APPENDIX II-A

FABRIC TEST METHODS

This document is FAA Approved as an appendix to the Airworthiness Limitations section of the Aerostar Continued Airworthiness Instructions

(Reference Sections 3.0 & 5.1)

Approved by Greg Michalik
Chicago ACO

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Revised (02/04/13)

II-A.1.1 Envelope Testing

(1) Tell-tale

Inspect temperature "tell-tale" located in center, inside of top-cap. Fabric strength tests are required regardless of hours or age if the 275°F or higher dot has been activated.

(2) Fabric (General)

The condition of the fabric must be inspected at each Annual/100 hour inspection. During this inspection adequate fabric strength and porosity ratings are determined.

Note

Fabric strength tests MUST BE conducted unless the envelope is less than two years old and has less than 150 hours of total time logged. Tests MUST ALSO BE conducted regardless of time logged or age if:

(1) An envelope "tell-tale" indicates that 275°F has been exceeded:
(2) The envelope shows signs of mold or mildew:
(3) Increased fuel consumption has been noted:

(3) Fabric Tests

General: Several tests of the envelope fabric are required to determine the current and future airworthiness of the balloon.

(a) Porosity: air leakage rate test of envelope fabric indicating condition of coating or tightness of weave of calendared fabric. *This test is performed at a differential pressure of 10" H_20 in units of C.F.M. per sq. ft. See Appendix II-A, ABADS 1206.

* The lab machine is calibrated in accordance to the "Improved Instrument for Measuring the Air Permeability of Fabrics. Herbert F. Schiefer and Parl M. Boyland, National Bureau of Standards Research Paper PR1471, Journal of Research of National Bureau of Standards, Volume 28, pages 637-642, May 1942. Also reference Textile Test Method of Test for Air Permeability of Textile Fabrics A.S.T.M.; D737-46 and American Standards Association Standard, ASA No. L 14.51-1949."

(b) "Grab" Tensile (Field Test): tensile test of envelope fabric across warp and fill yarns. This test is performed while fabric is in place. See Appendix II-A; ABADS 1096.

(c) "Tongue" Tear (Field Test): tear test of envelope fabric across warp and fill yarns. Requires removal of fabric in the test areas, and subsequent repair of tested areas. Detailed in Appendix II-A; ABADS 1205.

(d) 1" Tensile (Lab Test): tensile test of envelope fabric across warp and fill yarns. Fabric samples are removed and tested as covered

in Appendix II- A; ASTM D5035.

(e) "Tongue" Tear (Lab Test): tear test of envelope fabric across warp and fill yarns. Fabric samples are removed and tested as covered in Appendix II-A; ASTM D2261.

(4) Key Test Areas

The "flow-charts" of Figures II-A.1.A, B and C define the necessary testing of fabric in key areas.

Fabric must be tested in each color and/or fabric type (i.e. Aerostar, Aeromax, and Aerolite) in all "key" areas. A key area is defined as each of the following areas of:

(a) Deflation Panel testing should be performed beginning in stressed areas, such as adjacent to perimeter of the panel near the actuation line attaching point, or areas with visible heat damage:

(b) Upper Gore from the lower equator band to the port edge, begin testing the suspected weakest areas adjacent to port edge load tape and vertical load tape intersections. Test each color, in each fabric type, at the highest point in the main envelope;

(c) Other, areas (above the lower equator band) which appear to be damaged from heat, chemical attack, etc., where loss of fabric strength is suspected. In the event the envelope has been partially rebuilt or large areas of fabric have been replaced, testing must be accomplished on both the original and the new fabric as if it were different colors;

NOTE ON KEY AREAS

A key area, in which fabric has been replaced, should be treated in regards to the replacement fabric's respective hours logged and age.

(5) Non-Key Areas

Fabric below the lower equator circumferential band is considered to be a non-key area. However, non-key areas must be tested unless all of the following questions can be answered "YES".

1. Are the test results in the key areas all greater then or = 35 lbs.?

2. Is the fabric below the equator of the same age, color and fabric type combinations as the key test areas?

3. Does the fabric below the equator appear to be free from heat damage, chemical attack or other conditions that would make fabric strengths suspect?

If " NO" can be answered to any of the above questions the non-key areas must be tested as follows:

(a) Select one area of each color and/or fabric type near the lower equator circumferential band, and one area near the envelope base.

(b) Perform one "Grab-Tensile" in each area in both the warp and the fill directions to 35 lbs. as per ABADS 1096 (see appendix II-A).

Any failure of a color or fabric type in either area must lead to further identification of non-airworthy fabric at those locations. Refer to flow chart for proper procedures.

EXAMPLE: An S-60A has blue & white vertical gores, a red top-cap and red equator between station's 60 & 44. In addition this envelope has Aeromax fabric starting at station 72.0 and continuing to the port edge. What areas require testing as a "key-areas"?

ANSWER:

1. Red Top Cap (Area A)
2. Blue (Aeromax) at station 83.0 (Area B)
3. Blue (Aerostar) at station 72.0 (Area B)
4. White (Aeromax) at station 83.0 (Area B)
5. White (Aerostar) at station 72.0 (Area B)
6. Red Equator at STA 60 (Area B)

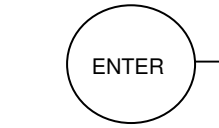
If porosity or strength is questionable in any key area, investigate more of the panel area of that color and location as well as other panels. Since an envelope will usually have one "lot" of fabric per color, one low strength panel would indicate the presence of other low strength panels in that color.

EXAMPLE: An all blue S-55A, originally built in 1986 has been rebuilt at 425 hours 17 months ago from STA 62.75 to 72.75. The balloon now has 555 hours logged. What key areas are to be tested?

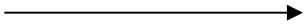
ANSWER: All of the fabric above 62.75 has 130 hours logged and is less than 2 years old. As long as other conditions are met, this fabric is considered airworthy without further inspection. Fabric between 38.75 to 53.75 is considered a key area in addition to 53.75 to 62.75, therefore must be tested as well. Also, two grab tensile tests must be done (warp and fill) below 38.75, one near 38.75 and the other near the base, in each color.

(6) Flow Chart

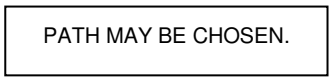
The Flow Charts of Figures II-A.1.A, B and C define the necessary testing of fabric in key areas. The Flow Chart is designed to simplify the qualification process with the Flow Chart symbols defined as follows:



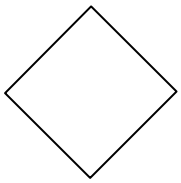
- - - - - - Entry point. Start here and follow the flow-lines;



- - - - - - Flow lines. Direction of arrow indicates path to next query block;



- - - - - - Query block. This may contain any of several questions that may be answered by the appropriate testing.



- - - - - - Conclusion block.

(7) Testing

To perform the fabric testing necessary to qualify the balloon for airworthiness, execute the following steps:

Step 1: Enter and answer the appropriate questions.

Step 2: Average of (3) sample areas in each color and/or fabric type in each key area, in accordance with ABADS 1206. If these values are greater than 75 CFM/ft sq., proceed to test areas toward the center of the panel or away from the stressed regions to determine how much of the panel is affected. Follow the flow line on the chart that corresponds to the porosity value determined in the above tests.

10% AREA REQUIREMENT: If the maximum porosity is exceeded in less than 10% of the panel area, answer this question YES.

Note

A panel is described as a region bordered on all sides by load tapes.

Step 3: TENSILE AND TEAR TESTS: Strength testing is designed to determine whether sufficient strength (tensile and tear) is present to qualify the balloon as airworthy. The tensile and tear testing is set up in tiers as follows:

(a) GRAB TENSILE (1): Perform one ABADS 1096, each, for warp and fill directions to either 45 lbs. (or 35 lbs.), depending upon which path is desired (Annual/100 hour or 50 hour retest) respectively. It is not necessary to pull to failure, only to the desired minimum value.

(b) GRAB TENSILE (5): Perform five ABADS 1096, each, for warp and fill directions, to 35 lbs. or 30 lbs. No single test may fall below 30 lbs. Follow the appropriate resultant flow-chart path.

Tear tests, the final tier of testing, is designed to be used as the most discerning test of strength remaining in determining whether the balloon should be approved. All of this testing is subject to the factor played by the results of porosity testing.

(c) TONGUE TEARS (1): Perform one ABADS 1205 tear tests, each, for warp and fill directions. No single test may fall below 3.7 lbs. Follow the appropriate flow-chart path.

(d) TONGUE TEARS (5): Perform five ABADS 1205 tear tests, each, for warp and fill directions. No single test may fall below 2.5 lbs. or 1.75 lbs. as appropriate. Follow the appropriate flow-chart path

Note

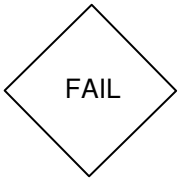
ASTM testing standards may be used in replacement of ABADS 1096 and 1205. Testing to ASTM requires laboratory testing equipment which is sufficient to meet ASTM requirements.

ASTM test criteria is as follows:

FABRIC STRENGTHS

AIRWORTHINESS PERIOD	1" TENSILE	TONGUE TEAR	POROSITY
ANOTHER YEAR OR 100 HOURS*	EACH TEST MUST EXCEED 20 LBS. MINIMUM	ALL TESTS EXCEED 2.5 LBS.	LESS THAN 50 CFM
ANOTHER YEAR OR 50 HOURS**	EACH TEST MUST EXCEED 20 LBS. MINIMUM	ALL TESTS EXCEED 1.75 LBS	LESS THAN 75 CFM

Step 4: TESTING TERMINATION: Based on the testing results and the flow path followed on the Figure 5.1 Flow Charts, a final determination is reached as to the fitness of the fabric for continued airworthiness. The following is a description of various testing terminations and their results.



- - This key area has failed the inspection and is not airworthy for either 50 hour retest or Annual/100 hour. Proceed to the next key area for testing.

- - This key area is considered airworthy for Annual with a 50 hour retest, whichever comes first. Proceed to the next key area for testing.

- - This key area is considered airworthy for Annual/100 hour, whichever comes first. Proceed to the next key area for testing.

- - If all preliminary questions can be answered "NO", then the envelope fabric may fore-go testing. It is considered airworthy for Annual/100 hour.

NOTE FOR 50 HOUR RETESTING

Re-testing after 50 hours requires that the envelope fabric only be re-tested if the one year period has not expired, and the envelope has logged the additional 50 hours.

(8) SPECIAL SHAPE/APPENDAGE BALLOONS

Fabric Testing

(1) The external skin of the envelope, including any appendages, MUST be tested in accordance with the standard fabric test requirements. Perform the required tests in each color and/or fabric type, in the equivalent of each key and non-key areas.

Pull tests must be performed in the upper areas of the main envelope and appendages. Perform fabric test in high stress areas of the envelope, areas where appendages are attached or where internal baffles attach to the main envelope.

(2) The internal baffles and cantenaries MUST be tested as follows:

(A) No porosity testing required.

(B) Grab Tensile: Perform one ABADS 1096 test in each warp and fill direction of each color and/or fabric type, in the equivalent of each key and non-key area. Perform each test to 25 lbs.

Note

Any Internal baffle and cantenary fabric that fails the grab tensile test below 25 lbs. but above 20 lbs., must undergo additional testing per ABADS 1205, (Tongue Tear Test).

(Tongue Tear Test): Remove two fabric samples, one in each warp and fill direction. Perform ABADS 1205 tongue tear tests. No test may fail below 1.75 lbs.

FIGURE II-A.I.A REQUIRED FABRIC TEST TEST FLOW CHART AEROSTAR COATED FABRIC

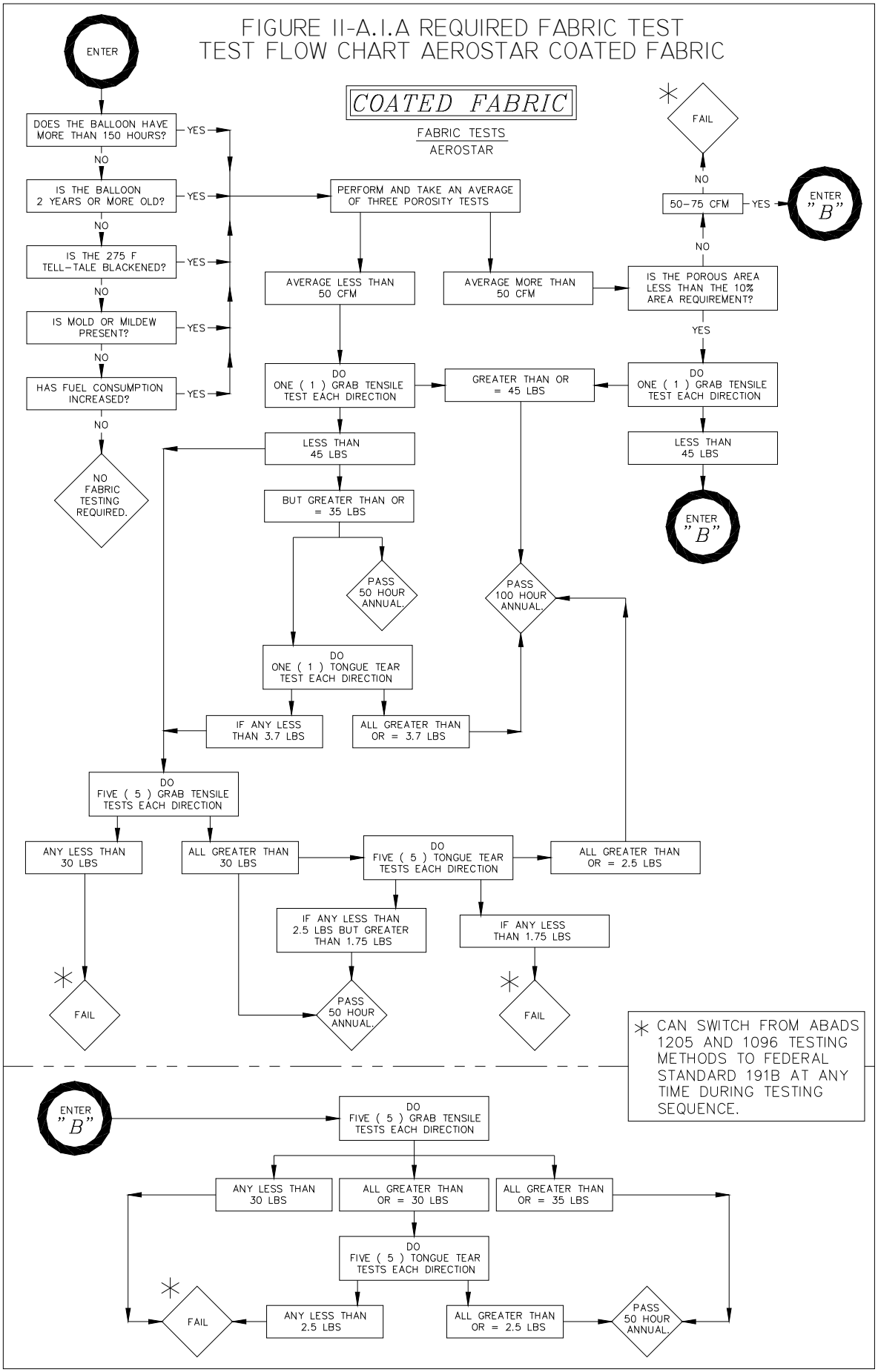


FIGURE II-A.I.B REQUIRED FABRIC TEST FLOW CHART
AEROMAX AND AEROLITE COATED FABRIC

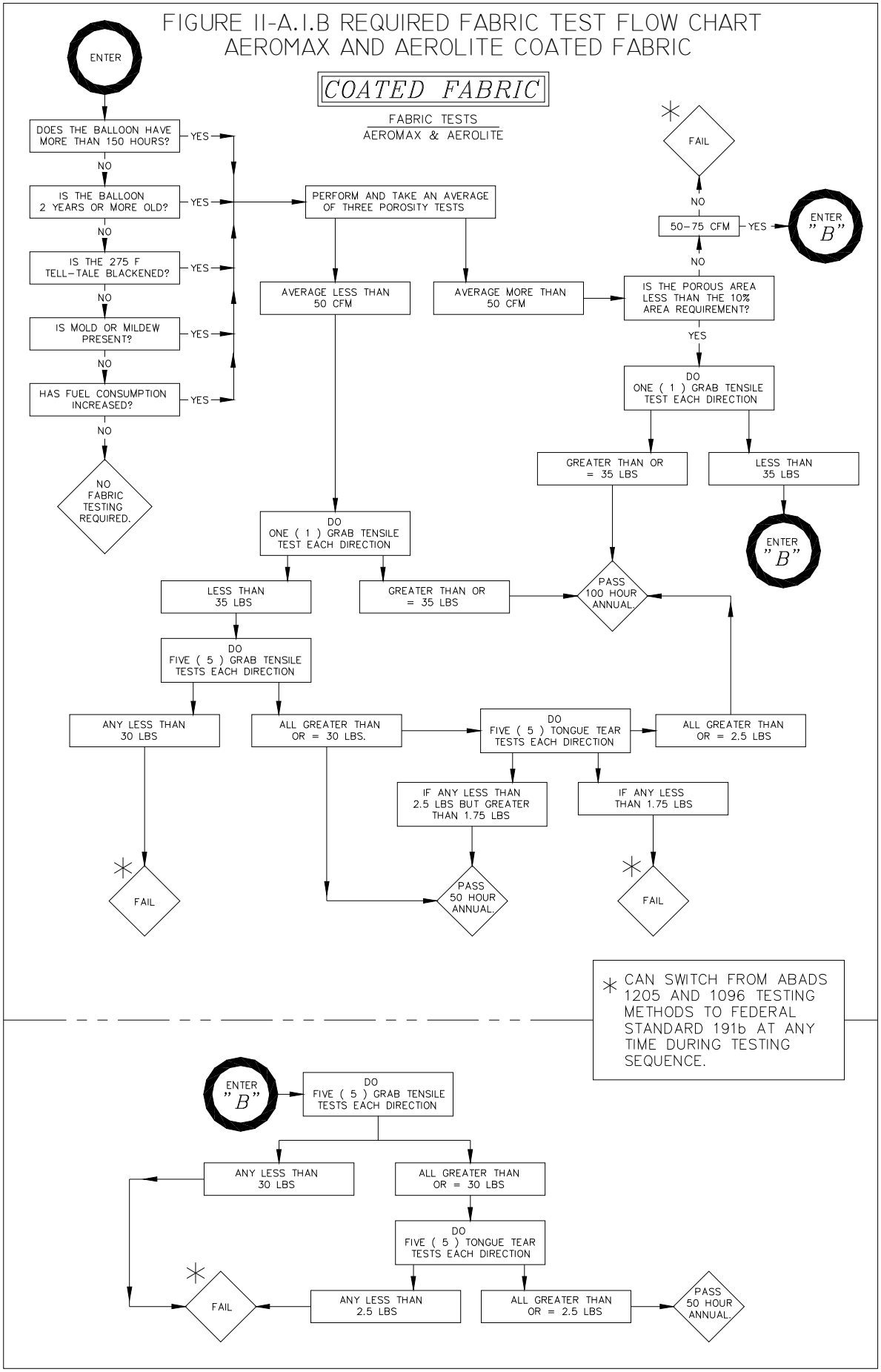
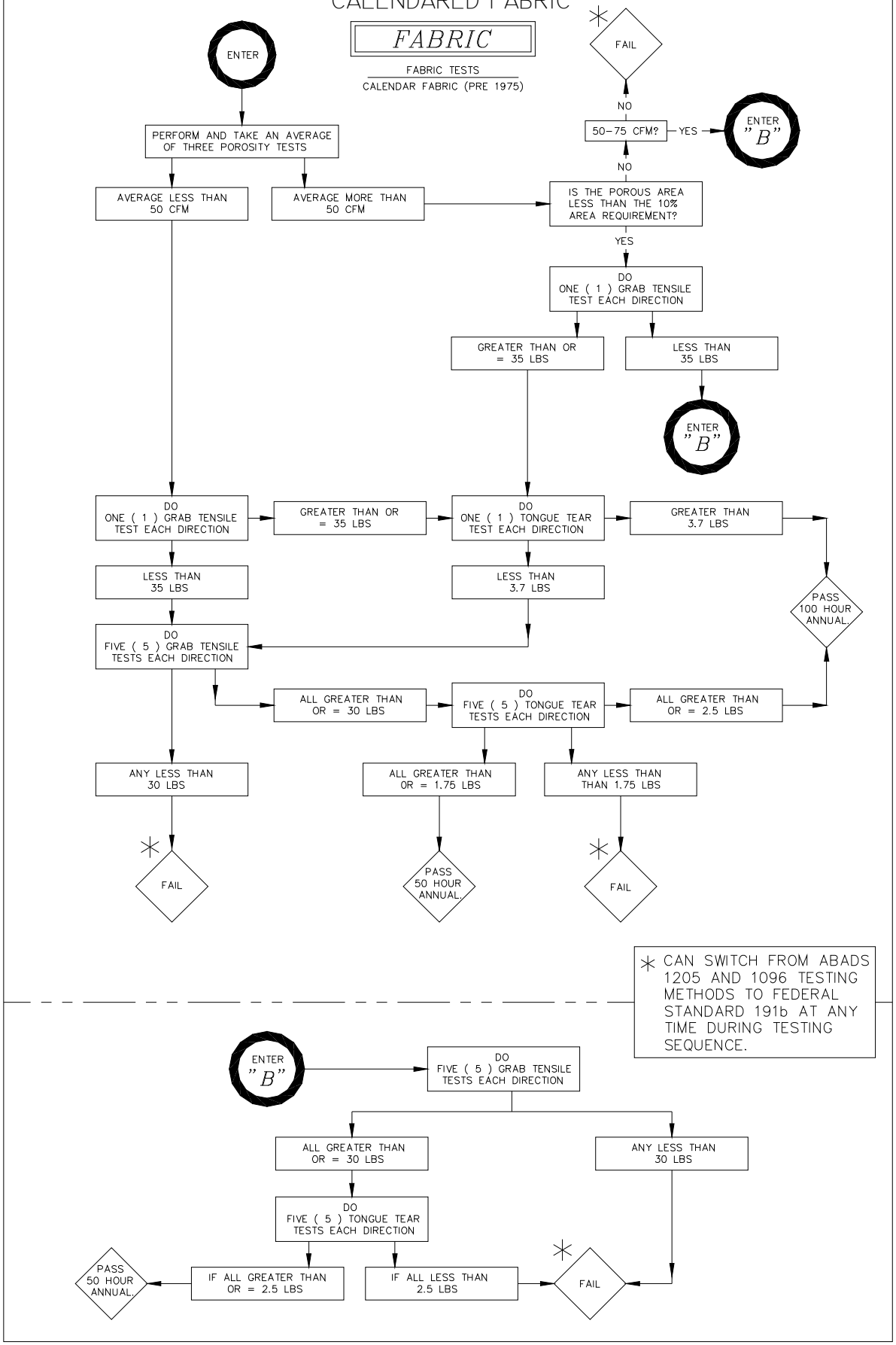


FIGURE II-A.I.C REQURED FABRIC TEST FLOW CHART CALENDARED FABRIC



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REVISIONS

LTR.	*DESCRIPTION*	*DATE*	*APPROVED*
Orig.	All	4/8/74	
A	Para. 2.1; removed "Five samples each". Para 2.2; change description of jaws including changing dimension of 1" x 2" to 1" or greater. Added Aerostar (Raven) wrench B-51406 as approved jaw. Para 2.4; Removed minimum force required. Figure 1; added depiction of Diamond weave.	12/19/96	TAB
B	Changed "Test Method 5100 of Federal Standard 191" in sec. 2.0 on page 2 to "test method D5034 of ASTM-2261".	1/28/13	MLW

REV. STATUS OF SHEETS																	
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SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

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CHD. BY:	TAB	12/19/96
APPD. BY:	TAB	12/19/96

AEROSTAR INTERNATIONAL, INC.

DISTRIBUTION: E

TITLE: HOT AIR BALLOON FABRIC TEST, GRAB METHOD

DRAWING NUMBER: ABADS 1096

SHEET 1 OF 3

ABADS 1096

Hot Air Balloon Fabric Test
Grab Method

1.0 Introduction

The following test procedure shall be used to verify the structural integrity of the balloon envelope fabric during the Annual/100 hour inspection. The intent of this procedure is to insure that the fabric has tensile properties commensurate with requirements imposed by structural loads during balloon operation.

2.0 Test Procedures

The procedure as outlined herein permits verification of balloon fabric without cutting or removing a test sample from the balloon envelope. The general test method, procedure, and results shall be comparable to that of test method ASTM D5034.

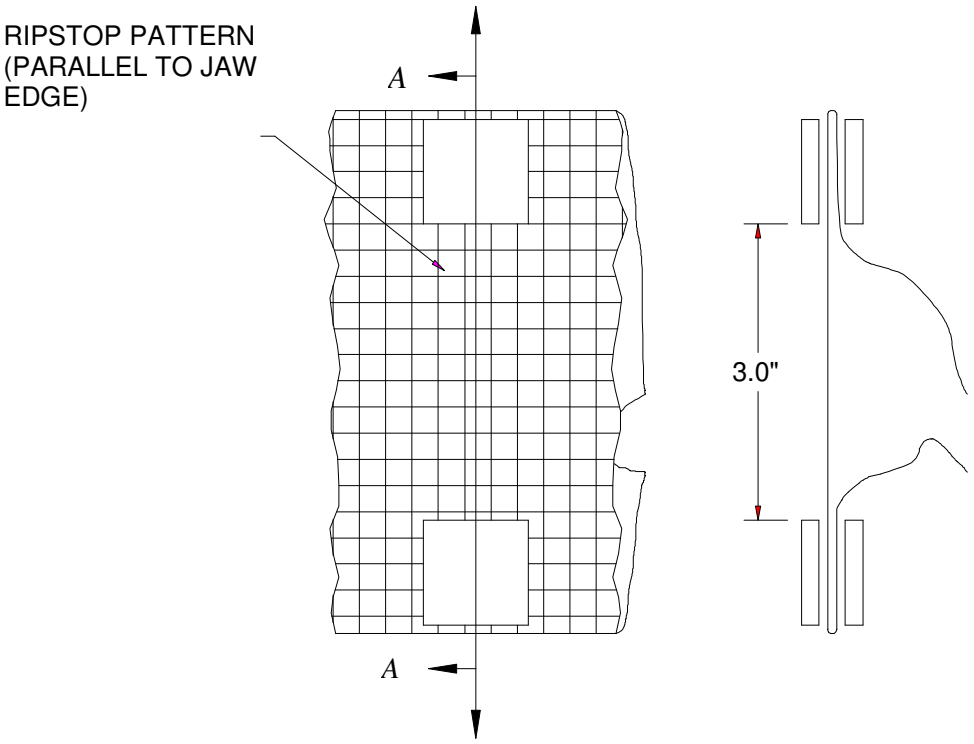
2.1 Samples shall be tested in both the warp (machine) and fill (transverse) directions. Sample locations shall be selected such that no two test samples contain the same warp yarns for warp direction tests nor the same fill yarns for tests in the fill direction.

