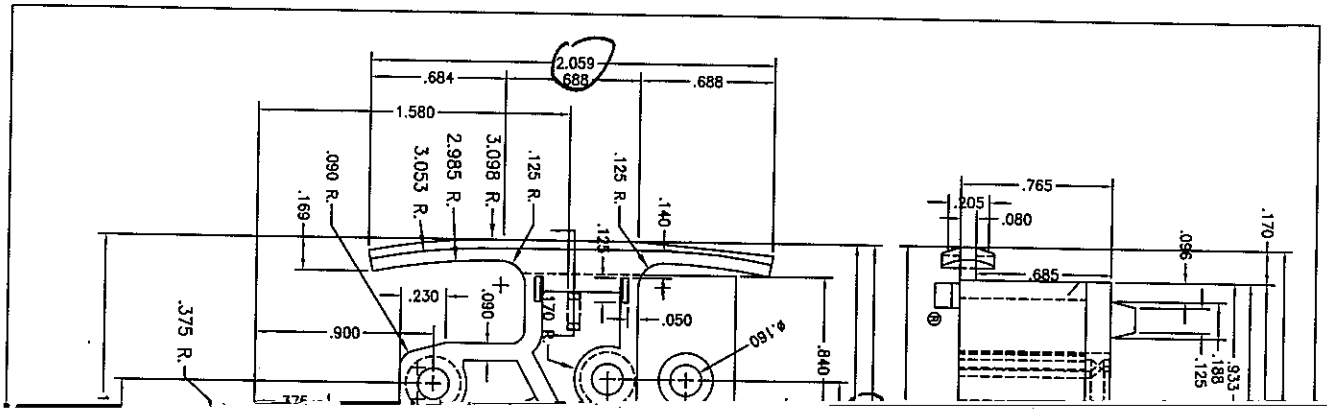
3/4
1 1/2
11/16
1 15/16
1 1/4
Main Frame
V-735
Sash Head
V-451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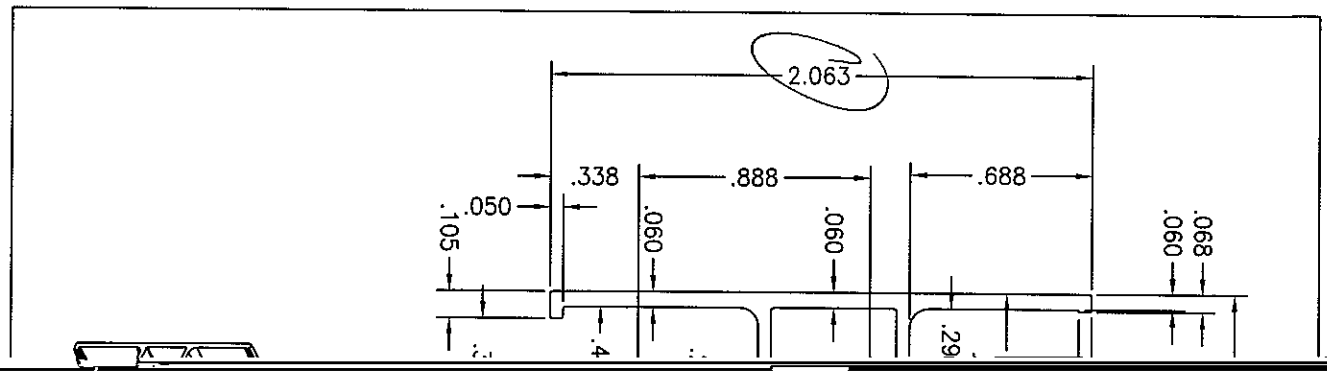
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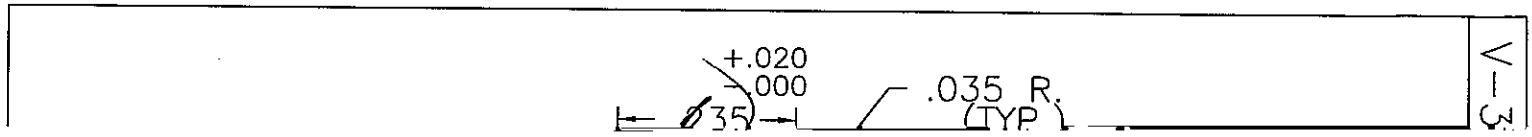