2.2 The test device shall provide two individual sets of jaws for clamping the balloon fabric. A method of securing or retaining one set of jaws, while applying a load to the second set, is required. Each clamping device shall be provided with one jaw having a dimension of 1" parallel to the application of the load and a dimension of 1" or greater perpendicular to the application of the load. The opposite jaw in each set shall measure 1" by 1" and shall be free to swivel in order to provide full surface contact when the jaws are closed. The jaws shall be faced with rubber or other material to prevent slippage and/or damage to the balloon fabric. AEROSTAR (Raven) modified locking wrench, P/N B-51406, is an approved clamping jaw. The tensile gauge utilized for this test shall be provided with a hold maximum indicator that retains the maximum load reading after load release until manual return to zero. Accuracy of the indicator shall be within + 3% up to a 50 lb. load.

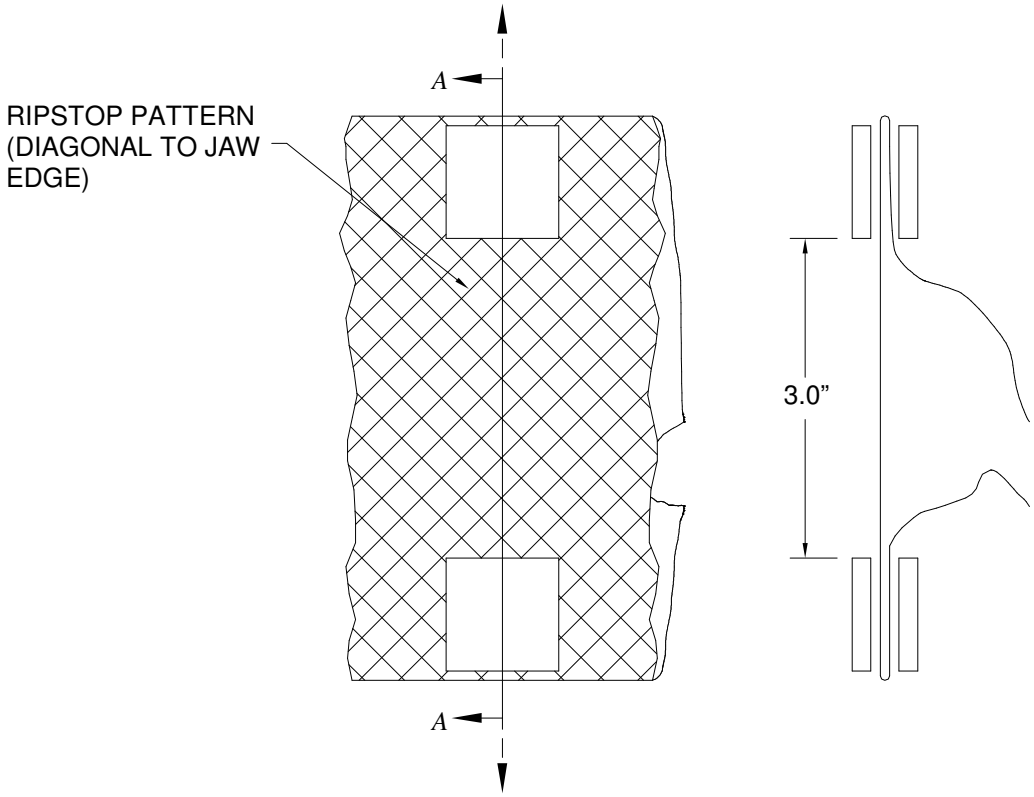
2.3 The balloon fabric shall be gripped as shown in Figure 1. Using the ripstop weave pattern as a guide, the jaws shall be positioned so that the same yarns, in the test direction, are gripped by both pairs of jaws. The distance between the clamps shall be 3".

2.4 The grab test shall be accomplished by gripping the test gauge and applying a smooth, uniform pull force in the test direction. Care shall be taken to insure that the force is in line and parallel to the material sample within the jaws.

2.5 The load as measured in 2.4 shall be recorded for each test in the warp direction and each test in the fill direction. The test results shall be the average of the number of tests performed in each direction if applicable.



SQUARE WEAVE



DIAMOND WEAVE

REVISIONS			
LTR.	*DESCRIPTION*	*DATE*	*APPROVED*
Original	All	4/28/99	MLW
A	Removed references to Federal Test Method 191 and replaced with ASTM D2261 in sec. 2.0 of page 2.	1/28/13	MLW

REV. STATUS OF SHEETS																	
REV.	A	A	-														
SHEET	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	

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CHD. BY:	MLW	4/28/99
APPD. BY:	MLW	4/28/99

AEROSTAR INTERNATIONAL, INC.

DISTRIBUTION: E

TITLE: Hot Air Balloon Fabric Test, Tongue Tear Strength

DRAWING NUMBER: ABADS 1205

SHEET 1 OF 3

HOT AIR BALLOON FABRIC TEST, TONGUE TEAR STRENGTH

1.0 Introduction

The following test procedures shall be used to verify the tear strength of balloon envelope fabric during the Annual/100 hour inspection. It is the intent of this document to outline a procedure to insure that the fabric tear strength is adequate to withstand stresses imposed on the envelope during balloon operation.

2.0 Test Procedure

The procedure as outlined herein permits verification of the tear strength of fabric from an operational balloon by removing a small sample of fabric from the balloon in each color of the key area being tested. The basic test is a field test similar to test method ASTM D2261.

2.1 Samples shall be tested in both the warp (machine) and fill (traverse) directions. Sample locations shall be selected such that no two test samples contain the same warp yarns for warp directions tests nor the same fill yarns for tests in the fill direction.

2.2 The test device shall provide two individual sets of jaws for clamping the balloon fabric. A method of securing or retaining one set of jaws, while applying a load to the second set, is required. Each clamping device shall be provided with one jaw having a dimension of 1" or greater perpendicular to the application of the load. The opposite jaw in each set shall measure 1" by 1" and shall be free to swivel in order to provide full surface contact when the jaws are closed. The jaws shall be faced with rubber or other material to prevent slippage and/or damage to the balloon fabric. AEROSTAR (Raven) modified locking wrench, P/N B-51406, is an approved clamping jaw. Accuracy of the indicator shall be within 2% with the smallest increment of 0.1 lbs.

2.3 Remove a 4 x 6 inch sample of fabric from the key area to be tested. Divide the fabric sample into 2 x 4 inch individual test samples as depicted in Figure 1. Place a 1 1/2 inch slit in one end of each test sample to form two 1 x 1 1/2 tabs. The fabric shall be gripped as shown in Figure 2.

2.4 The tear test shall be accomplished by gripping the test gauge and applying a smooth, uniform pull force in the test direction. Care shall be taken to insure that the force is in line and parallel to the material sample within the jaws. Refer to figure 5.1.A, B, or C for absolute minimum required test values.

Note

The force to be recorded is the peak force required to maintain the tearing motion.

2.5 The load measured in 2.4 shall be recorded for either one or five tests in the warp direction and either one or five tests in the fill direction, depending upon the number specified in the appropriate flow chart (figure 5.1.A, B or C).

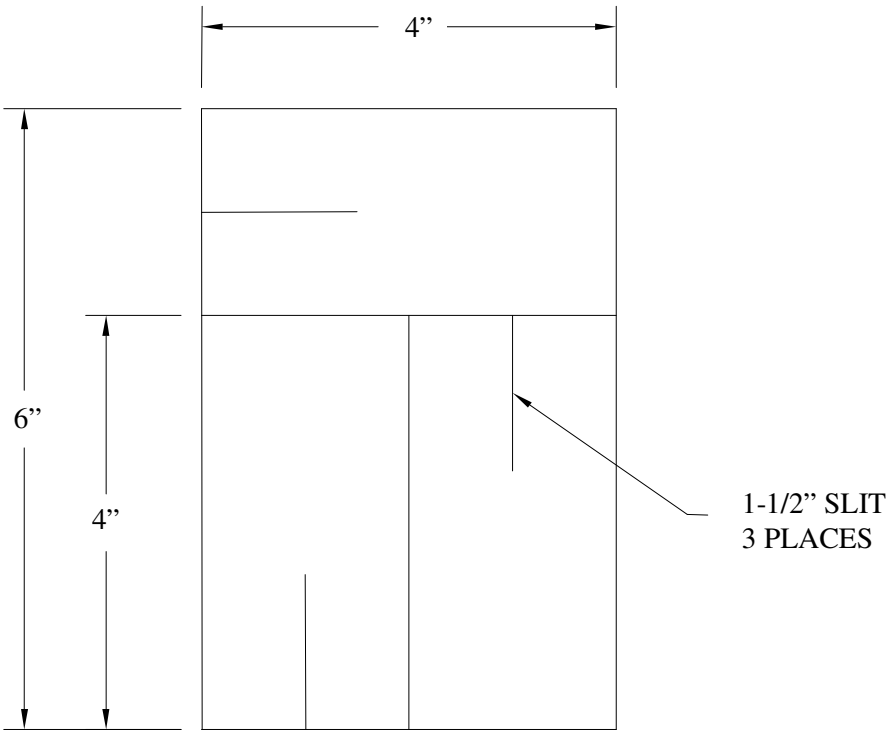
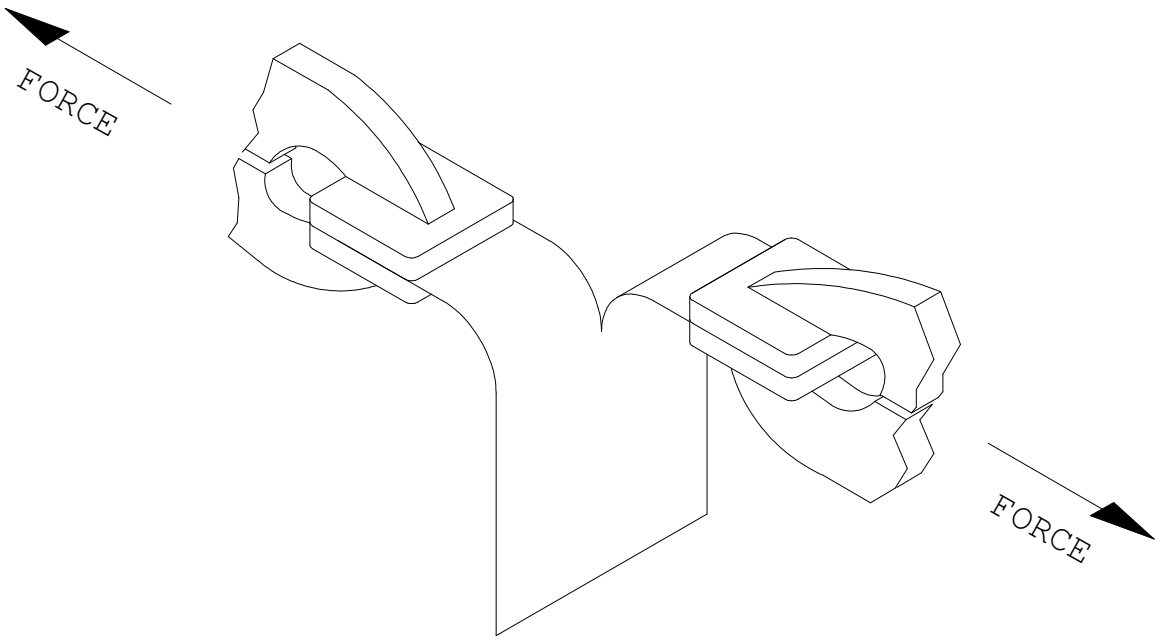


FIGURE 1



REVISIONS

LTR.	*DESCRIPTION*	*DATE*	*APPROVED*
Original	All	10/24/01	MLW

REV. STATUS OF SHEETS																	
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DRN. BY:	JMG	10/24/01
CHD. BY:	MLW	10/24/01
APPD. BY:	MLW	10/24/01

AEROSTAR INTERNATIONAL, INC.

DISTRIBUTION: B, E

TITLE: Hot Air Balloon Fabric Test
Field Porosity Test

DRAWING NUMBER: ABADS - 1206

SHEET 1 OF 3

ABADS 1206
Hot air Balloon Fabric Test
Field Porosity

1.0 Scope

1.1 This method covers the field determination of the air permeability of the nylon fabrics used in the manufacture of hot air balloon envelopes by Aerostar Intl., (Raven) under FAA Type Certificate A15CE, using the PX-1 field porosity testing machine, (Aerostar part number 52234).

2.0 Definitions

2.1 *Air Permeability, n.* – The rate of flow of air through a fabric surface.

Note 1 – Air permeability is expressed in U.S. customary units as cubic feet of air per minute (c.f.m.) per square foot of fabric.

3.0 Summary Of Method

3.1 The rate of air passing through a known area of fabric in the test area and from this rate of flow the air permeability of the fabric is determined.

3.2 Uses and Significance

Air permeability is an important factor in the performance of the fabric as it relates to the overall performance of the aircraft. Air permeability is directly related to burner and fuel efficiency, a porous envelope will not respond as quickly to the operation of the burner and will also use the fuel on board in a shorter period of time. Air permeability can also be used to provide an indication of the future strength one can expect from the fabric.

4.0 Apparatus

4.1 The apparatus, PX-1, consists of a suction fan for drawing air through a known area of fabric defined by a circular orifice of diameter 2.75 in. (70 mm), and a means of measuring the rate of air flowing through the test area of the fabric. The fabric to be tested is placed over the screened opening of the testing machine. The PX-1 tests the porosity of the fabric at a differential pressure of 10" H_2O in units of c.f.m. per sq. ft.

5.0 Sampling, Selection, and Number of Specimens

5.1 Testing is to be performed in each color and/or fabric type (i.e. Square Weave, Aerostar, Aeromax, Aerolite) in each key area of the envelope, as defined in section 5.1.1 of the ACAI. Begin testing in the high stressed areas of the panel, typically this will be near the intersection of the horizontal and vertical load tapes in the upper areas of the panel. Perform tests in three sample areas horizontally across the panel and average the results. This average will be the porosity rating for that test area. Additional testing of the panel at various positions may be necessary to determine the overall condition of the panel.

A minimum of one test must be performed in each color and/or fabric type in each key area. One test consists of three sample areas averaged together to determine the porosity of the area.

If fabric in other key areas of the envelope are suspected of having increased porosity from chemical attack, overheating or other abuse, those areas must be tested to determine the airworthiness of the fabric.

6.0 Procedure

6.1 Calibrate the PX-1 porosity tester using the calibration plate as outlined in the PX-1 operating Instructions manual. Additional calibration checks should be performed on the PX-1 when operating the machine for extended periods of time as detailed in the PX-1 Instructions Manual.

6.2 Place the sample to be tested over the opening of the porosity tester insuring that the sample fits tight and smooth over the opening. Wrinkling of the fabric may allow additional air to pass through the PX-1 resulting in an invalid test reading.

6.3 Perform the tests in the three sample areas horizontally across the panel of the area being tested.

6.4 Record the result as indicated on the PX-1 gauge of the three sample areas.

6.5 Calculate the average porosity of the three sample areas.

APPENDIX II-B

DIMENSIONS OF REPLACEMENT LINES

(Includes Top Caps, Rotators and Rigging Diagrams)

ATTENTION

THE DATA WHICH FOLLOWS IS ACCURATE AND COMPLETE FOR CURRENT PRODUCTION MODELS AS OF THE DATE OF ISSUE OF THIS LATEST REVISION OF THE AEROSTAR INSTRUCTION FOR CONTINUED AIRWORTHINESS.

DATA APPLICABLE TO EARLIER OR SUBSEQUENT PRODUCTION MODELS MAY DIFFER FROM THAT CONTAINED HEREIN AND THE FACTORY SHOULD BE CONSULTED FOR ADDITIONAL INFORMATION.

CONTACT AEROSTAR TECHNICAL SUPPORT FOR FURTHER DETAILS.

DIMENSIONS FOR TOP CAPS AND REPLACEMENT LINES

Dimensions are supplied as reference information only. Adjustment may be necessary, based upon line shrinkage, age and condition of envelope.

Dimensions listed are finished lengths and are measured from end loop to end loop after tying knots. Centering cords and confluence line lengths are measured under nominal 3-5 lbs tension.

Consult with factory for special shapes, appendage balloons and other models not included in the following listing.

"S" SERIES ENVELOPES

MODEL S-49A

Crown line	82'-0"
Parachute Top, P/N 52940	
Constructed diameter	18'-1"
UpperPull line	34'-0"
Lower Pull Line	27'-0"
Confluence lines	11'-7"
Centering cords	6'-10"
Bridle lines (station 20)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	97'- 0"

MODEL S-50A

Crown line	82'-0"
Parachute Top, P/N 52941	
Constructed diameter	20'-7"
UpperPull line	39'-0"
Lower Pull line	27"-0"
Confluence lines	11'-7"
Centering cords	8'-0"
Bridle lines (station 20)	8'-0"
Spring Top, Fig. B-3, P/N 52932	
Constructed diameter	21'-8"
Red deflation strap (52264-12)	80'-0"
Deflation actuation lines	4'-0"
Vent pull line (53117-02)	57'-0"
Bridle lines (station 20)	8'-0"
Confluence Lines	
Seam 2	9'-8"
Seam 4	9'-7"
Seam 6	10'-0"
Seam 8	11'-5"
Seam 10	12'-8"
Seam 12	14'-5"

Model S-50A (continued)

Centering cords	7'-7"
Bridle (station 20)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	92'- 0"

MODEL S-51A

Crown line	85'-0"
Parachute Top, P/N 52940	
Constructed diameter	18'-1"
Pull line 66'-0"	
Confluence lines	11'-7"
Centering cords	6'-10"
Bridle lines (station 20)	8'-0"
Aerochute Top (high center pulley), P/N 52953	
Constructed diameter	18'-1"
Red deflation strap (52264-28)	26'-0"
Upper deflation line	45'-0"
Lower vent actuation line	50'-0"
Upper vent line	50'-0"
Combination lines	31'-8"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	100'- 0"

MODEL S-52A

Crown line	85'-0"
Parachute Top (pulley) Fig. B-2, P/N 52941	
Constructed diameter	20'-7"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-02)	36'-0"
Confluence lines	14'-3"
Centering cords	8'-3"
Bridle lines (station 22)	8'-0"
Spring Top, Fig. B-3, P/N 52932	
Constructed diameter	21'-8"
Red deflation strap (52264-13)	83'-0"
Deflation actuation lines	4'-0"
Vent pull line (53117-03)	60'-0"
Bridle lines (station 22)	8'-0"

Model S-52A (continued)

Confluence lines	
Seam 2	9'-8"
Seam 4	9'-7"
Seam 6	10'-0"
Seam 8	11'-5"
Seam 10	12'-8"
Seam 12	14'-5"
Centering cords	8'-3"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	106'- 0"

MODEL S-53A

Crown line	85'-0"
Parachute Top (pulley) Fig. B-2, P/N 52942	
Constructed diameter	20'-3"
Lower pulley line (53108-04)	40'-0"
Upper vent line (53107-02)	36'-0"
Confluence lines	14'-3"
Centering cords	7'-0"
Bridle lines (station 20)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	101'- 0"

MODEL S-53H

Crown line	85'-0"
Parachute Top (pulley) Fig. B-2, P/N 53232	
Constructed diameter	20'-3"
Lower pulley line (53108-04)	40'-0"
Upper vent line (53107-02)	36'-0"
Confluence lines	14'-3"
Centering cords	8'-4"
Bridle lines (station 4.0)	8'-0"

MODEL S-55A

Crown line	88'-0"
Parachute Top (pulley) Fig. B-2, P/N 52943	
Constructed diameter	21'-8"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-02)	36'-0"
Confluence lines	15'-0"
Centering cords	11'-4"
Bridle lines (station 24)	8'-0"

Model S-55A (continued)

Spring Top, Fig. B-3, P/N 52931	
Constructed diameter	22'-1"
Red deflation strap (52264-14)	89'-0"
Deflation actuation lines	4'-0"
Vent pull line (53117-04)	58'-0"
Bridle lines (station 24)	8'-0"
Confluence lines	
Seam 2	14'-0"
Seam 4	13'-4"
Seam 6	13'-6"
Seam 8	13'-10"
Seam 10	14'-7"
Seam 12	15'-9"
Seam 14	17'-1"
Seam 16	18'-0"
Centering cords	11'-0"
Aerochute Top, Fig. B-4,5, P/N 52954	
Constructed diameter	21'-8"
Red deflation strap (52264-28)	26'-0"
Bridle lines (station 24)	8'-0"
Upper deflation line	47'-0"
Apex cords	10'-1"
Lower vent actuation line (53108-01)	48'-0"
Upper vent line (53107-02)	36'-0"
Combination lines	44'-4"
Bridle lines (station 24)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	116'- 0"

MODEL S57A

Crown line	97'-0"
Parachute Top (pulley) Fig. B-2, P/N 52943	
Constructed diameter	21'-8"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-03)	39'-0"
Confluence lines	15'-0"
Centering cords	11'-6"
Bridle lines (station 24)	8'-0"
Spring Top, Fig. B-3, P/N 52931	
Constructed diameter	22'-1"
Red deflation strap (52264-15)	94'-0"
Deflation actuation lines	4'-0"
Vent pull line (53117-05)	62'-0"
Bridle lines (station 24)	8'-0"

Model S-57A (continued)

Confluence lines	
Seam 2	14'-0"
Seam 4	13'-10"
Seam 6	14'-2"
Seam 8	14'-9"
Seam 10	15'-10"
Seam 12	17'-0"
Seam 14	18'-3"
Seam 16	19'-7"
Centering cords	11'-8"
Aerochute Top, Fig. B-4,5, P/N 52954	
Constructed diameter	21'-8"
Red deflation strap (52264-27)	20'-0"
Bridle lines (station 24)	8'-0"
Upper deflation line	52'-0"
Apex cords	10'-1"
Lower vent actuation line (53108-01)	48'-0"
Upper vent line (53107-01)	32'-0"
Combination lines	44'-8"
Bridle lines (station 24)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	125'- 0"

MODEL S57H

Crown line	97'-0"
Parachute Top (pulley) Fig. B-2, P/N 53245	
Constructed diameter	21'-8"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-03)	39'-0"
Confluence lines	15'-0"
Centering cords	8'-2"
Bridle lines (station 4.0)	8'-0"

MODEL S-57S

Crown line	97'-0"
Aerochute Top (high center pulley), P/N 52952	
Constructed diameter	22'-6"
Red deflation strap (52264-29)	32'-0"
Bridle lines (station 22)	8'-0"
Upper deflation line	50'-0"
Lower vent actuation line (53108-01)	48'-0"
Upper vent actuation line (53017-01)	32'-0"
Combination lines	44'-8"
Bridle lines (station 22)	8'-0"

Model S-57A (continued)

Parachute Top (pulley) Fig. B-2, P/N 52939	
Constructed diameter	22'-6"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-07)	32'-0"
Confluence lines	15'-0"
Centering cords	10'-3"
Bridle lines (station 22)	8'-0"
Spring Top, P/N 52963	
Constructed diameter	22'-4“
Red deflation strap (52264-16)	97'-0"
Vent line (53117-05)	62'-0"
Bridle lines (station 22)	8'-0"
Centering cords	10'-3"
Confluence lines	
Seam 2	14'-0"
Seam 4	14'-3"
Seam 6	15'-0"
Seam 8	15'-10"
Seam 10	17'-7”
Seam 12	19'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	117'- 0"

MODEL S-60A

Crown line	97'-0"
Parachute Top (pulley) Fig. B-2, P/N 52943	
Constructed diameter	21'-8"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-09)	42'-0"
Confluence lines	15'-0"
Centering cords (old gore pattern)	12'-8"
Centering cords (new gore pattern)	13’-5”
Bridle lines (station 24)	8'-0"
Spring Top, Fig. B-3, P/N 52931	
Constructed diameter	22'-1"
Red deflation strap (52264-16)	97'-0"
Deflation actuation lines	4'-0"
Vent pull line (53117-06)	66'-0"
Bridle lines (station 24)	8'-0"
Confluence lines	
Seam 2	14'-0"
Seam 4	13'-10"
Seam 6	14'-2"
Seam 8	14'-9"
Seam 10	15'-10"
Seam 12	17'-0"
Seam 14	18'-3"
Seam 16	19'-7"
Centering cords (old gore pattern)	12'-8"
Centering cords (new gore pattern)	13’-5”

Model S-60A (continued)

Aerochute Top, Fig. B-4,5, P/N 52954	
Constructed diameter	21'-8"
Red deflation strap (52264-29)	32'-0"
Bridle lines (station 24)	8'-0"
Upper deflation line	53'-0"
Apex cords	10'-1"
Lower vent actuation line (53108-01)	48'-0"
Upper vent line (53107-07)	40'-0"
Combination lines (old gore pattern)	47'-0"
Combination lines (new gore pattern)	call factory for details
Bridle lines (station 24)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	128'- 0"

MODEL S-60H

Crown line	97'-0"
Parachute Top (pulley) Fig. B-2, P/N 53245	
Constructed diameter	21'-8"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-09)	42'-0"
Confluence lines	15'-0"
Centering cords	8'-2"
Bridle lines (station 4.0)	8'-0"

MODEL S-60S

Crown line	97'-0"
Aerochute Top (high center pulley), P/N 52952	
Constructed diameter	22'-6"
Red deflation strap (52264-32)	36'-0"
Bridle lines (station 22)	8'-0"
Upper deflation line	55'-0"
Apex cords	10’6”
Lower vent actuation line (53108-03)	52'-0"
Upper vent actuation line (53017-02)	36'-0"
Combination lines	44'-8"
Bridle lines (station 22)	8'-0"
Parachute Top (pulley) Fig. B-2, P/N 52939	
Constructed diameter	22'-6"
Lower pulley line (53108-03)	52'-0"
Upper vent line (53107-05)	44'-0"
Confluence lines	15'-0"
Centering cords	10'-11"
Bridle lines (station 22)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	125'- 0"

MODEL S-64A

Crown line	101'-0"
Aerochute Top (high center pulley), P/N 52961	
Constructed diameter	24'-2"
Red deflation strap (52264-32)	36'-0"
Bridle lines (station 29)	8'-0"
Upper deflation line	53'-4"
Lower vent actuation line (53108-02)	54'-0"
Upper vent actuation line	49'-0"
Upper vent lanyard	70'-0"
Combination lines	50'-2"
Bridle lines (station 34)	8'-0"
Parachute Top (pulley) Fig. B-2, P/N 52944	
Constructed diameter	24'-2"
Lower pulley line (53108-02)	54'-0"
Upper vent line (53107-06)	47'-0"
Confluence lines	16'-5"
Centering cords (old gore pattern)	12'-11"
Bridle lines (station 29)	8'-0"
Spring Top, P/N 52930	
Constructed diameter	28'-3"
Red deflation strap (52264-23)	117'-0"
Vent line (53117-13)	69'-0"
Bridle lines (station 29)	8'-0"
Centering cords	10'-11"
Confluence lines	
Seam 2	19'-5"
Seam 4	18'-9"
Seam 6	19'-2"
Seam 8	19'-9"
Seam 10	20'-10
Seam 12	21'-9"
Seam 14	23'-2"
Seam 16	24'-7"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	122'- 0"

MODEL S-66A

Crown line	101'-0"
Aerochute Top (high center pulley), P/N 52955	
Constructed diameter	25'-7"
Red deflation strap (52264-30)	40'-0"
Bridle lines (station 34)	8'-0"
Upper deflation line	48'-0"
Lower vent actuation line (53108-02)	54'-0"
Upper vent line	56'-0"
Lower Vent line	70'-0"
Combination lines	49'-4"
Bridle lines (station 34)	8'-0"

Model S-66A (continued)

Para-rip Top, P/N 52937	
Constructed diameter	30'-9½"
Red deflation strap (52264-05)	126'-0"
Vent line (53117-07)	66'-0"
Bridle lines (station 30)	8'-0"
Centering cords	11'-7"
Confluence lines	
Seam 2	21'-0"
Seam 4	20'-4"
Seam 6	20'-8"
Seam 8	21'-4"
Seam 10	22'-6"
Seam 12	23'-6"
Seam 14	25'-0"
Seam 16	26'-7"
Rotator (dual) Fig. B-1	
Flap actuation line	15'- 0"
Pull lines	136'- 0"

MODEL S71A

Crown line	108'-0"
Aerochute Top, Fig. B-4,5, P/N 52955	
Constructed diameter	25'-8"
Red deflation strap (52264-29)	32'-0"
Bridle lines (station 30)	8'-0"
Upper deflation line	52'-0"
Lower Deflation line	27'-0"
Lower vent actuation line (53108-06)	97'-0"
Upper vent line	65'-0"
Combination lines	57'-4"
Bridle lines	8'-0"
Para-rip Top, P/N 52937	
Constructed diameter	30'-9½"
Red deflation strap (52264-24)	136'-0"
Vent line (53117-08)	74'-0"
Bridle lines (station 30)	8'-0"
Centering cords	15'-0"
Confluence lines	
Seam 2	21'-0"
Seam 4	20'-4"
Seam 6	20'-8"
Seam 8	21'-4"
Seam 10	22'-6"
Seam 12	23'-6"
Seam 14	25'-0"
Seam 16	26'-7"
Rotator (dual) Fig. B-1	
Flap actuation line	20'- 0"
Pull lines	153'- 0"

MODEL S-77A

Crown line	123'-0"
Aerochute Top (high center pulley), P/N 52956	
Constructed diameter	27'-4"
Red deflation strap/rope (53142)	42'-0"/31'-0"
Bridle lines (station 38)	15'-0"
Upper deflation line	49'-0"
Upper Vent line	59'-4"
LowerVent actuation line	82'-0"
Upper vent lanyard	1'-6"
Combination lines	44'-4"
Pararip Top, P/N 52938	
Constructed diameter	36'-6½"
Red deflation strap (52264-25)	83'-0"
Upper deflation line	65'-0"
Vent line (53117-09)	82'-0"
Bridle lines (station 26)	6'-0"
Centering cords	15'-6"
Confluence lines	
Seam 2	17'-10"
Seam 4	16'-9"
Seam 6	16'-2"
Seam 8	16'-1½"
Seam 10	16'-8"
Seam 12	17'-9"
Seam 14	19'-0"
Seam 16	20'-9"
Rotator (dual) Fig. B-1	
Flap actuation line	25'- 0"
Pull lines	139'- 0"

MODEL S81A

Crown line	132'-0"
Aerochute Top (high center pulley), P/N 52956	
Constructed diameter	27'-4"
Red deflation strap/Kexlon II	52'/36'
Bridle lines (station 49)	15'-0"
Upper deflation line	49'-0"
UpperVent actuation line	65'-0"
Lower Vent actuation line	82'-0"
Upper vent lanyard	1'-6"
Combination lines	55'-0"
Bridle lines (station 41)	8'-0"
Pararip Top, P/N 52938	
Constructed diameter	36'-6½"
Red deflation strap (52264-16)	97'-0"
Upper Deflation line	65'-0"
Vent line (53117-10)	90'-0"

Models S-81A (continued)

Bridle lines (station 26)	6'-0"
Centering cords	18'-5"
Confluence lines	
Seam 2	17'-10"
Seam 4	16'-9"
Seam 6	16'-2"
Seam 8	16'-1½"
Seam 10	16'-8"
Seam 12	17'-9"
Seam 14	19'-0"
Seam 16	20'-9"
Rotator (dual) Fig. B-1	
Flap actuation line	25'- 0"
Pull lines	151'- 0"

RALLY SERIES ENVELOPES

MODEL RX-6

Crown line	88'-0"
Parachute Top P/N 52948	
Constructed diameter	260"
Pull line	74'-6"
Bridle lines (station 19)	28"
Confluence lines	180"
Centering cords	
Gore centerline	94"
B seams	98"
Spring Top, Fig. B-3, P/N 52934	
Constructed diameter	265"
Red deflation strap	81'-0"
Deflation actuation lines	48"
Vent pull line	52'-0"
Bridle lines (station 19)	28"
Confluence lines	
Seam 12B	13'-2"
Gore 12	13'-4"
Seam 1B	13'-6"
Gore 1	13'-10"
Seam 2B	14'-7"
Gore 2	15'-9"
Seam 3B	17'-1"
Gore 3	18'-3"
Centering cords	
Seams 12B,1B,2B,3B	98"
Gores 12,1,2,3	94"

MODEL RX-7

Crown line	88'-0"
Parachute Top (pulley) Fig. B-2, P/N 52948	
Constructed diameter	260"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-02)	36'-0"
Bridle lines (station 23.75)	8’-0”
Confluence lines	15’-0"
Centering cords	
Gore centerline	9’-1"
B seams	9’-5"
Spring Top, Fig. B-3, P/N 52934	
Constructed diameter	265"
Red deflation strap (52264-18)	94'-0"
Deflation actuation lines	4’-0"

Model RX-7 (continued)

Vent pull line (53117-04)	58'-0"
Bridle lines (station 19.75)	8’-0"
Confluence lines	
Seam 12B	14'-0"
Gore 12	13'-4"
Seam 1B	13'-6"
Gore 1	13'-10"
Seam 2B	14'-7"
Gore 2	15'-9"
Seam 3B	17'-1"
Gore 3	18'-0"
Centering cords	
Seams 12B,1B,2B,3B	8’-11"
Gores 12,1,2,3,	9’-3"
Rotator (dual) Fig. B-1	
Flap actuation line	15'-0"
Pull lines	121'-0"

MODEL RX-8

Crown line	93'-0"
Parachute Top (pulley) Fig. B-2, P/N 52958	
Constructed diameter	260"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-04)	41'-0"
Bridle lines (station 24)	8'-0"
Confluence lines	15'-0"
Centering cords	
Gore centerlines	9'-7"
B seams	9'-11"
Spring Top, Fig. B-3, P/N 52935	
Constructed diameter	265"
Red deflation strap (52264-10)	94'-0"
Deflation actuation lines	6'-5"
Vent pull line (53117-05)	62'-0"
Bridle lines (station 24)	8'-0"
Confluence lines	
Gore 1	13’-2”
Gore 2	13’-10”
Gore 3	15'-9"
Gore 4	18'-0"
Centering cords	
Seams 1B,2B,3B,4B,5B	9'-11"
Gores 1,2,3,4,	9'-7"

Model RX-8 (continued)

Aerochute Top, Fig. B-4,5, P/N 52957	
Constructed diameter	260"
Red deflation strap (52264-29)	32'-0"
Bridle lines (station 24)	8'-0"
Upper deflation line	50'-0"
Apex cords	
Seams 3, 11	10'-1"
Seam 7	9'-0"
Seam 14	10'-9"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-04)	41'-0"
Combination lines	
Gore centerlines	42'-2"
B seams	42'-8"
Bridle lines (station 24)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'-0"
Pull lines	109'-0"

MODEL RXS-8

Crown line	97'-0"
Parachute Top (pulley) Fig. B-2, P/N 52958	
Constructed diameter	260"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-05)	44'-0"
Bridle lines (station 24)	8'-0"
Confluence lines	15'-0"
Centering cords	
Gore centerlines	10'-2"
B seams	10'-6"
Spring Top, Fig. B-3, P/N 52935	
Constructed diameter	265"
Red deflation strap (52264-22)	97'-0"
Deflation actuation lines	6'-5"
Vent pull line (53117-12)	67'-0"
Bridle lines (station 24)	8'-0"
Confluence lines	
Gore 1	13'-2"
Gore 2	13'-10"
Gore 3	15'-9"
Gore 4	18'-0"
Centering cords	
Seams 1B,2B,3B,4B,5B	10'-6"
Gores 1,2,3,4,	10'-2"

Model RXS8 (continued)

Aerochute Top, Fig. B-4,5, P/N 52957	
Constructed diameter	260"
Red deflation strap (52264-28)	26'-0"
Bridle lines (station 24)	8'-0"
Upper deflation line	55'-0"
Apex cords	
Seams 3, 11	10'-1"
Seam 7	9'-0"
Seam 14	10'-9"
Lower pulley line (53108-01)	48'-0"
Upper vent line (53107-03)	39'-0"
Combination lines	
Gore centerlines	43'-4"
B seams	43'-10"
Bridle lines (station 24)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'-0"
Pull lines	117'-0"

MODEL RX-9

Crown line	104'-0"
Parachute Top (pulley) Fig. B-2, P/N 52947	
Constructed diameter	340"
Lower pulley line (53108-02)	54'-0"
Upper vent line (53107-06)	47'-0"
Bridle lines (station 21)	8'-0"
Confluence lines	16'-5"
Centering cords	
Gore centerlines	12'-11"
B seams	13'-3"
Aerochute Top, Fig. B-4,5, P/N 52959	
Constructed diameter	292"
Red deflation strap (52264-32)	36'-0"
Bridle lines (station 21)	8'-0"
Upper deflation line	57'-0"
Lower pulley line (53108-05)	64'-0"
Upper vent line	57'-0"
Combination lines	
Gore centerlines	50'-2"
B seams	50'-10"
Bridle lines (station 21)	8'-0"
Rotator (dual) Fig. B-1	
Flap actuation line	15'-0"
Pull lines	122'-0"

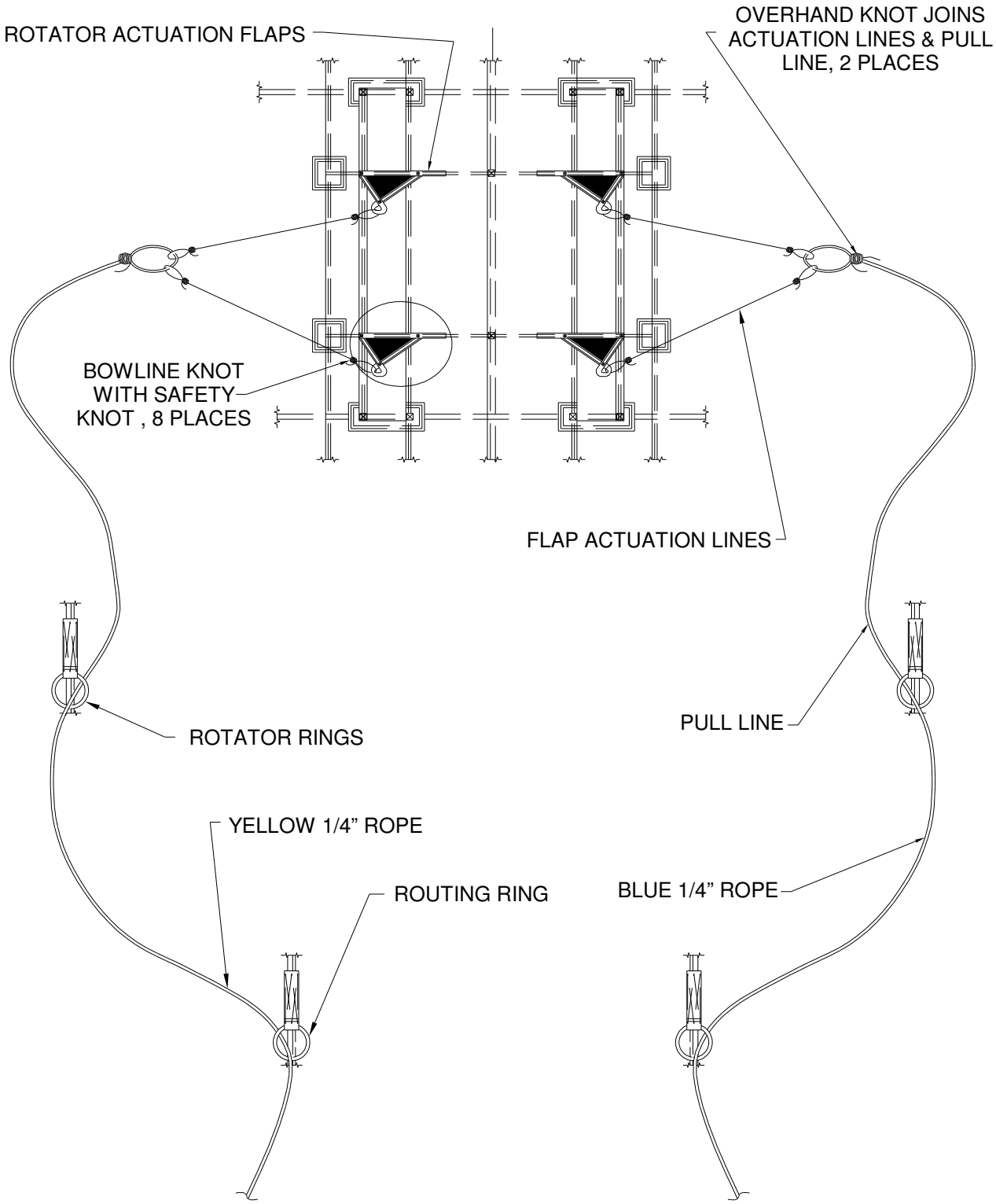


Figure B-1 Rotator Vent Rigging

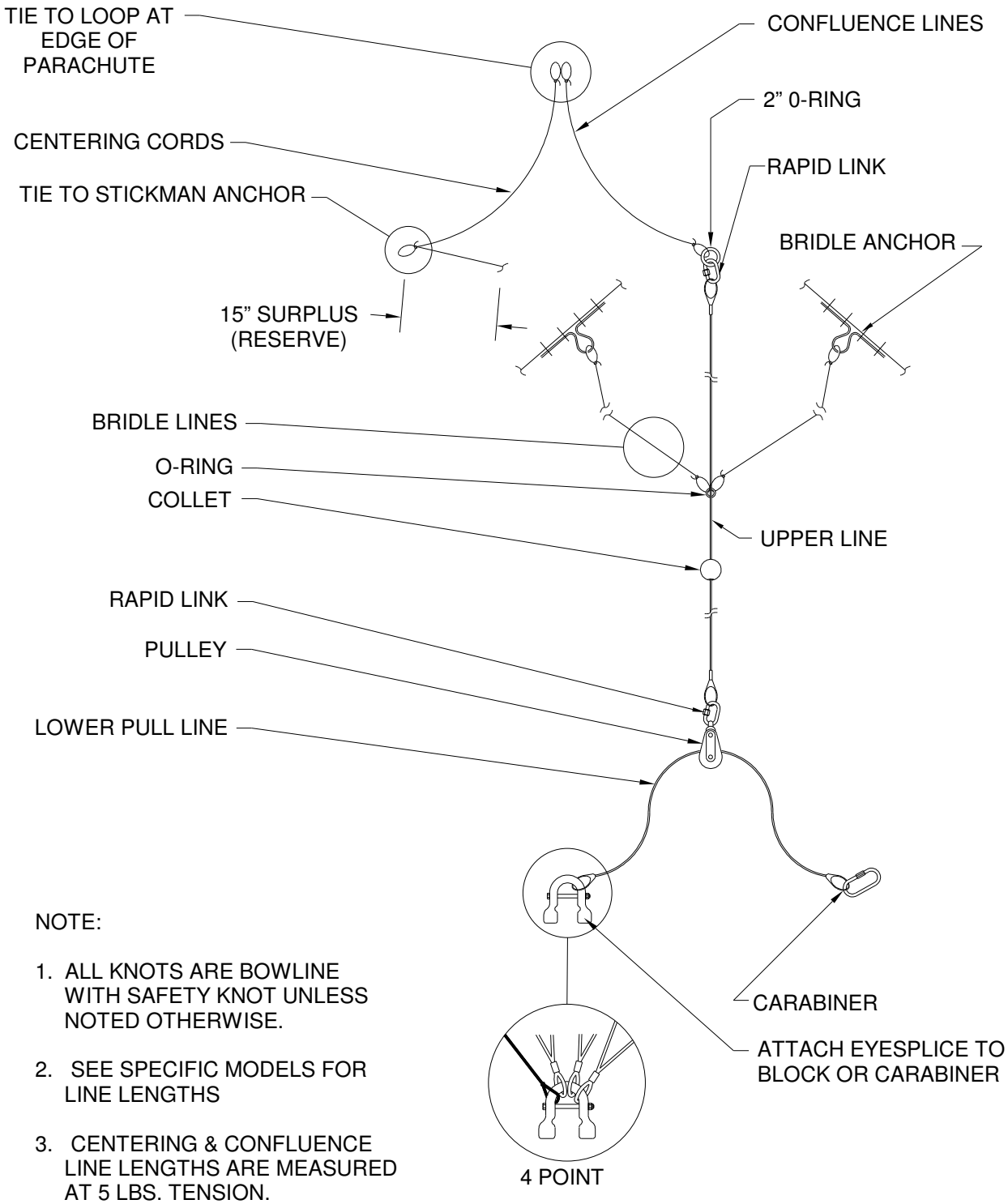
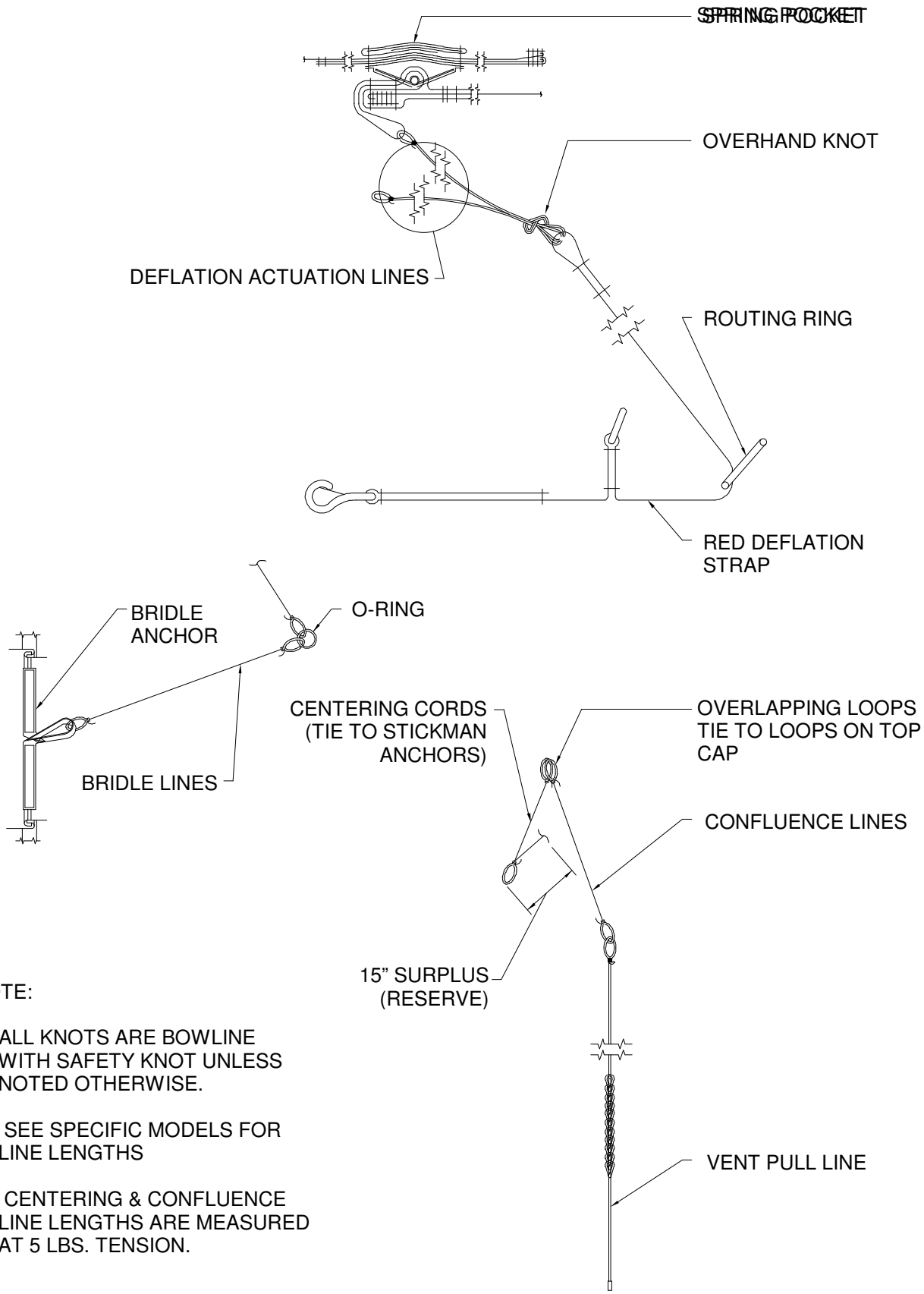


Figure B-2 Pulley Parachute Rigging



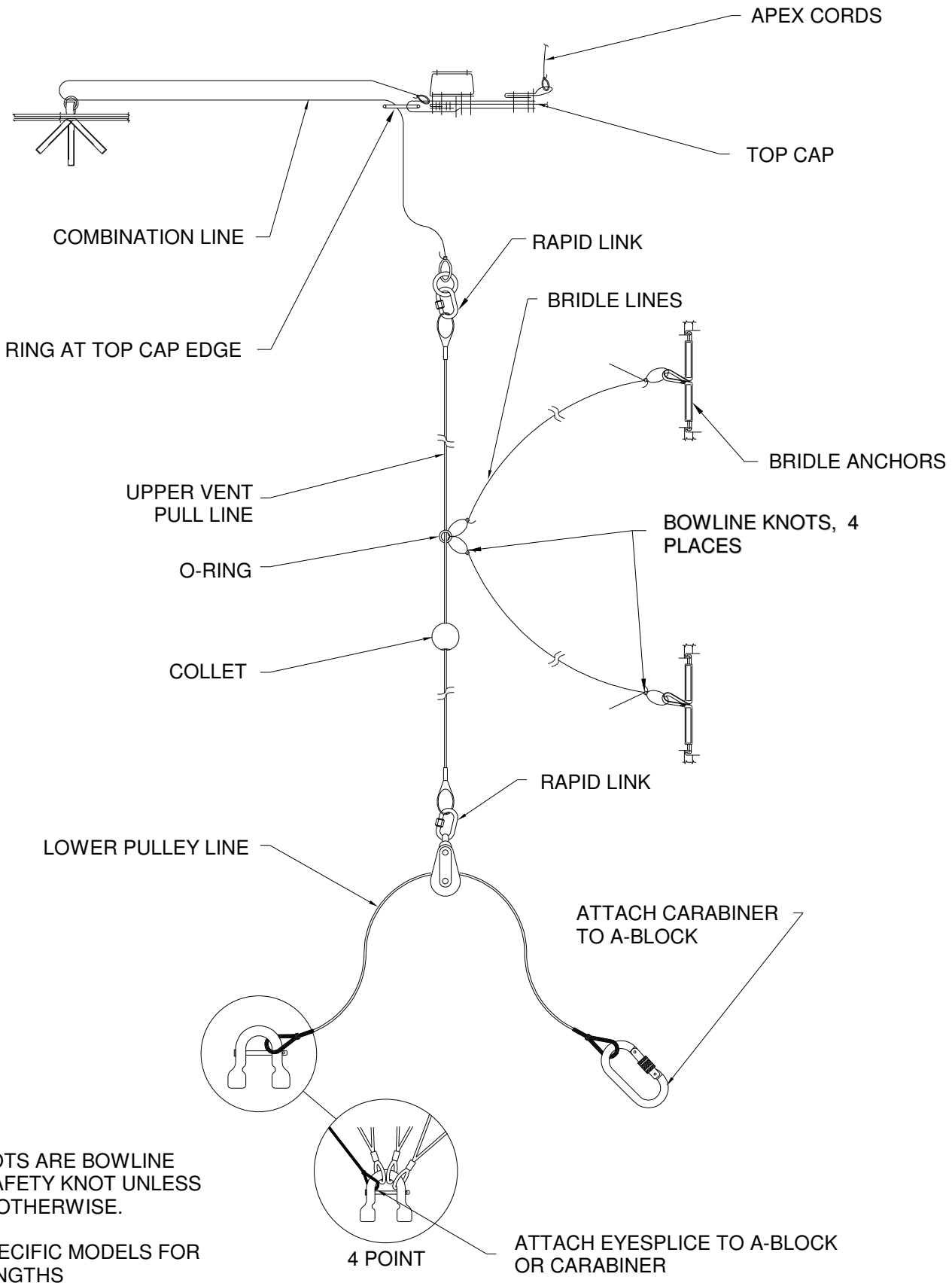
NOTE:

1. ALL KNOTS ARE BOWLINE WITH SAFETY KNOT UNLESS NOTED OTHERWISE.

2. SEE SPECIFIC MODELS FOR LINE LENGTHS

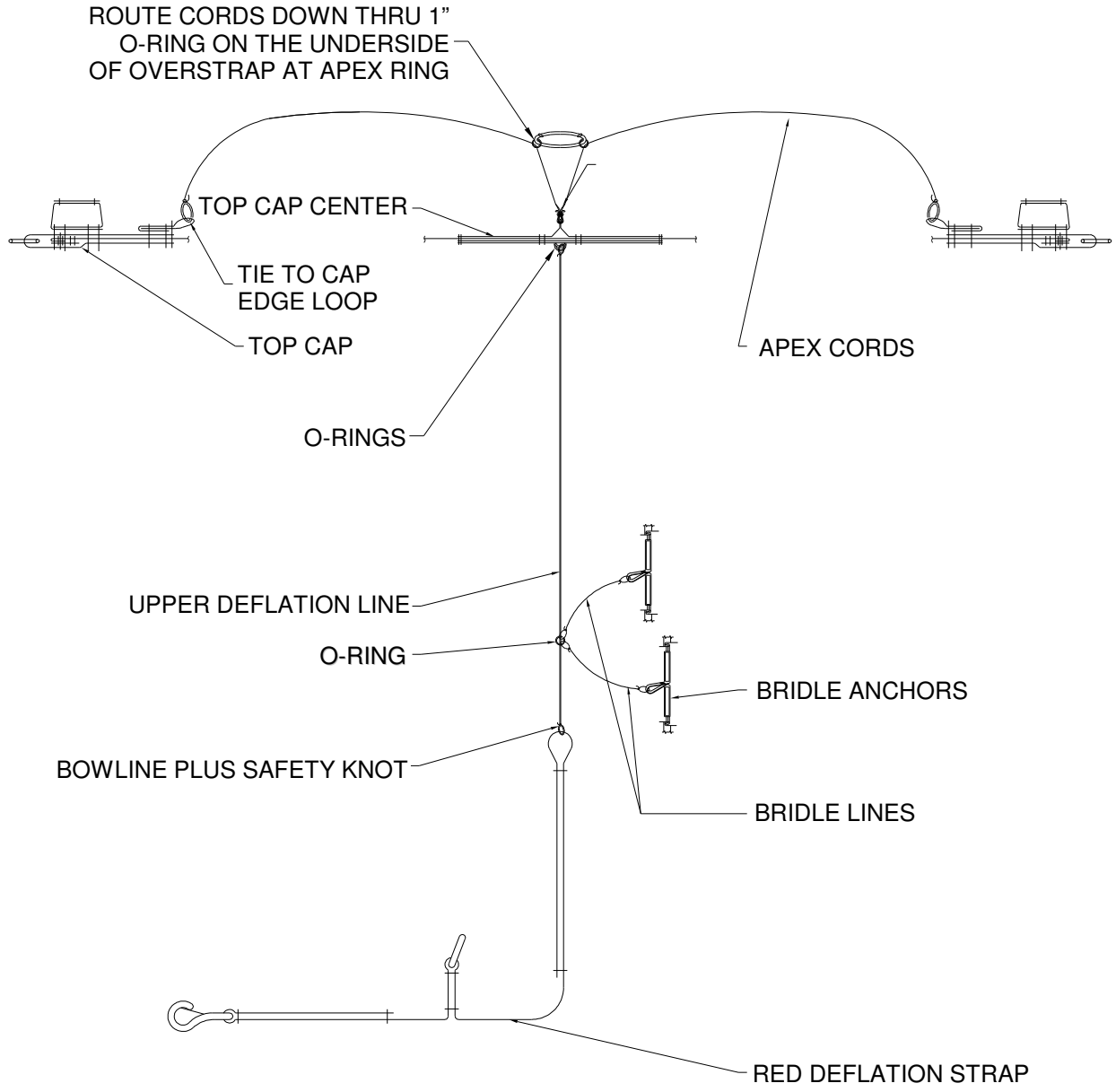
3. CENTERING & CONFLUENCE LINE LENGTHS ARE MEASURED AT 5 LBS. TENSION.

Figure B-3 Spring Top Rigging



NOTE:
1. ALL KNOTS ARE BOWLINE WITH SAFETY KNOT UNLESS NOTED OTHERWISE.
2. SEE SPECIFIC MODELS FOR LINE LENGTHS

Figure B-4 Aerochute Vent Rigging



NOTE:

1. ALL KNOTS ARE BOWLINE WITH SAFETY KNOT UNLESS NOTED OTHERWISE.

2. SEE SPECIFIC MODELS FOR LINE LENGTHS

Figure B-5 Aerochute Deflation Rigging

APPENDIX II-C

(Reference Section 6.1.2)

GORE PATTERNS

ATTENTION

THE DATA THAT FOLLOWS IS ACCURATE AND COMPLETE FOR CURRENT PRODUCTION MODELS AS OF THE DATE OF ISSUE OF THIS LATEST REVISION OF THE AEROSTAR INSTRUCTION FOR CONTINUED AIRWORTHINESS.

DATA APPLICABLE TO EARLIER OR SUBSEQUENT PRODUCTION MODELS MAY DIFFER FROM THAT CONTAINED HEREIN AND THE FACTORY SHOULD BE CONSULTED FOR ADDITIONAL INFORMATION.

CONTACT AEROSTAR TECHNICAL SUPPORT FOR FURTHER DETAILS.

AEROSTAR ENVELOPES

GORE PATTERNS

S SERIES

Model	Drawing
S-49A	52436 rev. D
S-50A	05954 rev. L
S-51A	53150 rev. F
S-52A	51988 rev. D
S-53A	52798 rev. H
S-53H	53231 rev. B
S-55A	11802 rev. K
S-57A	51987 rev. E
S-57S	52578 rev. E
S-57H	53248 rev. orig
S-60A	10454 rev. L
S-60A reshape	53209 rev. A
S-60S	52588 rev. F
S-60H	53243 rev. orig
S-64A	53099 rev. orig
S-66A	17681 rev. J
S-71A	52405 rev. D
S-77A	51986 rev. D
S-81A	52970 rev. E

RALLY SERIES

Model		Drawing
RX-6	Curve	12555 rev. G
RX-6	Straight	12556 rev. H
RX-7	Curve	17309 rev. D
RX-7	Straight	17310 rev. F
RX-8	Curve	52383 rev. D
RX-8	Straight	52384 rev. D
RXS-8	Curve	52790 rev. D
RXS-8	Straight	52791 rev. D
RX-9	Curve	52898 rev. F
RX-9	Straight	52899 rev. F

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

	STATION LOCATION [FT]	FULL WIDTH [INCHES] (HALF GORE)
TOP	68.50	19.95
	68.00	21.15
	66.00	25.85
	64.00	30.45
	62.00	34.85
▲	60.50	39.25
	60.00	
	58.00	43.55
	56.00	47.15
	54.00	50.55
	52.00	53.45
	50.00	55.85
▲	48.00	57.75
	46.00	59.05
	44.00	59.75
EQUATOR	42.00	59.95
	40.00	59.55
	38.00	58.65
▲	36.00	57.35
	34.00	55.65
	32.00	53.65
	30.00	51.25
	28.00	48.75
	26.00	45.95
	24.00	42.95
	22.00	39.95
	20.00	36.75
	18.00	33.45
	16.00	30.05
▲	14.00	26.65
	12.00	23.25
	10.00	19.75
BASE	8.00	16.25

TITLE GORE, HALF
S–49A

DRAWING NO. 52436

REVISION D

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

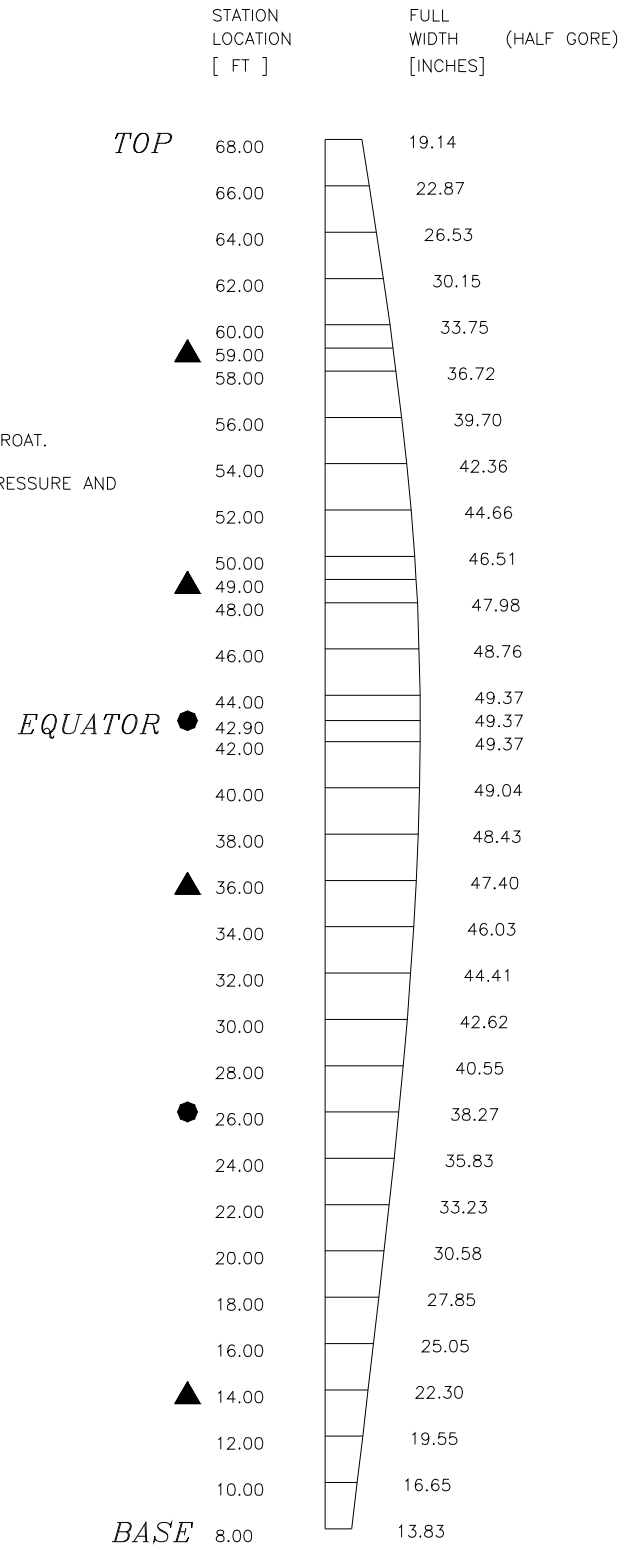
DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. ⬢ INDICATES HORIZONTAL CIRCUMFERENTIAL BAND ON SUPERPRESSURE AND CONVERTIBLE SYSTEMS.



TITLE	
GORE, HALF S–50A	
DRAWING NO. 05954	REVISION L

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

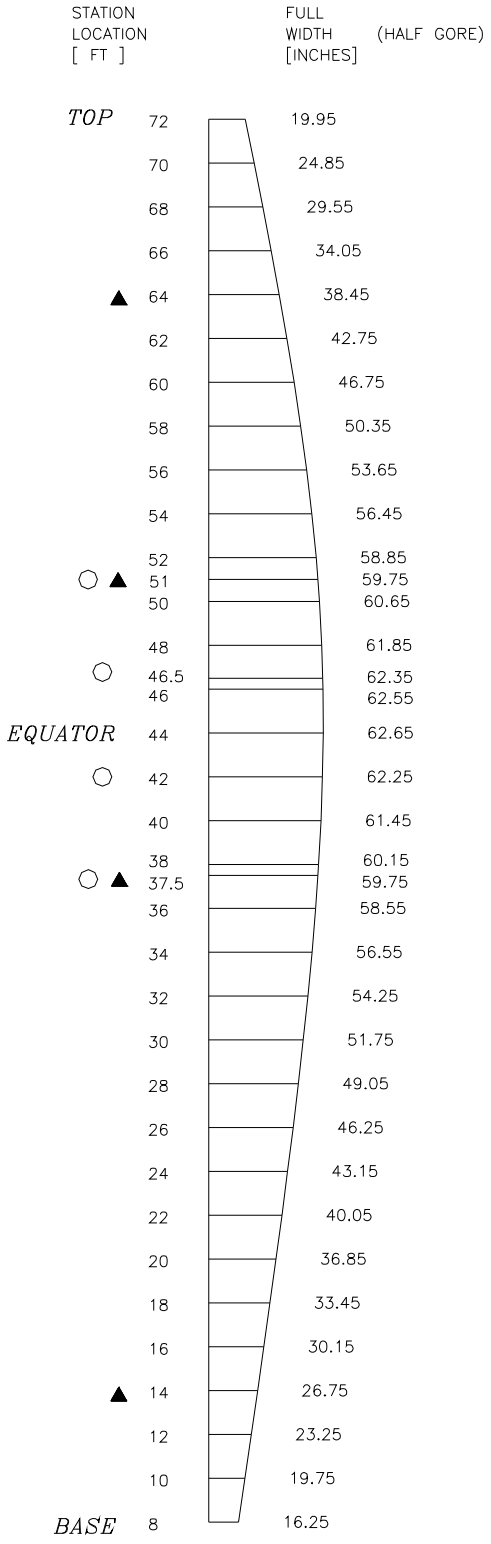
DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. ○ INDICATES HORIZONTAL PATTERN CUTS NEAR EQUATOR, WHEN USING FABRIC WIDTHS OF 63" OR LESS.



TITLE	
GORE, HALF S–51A	
DRAWING NO. 53150	REVISION F

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

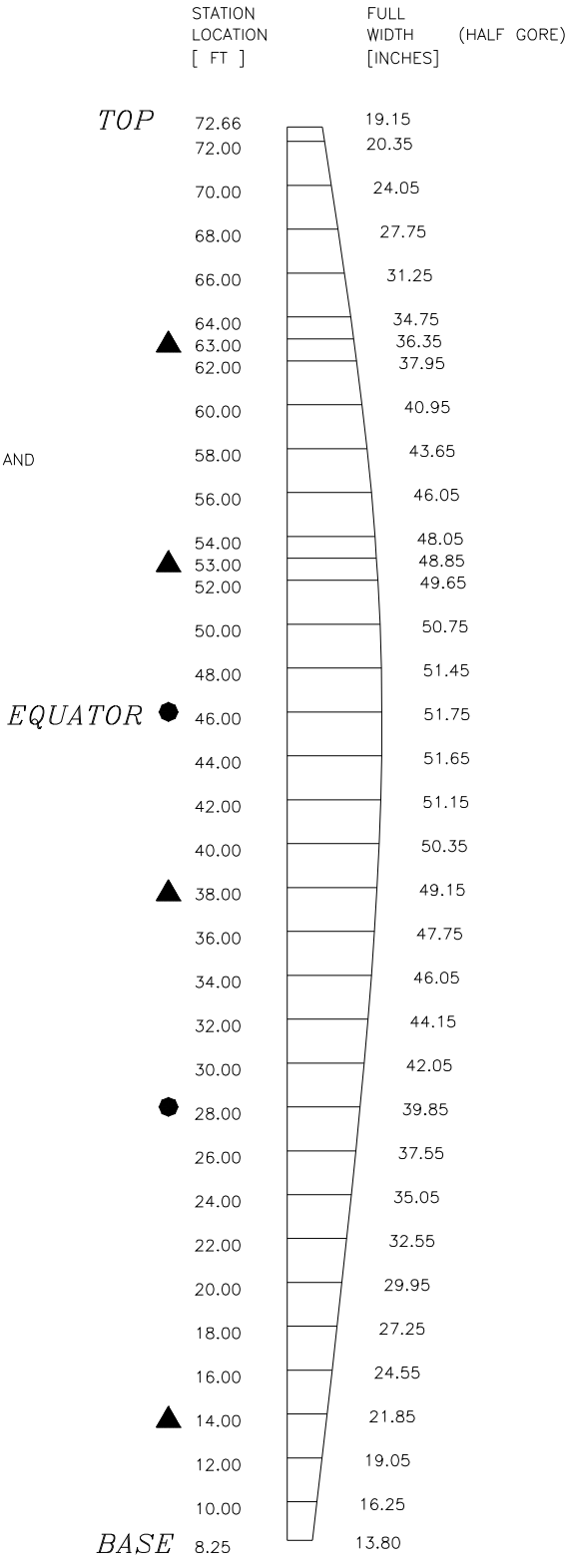
DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. ● INDICATES HORIZONTAL CIRCUMFERENTIAL BAND ON SUPERPRESSURE AND CONVERTIBLE SYSTEMS.



TITLE	
GORE, HALF S–52A	
DRAWING NO. 51988	REVISION D

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

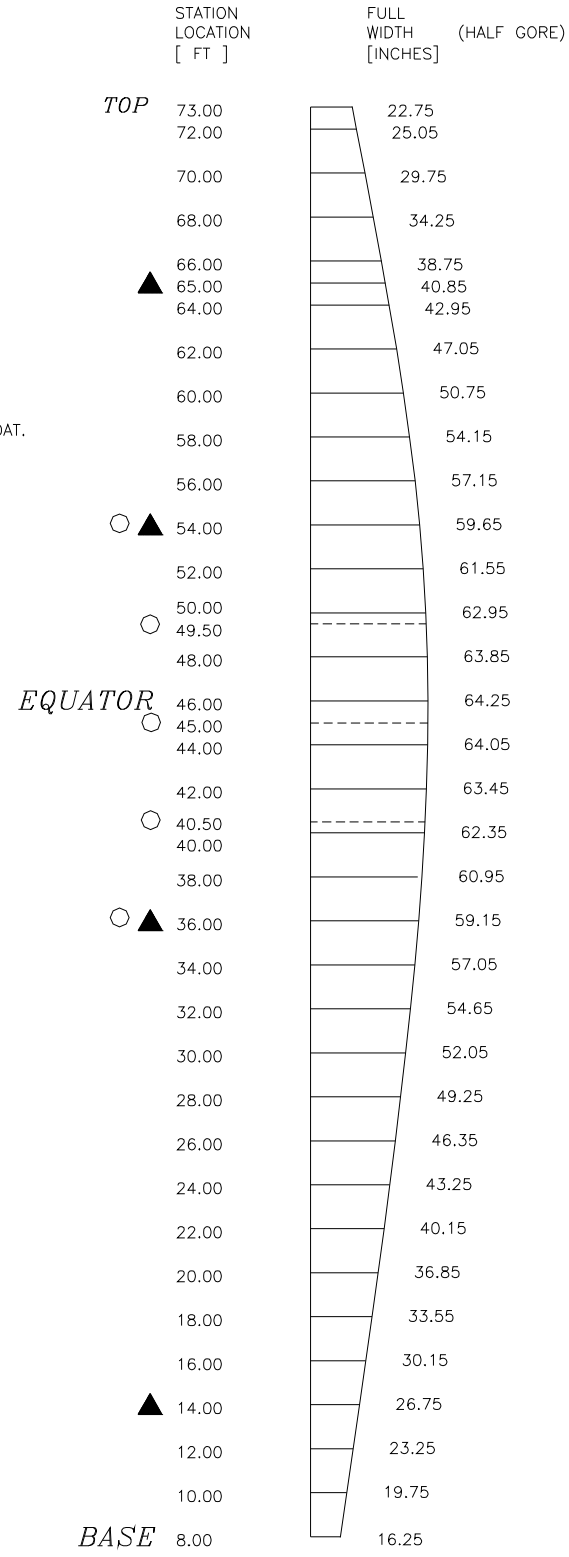
DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. ○ INDICATES HORIZONTAL PATTERN CUTS NEAR EQUATOR, WHEN USING FABRIC WIDTHS OF 65" OR LESS.



TITLE	
GORE, HALF S–53A	
DRAWING NO. 52798	REVISION H

NOTES

1. SEAMS AND STITCHINGS SHALL BE AS SPECIFIED AND/OR SHOWN. EXCEPT AS NOTED, CONFORMITY SHALL BE TO FEDERAL STANDARD 751a, WITH STITCH TYPE 301, AND 7 TO 11 STITCHES PER INCH.

   B. SEAM TYPE LSc-2, DOUBLE NEEDLE, 3/8" ±1/32" GAGE, 1/8" MINIMUM EDGE DISTANCE.

2. CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED BY▲.

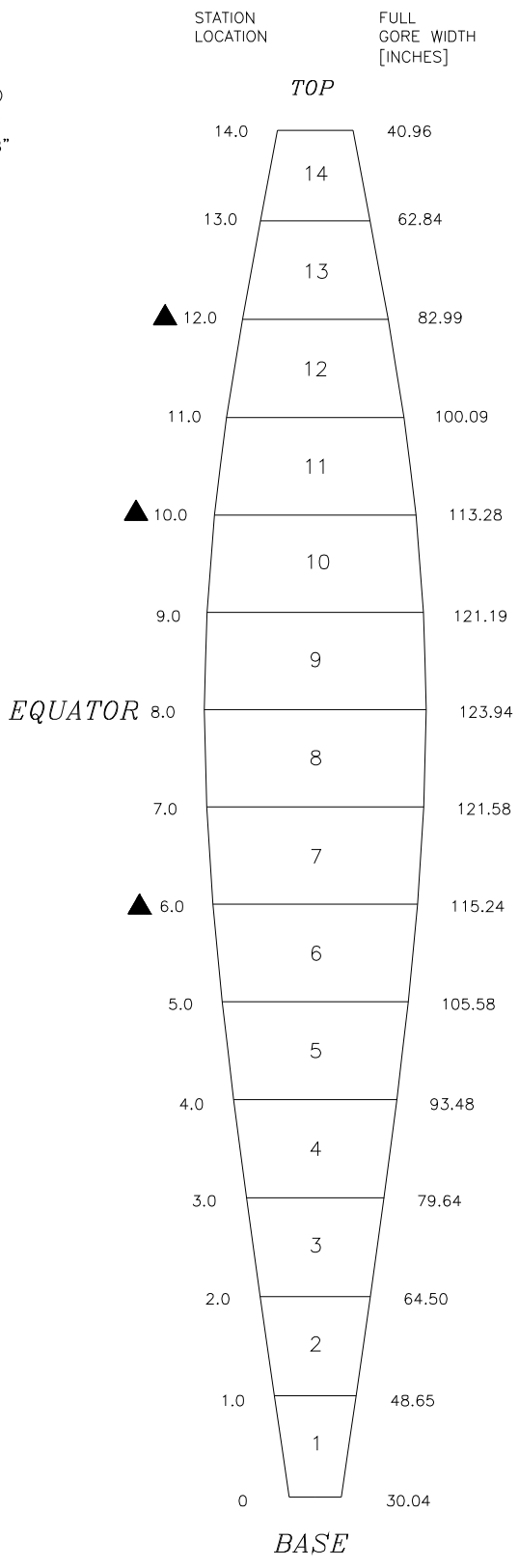
3. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10-25"	±.10	±.25
25-50"	±.10	±.50
OVER 50"	±.25	±2.00

4. MAKE INDEX-MARKS ALONG GORE PANEL EDGES AT LOCATIONS SHOWN. CORRESPONDING INDEX MARKS OF ANY TWO PANELS SHALL NOT MISALIGN MORE THAN 1/2".

5. PATTERNS INCLUDE 1-1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

6. AEROMAX OR AEROLITE, NOT TO BE USED FOR PANELS 1, 2, & 3.



TITLE	
GORE, FULL S-53H	
DRAWING NO. 53231	REVISION B

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. ● INDICATES HORIZONTAL CIRCUMFERENTIAL BAND ON SUPERPRESSURE AND CONVERTIBLE SYSTEMS.