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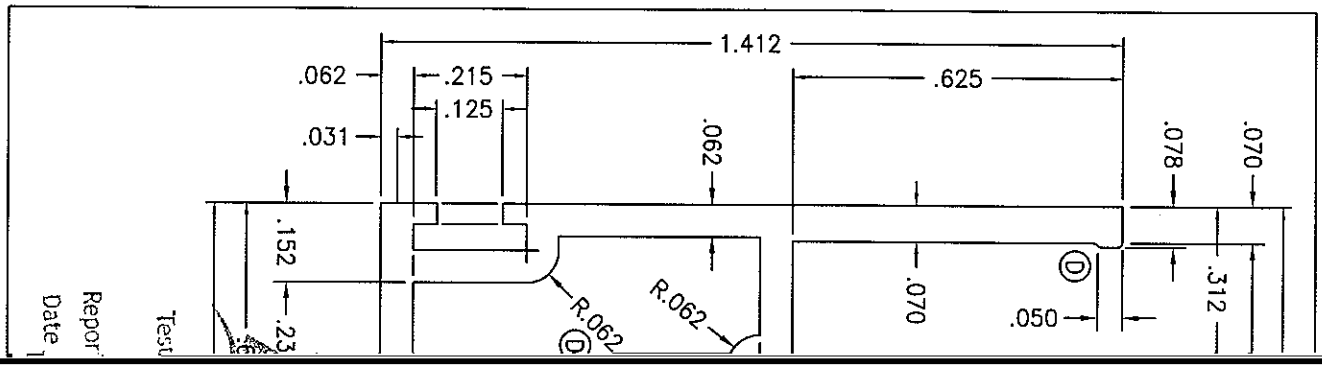
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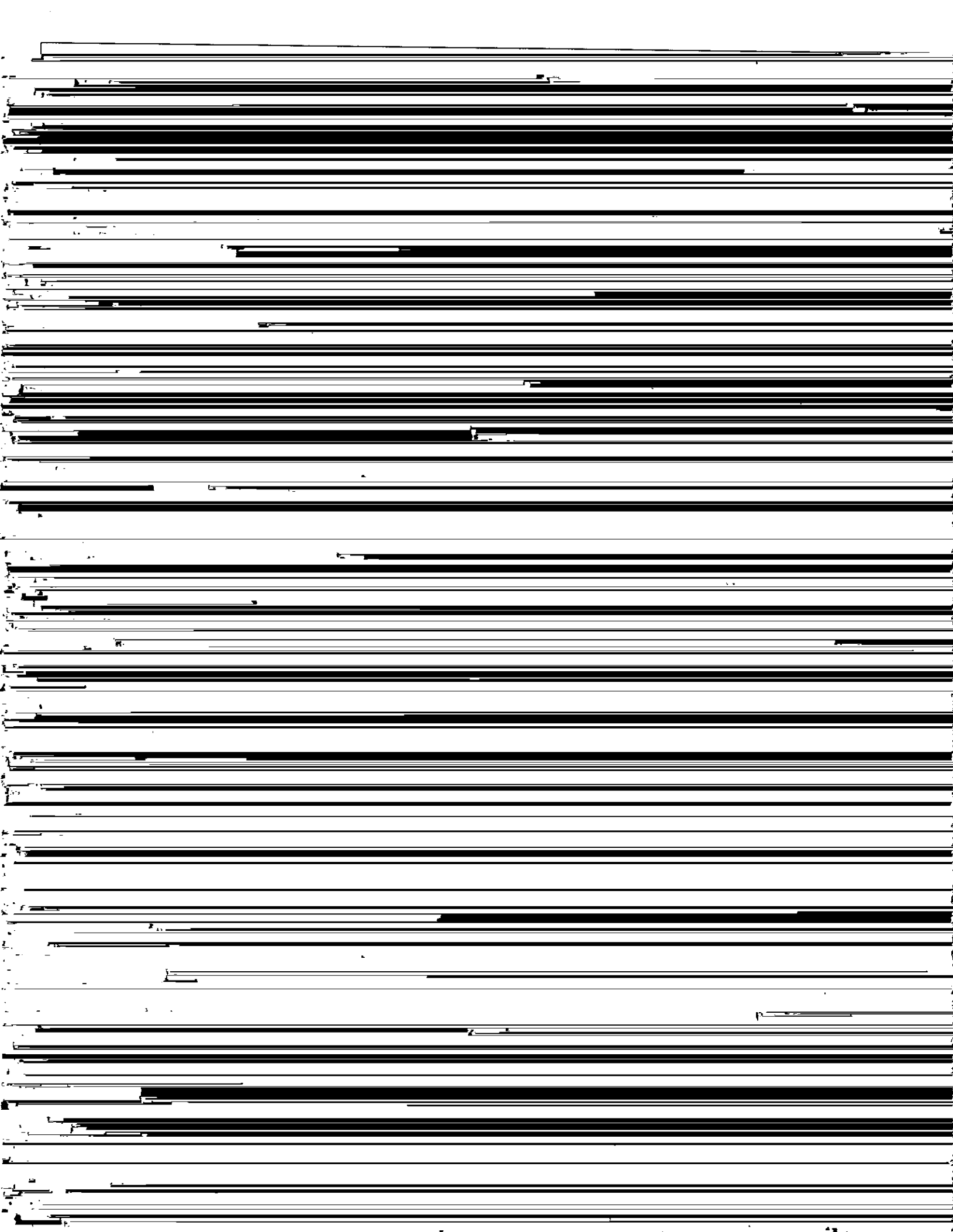

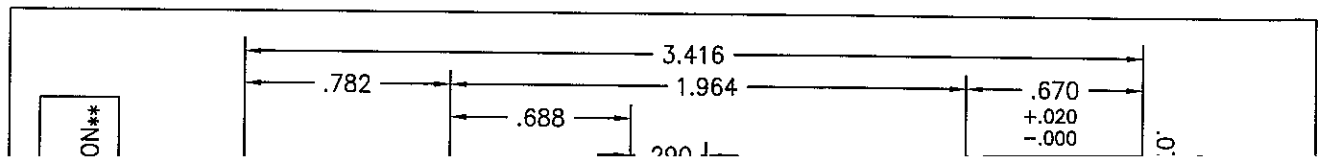
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