	STATION LOCATION [FT]	FULL WIDTH [INCHES] (HALF GORE)
TOP	75.25	16.95
	73.75	19.33
	71.75	22.40
▲	69.75	25.37
	67.75	28.33
	65.75	31.25
	63.75	33.98
▲	62.75	35.23
	61.75	36.48
	59.75	38.81
	57.75	40.88
	55.75	42.59
▲	53.75	44.00
	51.75	45.16
	49.75	45.92
	47.75	46.25
EQUATOR ●	46.25	46.33
	45.75	46.35
	43.75	46.02
	41.75	45.45
	39.75	44.53
▲	38.75	43.95
	37.75	43.35
	35.75	42.02
	33.75	40.43
	31.75	38.75
	29.75	36.83
●	27.75	34.75
	25.75	32.75
	23.75	30.56
	21.75	28.28
	19.75	26.00
	17.75	23.67
	15.75	21.28
▲	13.75	18.86
	11.75	16.46
	9.75	14.12
BASE	7.75	11.68

TITLE	
GORE, HALF S–55A	
DRAWING NO. 11802	REVISION K

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. ● INDICATES HORIZONTAL CIRCUMFERENTIAL BAND ON SUPERPRESSURE AND CONVERTIBLE SYSTEMS.

	STATION LOCATION [FT]	FULL WIDTH [INCHES] (HALF GORE)
TOP	81.00	16.95
	80.00	18.55
	78.00	21.74
	76.00	24.80
▲	74.00	27.79
	72.00	30.70
	70.00	33.48
▲	68.00	36.12
	66.00	38.56
	64.00	40.78
	62.00	42.74
	60.00	44.41
▲	58.00	45.77
	56.00	46.82
	54.00	47.53
	52.00	47.92
EQUATOR ●	50.00	47.99
	48.00	47.76
	46.00	47.26
	44.00	46.50
▲	42.00	45.50
	40.00	44.31
	38.00	42.92
	36.00	41.38
	34.00	39.70
	32.00	37.90
●	30.00	35.99
	28.00	34.00
	26.00	31.94
	24.00	29.81
	22.00	27.63
	20.00	25.41
	18.00	23.16
	16.00	20.88
▲	14.00	18.58
	12.00	16.27
	10.00	13.94
BASE	8.11	11.70

TITLE	
GORE, HALF S–57A	
DRAWING NO. 51987	REVISION E

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. HALF WIDTH IS MEASURED FROM CENTERLINE TO EACH SIDE, TO FORM A FULL GORE.

SEE NOTE 5

STATION (FT)		FULL WIDTH (INCHES)	HALF WIDTH (INCHES)
TOP	73.68	20.14	(10.07)
	72	23.29	(11.65)
	70	27.00	(13.50)
	68	30.63	(15.32)
	66	34.16	(17.08)
	64	37.58	(18.79)
▲	62	40.92	(20.46)
	60	44.17	(22.09)
	58	47.22	(23.61)
	56	49.88	(24.94)
▲	54	52.18	(26.09)
	52	54.11	(27.06)
	50	55.55	(27.78)
	48	56.47	(28.23)
EQUATOR	46	56.76	(28.38)
	44	56.57	(28.29)
	42	55.97	(28.00)
	40	55.00	(27.50)
▲	38	53.83	(26.92)
	36	52.53	(26.26)
	34	51.09	(25.55)
	32	49.53	(24.77)
	30	47.87	(23.94)
	28	46.13	(23.07)
	26	44.33	(22.17)
	24	42.47	(21.24)
	22	40.55	(20.28)
	20	38.54	(19.27)
	18	36.44	(18.22)
	16	34.27	(17.14)
	14	32.05	(16.03)
	12	29.78	(14.90)
	10	27.47	(13.74)
	8	25.10	(12.55)
	6	22.67	(11.34)
▲	4	20.15	(10.08)
	2	17.52	(8.76)
BASE	0	14.71	(7.36)

℄

TITLE GORE, FULL
S–57S

DRAWING NO. 52578

REVISION E

NOTES

1. SEAMS AND STITCHINGS SHALL BE AS SPECIFIED AND/OR SHOWN. EXCEPT AS NOTED, CONFORMITY SHALL BE TO FEDERAL STANDARD 751a, WITH STITCH TYPE 301, AND 7 TO 11 STITCHES PER INCH.

   B. SEAM TYPE LSc-2, DOUBLE NEEDLE, 3/8" ±1/32" GAGE, 1/8" MINIMUM EDGE DISTANCE.

2. CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED BY▲.

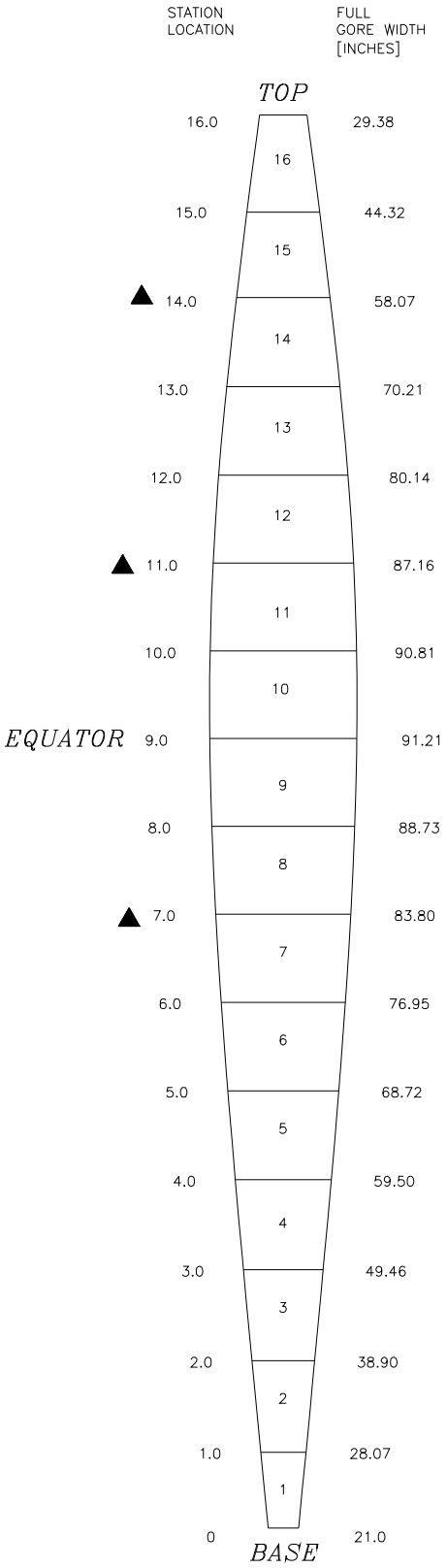
3. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10-25"	±.10	±.25
25-50"	±.10	±.50
OVER 50"	±.25	±2.00

4. MAKE INDEX-MARKS ALONG GORE PANEL EDGES AT LOCATIONS SHOWN. CORRESPONDING INDEX MARKS OF ANY TWO PANELS SHALL NOT MISALIGN MORE THAN 1/2".

5. PATTERNS INCLUDE 1-1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

6. AEROMAX OR AEROLITE, NOT TO BE USED FOR PANELS 1, 2, 3 & 4.



TITLE	GORE, FULL S-57H	
DRAWING NO.	53248	REVISION —

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

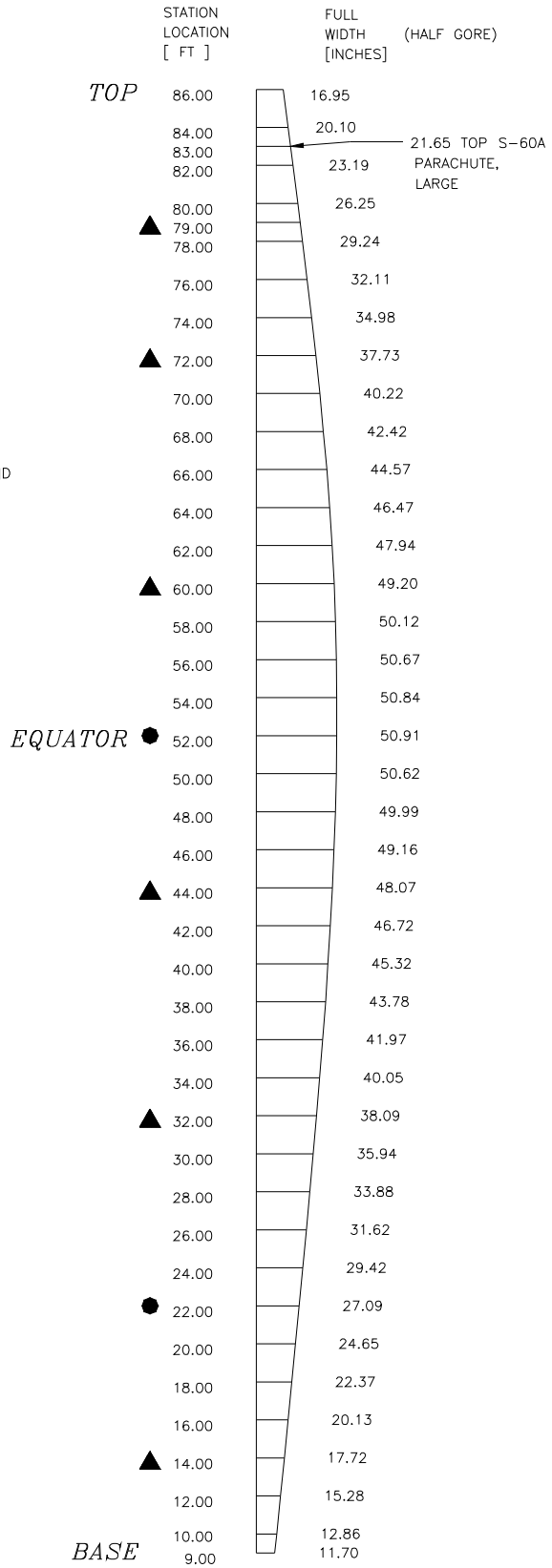
DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. ● INDICATES HORIZONTAL CIRCUMFERENTIAL BAND ON SUPERPRESSURE AND CONVERTIBLE SYSTEMS.



TITLE	GORE, HALF S–60A	
DRAWING NO.	10454	REVISION L

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

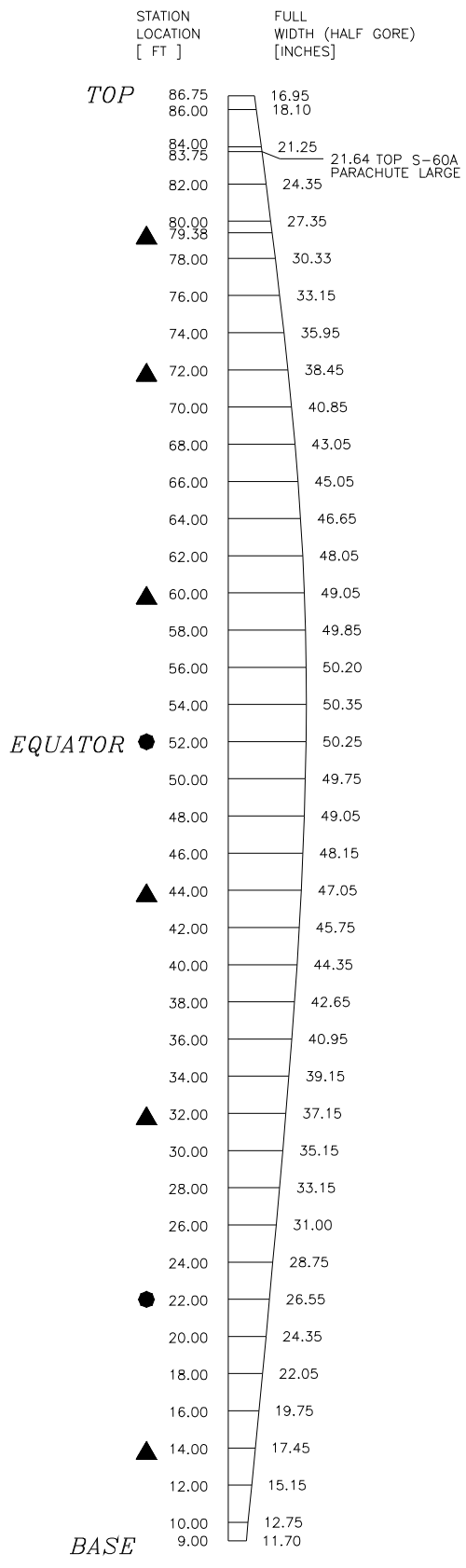
DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. ● INDICATES HORIZONTAL CIRCUMFERENTIAL BAND ON SUPERPRESSURE AND CONVERTIBLE SYSTEMS.



TITLE	
GORE, HALF S–60A (RESHAPE)	
DRAWING NO. 53209	REVISION A

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

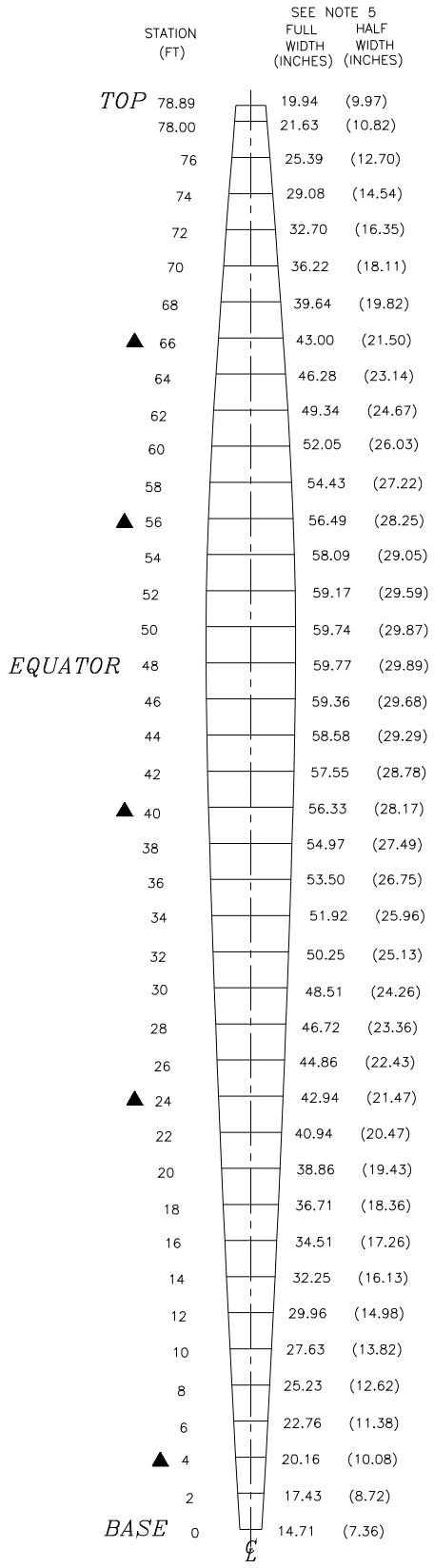
DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. HALF WIDTH IS MEASURED FROM CENTERLINE TO EACH SIDE, TO FORM A FULL GORE.



TITLE	GORE, FULL S–60S	
DRAWING NO.	52588	REVISION F

NOTES

1. SEAMS AND STITCHINGS SHALL BE AS SPECIFIED AND/OR SHOWN. EXCEPT AS NOTED, CONFORMITY SHALL BE TO FEDERAL STANDARD 751a, WITH STITCH TYPE 301, AND 7 TO 11 STITCHES PER INCH.

   B. SEAM TYPE LSc-2, DOUBLE NEEDLE, 3/8" ±1/32" GAGE, 1/8" MINIMUM EDGE DISTANCE.

2. CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED BY▲.

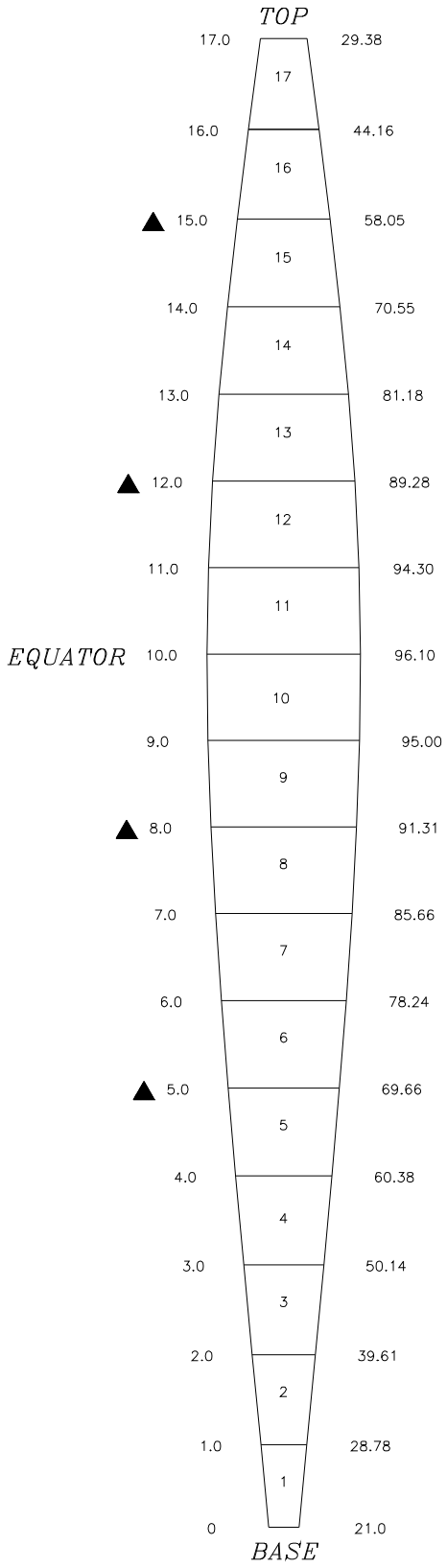
3. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10-25"	±.10	±.25
25-50"	±.10	±.50
OVER 50"	±.25	±2.00

4. MAKE INDEX-MARKS ALONG GORE PANEL EDGES AT LOCATIONS SHOWN. CORRESPONDING INDEX MARKS OF ANY TWO PANELS SHALL NOT MISALIGN MORE THAN 1/2".

5. PATTERNS INCLUDE 1-1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

6. AEROMAX OR AEROLITE, NOT TO BE USED FOR PANELS 1, 2, 3 & 4.



TITLE GORE, FULL S-60H	
DRAWING NO. 53243	REVISION –

NOTE:

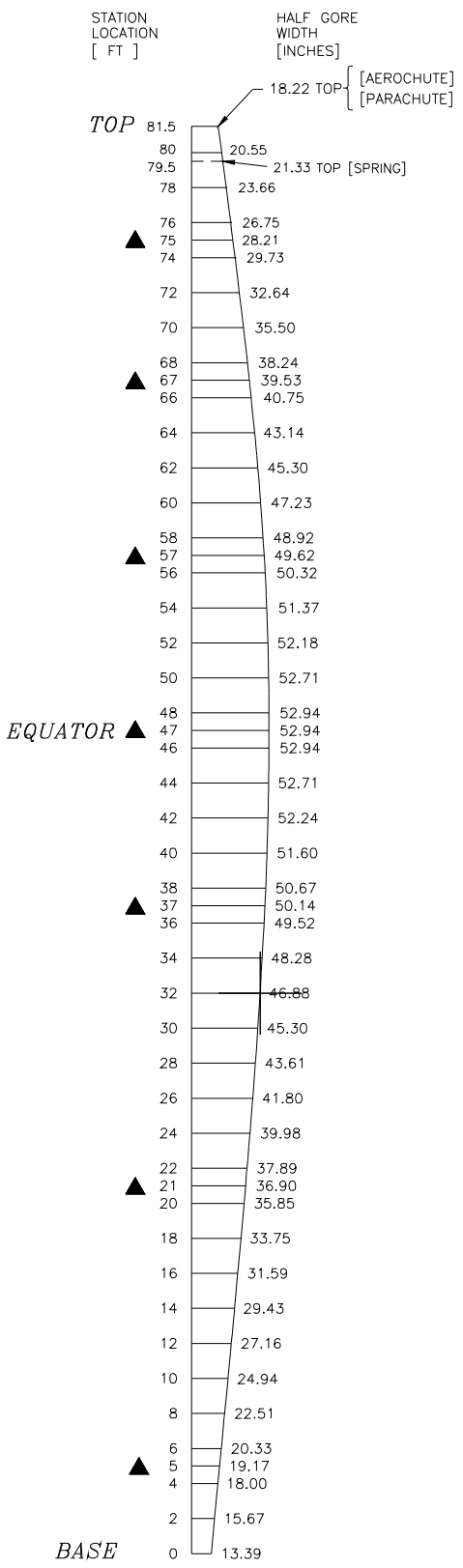
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE GORE, HALF S–64A	
DRAWING NO. 53099	REVISION –

NOTE:

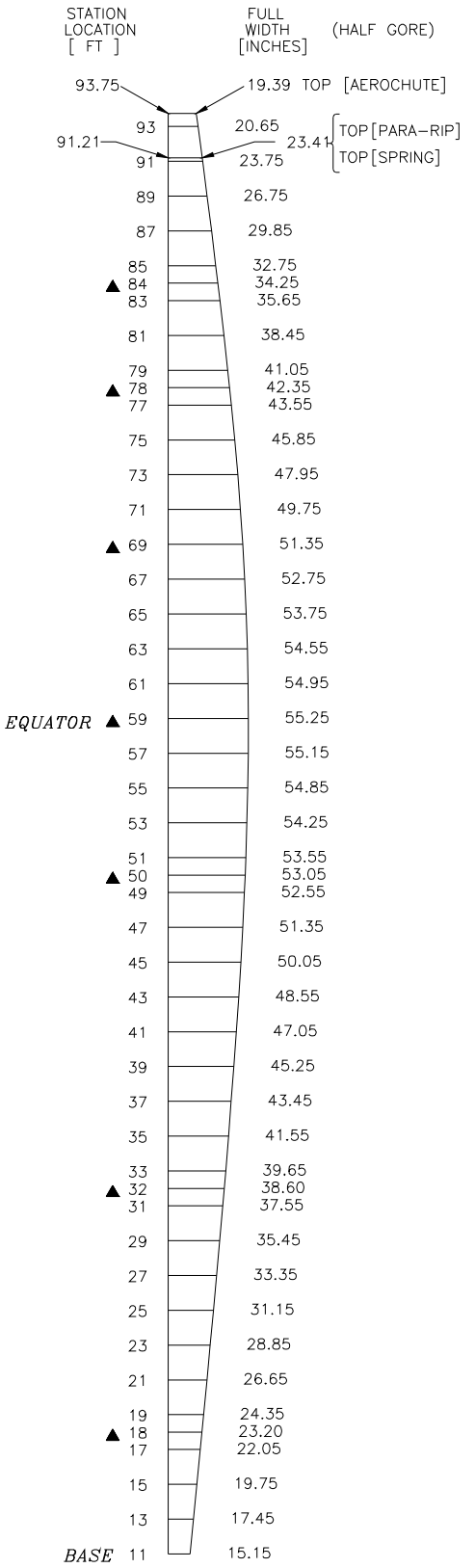
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE	
GORE, HALF S–66A	
DRAWING NO. 17681	REVISION J

NOTE:

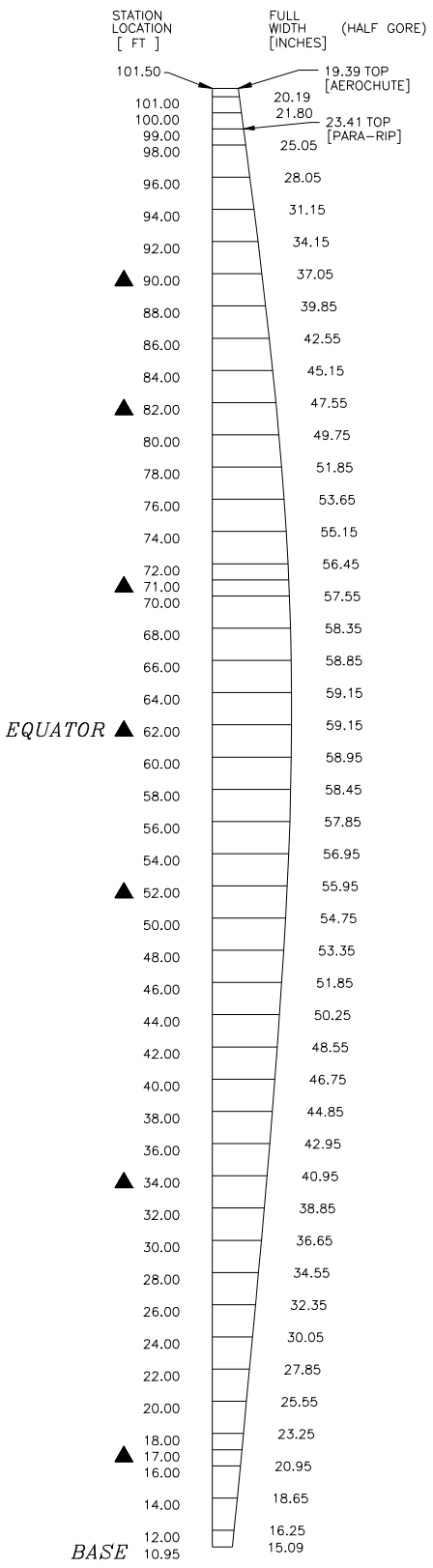
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE	
GORE, HALF S–71A	
DRAWING NO. 52405	REVISION D

NOTE:

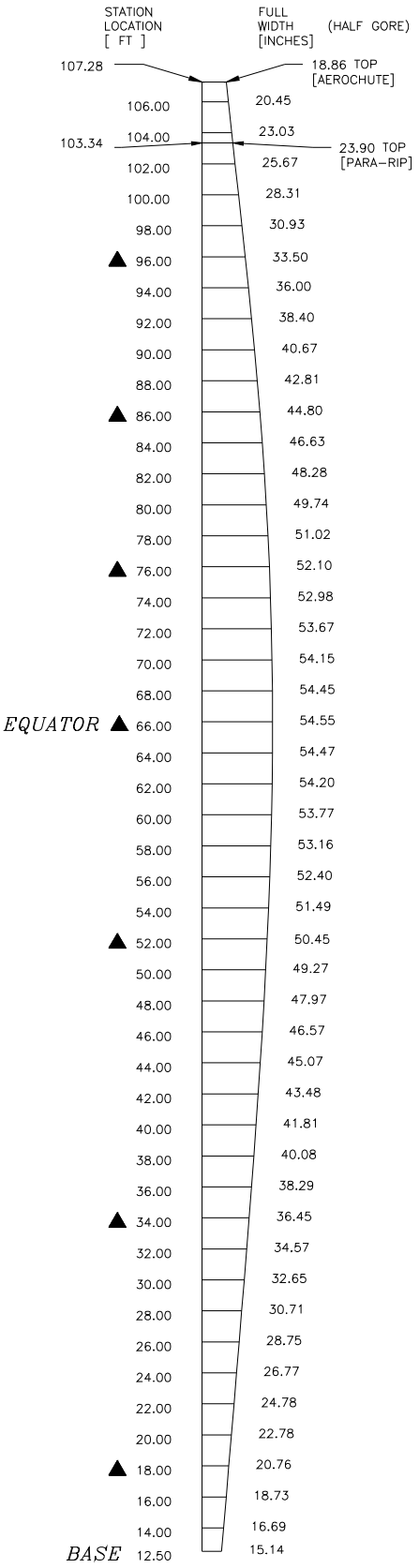
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE	
GORE, HALF S–77A	
DRAWING NO. 51986	REVISION D

NOTE:

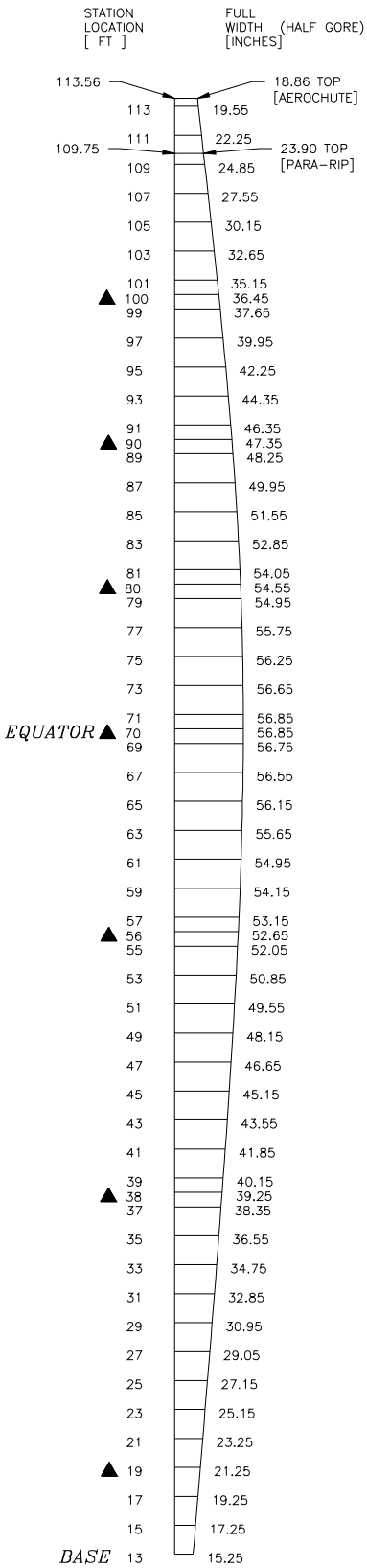
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE	
GORE, HALF S–81A	
DRAWING NO. 52970	REVISION E

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

	STATION LOCATION [FT]	FULL WIDTH (HALF GORE) [INCHES]
TOP	67.25	3.00
	66.00	6.99
	64.00	13.09
	62.00	19.12
	60.00	25.12
▲	58.00	30.08
	56.00	35.04
	54.00	39.48
	52.00	43.31
	50.00	46.39
	48.00	48.84
▲	46.00	50.14
	44.00	51.16
EQUATOR	43.00	
	42.00	51.16
	40.00	50.61
	38.00	49.59
	36.00	47.87
	34.00	45.59
	32.00	42.96
▲	30.00	39.91
	28.00	36.46
	26.00	32.66
	24.00	28.60
	22.00	24.32
	20.00	19.84
	18.00	15.29
	16.00	10.66
	14.00	6.01
BASE	12.02	1.50

TITLE MINOR GORE, CURVED
RX–6

DRAWING NO. 12555

REVISION G

NOTE:

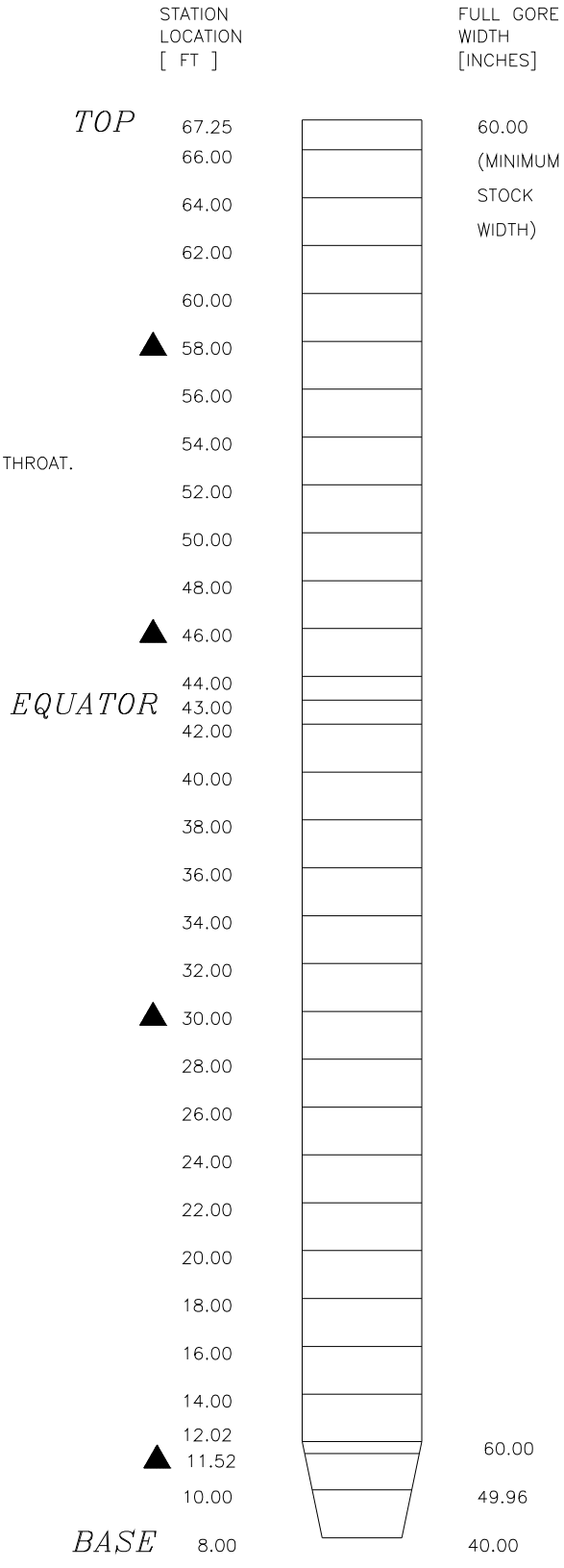
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE	
MINOR GORE, STRAIGHT RX–6	
DRAWING NO. 12556	REVISION H

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

	STATION LOCATION [FT]	FULL WIDTH (HALF GORE) [INCHES]
TOP	75.21	3.25
	73.75	7.75
	71.75	13.69
	69.75	19.93
	67.75	25.80
	65.75	31.42
▲	64.75	34.08
	63.75	36.73
	61.75	41.68
	59.75	46.18
	57.75	50.11
	55.75	53.44
▲	53.75	56.00
	51.75	58.09
	49.75	59.37
	47.75	60.00
EQUATOR	46.25	60.00
	45.75	
	43.75	59.33
	41.75	58.14
	39.75	56.39
▲	38.75	55.30
	37.75	54.21
	35.75	51.61
	33.75	48.64
	31.75	45.36
	29.75	41.84
	27.75	38.07
	25.75	34.11
	23.75	29.88
	21.75	25.74
	19.75	21.38
	17.75	17.00
	15.75	12.00
	13.75	6.83
BASE	11.75	1.40

TITLE MINOR GORE, CURVED
RX–7

DRAWING NO. 17309

REVISION D

NOTE:

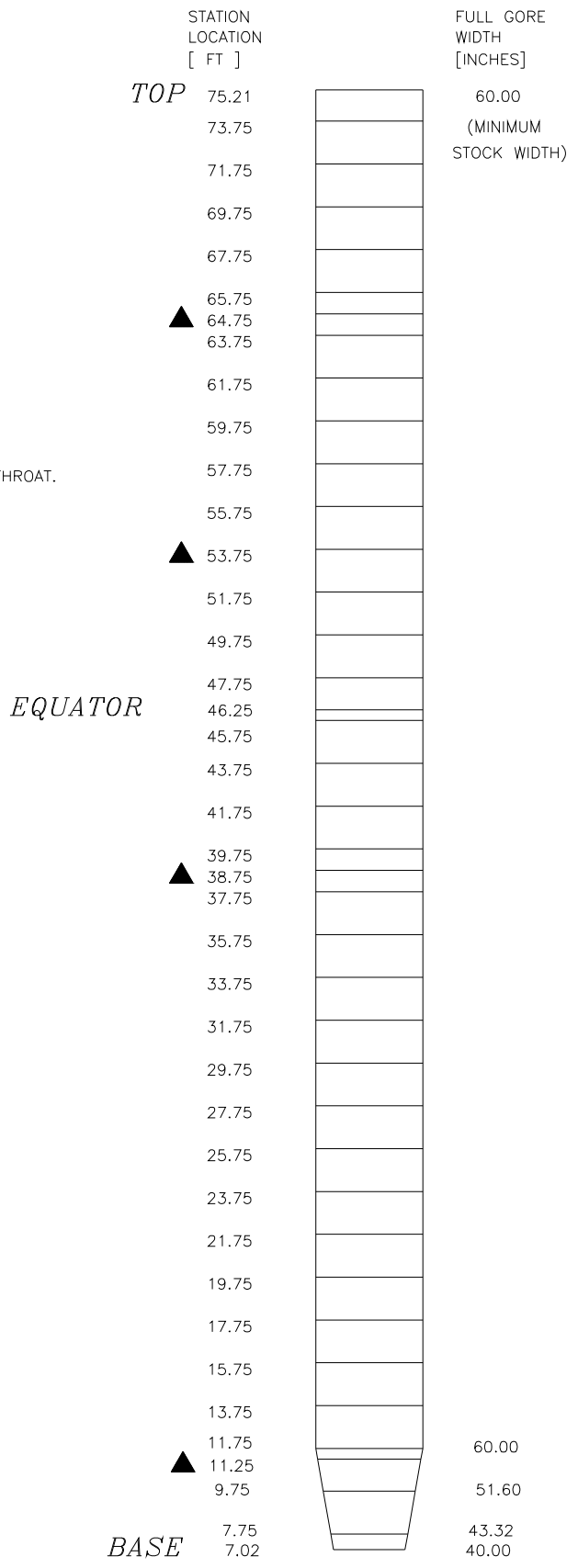
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE	
MINOR GORE, STRAIGHT RX–7	
DRAWING NO. 17310	REVISION F

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

	STATION LOCATION [FT]	FULL WIDTH (HALF GORE) [INCHES]
TOP	80.00	1.32
	78.00	6.79
	76.00	12.03
	74.00	17.16
	72.00	22.15
▲	70.00	26.91
	68.00	31.44
	66.00	35.62
	64.00	39.43
	62.00	42.79
	60.00	45.65
▲	58.00	47.98
	56.00	49.78
	54.00	51.00
	52.00	51.67
EQUATOR	50.00	51.79
	48.00	51.39
	46.00	50.54
	44.00	49.23
▲	42.00	47.52
	40.00	45.48
	38.00	43.10
	36.00	40.46
	34.00	37.58
	32.00	34.49
	30.00	31.22
	28.00	27.80
	26.00	24.27
	24.00	20.62
	22.00	16.88
	20.00	13.08
	18.00	9.22
	16.00	5.31
BASE	14.00	1.37

TITLE MINOR GORE, CURVED
RX–8

DRAWING NO. 52383

REVISION D

NOTE:

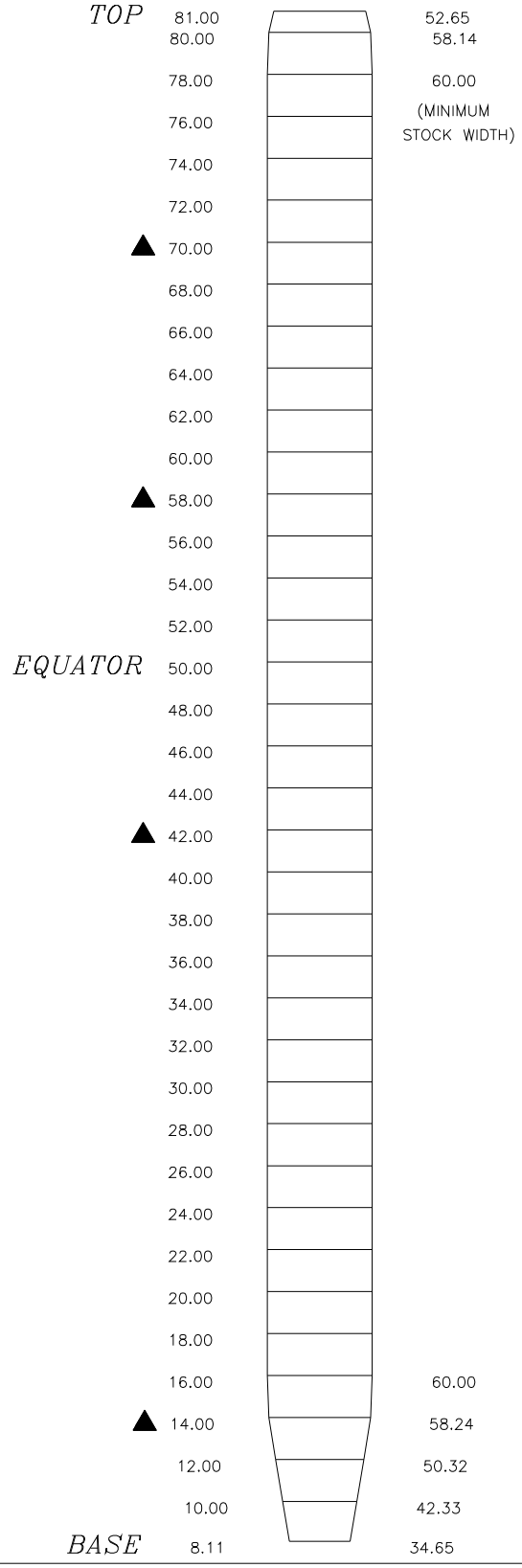
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE MINOR GORE, STRAIGHT RX–8	
DRAWING NO. 52384	REVISION D

NOTE:

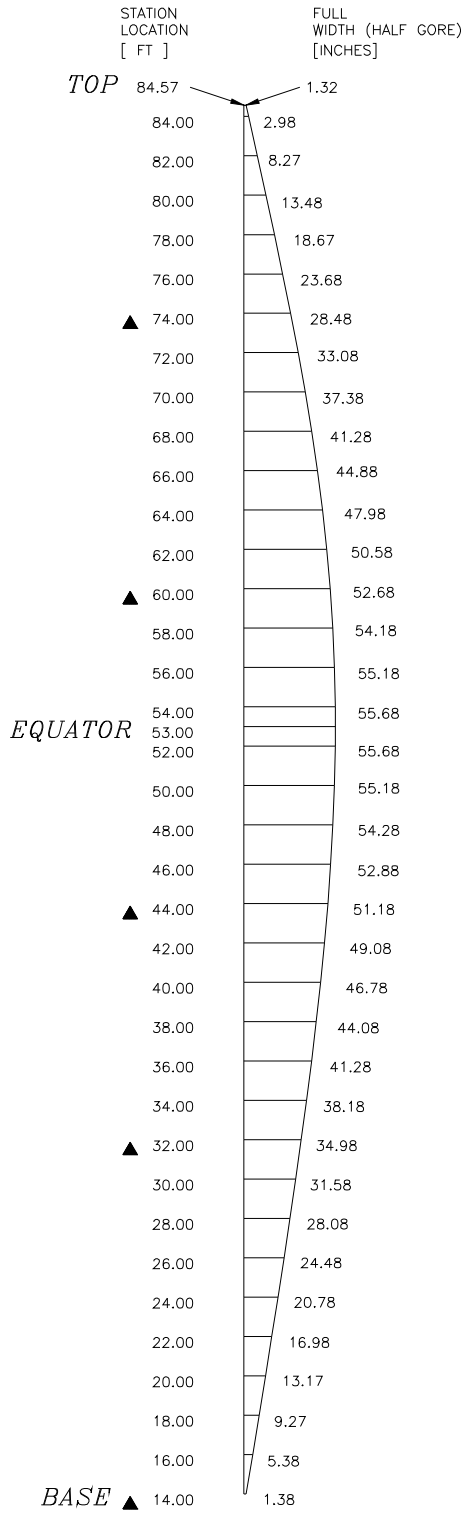
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE	
MINOR GORE, CURVED RXS–8	
DRAWING NO. 52790	REVISION D

NOTE:

1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

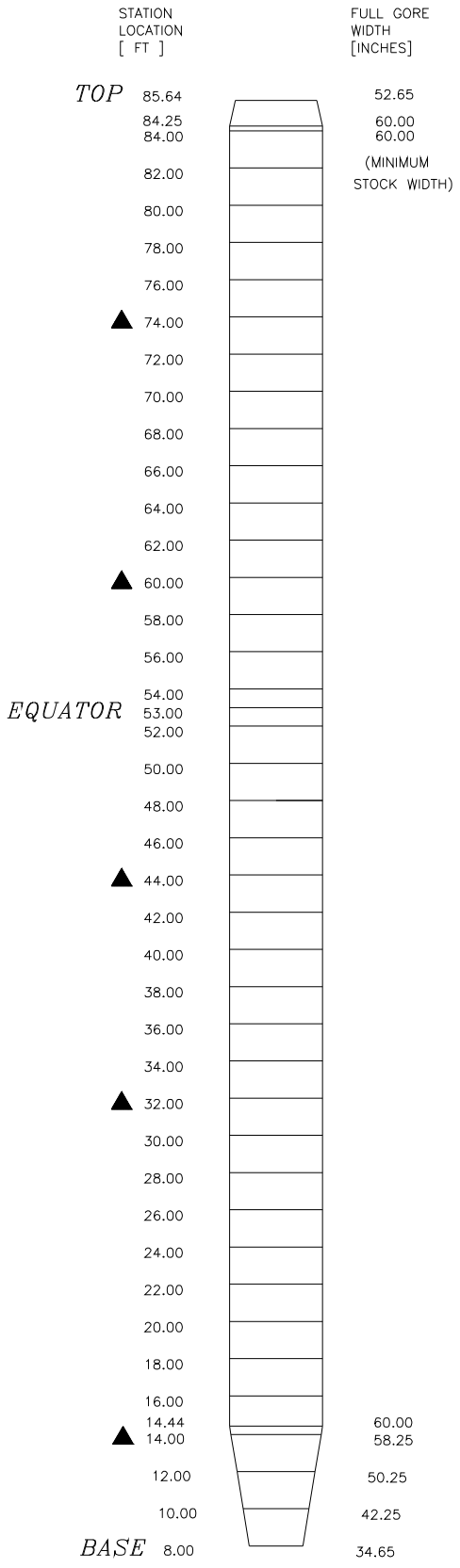
DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.

5. ● INDICATES HORIZONTAL CIRCUMFERENTIAL BAND ON SUPERPRESSURE AND CONVERTIBLE SYSTEMS.



TITLE	
MINOR GORE, STRAIGHT RXS–8	
DRAWING NO. 52791	REVISION D

NOTE:

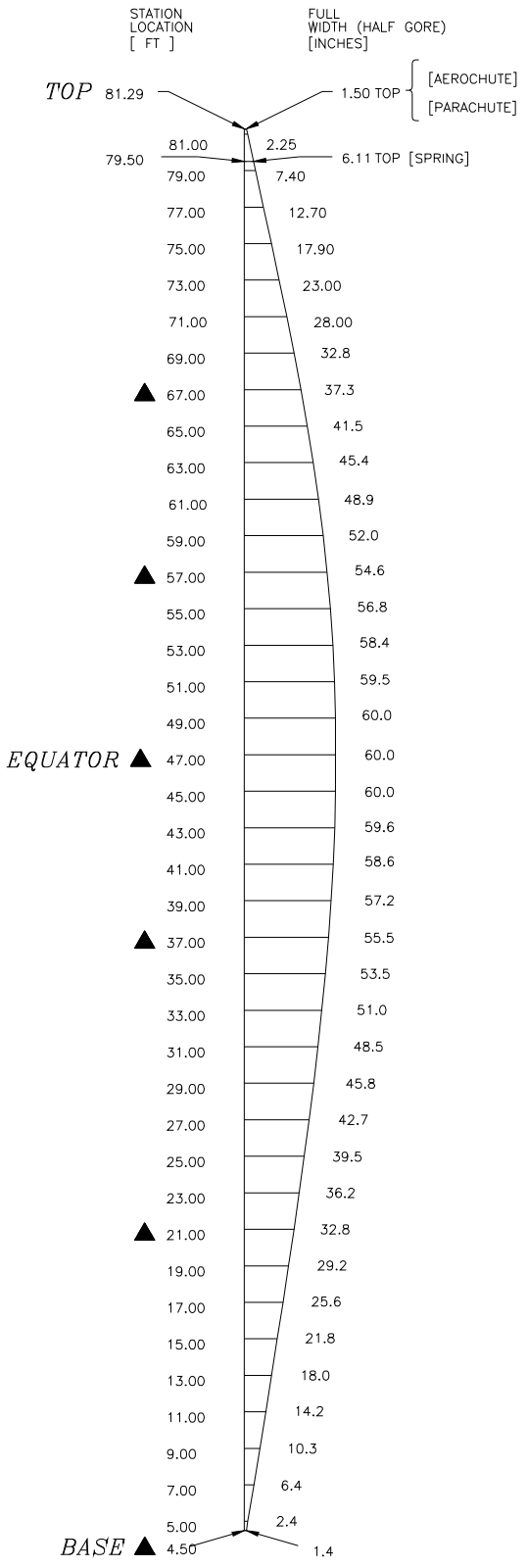
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE	
MINOR GORE, CURVED RX–9	
DRAWING NO. 52898	REVISION F

NOTE:

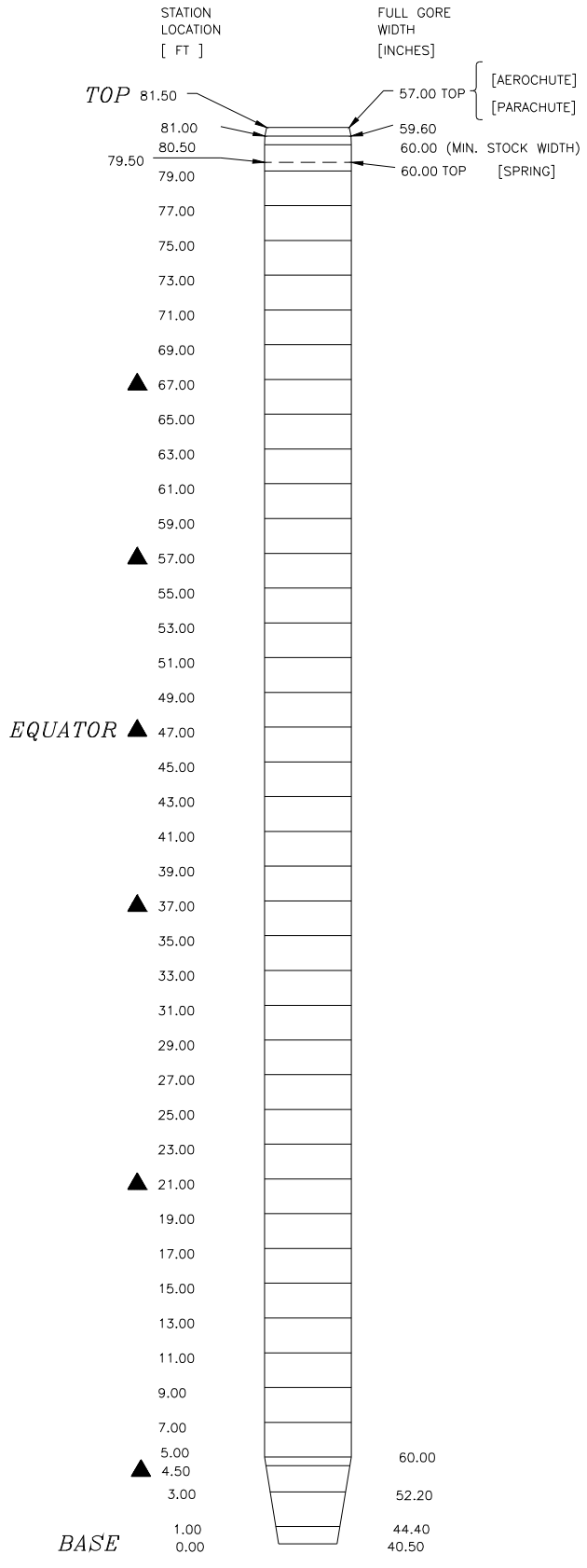
1. GORE SHALL BE CUT AND MARKED FROM A PATTERN WITH DIMENSIONAL TOLERANCES [FOR PATTERN AND FOR FINISHED GORE] AS FOLLOWS:

DIMENSION	PATTERN TOLERANCE	GORE TOLERANCE
UNDER 10"	±.06	±.12
10–25"	±.10	±.25
25–50"	±.10	±.50
OVER 50"	±.25	±2.00

2. MAKE INDEX–MARKS ALONG BOTH EDGES OF GORE AT STATIONS INDICATED. MARK LOCATION FOR MIDDLE OF CIRCUMFERENTIAL BANDS AT LOCATIONS INDICATED ▲.

3. WIDTH DIMENSIONS INCLUDE 1–1/8" SEAM ALLOWANCE AT EACH SIDE [REFERENCE NOTE 2 ON ENVELOPE DRAWING].

4. AEROMAX OR AEROLITE, NOT TO EXTEND WITHIN 16' OF THE THROAT.



TITLE	MINOR GORE, STRAIGHT RX–9	
DRAWING NO.	52899	REVISION F

APPENDIX II-D

(Reference Section 6.1.4)

SUSPENSION CABLES

ATTENTION

THE DATA WHICH FOLLOWS IS ACCURATE AND COMPLETE FOR CURRENT PRODUCTION MODELS AS OF THE DATE OF ISSUE OF THIS LATEST REVISION OF THE AEROSTAR INSTRUCTION FOR CONTINUED AIRWORTHINESS.

DATA APPLICABLE TO EARLIER OR SUBSEQUENT PRODUCTION MODELS MAY DIFFER FROM THAT CONTAINED HEREIN AND THE FACTORY SHOULD BE CONSULTED FOR ADDITIONAL INFORMATION.

CONTACT AEROSTAR TECHNICAL SUPPORT FOR FURTHER DETAILS.

AEROSTAR ENVELOPES

CABLES	DRAWING
2 point & 3 point cable set, steel	52316
Cable pair 2 point	52306
Rally load frame cable set, steel	52317
Cable pair Rally load frame	52307
Cable pairs 4 point special shapes	52408
Cable set 4 point S49A, S51A, S53A, S53H Carabiner, Kevlar (CW, ELS)	52834
8 Cable pairs (A1 on 1, 3, 9, 11, 17, 19, 25, & 27)	52824-6
Cable set 4 point S49A, S51A, S53A, S53H Carabiner, Steel (CW, ELS)	52835
8 Cable pairs (A1 on 1, 3, 9, 11, 17, 19, 25, & 27)	52825-6
Cable set 4 point S49A, S51A, S53A, S53H A-Block, Kevlar (CW)	52872
8 Cable pairs (A1 on 1, 3, 9, 11, 17, 19, 25, & 27)	52826-6
Cable set 4 point S49A, S51A, S53A, S53H A-Block, Steel (CW)	52873
8 Cable pairs (A1 on 1, 3, 9, 11, 17, 19, 25, & 27)	52827-6
Cable set 4 point S50A, S52A, Carabiner, Kevlar (CW)	52842
4 A pairs (A1 on 1, 3, 21, & 23)	52824-2
4 B singles (on 7, 17, 27, & 37)	52828-1
4 C pairs (C1 on 11, 13, 31, & 33)	52824-1
Cable set 4 point S50A, S52A, Carabiner, Steel (CW)	52843
4 A pairs (A1 on 1, 3, 21, & 23)	52825-2
4 B singles (on 7, 17, 27, & 37)	52829-1
4 C pairs (C1 on 11, 13, 31, & 33)	52825-1
Cable set 4 point S50A, S52A, A-Block, Kevlar (CW)	52844
4 A pairs (A1 on 1, 3, 21, & 23)	52826-2
4 B singles (on 7, 17, 27, & 37)	52830-1
4 C pairs (C1 on 11, 13, 31, & 33)	52826-1
Cable set 4 point S50A, S52A, A-Block, Steel (CW)	52845
4 A pairs (A1 on 1, 3, 21, & 23)	52827-2
4 B singles (on 7, 17, 27, & 37)	52831-1
4 C pairs (C1 on 11, 13, 31, & 33)	52827-1
Cable set 2 point S50A, S52A, A-Block, Steel	52316-15
4 A pairs (A1 on 1, 3, 21, & 23)	52306-15
4 B pairs (B1 on 7, 17, 27, & 37)	52306-16
2 C pairs (C1 on 11, 13, 31, & 33)	52306-17

CABLES	DRAWING
Cable set 4 point S55A, S57A, S60A, S57H, S60H Carabiner, Kevlar (CW)	52846
4 A pairs (A1 on 1, 3, 25, & 27)	52824-7
4 B pairs (B1 on 7, 21, 31, & 45)	52824-4
4 C pairs (C1 on 13, 15, 37, & 39)	52824-5
Cable set 4 point S55A, S57A, S60A, S57H, S60H Carabiner, Steel (CW)	52847
4 A pairs (A1 on 1, 3, 25, & 27)	52825-7
4 B pairs (B1 on 7, 21, 31, & 45)	52825-4
4 C pairs (C1 on 13, 15, 37, & 39)	52825-5
Cable set 4 point S55A, S57A, S60A, S57H, S60H A-Block, Kevlar (CW)	52848
4 A pairs (A1 on 1, 3, 25, & 27)	52826-7
4 B pairs (B1 on 7, 21, 31, & 45)	52826-4
4 C pairs (C1 on 13, 15, 37, & 39)	52826-5
Cable set 4 point S55A, S57A, S60A, S57H, S60H A-Block, Steel (CW)	52849
4 A pairs (A1 on 1, 3, 25, & 27)	52827-7
4 B pairs (B1 on 7, 21, 31, & 45)	52827-4
4 C pairs (C1 on 13, 15, 37, & 39)	52827-5
Cable set 2 point S55A, S57A, S60A, S57H, S60H A-Block, Steel	52316-25
4 A pairs (A1 on 1, 3, 25, & 27)	52306-25
4 B pairs (B1 on 7, 21, 31, & 45)	52306-26
4 C pairs (C1 on 13, 15, 37, & 39)	52306-27
Cable set 4 point S57S, S60S Carabiner, Kevlar (CW)	52862
4 A pairs (A1 on 1, 3, 21, & 23)	52824-20
4 B singles (on 7, 17, 27, & 37)	52828-4
4 C pairs (C1 on 11, 13, 31, & 33)	52824-19
Cable set 4 point S57S, S60S Carabiner, Steel (CW)	52862
4 A pairs (A1 on 1, 3, 21, & 23)	52825-20
4 B singles (on 7, 17, 27, & 37)	52829-4
4 C pairs (C1 on 11, 13, 31, & 33)	52825-19
Cable set 4 point S57S, S60S A-Block, Kevlar (CW)	52864
4 A pairs (A1 on 1, 3, 21, & 23)	52826-20
4 B singles (on 7, 17, 27, & 37)	52830-4
4 C pairs (C1 on 11, 13, 31, & 33)	52826-19
Cable set 4 point S57S, S60S A-Block, Steel (CW)	52865
4 A pairs (A1 on 1, 3, 21, & 23)	52827-20
4 B singles (on 7, 17, 27, & 37)	52831-4
4 C pairs (C1 on 11, 13, 31, & 33)	52827-19
Cable set 4 point S66A, S71A A-Block, Kevlar (CW)	52850
4 A pairs (A1 on 1, 3, 25, & 27)	52826-21
4 B pairs (B1 on 7, 21, 31, & 45)	52826-15
4 C pairs (C1 on 13, 15, 37, & 39)	52826-17

CABLES	DRAWING
Cable set 4 point S66A, S71A A-Block, Steel (CW)	52851
4 A pairs (A1 on 1, 3, 25, & 27)	52827-21
4 B pairs (B1 on 7, 21, 31, & 45)	52827-15
4 C pairs (C1 on 13, 15, 37, & 39)	52827-17
Cable set 4 point S66A, S71A A-Block, Kevlar (CW)	52852
4 A pairs (A1 on 1, 3, 25, & 27)	52826-28
4 B pairs (B1 on 7, 21, 31, & 45)	52826-27
4 C pairs (C1 on 13, 15, 37, & 39)	52826-26
Cable set 4 point S66A, S71A A-Block, Steel (RB)	52853
4 A pairs (A1 on 1, 3, 25, & 27)	52827-28
4 B pairs (B1 on 7, 21, 31, & 45)	52827-27
4 C pairs (C1 on 13, 15, 37, & 39)	52827-26
Cable set 4 point S66A A-Block, Kevlar (TW)	52870
4 A pairs (A1 on 1, 3, 25, & 27)	52826-11
4 B pairs (B1 on 7, 21, 31, & 45)	52826-9
4 C pairs (C1 on 13, 15, 37, & 39)	52826-10
Cable set 4 point S66A A-Block, Steel (TW)	52871
4 A pairs (A1 on 1, 3, 25, & 27)	52827-11
4 B pairs (B1 on 7, 21, 31, & 45)	52827-9
4 C pairs (C1 on 13, 15, 37, & 39)	52827-10
Cable set 2 point S66A A-Block, Steel	52316-35
4 A pairs (A1 on 1, 3, 25, & 27)	52306-15
4 B pairs (B1 on 7, 21, 31, & 45)	52306-36
4 C pairs (C1 on 13, 15, 37, & 39)	52306-37
Cable set 4 point S77A, S81A A-Block, Kevlar (RB)	52854
4 A pairs (A1 on 1, 3, 29, & 31)	52826-25
4 B single (on 7, 25, 35, & 53)	52830-5
4 C pairs (C1 on 9, 23, 37, & 51)	52826-23
4 D pairs (D1 on 15, 17, 43, & 45)	52826-24
Cable set 4 point S77A, S81A A-Block, Steel (RB)	52855
4 A pairs (A1 on 1, 3, 29, & 31)	52827-25
4 B single (on 7, 25, 35, & 53)	52821-5
4 C pairs (C1 on 9, 23, 37, & 51)	52827-23
4 D pairs (D1 on 15, 17, 43, & 45)	52827-24
Cable set 4 point RX6, RX7 Carabiner, Kevlar (CW)	52866
4 A pairs (A1 on 3, 4, 9, & 10)	52824-3
4 B single (on 1, 6, 7, & 12)	52828-2
Cable set 4 point RX6, RX7 Carabiner, Steel (CW)	52867
4 A pairs (A1 on 3, 4, 9, & 10)	52825-3
4 B single (on 1, 6, 7, & 12)	52829-2

CABLES	DRAWING
Cable set 4 point RX6, RX7 A-Block, Kevlar (CW)	52868
4 A pairs (A1 on 3, 4, 9, & 10)	52826-3
4 B single (on 1, 6, 7, & 12)	52830-2
Cable set 4 point RX6, RX7 A-Block, Steel (CW)	52869
4 A pairs (A1 on 3, 4, 9, & 10)	52827-3
4 B single (on 1, 6, 7, & 12)	52831-2
Cable set 4 point RX6, RX7 Carabiner, Kevlar (ELS)	53116
4 A pairs (A1 on 3, 4, 9, & 10)	52824.31
4 B single (on 1, 6, 7, & 12)	52828-2
Cable set 2 point RX6, RX7 A-Block, Steel (ELS)	52316-75
4 A pairs (A1 on 1, 6, 7, & 12)	52306-75
4 B pairs (on 3-4 & 9-10)	52306-76
Cable set 4 point RX8, RXS8 Carabiner, Kevlar (CW)	52856
4 A pairs (A1 on 4 & 11)	52824-8
4 B pairs (B1 on 1, 7, 8, & 14)	52824-3
Cable set 4 point RX8, RXS8 Carabiner, Steel (CW)	52857
4 A pairs (A1 on 4 & 11)	52825-8
4 B pairs (B1 on 1, 7, 8, & 14)	52825-3
Cable set 4 point RX8, RXS8 A-Block, Kevlar (CW)	52858
4 A pairs (A1 on 4 & 11)	52826-8
4 B pairs (B1 on 1, 7, 8, & 14)	52826-3
Cable set 4 point RX8, RXS8 A-Block, Steel (CW)	52858
4 A pairs (A1 on 4 & 11)	52827-8
4 B pairs (B1 on 1, 7, 8, & 14)	52827-3
Cable set 4 point RX8, RXS8 Carabiner, Kevlar (ELS)	52874
4 A pairs (A1 on 4 & 11)	52824-33
4 B pairs (B1 on 1, 7, 8, & 14)	52824-32
Cable set 4 point RX8, RXS8 Carabiner, Steel (ELS)	52875
4 A pairs (A1 on 4 & 11)	52825-33
4 B pairs (B1 on 1, 7, 8, & 14)	52825-32
Cable set 2 point RX8, RXS8 A-Block, Steel	52316-85
4 A pairs (A1 on 1, 7, 8, & 14)	52306-85
2 B pairs (B1 on 5 & 12)	52306-86
2 C single (on 3 & 10)	52306-87
Cable set 4 point RX9 A-Block, Kevlar (CW)	52860
4 A pairs (A1 on 4 & 11)	52826-29
4 B pairs (B1 on 1, 7, 8, & 14)	52826-30

CABLES	DRAWING
Cable set 4 point RX9 A-Block, Steel (CW)	52861
4 A pairs (A1 on 4 & 11)	52827-29
4 B pairs (B1 on 1, 7, 8, & 14)	52827-30
Cable set 2 point RX9 A-Block, Steel	52316-95
4 A pairs (A1 on 1, 7, 8 & 14)	52306-95
2 B pairs (B1 on 5 & 12)	52306-95
2 C single (on 3 & 10)	52306-95

Appendix II-E

Fuel Cylinder Inspection
and
Re-certification Procedures

This document is FAA Approved as an appendix to the Airworthiness Limitations section of the Aerostar Continued Airworthiness Instructions

(Reference Sections 3.0 & 5.3.1)

Approved by Greg Michalik
Chicago ACO

October 25, 2001

1.0 Introduction:

While all fuel cylinders certified for use in Aerostar Intl., Inc. (Raven) hot air balloon systems under FAA Type Certificate A15CE, are required to be inspected as part of each Annual / 100 hour inspection, these cylinders must also undergo a formal periodic re-qualification as required by the Department of Transportation (DOT).

In keeping with the DOT regulations each fuel cylinder certified for use in an Aerostar (Raven) hot air balloon must be re-qualified at an initial interval not to exceed 144 calendar months from the date of manufacture as stamped onto the collar of the cylinder or the data tag affixed to the fuel cylinder. Following the initial re-qualification, fuel cylinders must then be re-qualified at intervals not to exceed 60 calendar months.

In order for a cylinder to be re-qualified, the EXTERNAL VISUAL INSPECTION detailed in this appendix must be performed and recorded.

2.0 Preparation for Inspection

2.1 All tank covers, insulation and heat tapes (if installed) must be removed in order to perform a complete inspection. Rust, scale, and caked paint should be removed from the exterior surface where corrosion is evident so the surface can be adequately observed. In addition, any tape or adhesives including adhesive residue, must be removed so the surface of the cylinder can be properly inspected.

2.2 The cylinder must be inverted to facilitate inspection of the bottom of the cylinder. Experience has shown this area to be the most susceptible to corrosion, particularly where the foot-ring and shell intersect.

2.3 Check the cylinder for corrosion, general distortion, leaks, fire damage, or any other defect that might indicate a weakness that would render it unfit for service. Inspect cylinder and relief valve for aging, corrosion or other defects.

2.4 Inspection Equipment

Exterior corrosion, denting, bulging, gouges, and digs are normally measured by simple direct measurement with scales, depth gauges or ultrasonic devices. A rigid straight edge of sufficient length may be placed over the defect and a scale used to measure the distance from the bottom of the straight edge to the bottom of the defect.

3.0 Visual Inspection

3.1 Dents

Dents are deformations caused by the cylinder coming in contact with a blunt object in such a way that the thickness of metal is not materially impaired.

Dents are of concern where the metal deformation is sharp and confined, or where a weld in nearby. Where metal deformation is not sharp, larger dents can be tolerated.

Dents may warrant the cylinder's rejection under the following conditions

a. Where denting occurs so that any part of the deformation includes a weld, the maximum allowable dent depth is .25 inch.

b. When denting occurs so that no part of the deformation includes a weld, reject the cylinder if the depth of the dent is greater that 10% of the average diameter of the dent.

3.2 Cuts, Gouges, and Digs

Cuts, gouges, and digs are deformations caused by contact with a sharp object in such a way as to cut into or upset the metal of the cylinder, decreasing the wall thickness at that point and raising the stresses in the material.

When measuring cuts, gouges, or digs, the upset metal should be removed so that only the actual depth of metal removed from the cylinder wall is measured.

These defects may require the cylinder's condemnation under these conditions:

a. When the defect is less than 3 inches in length, condemn the cylinder where the defect exceeds ½ the minimum allowable wall thickness as shown in Table I.

b. When the defect is 3 inches or more in length, condemn the cylinder where the defect exceeds ¼ the minimum allowable wall thickness as shown in Table I.

3.3 Bulges

Cylinders are manufactured with a reasonably symmetrical shape. Cylinders which have definite visual bulges shall be rejected and removed from service

3.4 Corrosion

Corrosion or pitting involves the loss of wall thickness by corrosive media. There are several kinds of pitting or corrosion to be considered.

Isolated pitting of a small cross section does not effectively weaken the cylinder wall by may lead to complete penetration and leakage. If the pitting is isolated, the original wall is essentially intact.

a. Condemn a cylinder when the isolated pits have penetrated to a depth in excess of 1/2 the minimum allowable wall thickness as shown in Table I.

b. A dial pit gauge may be used where space permits.

Line Corrosion is when pits are not isolated by are connected or nearly connected to others in a narrow band or line. This condition is more serious than isolated pitting. Line corrosion frequently occurs where the foot-ring and bottom of a cylinder intersect. This is sometimes referred to as “crevice corrosion.”

a. For line corrosion less than 3 inches in length, the depth of the deepest pit must not exceed ½ the minimum allowable wall thickness as shown in Table I.

b. For line corrosion 3 inches and greater in length, the maximum measure pit depth must not exceed ¼ the minimum allowable wall thickness as shown in Table I.

General Corrosion covers a considerable surface area of the cylinder and reduces its structural strength. It is often difficult to measure or estimate the depth of general corrosion, because direct comparison with the original wall thickness cannot always be made.

General corrosion is often accompanied by pitting and does not always follow a definite pattern. Where there is appreciable pitting in areas of general corrosion, the pitted depth will usually be about twice the general corrosion thickness loss.

a. Condemn a cylinder when it is generally corroded and the deepest pit measurement exceeds 1/3 the minimum allowable wall thickness shown in Table I.

b. A dial pit gauge may be used where space permits.

Table 1

Damage limitations for corrosion, cuts, gouges and digs

Cylinder Type / material	*Line corrosion, cuts, gouges, digs less than 3" in length*	*Line corrosion, cuts, gouges, digs 3 " or longer*	*Isolated pits*	*General corrosion area*
10 gal. aluminum	**.070**	**.035**	**.070**	**.047**
All models stainless steel cylinders	**.031**	**.015**	**.031**	**.021**

4.0 Leaks

4.1 Leaks may originate from a number of sources, such as defects in a welded or brazed seam, defects at the thread opening, or from sharp dents, digs, gouges, or pits.

4.2 To check for leaks, the cylinder must be charged to a minimum pressure of 120 psi. and carefully examined. All seams and pressure openings (including the welds at the foot-ring and collar) shall be coated with a suitable leak detection solution to detect escaping gas.

4.3 Any leakage (other than leakage at thread connections, which can be corrected by tightening) is cause for rejection. Repairs must be made by the cylinder manufacturer or by a repair facility authorized by the FAA.

5.0 Fire Damage

5.1 Carefully inspect cylinders for evidence of exposure to fire. Common signs of exposure to fire are:

a. Burning or discoloration of the metal

b. Distortion of the cylinder

c. Burning or melting of the valve(s).

5.2 If there is evidence that any portion of the cylinder surface, or if the cylinder body is burned, warped or distorted, it is assumed that the cylinder has been overheated, and it must be rejected
Aluminum cylinders subjected to the action of the fire shall be condemned, as required by 49 CFR 173.34 of DOT Regulations.

6.0 General Distortion

Noticeable distortion may be evaluated by reference to the sections in these procedures under denting or bulging. If the valve or cylinder boss unit is noticeably tilted, reject the cylinder.

7.0 Tank Collar, Foot rings, Welded Handles and other Welded Attachments

7.1 Tank collars, cylinder foot-rings, welded handles and other welded attachments including data plates should be examined to determine that they are in serviceable condition. Distortion of the foot-ring through service abuse may prevent it from properly supporting the cylinder in an upright and stable position. Likewise, distortion of the valve protection collar could prevent it from protecting the cylinder valve. In addition to distortion, examine foot-rings, valve protection collars, welded handles and other welded attachments for looseness and weld failure.

7.2 Check the age and condition of the pressure relief valve on 10 gal. Aluminum cylinders. If this valve is past the required service life, or if it show signs of leaks, abuse or corrosion, it must be replaced.

8.0 Inspection Report Form

Regulatory Requirement

Department of Transportation Regulations require that results of the external visual inspection be recorded and kept on record until the cylinder is re-inspected.

The following “Inspection Report Form” contains all of the required information to be kept on record.

Aerostar
Fuel Cylinder External Visual Inspection Report Form

Cylinder Identification					Cylinders Checked For									
Serial No.	Date Mf'd	Tank Model	Size	Name of Manufacturer	Dents or Digs	Bulges	Corrosion	Leaks	Fire Damage	Collar / Foot ring	Welded Attachments	Disposition (see code)	Date Inspected	Insp. Initials

9.0 Stamping Visually Re-qualified Cylinders

9.1 Regulatory Requirements

A cylinder that passes the external visual inspection must have the new retest date stamped on the collar or data plate near the original date of manufacture, with the date (month and year), followed by the letter “E” to indicate re-qualification by the visual inspection method (i.e. 1-01 E)

9.2 Recommended Procedures

Stamp the new test date directly below or adjacent to the previous test date, and suffix an “E.”

When Stamping re-qualified cylinders, it is recommended that the numbering die stamp be ¼-inch-high characters. Do not use figures over ¼ inch, as the larger size stamp may dent the cylinder. One means of stamping the cylinder is by lightly tapping the numbering stamp using a 24-ounce hammer.

When you start to stamp the number, do no hold the die perpendicular to the surface. Tilt the die at a slight angle information onto the data place. so that only a portion of the figure will imprint during each light blow. Slowly change tilt angle by rotating top end of die. After a series of light blows, the full figure will be imprinted without denting the head of the cylinder. It may take a little practice to become proficient. (Commercial stamping tools are also available.)

When placing the re-certification date on stainless steel cylinders with the data tag welded to the body of the cylinder it is recommended to use an electric engraving tool to etch the re-qualification data onto the cylinder.

APPENDIX II-F

(Reference Section 6.5)

INSTRUMENT REPAIR AND CALIBRATION

NOTE

THIS APPENDIX WILL BE PROVIDED TO QUALIFIED, FAA APPROVED, INSTRUMENT RATED SERVICE CENTERS AND REPAIR STATIONS UPON REQUEST

CONTACT AEROSTAR TECHNICAL SUPPORT

APPENDIX II-G

NON-FABRIC TESTING CRITERIA

This document is FAA Approved as an appendix to the Airworthiness Limitations section of the Aerostar Continued Airworthiness Instructions

(Reference Sections 3.0 & 5.1)

Approved by **Greg Michalik**
Chicago ACO

October 25, 2001

G.1 Hook and Pile Inspection and Testing

The hook and pile fastener tape used in the deflation panels of the para-rip top and rip top envelopes must be tested and inspected during each Annual/100 hour inspection.

Perform the inspections and tests as follows:

(1) Inspect all fastener surfaces for cleanliness and damage. Remove as much debris and foreign materials as possible.

(2) Inspect for damage or defects due to wear or deterioration caused by heat. Heat damage is indicated by yellowing and increased hardness or stiffness of the fastener surfaces.

(3) Test the tape for adequate retention at the following locations at a minimum:

- Areas of the fastener tape contaminated with residue or foreign matter.

- Areas showing damage due to wear or due to deterioration caused by heat.

- An area within 12" of each side of the deflation line attachment point.

- Area adjacent to where the hook or pile fastener tape has been replaced.

- For model S-Series balloons, an area in every 4th gore.

- For model RX-6 and RX-7 balloons an area in every 2nd gore.

(4) To test tape at each test location:

- Roll with a roller which exerts five pounds of pressure back and forth on a 6" length of tape three times to press it together. (The tape may be masked on each end of the 6" test area.)

- Secure a clamping device on a free end of the pile tape and connect a tensile gauge or pull scale to the clamping device. Face the clamping device with material to keep it from slipping or damaging the tape.

- Hold the opposite free end of the hook tape by hand and exert a pulling force on the tensile gauge or pull scale so that the tapes are loaded along their length (in shear) to a minimum of 35 pounds or, if less, until the tapes separate.

- Conduct this test three times for each test location.

- Average the three test results.

(5) If the average of each test location equals or exceeds 30 pounds, the fastener tapes are acceptable for flight. If the average for any test location is below 30 pounds, replace the hook and pile fastener tape in that location as specified in Section 6.1.9 before further flight.

APPENDIX II-SS

Special Shape and Appendage

Envelope Inspection Procedures

1.0 Introduction

The following section details additional items that must be inspected during each Annual / 100-hour inspection performed on Special Shape and Appendage envelopes. Special Shape and Appendage envelopes contain unique engineering design and construction methods that are not used in standard shaped hot air balloon envelopes, and therefore require additional attention during the required inspections. If there are any questions concerning areas to test fabric or particular items that should be inspected, or if you are not familiar with the construction methods used in special shapes and appendage envelopes, contact Aerostar Technical Support prior to inspecting the envelope.

2.0 Inspection Procedures

The following items Must be inspected during each Annual / 100 hour inspection.

2.1 Fabric Testing

(1) The external skin of the envelope, including any appendages, MUST be tested in accordance with the standard fabric test requirements as listed in section 5.1.1. Perform the required tests in each color and/or fabric type, in the equivalent of each key and non-key areas.

Pull test must be performed in the upper areas of the main envelope and appendages. Perform fabric test in high stress areas of the envelope, areas where appendages are attached or where internal baffles attach to the main envelope.

(2) The internal baffles and cantenaries MUST be tested as follows:

(A) No porosity testing required.

(B) Grab Tensile: Perform one ABADS 1096 test in each warp and fill direction of each color and/or fabric type, in the equivalent of each key and non-key area. Perform each test to 25 lbs.

Note

Any Internal baffle and cantenary fabric that fails the grab tensile test below 25 lbs. but above 20 lbs., must undergo additional testing per ABADS 1205, (Tongue Tear Test).

(C) Tongue Tear: Remove two fabric samples, one in each warp and fill direction, in each color and/or fabric type, in the equivalent of each key or non-key area. Perform ABADS 1205 tongue tear tests. No test may fail below 1.7 lbs.

2.2 Fabric Inspection

Inspect all fabric surface areas. Inspect the main envelope including areas that are behind appendage attachment points, also inspect all appendages, internal baffles, cantenaries and internal inflation tubes. The damage limitations as stated in section 5.1.1 apply to all fabric areas of these envelopes. All previous repairs must have been performed in accordance with section 6.1.1 of this manual.

Note

The best method to inspect most special shape and appendage envelopes is to cold inflate the envelope and perform a visual inspection from the inside and outside of the envelope, including all appendages. It may be necessary to rotate the envelope to inspect all areas of the envelope.

2.3 Webbings

A variety of webbing types are used in the construction of special shape envelopes. These include standard 1" and 1-1/2" type IV nylon webbing, 1" type III nylon webbing, and 1" kevlar webbing. All webbing types must be inspected per section 5.1.3.

For detailed information for the proper procedures to repair or splice webbing other than the standard type IV webbing, contact the Aerostar factory.

Note

Areas of the envelope using Kevlar webbing MUST be sewn using size E or F Kevlar thread as appropriate.

2.4 Suspension Cables

Some special shape envelopes may use cable sizes and typed different that the standard 1/8" galvanized cable. Inspect all types of suspension cables per section 5.1.4.

2.5 Attachment Points And High Stress Areas

Areas where cantenaries and/or baffles attach to the main envelope require particular attention when inspecting these envelopes. Inspect these areas for needle elongation, loose or broken stitching and /or discolored fabric. If discolored fabric is observed, perform additional fabric testing to identify any unairworthy areas.

Areas of the envelope where larger appendages are attached may be reinforced with additional layers of fabric or doublers. Inspect these areas for stress damage. In addition, appendages that are more susceptible to movement during normal flight operations should have particular attention paid to their attachment locations.

Inspect the base of the envelope where the internal cantenaries are secured to the throat of the envelope and the base fittings. These areas are normally reinforced with 1" kevlar webbing and sewn with kevlar thread. Contact the Aerostar factory for approved repair methods for this area of the envelope.

Some special shape and/or appendage envelopes may make use of internal cords or cables to maintain the unique shape of the balloon or appendage. These items MUST be inspected to insure that no damage exists. Cords MUST not be abraded, cut, burned, twisted or fouled with other lines. Cables MUST be replaced if any wires or strands are broken. (see section 5.1.4) If cords or cables require replacement, contact Aerostar Technical Support for assistance.

2.6 Deflation Systems, Maneuvering Vents And Deflation Vents

Due to the unique characteristics of special shape and appendage envelopes additional deflation ports or vents are installed to aid in the deflation of the main envelope and appendages. The primary deflation system may be any of the standard deflation systems or a combination of these systems. Inspect the deflation system in accordance with the appropriate portion of section 5.1.

The rigging for the deflation or venting systems are specially designed for each individual envelope. Contact Aerostar Technical Support with any questions concerning the proper orientation or repair of the rigging systems.

Appendages are outfitted with deflation vents to assist in the deflation of the appendages. These vents should be inspected to insure that the Velcro and Velcro locks retain enough strength to keep the vent closed during normal flight operations. Ask the owner and/or operator to report any weak Velcro. Inspect the stitching around the vent area to insure that there are no broken or missed stitches.

APPENDIX II-ZZ

Annual/100 Hour
Inspection and Maintenance
Checklist

ANNUAL/100 HOUR
INSPECTION AND MAINTENANCE CHECKLIST

Use this inspection checklist outline as a convenient form with which to inspect the balloon. Note required information in the appropriate spaces provided. Refer to ACAI Part II, Section 5.0 for damage limitations, inspection criteria, and other critical details. The ACAI Manual, Section 6.0 includes repair and replacement procedures.

Date _____ W.O. _____ Inspected by_____

Balloon Owner
Name & Address_____

_____

_____

_____

Balloon Model _____

Date of Manufacture_____

Registration Number _____

Total System Hours _____

Date Last Annual/100 Hr. _____

Hours Since Last Insp. _____

_____Document Inspection

_____Standard Airworthiness Certificate

_____ Registration Certificate

_____ Flight Manual

_____ Aircraft Logbook

Component Serial Numbers	Component Hours (if different than system hours)
Envelope _____	_____
Burner _____	_____
Basket _____	_____
Instruments _____	_____
Fuel Tanks (list types)_____	_____
_____	_____
_____	_____
_____	_____

Note

This checklist is provided as an aid in performing the fabric tests required in Appendix II-A. This section includes critical information on testing procedures, inspection flow-charting, identification of key test areas, color-related test requirements, pass-fail criteria, examples and other data essential to completing the required evaluations.

Note

Inspection items highlighted with ∗ are included as an Airworthiness Limitation found in section 3.0 of the ACAI.

ENVELOPE / FABRIC TESTING ∗			***INITIAL APPROPRIATE BOXES***	
Section #'s	***Item***	***Inspect For***	***Yes***	***No***
Appendix II-A ∗	*Envelope Testing (a) and (b)*	*275° Tell-tale Turned*		
		More Than 150 Hours		
		More Than 2 Years Old		
		Mold Or Mildew Present		
		Fuel Consumption Increased		
		Note: If all of above are "No", no testing of standard Aerostar fabrics is required. If any "Yes", follow flow-chart routing.		
	(attach tell-tale here)	*250° Tell-Tale Turned (If "Yes" Replace Tell-Tale)*		
	Testing (a) Porosity	*Average Less Than 50 cfm. (100 Hr. Requirement)*		
		Porosity Area Less Than 10%		
		Average 50-75 Cfm. (50 Hr. Requirement)		
	***Aerostar** Fabric Testing (b) Strength Grab Tensile*	*More Than 45 Lbs. (100 Hr. Requirement)*		
		More Than 35 Lbs. (50 Hr. Requirement)		
		Any single test below 30 lbs. (Fail)		
	***Aerostar** Fabric Testing (c) Strength Tongue Tear*	*All Tests Above 3.7 Lbs. (Pass 100 Hr.)*		
		Any Test Below 2.5 Lbs. and Above 1.75 Lbs. (Pass 50 Hr.)		
		Any Single Test Below 1.75 Lbs. (Fail)		
	***Aeromax** / **Aerolite** Fabric Testing (b) Strength Grab Tensile*	*More Than 35 Lbs. (Pass 100 Hr. Requirement)*		
		More Than 30 Lbs. (Pass 50 Hr. Requirement)		
		Any Single Test Below 30 Lbs. (Fail)		
	***Aeromax** / **Aerolite** Fabric Testing (c) Strength Tongue Tear*	*All Tests Above 2.5 Lbs. (Pass 100 Hr.)*		
		Any Test Below 2.5 Lbs. and Above 1.75 Lbs. (Pass 50 Hr.)		
		Any Single Test Below 1.75 Lbs. (Fail)		

ENVELOPE / FABRIC TESTING (continued)			***INITIAL APPROPRIATE BOXES***	
Section #	*Item*	*Inspect For*	*Yes*	*No*
Appendix II-A ✱ (continued)	***Calendared Fabric*** *Testing (b) Strength Grab Tensile*	*More Than 35 Lbs. (100 Hr Requirement)* *(Requires Additional Tongue Tear Test)*		
		More Than 30 Lbs. (50 Hr. Requirement) *(Requires Additional Tongue Tear Tests)*		
		Any Single Test Below 30lbs. (Fail)		
	Calendered Fabric *Testing (c) Strength Tongue Tear*	*All (1) Tests Above 3.7 Lbs. (100 Hr. Requirement)* *Or* *All (5) Tests Above 2.5 Lbs. (100 Hr. Requirement)*		
		All (5) Tests Below 2.5 Lbs. and Above 1.75 Lbs. (50 Hr. Requirement)		
		Any Single Test Below 1.75 Lbs. (Fail)		
	Testing Alternate (Factory Only)	*Federal Test Method Standard 191b*		
	Special Shapes	*Contact Aerostar Before Proceeding*		
	Testing Results	*Passed Annual / 100 Hour*		
		Passed Annual / 50 Hour		
		Fail Airworthiness		

ENVELOPE			***INITIAL APPROPRIATE BOXES***			
Section #'s	***Item***	***Inspect For***	***Passed***	***Failed***	***Maint. Performed***	***Repaired Replaced***
5.1.2 ✱	*Fabric Inspection (Special Shapes; Includes Baffles, Catenaries, & Appendages)*	*Holes*				
		Tears				
		Abrasions				
		Seam Separations				
		Heat Damage				
		Previous Repairs				
5.1.3. ✱	*Webbing (Special Shapes; Includes Baffles, Catenaries, & Appendages)*	*Burns*				
		Cuts				
		Abrasions				
		Stitching Secure				
		Previous Repairs / Splices				

Envelope (continued)			***Initial Appropriate Boxes***			
Section #'S	***Item***	***Inspect For***	***Passed***	***Failed***	***Maint. Performed***	***Repaired Replaced***
5.1.4 ✱	*Suspension Cables;*	*Broken Wires*				
	(1) Steel	*Kinks*				
		Rust				
		Excessive Wear				
		Direct Flame Exposure				
	Suspension Cables;	*Outer Cover Damage*				
	(2) Kevlar	*Yellow Core Exposed*				
		Heat Damage / Flexibility				
		Whip Wrap Broken Thread				
		Whip Wrap Heat Damage				
		Whip Wrap Abrasion				
		Thimble Rotation				
		Thimble Distortion Or Deformation				
		Kevlar Cables Require Proof Loading				
Note:	***✱ Kevlar Cables With More Than 2,000 Hours In Service Must Be Proof load Tested in Accordance With The Airworthiness Limitations, Chart 301 in Section 3.0 This Test Must Be Repeated Every 500 Hours Thereafter.***					
5.1.5	*Rally Load Frame*	*Cracks*				
		Broken Welds				
		Quick Pins				
5.1.6 ✱	*Four Point and Two Point Suspension Fittings*	*Structurally Sound*				
		Cracks				
		Broken				
		Bolt / Nut Tightened – Quick Release Pin Functional				
5.1.7 ✱	*Carabiner*	*Smooth Operation*				
		Cracks				
		Bends				
		Spring Gate / Threaded Lock				
5.1.8 ✱	*Rip –Top/Para-Rip Deflation Panel Fit*	*Proper Fit In Port*				
		Minimum Slack Material Between Load Tapes (2" / 3")				
		Tears / Stress Areas				
Appendix II-G ✱	*Hook and Pile Inspection & Testing*	*Hook & Pile Cleanliness, Damage, Debris*				
		Hook & Pile Wear/Heat Deterioration				
		Hook & Pile Strength Test (30 Lbs.)				

Envelope (continued)			***Initial Appropriate Boxes***			
Section #'S	***Item***	***Inspect For***	***Passed***	***Failed***	***Maint. Performed***	***Repaired Replaced***
5.1.10 ✱	*Springtop™ Deflation Assembly*	*Proper Fit And Seal In Port*				
		Increased Fuel Consumption?				
		Pocket Stitching / Fabric Integrity				
		Hook & Pile Debris (Super-pressure)				
		Lubricate Torsion Springs				
		Top Attachment Points Secure				
.		*Pocket Stitching / Fabric Integrity*				
		Bent Spring				
	Actuation Lines	*Fraying*				
		Cuts				
		Abrasion				
		Burn Damage				
	Pulley Operation	*Sheave Bushing Rolls Freely (Lubrication)*				
		Cracks				
		Broken Pulley				
.	*Top Attachment Points*	*Fabric Tearing*				
		Stitching Broken / Loose				
5.1.11 ✱	*Rip Top, Spring Top™ and Para-Rip Top Deflation Panel and Accessories*	*Fabric And Stitching Intact*				
		Tears				
		Abrasion				
		Broken Stitching				
	Deflation Panel Pull Out Cable 3/32" (early rip tops)	*Broken Strand*				
		Kinks				
		Rust				
		V-Ring Wear (1/16" Max.)				
	Deflation Panel Pull Out Strap (Kevlar or Nylon) 20% damage in 12"	*Abrasion*				
		Cuts				
		Burns				
		Routing Ring Jamming (Upper 55')				
	Snap & D-ring Stitching at Gondola End of Pull Out Strap	*Function Properly*				
		Abrasion				
		Broken Stitching				
		Loose Stitching				

Envelope (continued)			***Initial Appropriate Boxes***			
Section #'S	***Item***	***Inspect For***	***Passed***	***Failed***	***Maint. Performed***	***Repaired Replaced***
5.1.12 ✱	*Parachute Top*	*Proper Fit And Seal In Port*				
		High Fuel Consumption				
		Webbing Torn / Separated From Fabric				
		Cords Undamaged, Knots Secure				
	Pull Line	*Inner Core Damage*				
		Outer Cover Damage				
		Excessive Shrinkage (5' Slack)				
	Envelope Anchor Points (Stickman)	*Wear*				
		Abrasion				
		Broken Stitching				
		Damaged Webbing				
	Routing Ring Attachment (near base of envelope) Stitching, Webbing, Cords	*Abrasion*				
		Cuts				
		Burns				
		Knots Secure				
		Excessive Wear				
	Pulley Rigging	*Line Fraying*				
		Pulley Lubrication				
5.1.13 ✱	*Aerochute Top*	*Proper Fit & Seal In Port*				
		High Fuel Consumption				
	Webbing / Center Patch	*Cuts*				
		Tears				
		Broken Stitching				
	Combination Lines	*Cuts*				
		Abrasion / Wear				
		Burns				
		Knots, Secure				
	Pull Line	*Inner Core Damage*				
		Outer Cover Damage				
		Excessive Shrinkage (5' Slack)				
	Envelope Anchor Points (Stickman)	*Wear*				
		Abrasion				
		Broken Stitching				
		Damaged Webbing				

Envelope (continued)			***Initial Appropriate Boxes***			
Section #'S	***Item***	***Inspect For***	***Passed***	***Failed***	***Maint. Performed***	***Repaired Replaced***
5.1.13 ✱ (continued)	*Routing Ring Attachment (near base of envelope) Stitching, Webbing, Cords*	*Abrasion*				
		Cuts				
		Burns				
		Knots Secure				
		Excessive Wear				
	Pulley Rigging	*Line Fraying*				
		Pulley Lubrication				
	Apex Cords	*Abrasion / Wear*				
		Knots Secure				
		Verify Lengths				
5.1.14 ✱	*Maneuvering Vent / Rotator*	*Clean And Test Hook And Pile Fasteners*				
		Check Fabric Edges And Webbing For Damage				
		Check Control Line Guide Ring Attachments				
		Check Control Lines For Damage				
5.1.15	*Envelope Skirt / Dipper*	*Inspect Fabric, Webbing And Velcro For Damage*				
		Inspect Skirt Hoop For Damage				
Compliance With All Applicable Service Bulletins And Airworthiness Directives						

Notes:

Burner Systems			**Initial Appropriate Boxes**			
Section #'S	**Item**	**Inspect For**	**Passed**	**Failed**	**Maint. Performed**	**Repaired Replaced**
5.2.1	Burner Assembly	General Integrity				
5.2.2 *	Blast Valve Servicing	Replace O-Ring And Copper Gasket Lubricate With Krytox				
5.2.3 *	Blast Valve Operation	Proper Operation And No Leaks				
5.2.4	HPIII Trigger Assy.	Smooth Operation				
5.2.5 *	Metering Valve	Proper Operation, No Leaks				
		Valve Stem Straight				
		Packing Nut Tight				
5.2.6 *	HPII Update Pilot, HPIII	Vapor Convertor Serviced				
		Pilot Light Orifice Removed, Cleaned, Inspected for Damage and Orifice Checked With .011 Go Gauge				
		Proper Operation				
5.2.7 *	Liquid Pilot Light Valve Servicing	Proper Operation				
		Lubricate Handle				
5.2.8 *	Pilot Light (Screen Head Style)	Proper Operation				
5.2.9 *	Vapor Pilot Light Valve Servicing	Check Valve Stem Packing Nut				
5.2.10 *	Burner Fitting	Integrity, No Leaks				
5.2.11 *	Pressure Gauge	Proper Operation, No Leaks				
5.2.12 *	Burner Operation	Proper Flame Alignment, Proper Operation				
5.2.13 *	Gimbal	Proper Operation				
5.2.14 *	Burner W/Elec. Blast	Proper Operation				
	Battery	Verify Charge				
	Power Cables & Connections	Damage				
5.2.15 *	Burner W/Elec. Ignition	Proper Operation				
	Battery	Verify Charge				
	Power Cables & Connections	Damage				
5.2.16	Piezo Electric Igniter	Proper Operation - Adjust Electrode				
		Clean Or Replace				

Burner Systems (continued)			***Initial Appropriate Boxes***			
Section #'S	***Item***	***Inspect For***	***Passed***	***Failed***	***Maint. Performed***	***Repaired Replaced***
5.2.17	*Glow Valve*	*Proper Operation*				
	Handle	*Free From Damage*				
	Nozzle Bracket	*Loose, Heat Damage*				
	Nozzle Orifice	*Unobstructed*				
	Pilot Tube	*Adjustment*				
Compliance With All Applicable Service Bulletins And Airworthiness Directives						
Notes:						

Fuel Systems

Section #'S	*Item*	*Inspect For*	*Passed*	*Failed*	*Maint. Performed*	*Repaired Replaced*
5.3.1 ✱ *Appendix II-E*	*Fuel Tanks*	*Inspect For Structural Integrity, No Leaks*				
		Verify That Dot 173.34(E) (10) External Visual Or Hydrostatic Inspection Date Is Current				
		Pressure Relief Valve Replaced *(5 Yr. - 10 Gal)*				
Note: Remove all 10 gallon fuel cylinders from service per Service Bulletin SB-137						
5.3.2 ✱	*Tank Liquid Valves*	*Proper Operation, No Leaks, Shuts Off Completely*				
5.3.3 ✱	*Tank Vapor or Liquid Nupro Valve*	*Nupro Valve Stem Packing Nut Torqued, Proper Operation, No Leaks, Shuts Off Completely*				
5.3.4 ✱	*Pilot Light Regulator*	*Proper Operation, No Leaks*				
5.3.5 ✱	*Fuel Quantity Gauge*	*Proper Operation, No Leaks*				
5.3.6 ✱	*Fuel Hose Inspection*	*Submersion Leak Test*				
		Abrasion				
		Cuts				
		Rusting				
		Corrosion				
	Fuel Hose	*10 Yr. Replacement*				
	Fuel Line With Male POL Fitting	*Replace O-Ring*				
5.3.7 ✱	*Fittings*	*No Leaks*				
		No Corrosion, Crossthreading				
5.3.8	*Fuel Supply System*	*Test For No Leaks*				
5.3.9 ✱	*Pressure Relief Valve*	*No Signs of Leaks or Discharge*				
		Adapters And Caps In Place				
		5 Year Replacement (10 Gal. Tanks)				
5.3.10	*Tank Liquid Level Valve (Spit Valve)*	*No Leaks, Proper Operation, Shuts Off Completely*				
Compliance With All Applicable Service Bulletins And Airworthiness Directives						

Notes:

Basket			**Initial Appropriate Boxes**			
Section #'S	**Item**	**Inspect For**	**Passed**	**Failed**	**Maint. Performed**	**Repaired Replaced**
5.4.1 *	Rattan	Damage Within Allowable Limits				
		Previous Repairs				
5.4.2 *	Plywood Floors	Decay				
		Delamination				
		Integrity				
5.4.3 *	Tanks Straps	Fasteners, Buckles				
		Webbing Abrasions, Cuts				
		Stitching				
		Anchors & Vertical Supports				
		Top Strap Position (Vertical Tanks)				
5.4.4	Tank Shoes	Secured To Floor				
		No Damage				
5.4.5	Fire Extinguisher	In Good Condition / No Damage				
		Secured In Gondola				
		Recharged As Required				
5.4.6	Interior Handles	In Good Condition / No Damage				
5.4.7	Exterior Handles	In Good Condition / No Damage				
5.4.8	Scuff Leather	Loose				
		Tears				
		Abraded Holes				
5.4.9 * Hardware	Quick Release Pins	Bent Pins				
		Heads Loose				
		Removal Without Depressing Button				
	Wirelock Pins	Bent Pins				
		Proper Pin For Gondola Model				
		Spring Gate Secure				
	Aircraft Bolts / Nuts	In Good Condition / No Damage				
	Floor /Skid Hardware	In Good Condition / No Damage				
	Seat Hardware	In Good Condition / Holds Seat Securely				

Basket (continued)			***Initial Appropriate Boxes***			
Section #'S	***Item***	***Inspect For***	***Passed***	***Failed***	***Maint. Performed***	***Repaired Replaced***
5.4.10 ✱	*Skids (All Models)*	*Secure*				
		Decay				
		Cracks				
		Excessive Wear				
		Loose Butt Joints				
		Bolts Wearing				
		Weaving Substrate Cracked Or Damaged				
Note : ✱	**Inspect All Aluminum And Stainless Steel Tubing In Sections 5.4.12 Through 5.4.14 In Accordance With The Details And Specification Of Section 5.4.11. Inspect Each Tube To Insure That There Is No Cracking, Kinking, Buckling, Collapse, Localized Overstress, Deep Scratches, Uncontrolled Localized Bends, Uncontrolled Gradual Bends, Beyond Acceptable Limits.**					
5.4.12	*Lower Gondola Frames*	*In Good Condition No Damage Beyond Limits (See Section 5.4.11)*				
		Properly Secured				
5.4.13 ✱	*Lower Frame / Superstructure Interface (All Models)*	*No Oversized Holes In Tubing*				
		Holes Properly Aligned				
		Interface Pin Removed & Inspected				
		Over-sleeves Removed & Inspected				
		Quick Pin Keeper Installed (If Needed0				
		All Hardware In Good Condition And Properly Tightened				
5.4.14 ✱	*Superstructures (All Models)*	*In Good Condition No Damage Beyond Limits (See Section 5.4.11)*				
		All Hardware Secure And In Good Condition				
		Burner Block Alignment				
	4-Point Aluminum	*Lower Load Blocks Inspect For Damage*				
		Verify SB# 133 Compliance (Redundancy Cable)				
5.4.15	*4-Point Load Blocks*	*Secure / No Damage*				
5.4.16	*Burner Block (4-Point & AFX)*	*Secure / No Damage / Proper Alignment*				
5.4.17	*2-Point Burner / Load Block*	*Secure / No Damage / Proper Alignment*				
5.4.18	*RB Ride Gondolas*	*Side-Rail Frame In Good Condition*				
		Welded And Clamped Connections				
		Interior Passenger Pads / Dividers				
		Entry / Exit Steps				
	RB6, RB8, RB12	*Secondary Lower Frames*				
		Pilot Compartment /Floor / Spacers				

Basket (continued)			***Initial Appropriate Boxes***			
Section #'S	***Item***	***Inspect For***	***Passed***	***Failed***	***Maint. Performed***	***Repaired Replaced***
5.4.19 ✱	*AFX Top Frame Tubes*	*Bends*				
		Cracks				
		Damage				
	AFX Load Fittings	*Main Blocks*				
		Socket Tubes				
		Lugs				
	AFX Carabiners	*Smooth Operation*				
		Excessive Wear				
	AFX Support Rods	*Surface Damage*				
		Bends				
		Heat Damage				
	AFX Leather Cover	*"Hinge" Damage*				
		Webbing Stitching Intact				
	AFX Lower Frame Rod Sockets	*Cracks*				
		Bends				
		Hole Distortion				
	AFX Stabilizer Brace	*Secure*				
	AFX Cables (Upper And Lower)	*Broken Stands*				
	Lower AFX Cable	*Service Letter #112 Compliance*				
	AFX Hardware	*Secure / Undamaged*				
5.4.20 ✱	*Aluminum Square Perimeter Tubing (Model G only)*	*Cracked*				
		Broken				
		Weld Failure				
5.4.21	*Fiberglass Liners (Model G only)*	*Hole More Than 3 Inches*				
		Cracks More Than 4 Inches				
Compliance With All Applicable Service Bulletins And Airworthiness Directives						

Notes:

Instruments			***Initial Appropriate Boxes***			
Section #'S	***Item***	***Inspect For***	***Passed***	***Failed***	***Maint. Performed***	***Repaired Replaced***
5.5.1	*General Inspection*	*Mounted Securely*				
		Battery Voltage Checked				
5.5.2	*Standard Altimeter*	*Pressure/Altitude Check*				
	Ball 655 Altimeter	*Verify Proper Reading*				
	Ball M-55 Altimeter	*Verify Proper Reading*				
	Ball M57R Altimeter	*Verify Proper Reading*				
5.5.3	*Rate-Of-Climb*	*Verify Proper Functioning*				
5.5.4	*Thermocouple Wire / Sensor*	*End Cracking*				
		Separation Of Wires				
	Digital	*Wires And Connectors Inspected*				
	Wire / Sensors	*Sensors Inspected*				
5.5.5	*Thermocouple Operation*	*Proper Operation*				
		Accuracy (± 5°F)				
5.5.6	*Digital Pyrometer Operation*	*Proper Operation*				
		Accuracy (± 5°F)				
5.5.7	*AEGIS IR™ Operation*	*Verify Operation*				
		Check For Accuracy (± 5°F)				
		Battery Voltage Checked				
	Temperature Probe	*Undamaged*				
	Receiver (Optic)	*Undamaged*				
		No Lens Scratches				
5.5.8	*Ball M57R Pyrometer*	*Battery Voltage Checked*				
		Verify Operation				
		Check For Accuracy (± 5°F)				
Compliance With All Applicable Service Bulletins And Airworthiness Directives						

Notes: