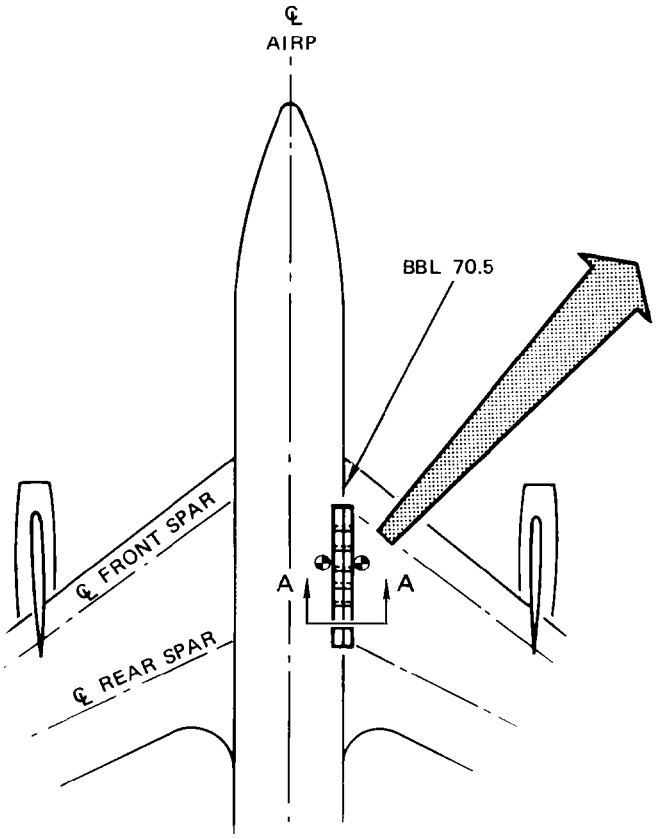
NONDESTRUCTIVE TEST

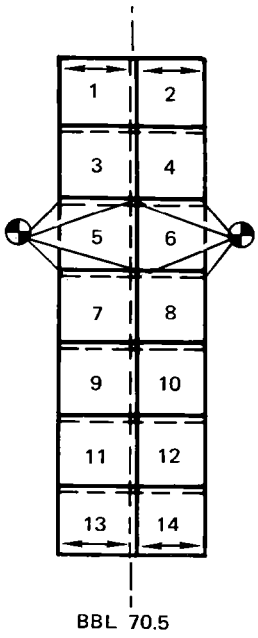
PART 2 - X-RAY

WINGS - PLATES AND SKIN

Purpose

To detect cracks in splice plate and in skin sandwiched between splice plate and rib chord at BBL 70.5. Fatigue tests indicate cracks emanate from fastener holes, both sides BBL 70.5.





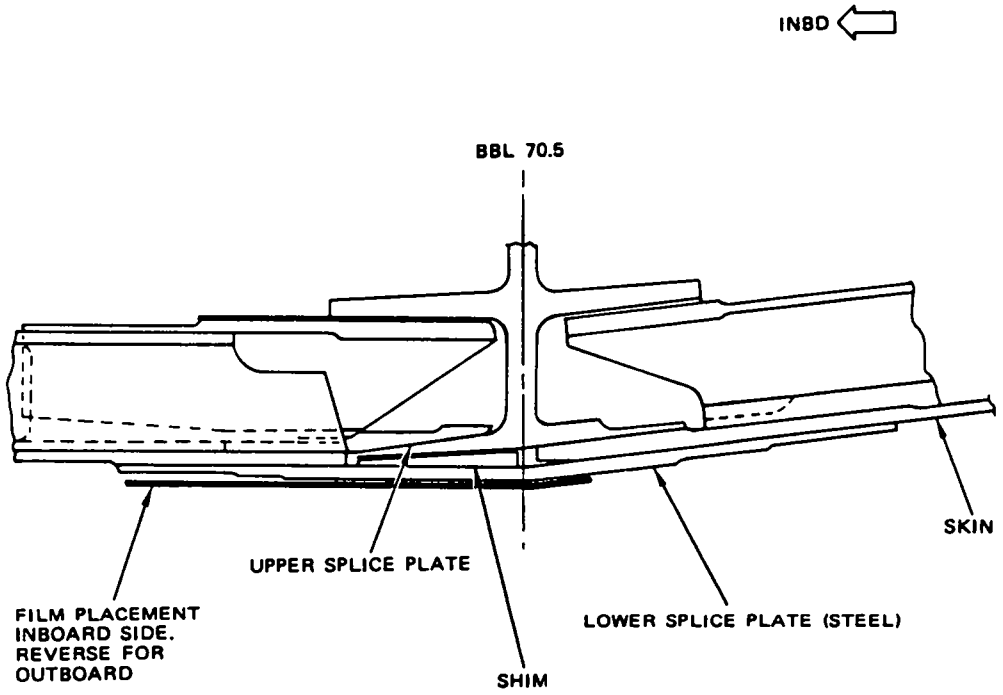
FILM LAYOUT LEFT AND RIGHT SIDES

Lower Surface Skin Splice - BBL 70.5
Figure 1 (Sheet 1)

NONDESTRUCTIVE TEST

PART 2 - X-RAY

WINGS



SECTION A-A

STRATOLINER

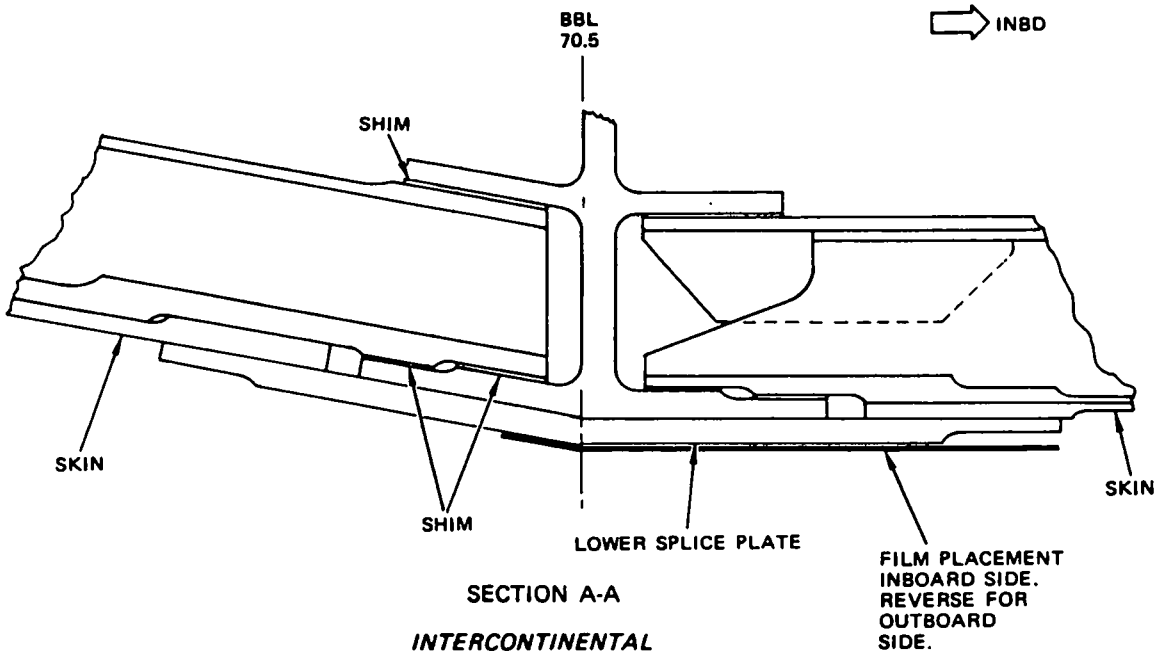
EXPOSURE NUMBER	FILM			SFD	GENERATOR SETTINGS	
	POSITION	ASTM CLASS	SIZE		KV	MAS
1 THRU 14	1 THRU 14	III FOR STEEL I FOR ALUMINUM SKIN *[1]	14 x 17	60	160.	2400

* [1] CLASS I AND III LOADED IN SAME CASETTE

Lower Surface Skin Splice -BBL 70.5
Figure 1 (Sheet 2)

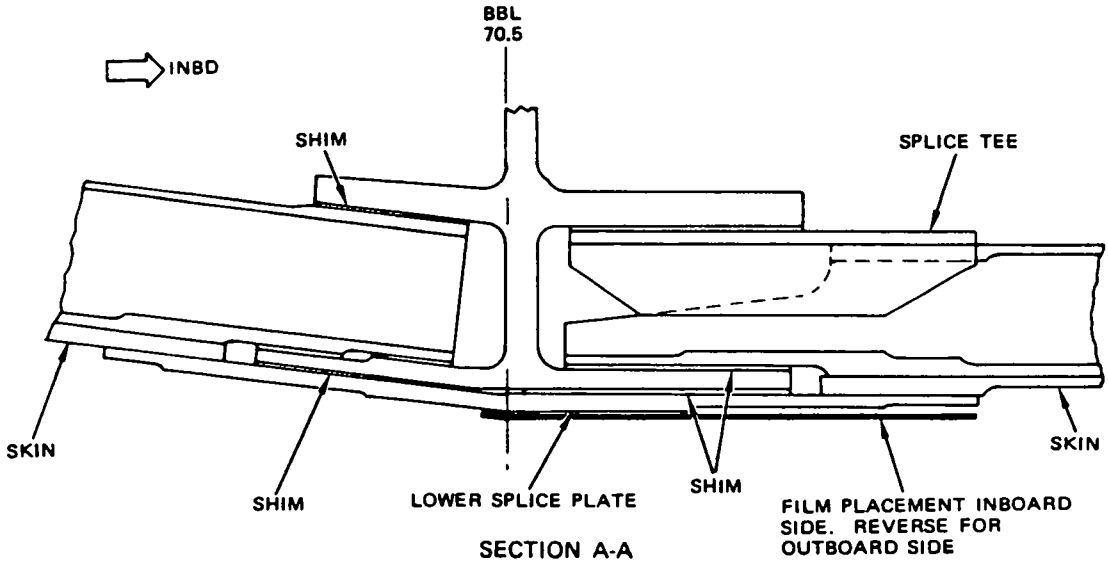
PART 2 - X-RAY

WINGS



SECTION A-A

INTERCONTINENTAL



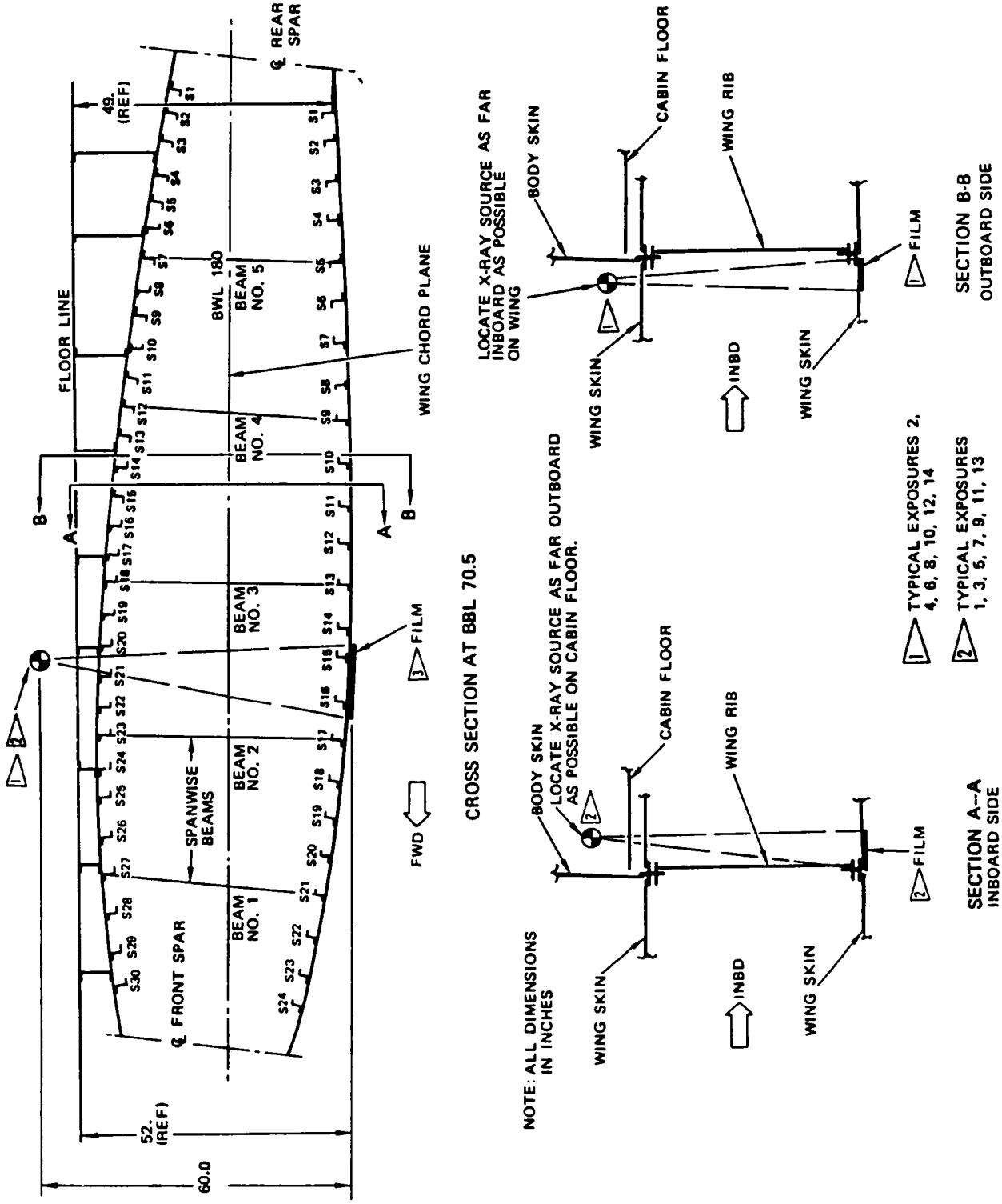
SECTION A-A

720

NONDESTRUCTIVE TEST

PART 2 - X-RAY

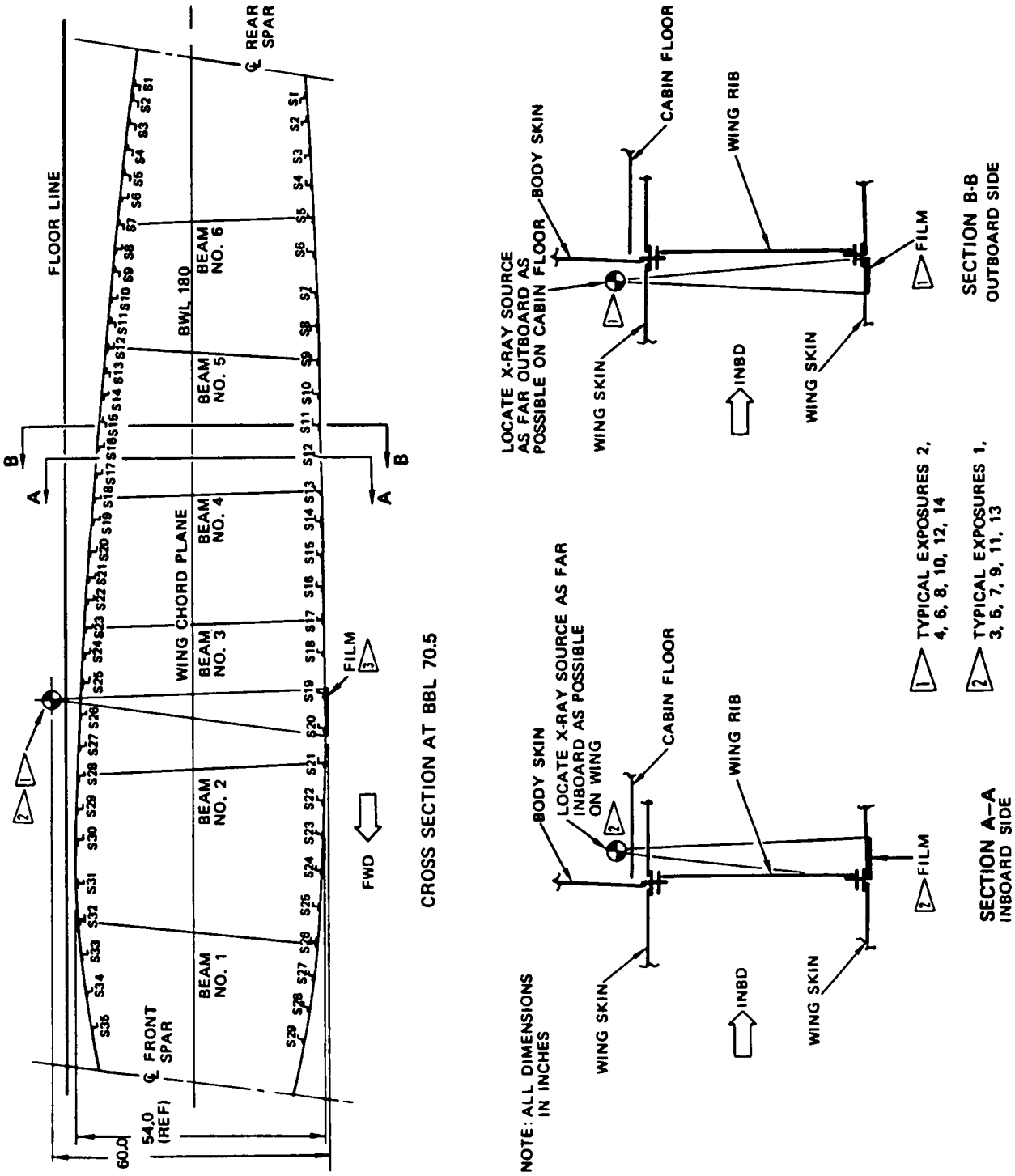
WINGS



Lower Surface Skin Splice -BBL 70.5
Figure 1 (Sheet 4)

PART 2 - X-RAY

WINGS



Lower Surface Skin Splice - BBL 70.5
Figure 1 (Sheet 5)

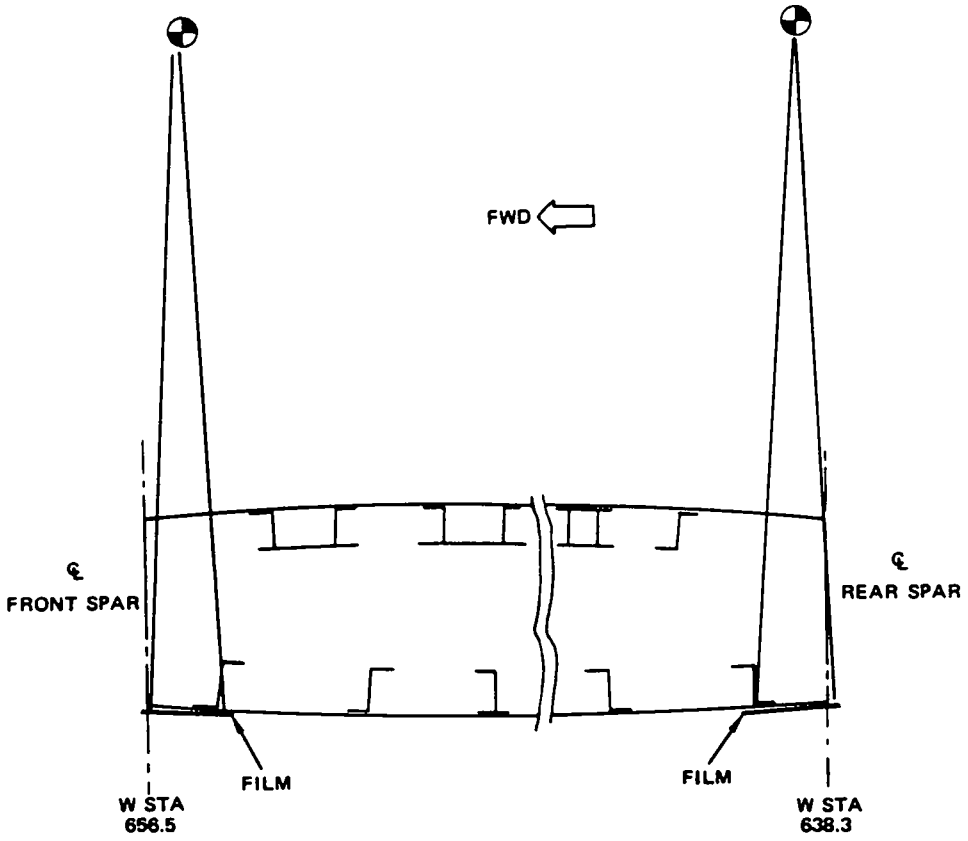
NONDESTRUCTIVE TEST

PART 2 - X-RAY

WINGS

Purpose

To detect cracks in lower surface skin splice plates at WS 638.3 and 656.5.



NOTE: CENTER X-RAY SOURCE OVER FILM

EXPOSURE NUMBER	FILM			SFD	GENERATOR SETTINGS	
	POSITION	ASTM CLASS	SIZE		KV	MAS
1 AND 2	1 AND 2	I AND III *[1]	14 x 17	36	120-130	1200

*[1] CLASS I AND III FILM LOADED IN EACH CASETTE

Lower Surface Skin Splice - WS 638.3 and WS 656.5
Figure 2

PART 2 - X-RAY

WINGS - SKIN

1. Purpose

   A. To detect large cracks near fuel filler to stringer support at WS 298.5.

      NOTE: Cracks normally lie in a forward and aft direction.

2. Equipment

   A. Any radiographic equipment which satisfies the requirements of this procedure may be used. The following equipment was used and found acceptable:

      (1) 150 KV Baltospot X-ray Generator

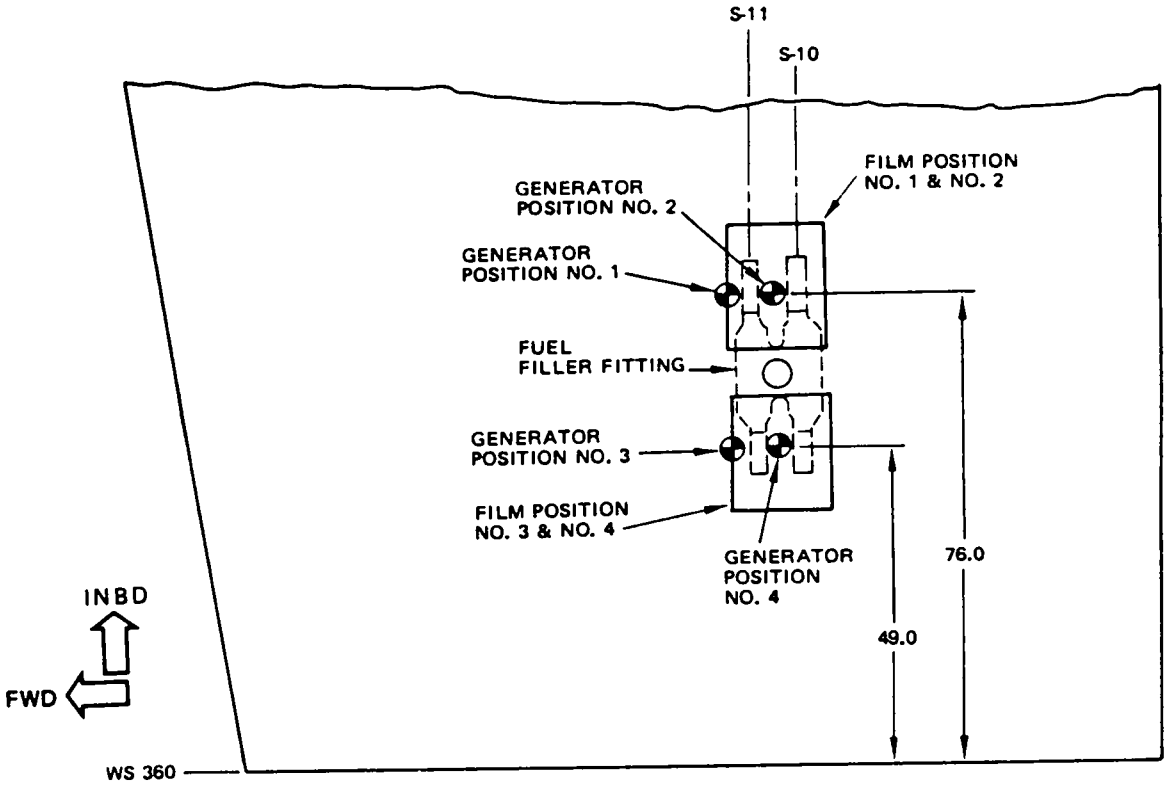
3. Preparation for Inspection

   A. Defuel and drain applicable wing fuel tanks.

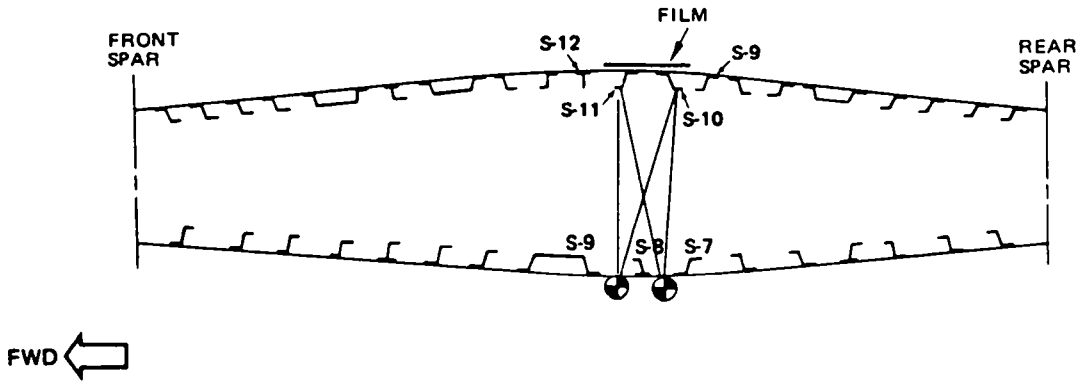
EXPOSURE NUMBER	FILM			SFD	GENERATOR SETTINGS	
	POSITION	ASTM CLASS	SIZE		KV	MAS
1 thru 4	1 thru 4	I	14 X 17	*[1]	135	900

*[1] SFD IS THICKNESS OF WING

Upper Skin at Fuel Filler Fitting at WS 298
Figure 3 (Sheet 1)



LEFT WING UPPER SURFACE



Upper Skin at Fuel Filler Fitting at WS 298
Figure 3 (Sheet 2)

PART 2 - X-RAY

WINGS - PLATES/SKIN

1. Purpose

   A. To detect cracks in the wing skin of the upper WBL 129.62 joint (beavertail) at selected fastener holes. This includes holes common to beavertail, skin, and rib chord as well as holes common to skin and stringer ends. See Detail I.

   B. This inspection requires wing tank entry. Fuel tank must be drained and purged to a "health safe" condition (as defined by Chapter 28 of the Maintenance Manual) before entering.

2. Equipment

   A. The equipment used to develop this technique is as follows:

      (1) Sperry, portable 160 KV, side emission X-ray generator

      (2) ASTM Class I and II ready pack film and lead packed I film

      (3) Lead shield to be placed behind film, 0.03-inch or thicker

3. Preparation for Inspection

   A. Drain and purge the appropriate fuel tanks to permit tank entry for film placement both inboard and outboard of the WBL 129.62 bulkhead.

4. Inspection Procedure

   A. Exposure No. 1

      WARNING: PRECAUTIONS AND SAFETY PROCEDURES CONTAINED IN CHAPTER 28 OF THE MAINTENANCE MANUAL MUST BE FOLLOWED BY PERSONNEL ENTERING ANY TANK THAT HAS CONTAINED FUEL. USE ONLY BATTERY-OPERATED, EXPLOSIONPROOF LIGHTS IN VICINITY OF OPEN FUEL TANKS. POSSIBILITY OF EXPLOSION AND TOXIC DANGER EXISTS IN VICINITY OF FUEL TANKS WHICH HAVE CONTAINED FUEL.

      (1) Identify film type required from Table I.

      (2) Place 2 x 14-inch film strip between the rib chord upper flange and the stringer tie. See Details II and III.

Upper Wing Skin Under Beavertail
Figure 4 (Sheet 1)

(3) Cut additional film of the type identified in Table I to fit between rear spar and Stringer S-1 and between Stringers S-1 and S-2. Film should cover area between stringers from plus chord to approximately 1-inch past edge of external chord (beavertail). See Details II and III.

(4) Place lead screens behind film to prevent excessive film fogging from backscatter.

(5) Position the X-ray generator so that the X-ray beam is perpendicular to the upper wing skin and centered over fasteners to be inspected (Detail I, Exposure No. 1, and Detail III).

(6) Make the radiographic exposure using the Table I generator settings as a guide. Film density in the area to be inspected should be between 2 and 3.

B. For Exposures No. 2 thru 10, repeat steps used for Exposure No. 1.

C. Review film, paying special attention to those fasteners marked in Detail I for potential cracks running generally in a forward and aft direction.

Upper Wing Skin Under Beavertail
Figure 4 (Sheet 2)

EXPOSURE NUMBER	FILM			SFD	GENERATOR SETTINGS	
	POSITION	ASTM CLASS	SIZE		KV	MAS
1	1 AND 2	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	140	2150
2	3 AND 4	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	140	2150
3	5 AND 6	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	140	1850
4	7 AND 8	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	140	1850
5	9 AND 10	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	140	1600
6	11 AND 12	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	140	1600
7	13 AND 14	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	140	1500
8	15 AND 16	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	140	1500
9	17, 18, AND 19	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	120	1600
10	20, 21, AND 22	II AND I [A] II	CUT TO FIT [B] 2 X 14	48	120	1600

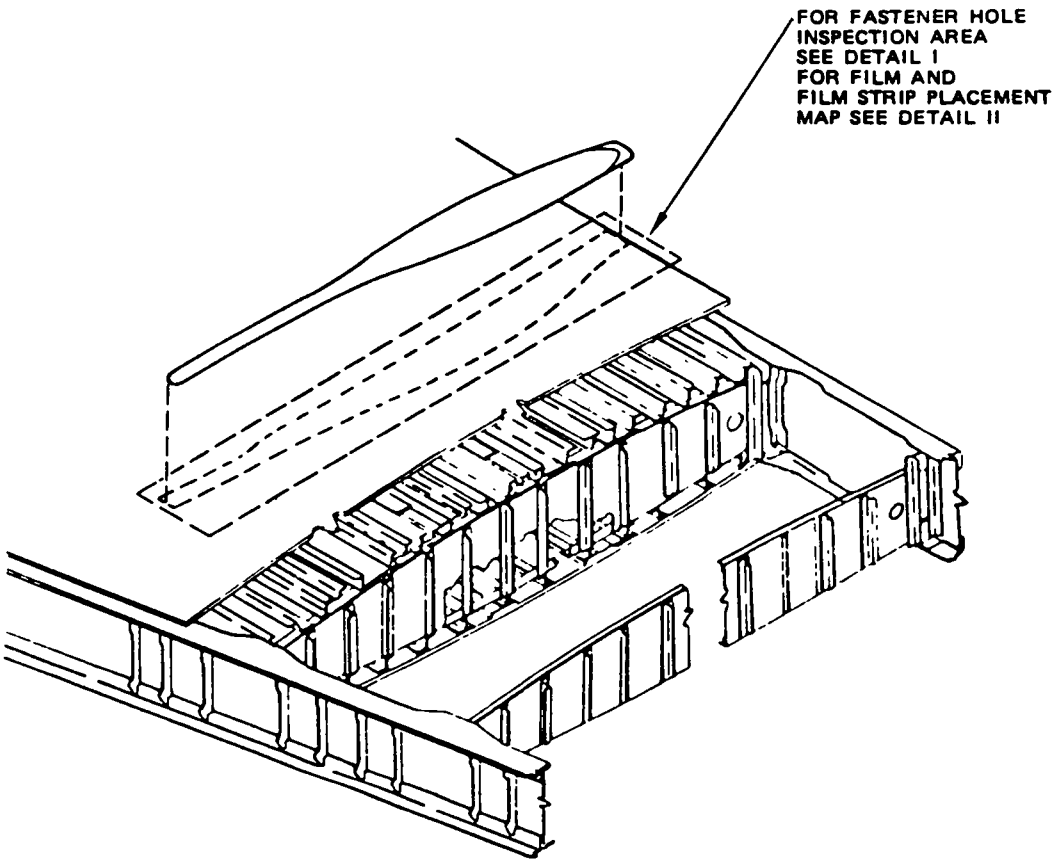
NOTES: ALL DIMENSIONS IN INCHES

[A] LEAD PACK

[B] CUT FILM TO FIT BETWEEN STRINGERS

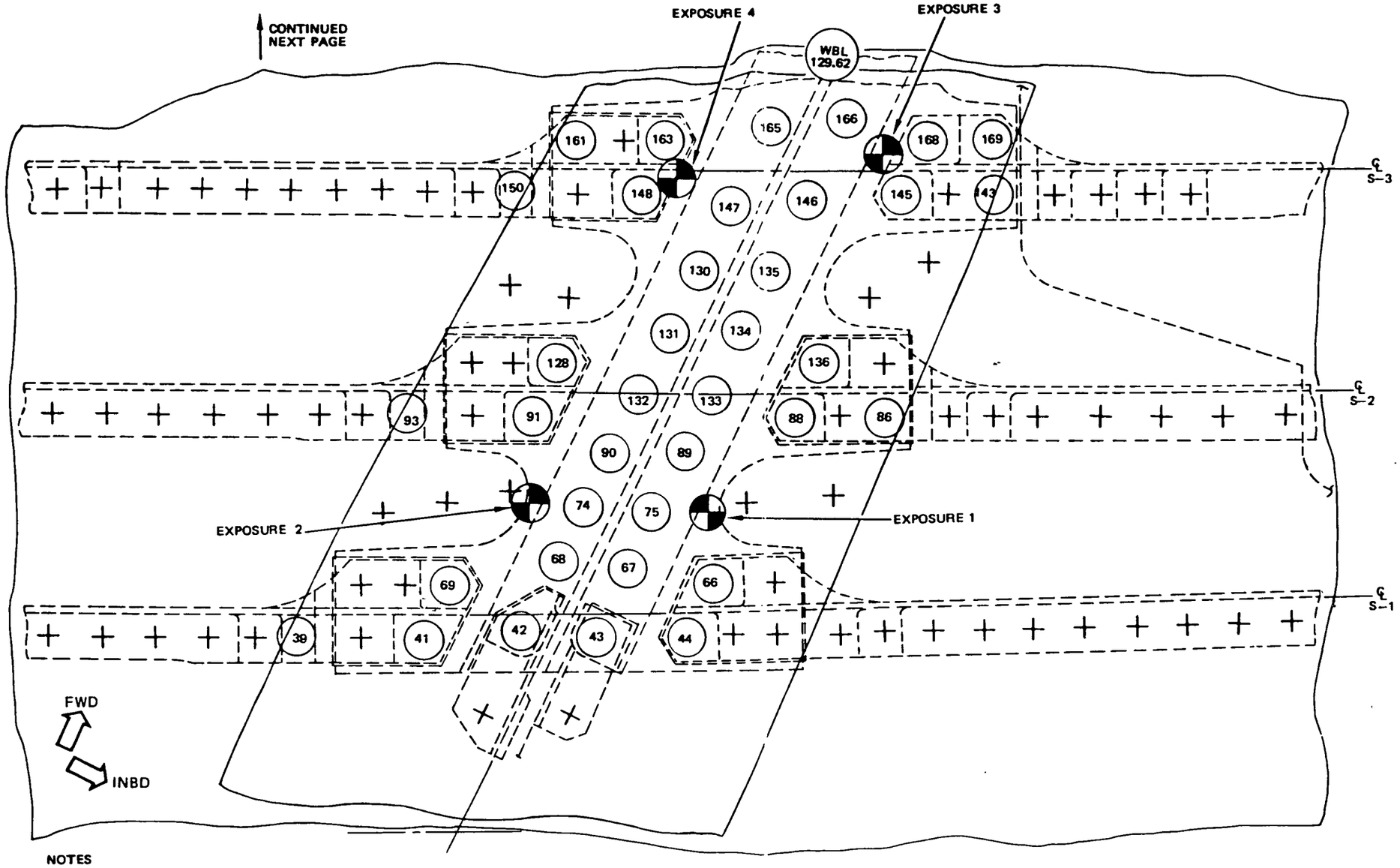
X-RAY PARAMETERS
TABLE I

Upper Wing Skin Under Beavertail
Figure 4 (Sheet 3)



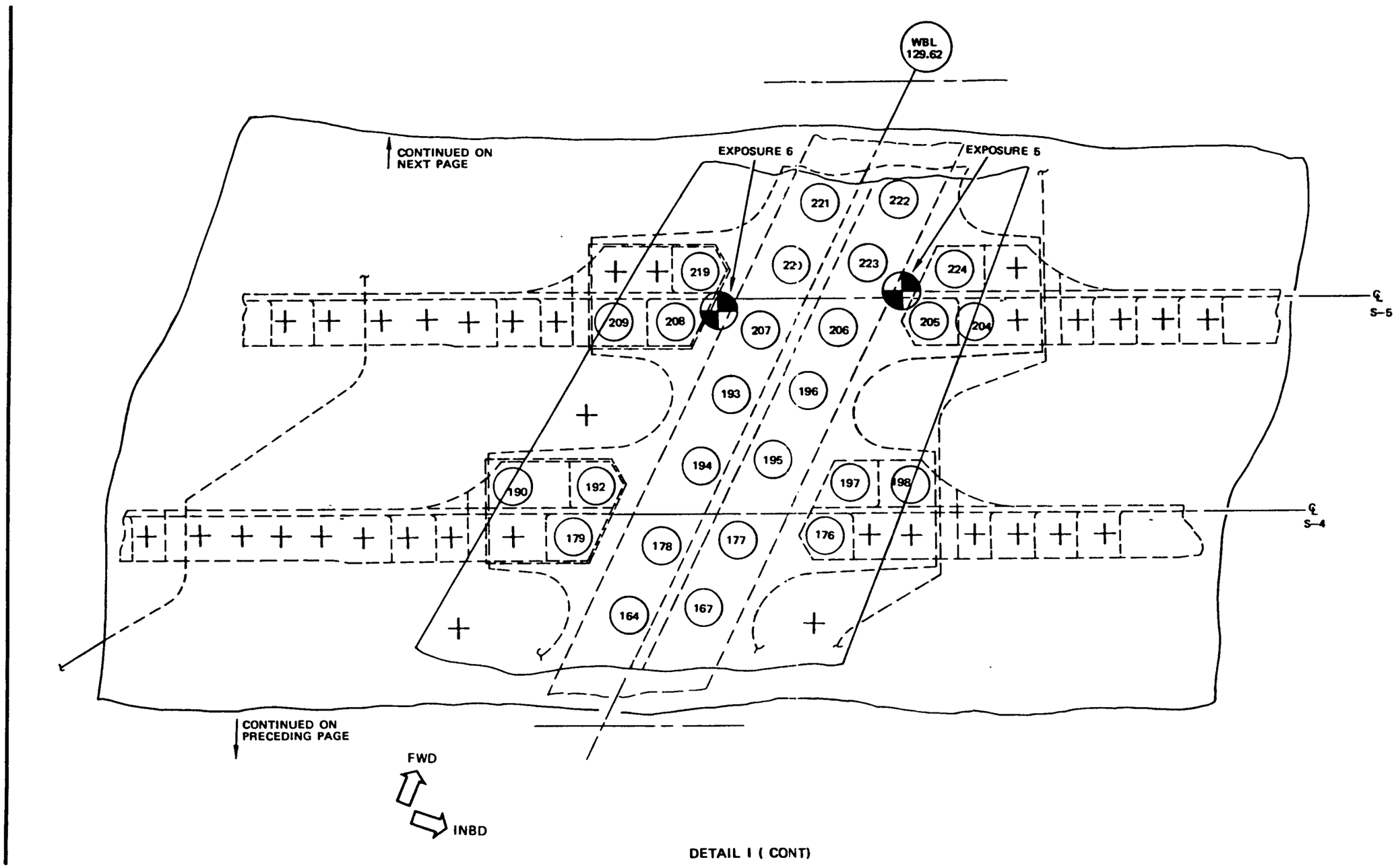
UPPER WING SURFACE AT BEAVERTAIL

Upper Wing Skin Under Beavertail
Figure 4 (Sheet 4)



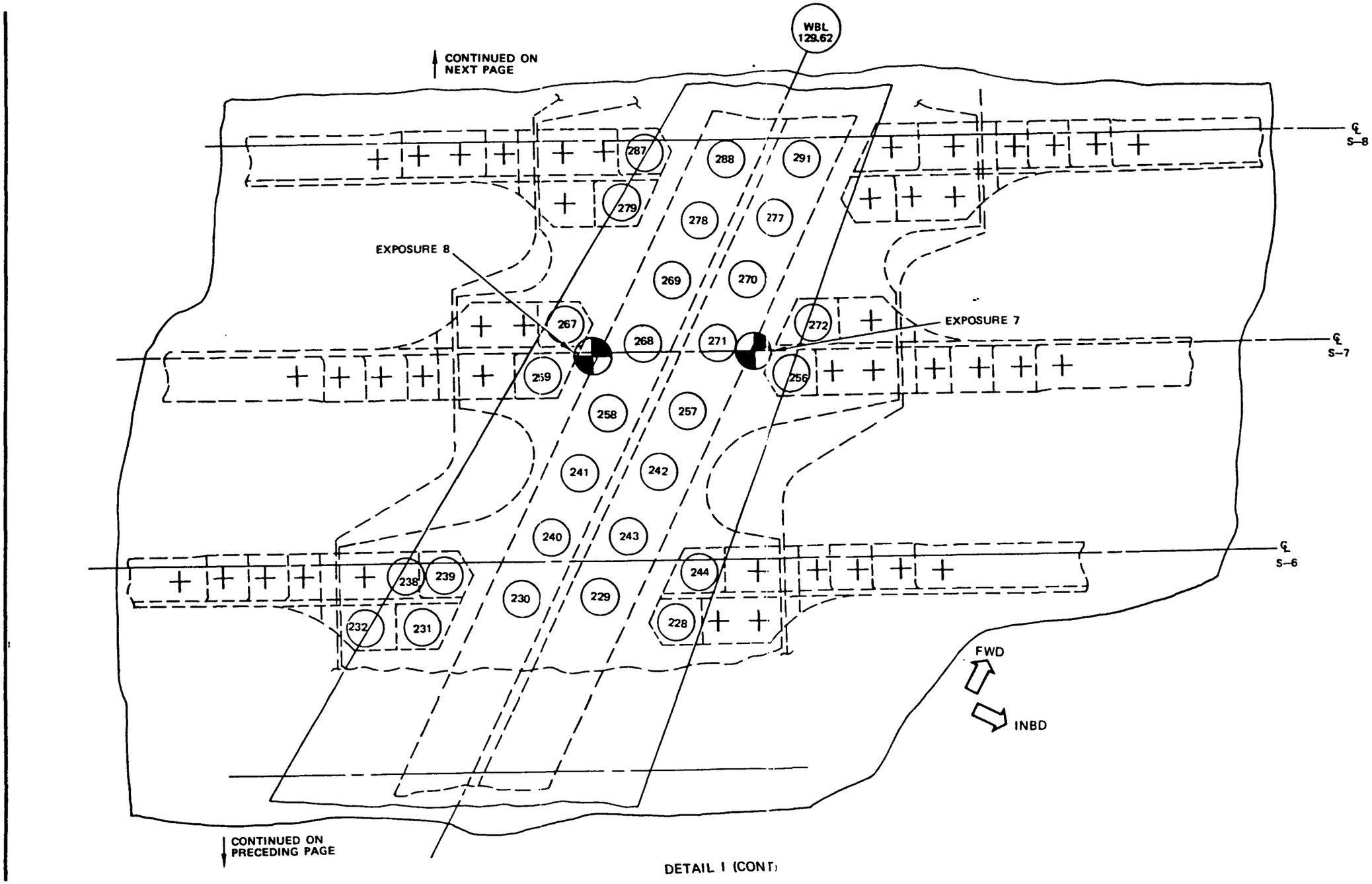
FASTENER HOLES IN UPPER WING SKIN TO BE INSPECTED
(LEFT WING SHOWN, RIGHT WING SIMILAR)
DETAIL I

Upper Wing Skin Under Beavertail
Figure 4 (Sheet 5)

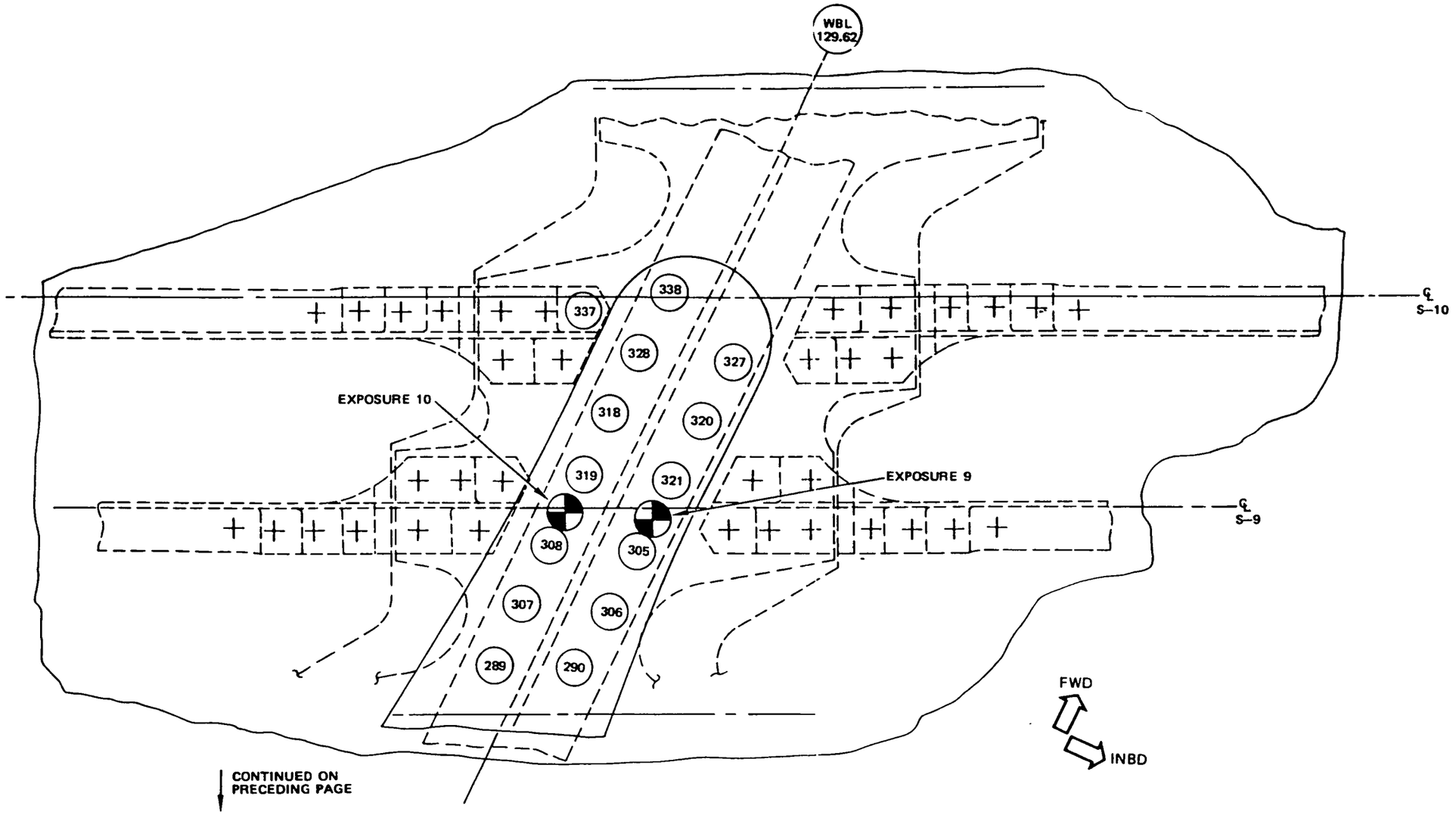


DETAIL 1 (CONT)

Upper Wing Skin Under Beavertail
Figure 4 (Sheet 6)

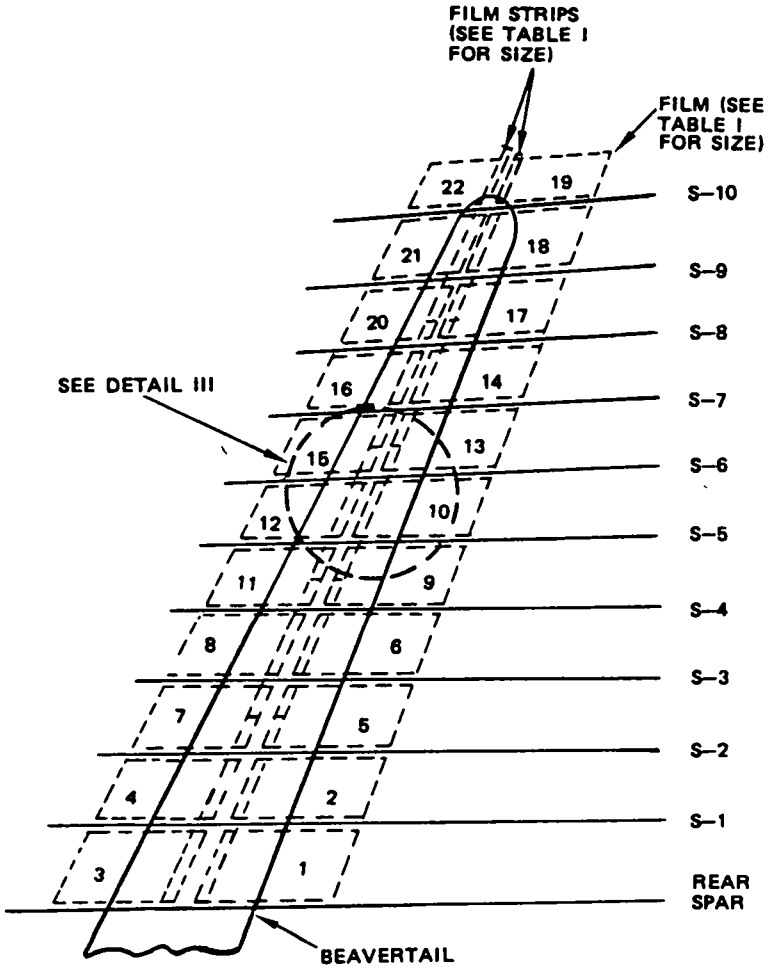


Upper Wing Skin Under Beavertail
Figure 4 (Sheet 7)



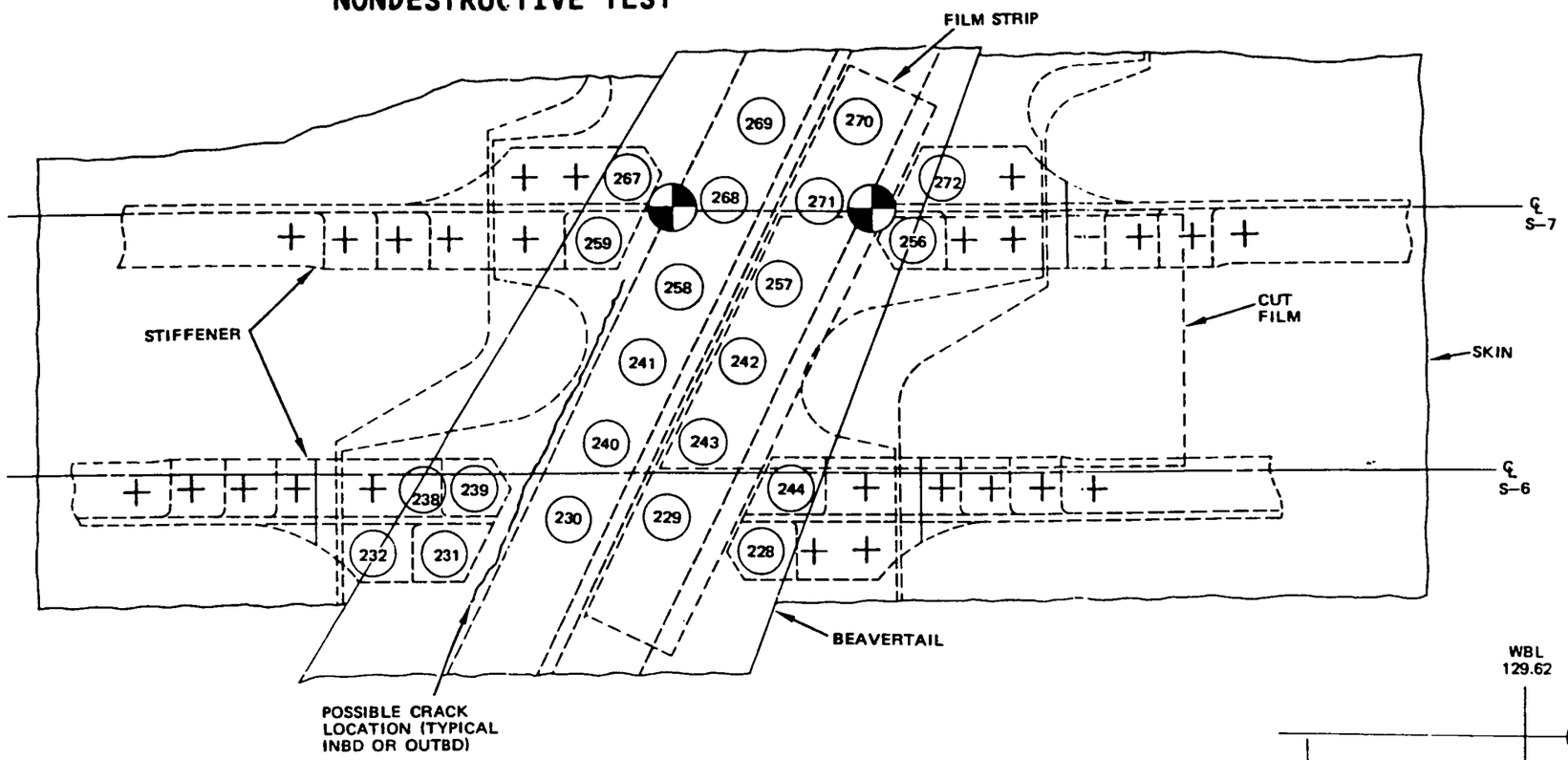
DETAIL I (CONT)

Upper Wing Skin Under Beavertail
Figure 4 (Sheet 8)



TYPICAL FILM AND FILM STRIP PLACEMENT MAP

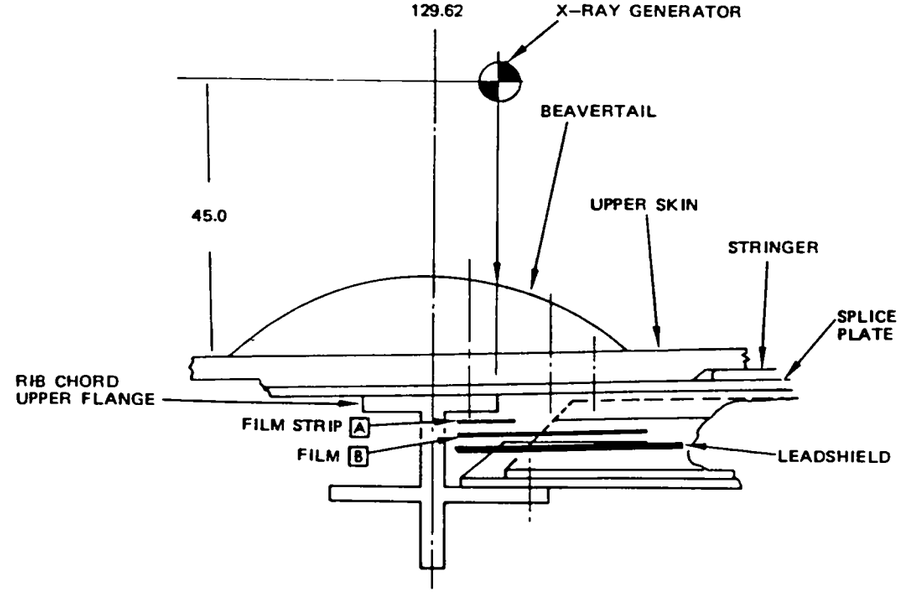
DETAIL II



FILM AND FILM STRIP PLACEMENT
(TYPICAL)

NOTES

- ALL DIMENSIONS IN INCHES
- [A] 2x14–INCH
- [B] FILM MAY BE SINGLE OR DOUBLE LOAD, SEE TABLE I. CUT FILM TO FIT BETWEEN STRINGERS



TYPICAL SECTION

INSPECTION SET-UP
(TYPICAL)
DETAIL III

Upper Wing Skin Under Beavertail
Figure 4 (Sheet 10)

PART 2 - X-RAY

WINGS - PLATES/SKIN

1. Purpose

   A. To detect cracks in the wing skin of the upper WBL 129.62 joint (beavertail) at various selected fastener holes. This includes holes common to beavertail, skin, and rib chord as well as holes common to skin and stringer ends. See Detail I.

   B. This inspection requires wing tank entry. Fuel tank must be drained and purged to a "health safe" condition (as defined by Chapter 28 of the Maintenance Manual) before entering.

2. Equipment

   A. The equipment used to develop this technique is as follows:

      (1) Sperry, portable 160 KV, side emission X-ray generator

      (2) ASTM Class I and II ready pack film and Class I lead packed film

      (3) Lead shield to be placed behind film, 0.03-inch or thicker

3. Preparation for Inspection

   A. Drain and purge the appropriate fuel tanks to permit tank entry for film placement both inboard and outboard of the WBL 129.62 bulkhead.

4. Inspection Procedure

   A. Exposure No. 1

      WARNING: PRECAUTIONS AND SAFETY PROCEDURES CONTAINED IN CHAPTER 28 OF THE MAINTENANCE MANUAL MUST BE FOLLOWED BY PERSONNEL ENTERING ANY TANK THAT HAS CONTAINED FUEL. POSSIBILITY OF EXPLOSION AND TOXIC DANGER EXISTS IN VICINITY OF FUEL TANKS WHICH HAVE CONTAINED FUEL.

      (1) Identify film type required from Table I.

      (2) Place 2 x 14-inch film strip between the rib chord upper flange and the stringer tie. See Details II and III.

Upper Wing Skin Under Beavertail
Figure 5 (Sheet 1)

(3) Cut additional film of the type identified in Table I to fit between rear spar and stringer S-1 and between stringers S-1 and S-2. Film should cover area between stringers from plus chord to approximately 1-inch past edge of external chord (beavertail). See Details II and III.

(4) Place lead screens behind film to prevent excessive film fogging from backscatter.

(5) Position the X-ray generator so that the X-ray beam is perpendicular to the upper wing skin and centered over fasteners to be inspected. See Detail I, Exposure No. 1, and Detail III.

(6) Make the radiographic exposure using the Table I generator settings as a guide. Film density in the area to be inspected should be between 2 and 3.

B. For Exposures No. 2 thru 10, repeat steps used for Exposure No. 1.

C. Review film, paying special attention to those fasteners marked in Detail I for potential cracks running generally in a forward and aft direction.

Upper Wing Skin Under Beavertail
Figure 5 (Sheet 2)

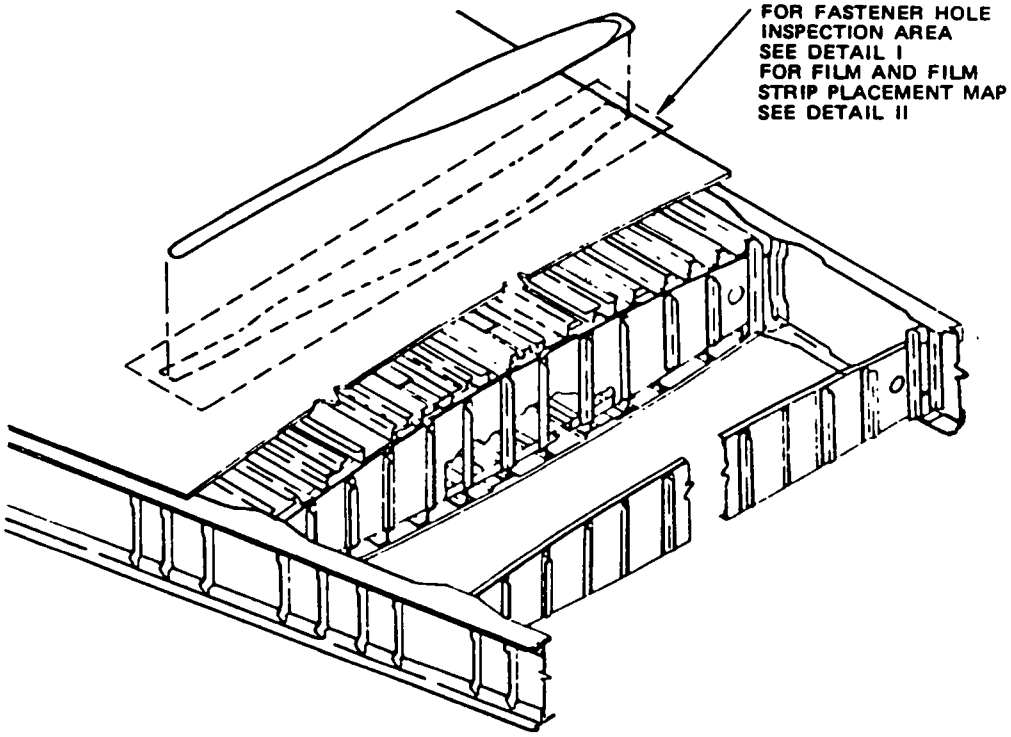
EXPOSURE NUMBER	FILM			SFD	GENERATOR SETTINGS	
	POSITION	ASTM CLASS	SIZE		KV	MAS
1	1 AND 2	II AND II [A]	CUT TO FIT [B]	48	140	2650
		II [A]	2 X 14			
2	3 AND 4	II AND II [A]	CUT TO FIT [B]	48	140	2650
		II [A]	2 X 14			
3	5	II AND II [A]	CUT TO FIT [B]	48	140	2150
		II [A]	2 X 14			
4	6	II AND II [A]	CUT TO FIT [B]	48	140	2150
		II [A]	2 X 14			
5	7 AND 8	II AND II [A]	CUT TO FIT [B]	48	140	1200
		II [A]	2 X 14			
6	9 AND 10	II AND II [A]	CUT TO FIT [B]	48	140	1200
		II [A]	2 X 14			
7	11 AND 12	I AND I [A]	CUT TO FIT [B]	48	140	1750
		I [A]	2 X 14			
8	13 AND 14	I AND I [A]	CUT TO FIT [B]	48	140	1750
		I [A]	2 X 14			
9	15 AND 16	I [A]	CUT TO FIT [B]	48	120	1350
		I [A]	2 X 14			
10	17 AND 18	I [A]	CUT TO FIT [B]	48	120	1350
		I [A]				

NOTES:
ALL DIMENSIONS IN INCHES

[A] LEAD PACK

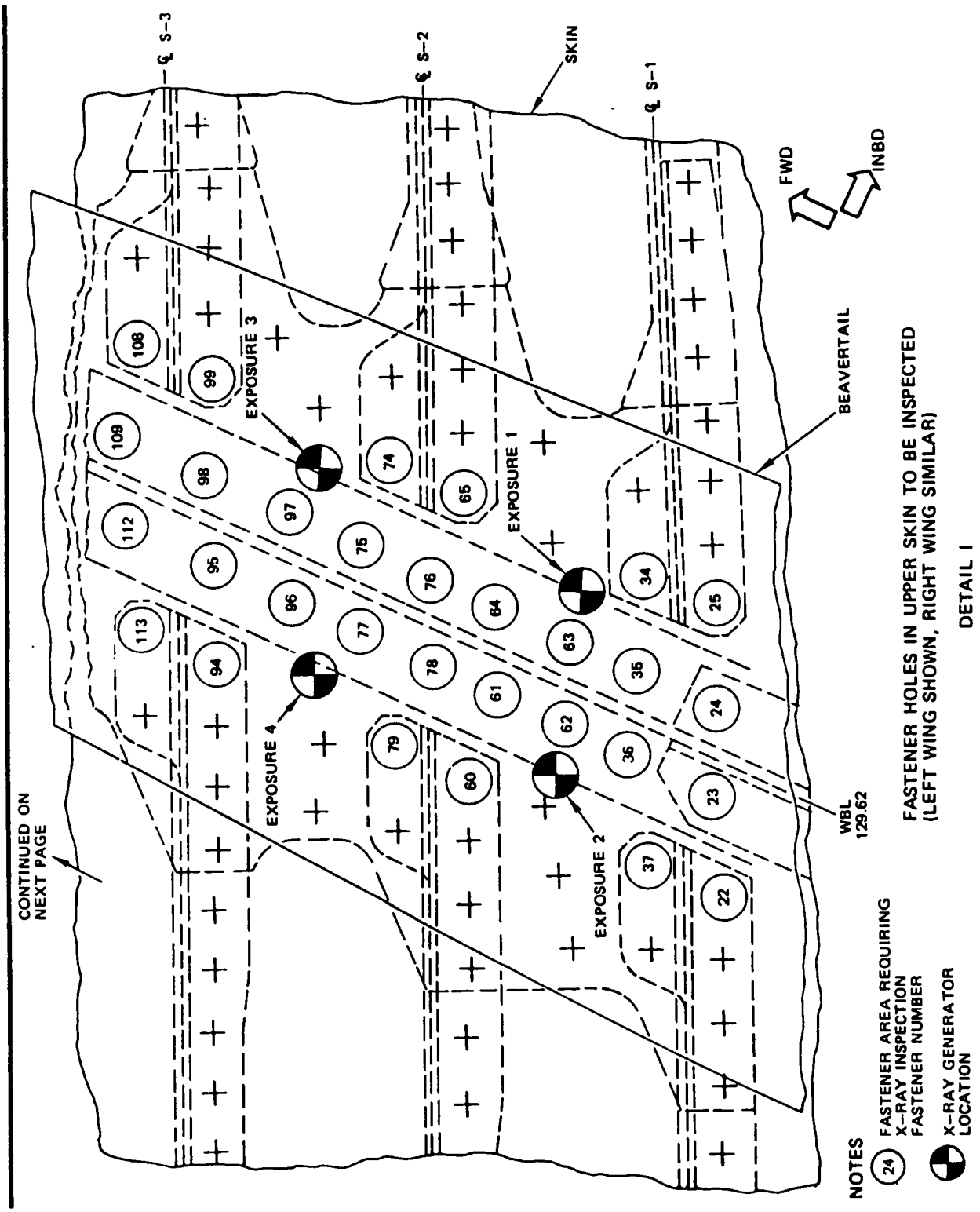
[B] CUT FILM TO FIT BETWEEN STRINGERS

X-RAY PARAMETERS
TABLE I

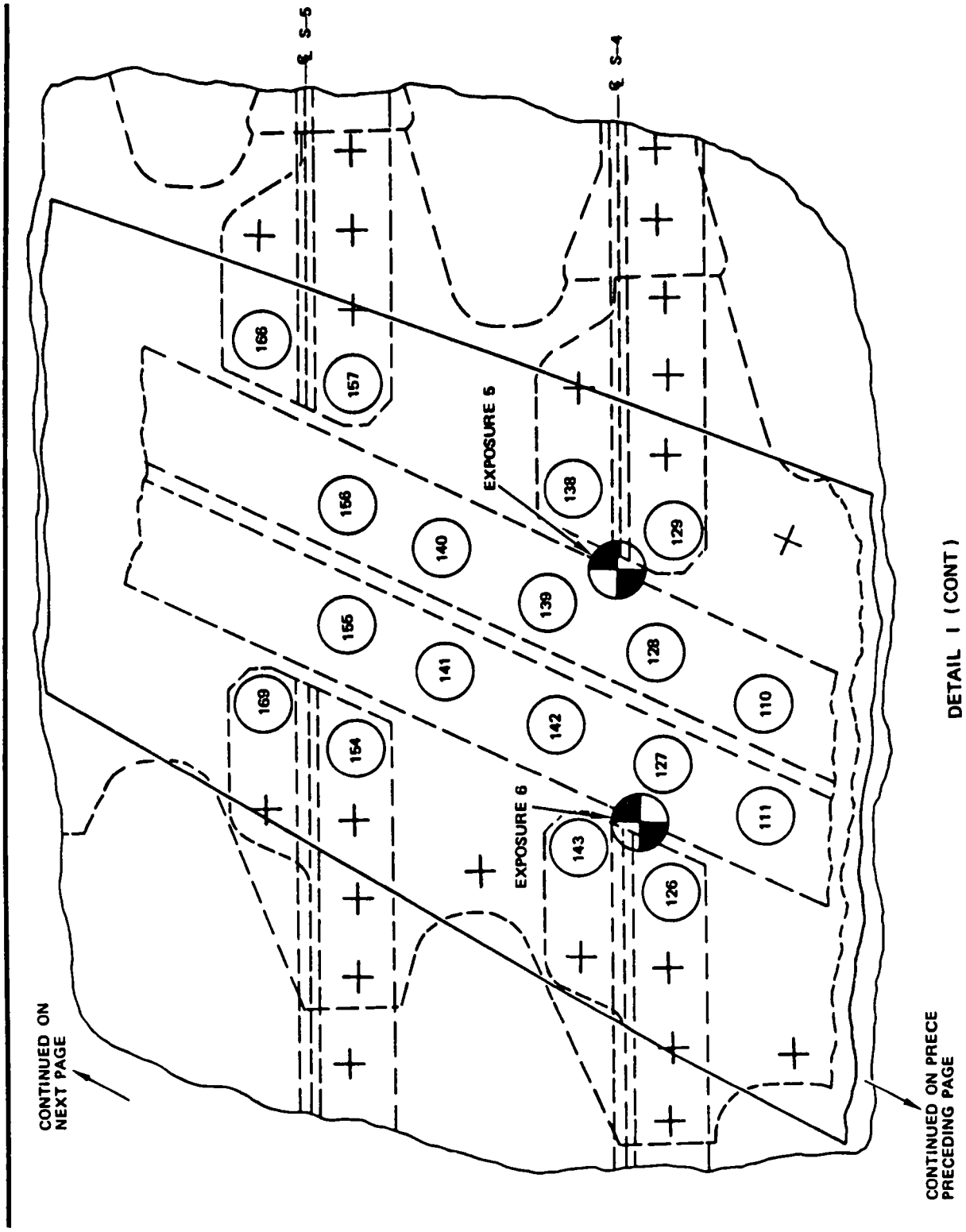


UPPER WING SKIN AT BEAVERTAIL

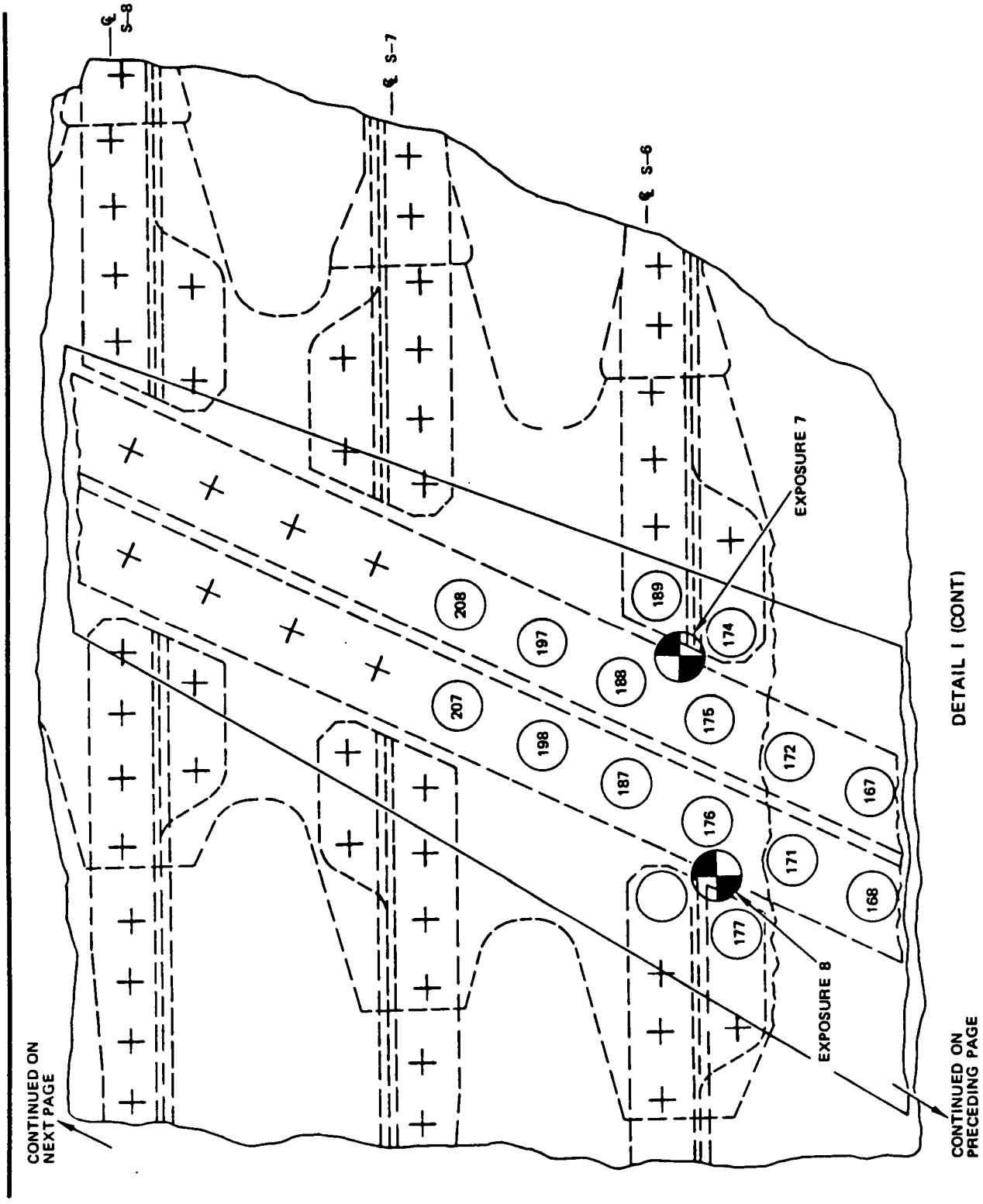
Upper Wing Skin Under Beavertail
Figure 5 (Sheet 4)



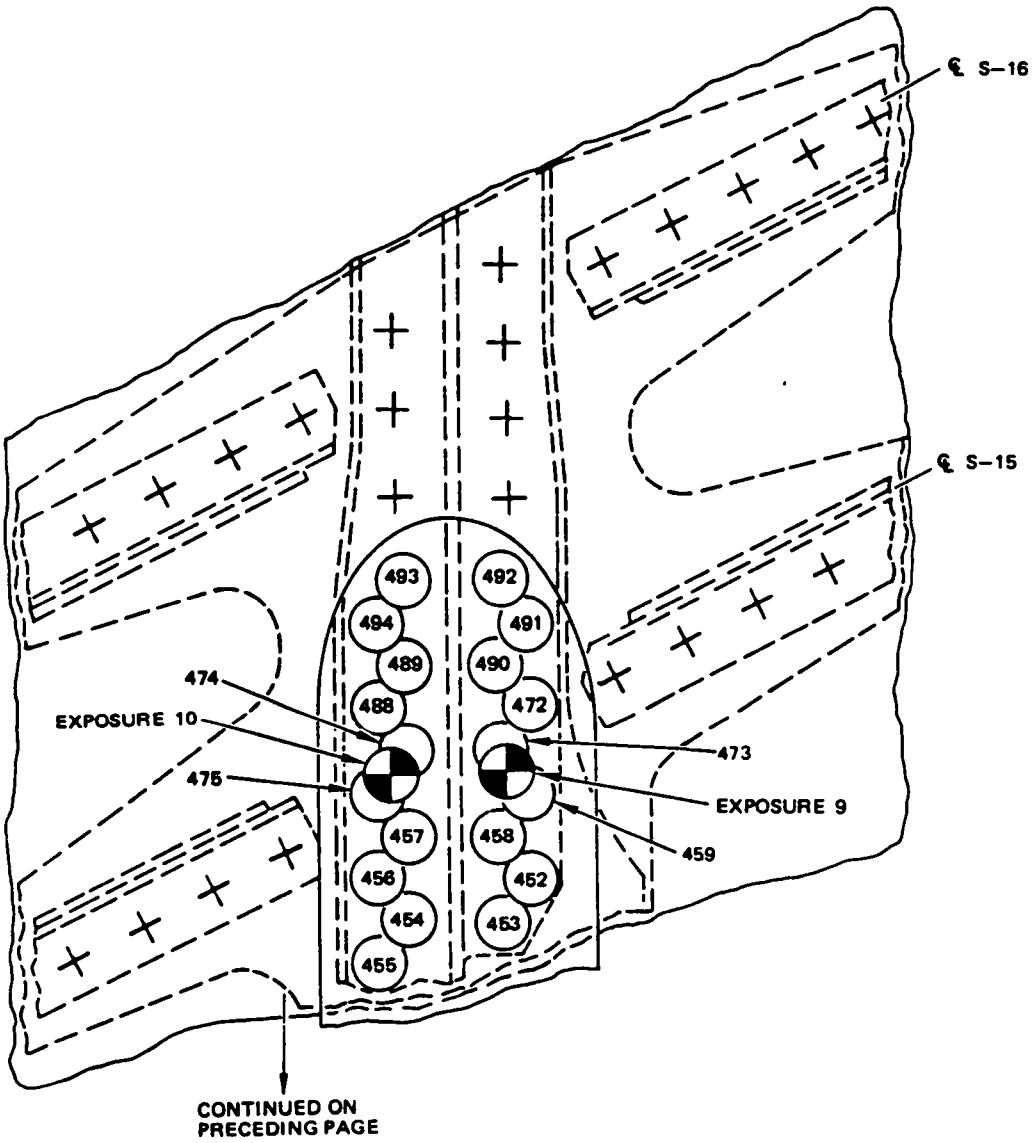
Upper Wing Skin Under Beavertail
Figure 5 (Sheet 5)



Upper Wing Skin Under Beavertail
Figure 5 (Sheet 6)

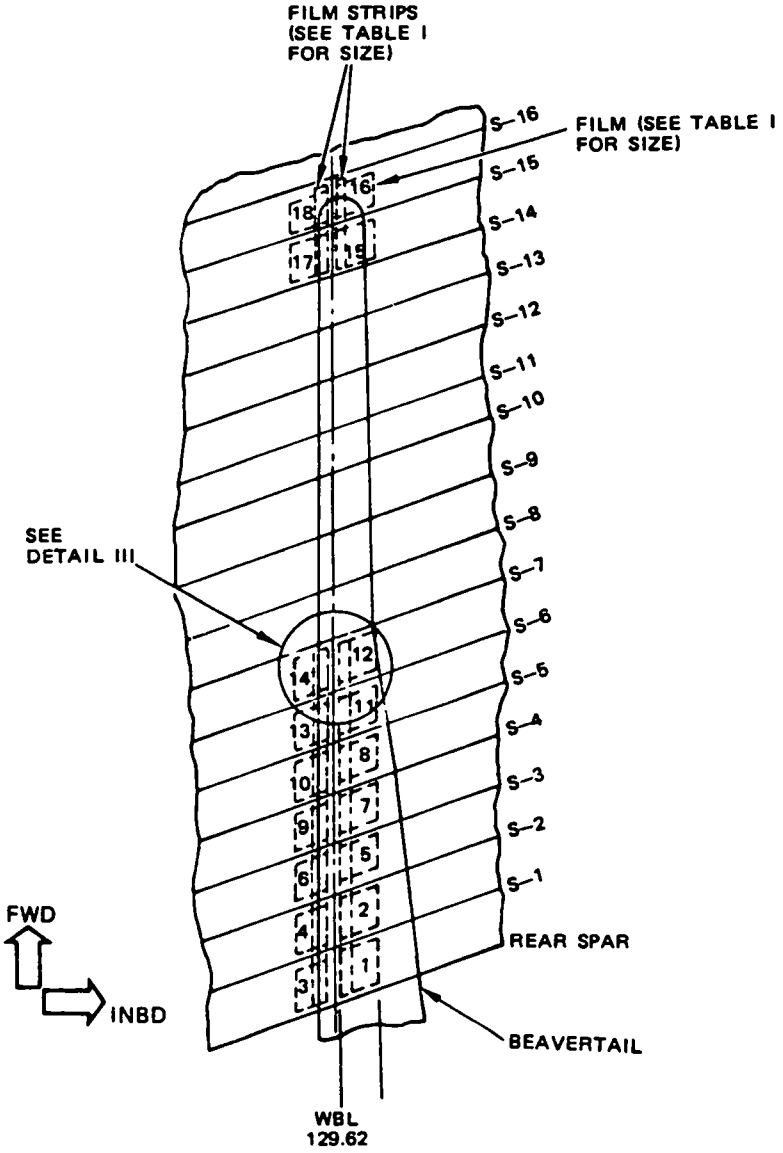


Upper Wing Skin Under Beavertail
Figure 5 (Sheet 7)



DETAIL I (CONT)

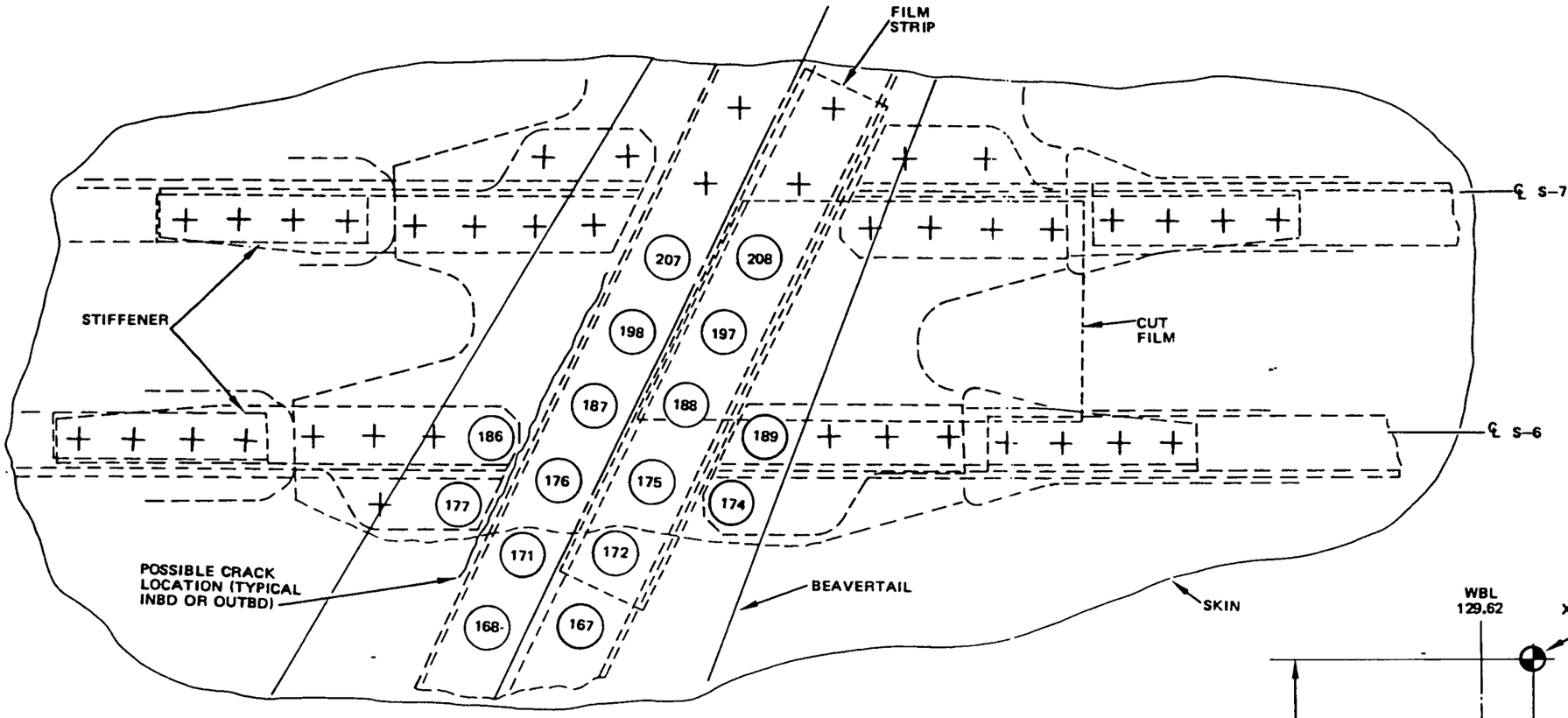
Upper Wing Skin Under Beavertail
Figure 5 (Sheet 8)



TYPICAL FILM AND FILM STRIP PLACEMENT MAP

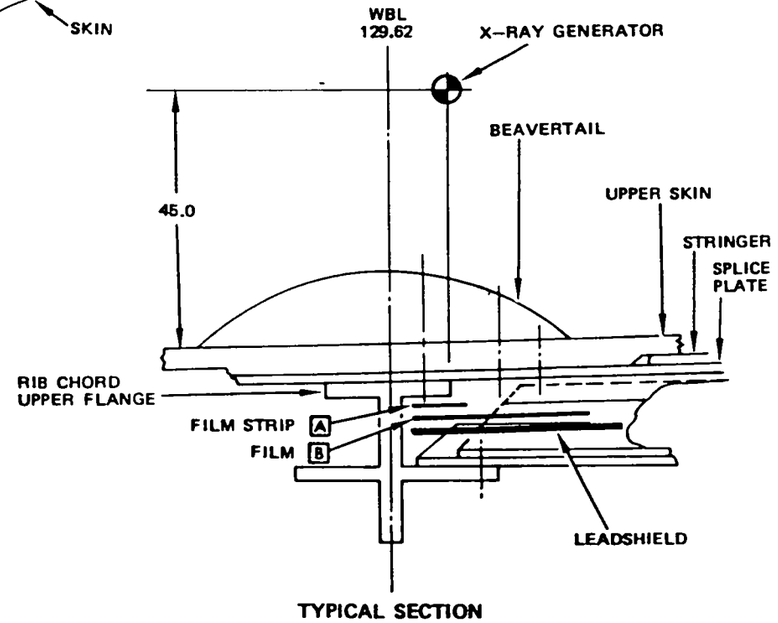
DETAIL II

Upper Wing Skin Under Beavertail
Figure 5 (Sheet 9)



FILM AND FILM STRIP PLACEMENT
(TYPICAL)

NOTES
- ● ALL DIMENSIONS IN INCHES
- [A] 2 X 14-INCH
- [B] FILM MAY BE SINGLE OR DOUBLE LOAD. SEE TABLE I. CUT FILM TO FIT BETWEEN STRINGERS.



TYPICAL SECTION

INSPECTION SET-UP (TYPICAL)

DETAIL III

Upper Wing Skin Under Beavertail
Figure 5 (Sheet 10)

PART 2 - X-RAY

WINGS - PLATES/SKIN

1. Purpose

   A. To detect cracks in the wing skin of the upper WBL 59.24 joint (beavertail) at selected fastener holes. This includes holes common to beavertail, skin, and rib chord as well as holes common to skin and stringer ends.

   B. This inspection requires wing tank entry. Fuel tank must be drained and purged to a "health safe" condition (as defined by Chapter 28 of the Maintenance Manual) before entering.

2. Equipment

   A. The equipment used to develop this technique is as follows:

      (1) Sperry, portable 160 KV, side emission X-ray generator

      (2) ASTM Class I and II ready pack film and lead packed I film

      (3) Lead shield to be placed behind film, 0.03-inch or thicker

3. Preparation for Inspection

   A. Drain and purge the appropriate fuel tanks to permit tank entry for film placement both inboard and outboard of the WBL 59.24 bulkhead.

4. Inspection Procedure

   A. Exposure No. 1

      WARNING: PRECAUTIONS AND SAFETY PROCEDURES CONTAINED IN CHAPTER 28 OF THE MAINTENANCE MANUAL MUST BE FOLLOWED BY PERSONNEL ENTERING ANY TANK THAT HAS CONTAINED FUEL. POSSIBILITY OF EXPLOSION AND TOXIC DANGER EXISTS IN VICINITY OF FUEL TANKS WHICH HAVE CONTAINED FUEL.

      (1) Identify film type required from Table I.

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 1)

(2) Place 2 x 14-inch film strip betwen the rib chord upper flange and the stringer tie. See Details III and IV.

(3) Cut additional film of the type identified in Table I to fit between rear spar and stringer S-1 and between stringers S-1 and S-2. Film should cover area between stringers from inner chord to approximately 1-inch past edge of external chord (beavertail). See Details III and IV.

(4) Place lead screens behind film to prevent excessive film fogging from backscatter.

(5) Position the X-ray generator so that the X-ray beam is perpendicular to the upper wing skin and centered over fasteners to be inspected. See Detail I or II, Exposure No. 1, and Detail IV.

(6) Make the radiographic exposure using the Table I generator settings as a guide. Film density in the area to be inspected should be between 1.5 and 3.

B. For Exposures No. 2 thru 14, repeat steps used for Exposure No. 1.

C. Review film, paying special attention to those fasteners marked in Detail I or II for potential cracks running generally in a forward and aft direction.

NOTE: Refer to Detail I for location of inspection fasteners for airplane cum line numbers up to 671 and to Detail II for location of inspection fasteners for airplane cum line numbers 672 and on.

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 2)

EXPOSURE NUMBER	FILM			SFD	GENERATOR SETTINGS	
	POSITION	ASTM CLASS	SIZE		KV	MAS
1	1 AND 2	II AND I [A] II	CUT TO FIT [B] 2 x 14	48	140	2150
2	3 AND 4	II AND I [A] II	CUT TO FIT [B] 2 x 14	48	140	2150
3	5 AND 6	II AND I [A] II	CUT TO FIT [B] 2 x 14	48	140	1600
4	7 AND 8	II AND I [A] II	CUT TO FIT [B] 2 x 14	48	140	1600
5	9 AND 10	II AND I [A] II	CUT TO FIT [B] 2 x 14	48	140	1350
6	11 AND 12	II AND I [A] II [A]	CUT TO FIT [B] 2 x 14	48	140	1350
7	13 AND 14	I [A] I [A]	CUT TO FIT [B] 2 x 14	48	130	1250
8	15 AND 16	I [A] I [A]	CUT TO FIT [B] 2 x 14	48	130	1250
9	17 AND 18	I [A] I [A]	CUT TO FIT [B] 2 x 14	48	120	1450
10	19 AND 20	I [A] I [A]	CUT TO FIT [B] 2 x 14	48	120	1450
11	21 AND 22	I [A] I [A]	CUT TO FIT [B] 2 x 14	48	120	1600
12	23 AND 24	I [A] I [A]	CUT TO FIT [B] 2 x 14	48	120	1600
13	25 AND 26	I [A] I [A]	CUT TO FIT [B] 2 x 14	48	120	1600
14	27 AND 28	I [A] I [A]	CUT TO FIT [B] 2 x 14	48	120	1600

NOTES

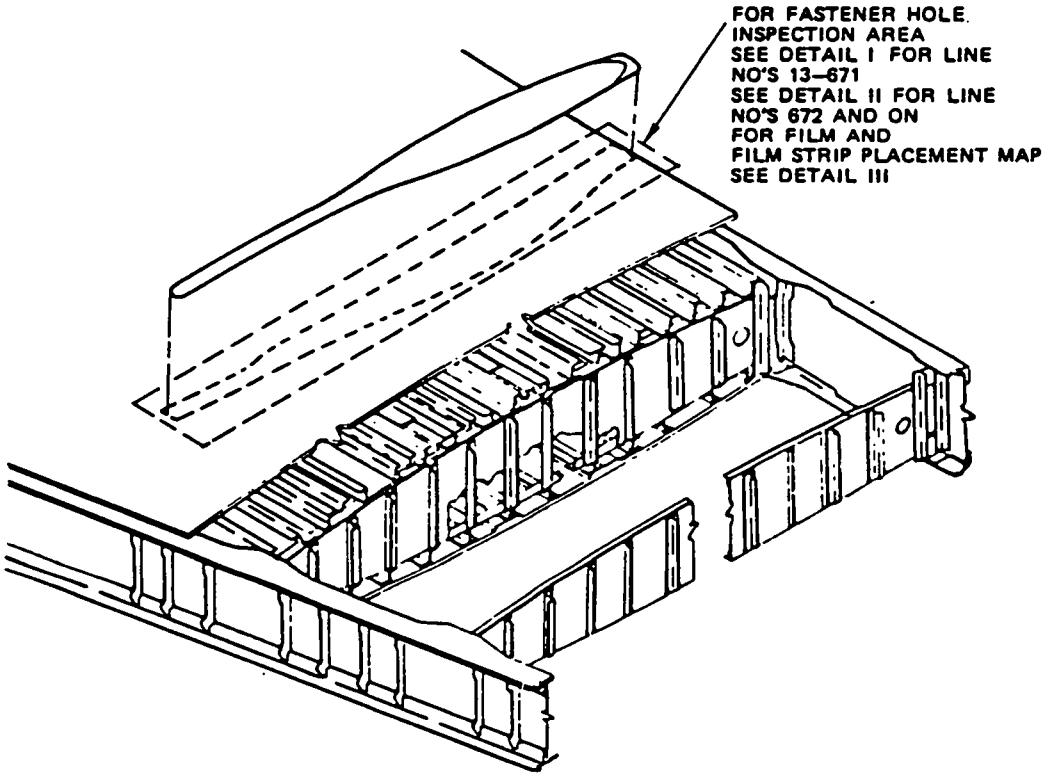
- ALL DIMENSIONS ARE IN INCHES

[A] LEAD PACK

[B] CUT FILM TO FIT BETWEEN STRINGERS AND TO EXTEND ONE INCH PAST EDGE OF BEAVERTAIL (EXTERNAL CHORD)

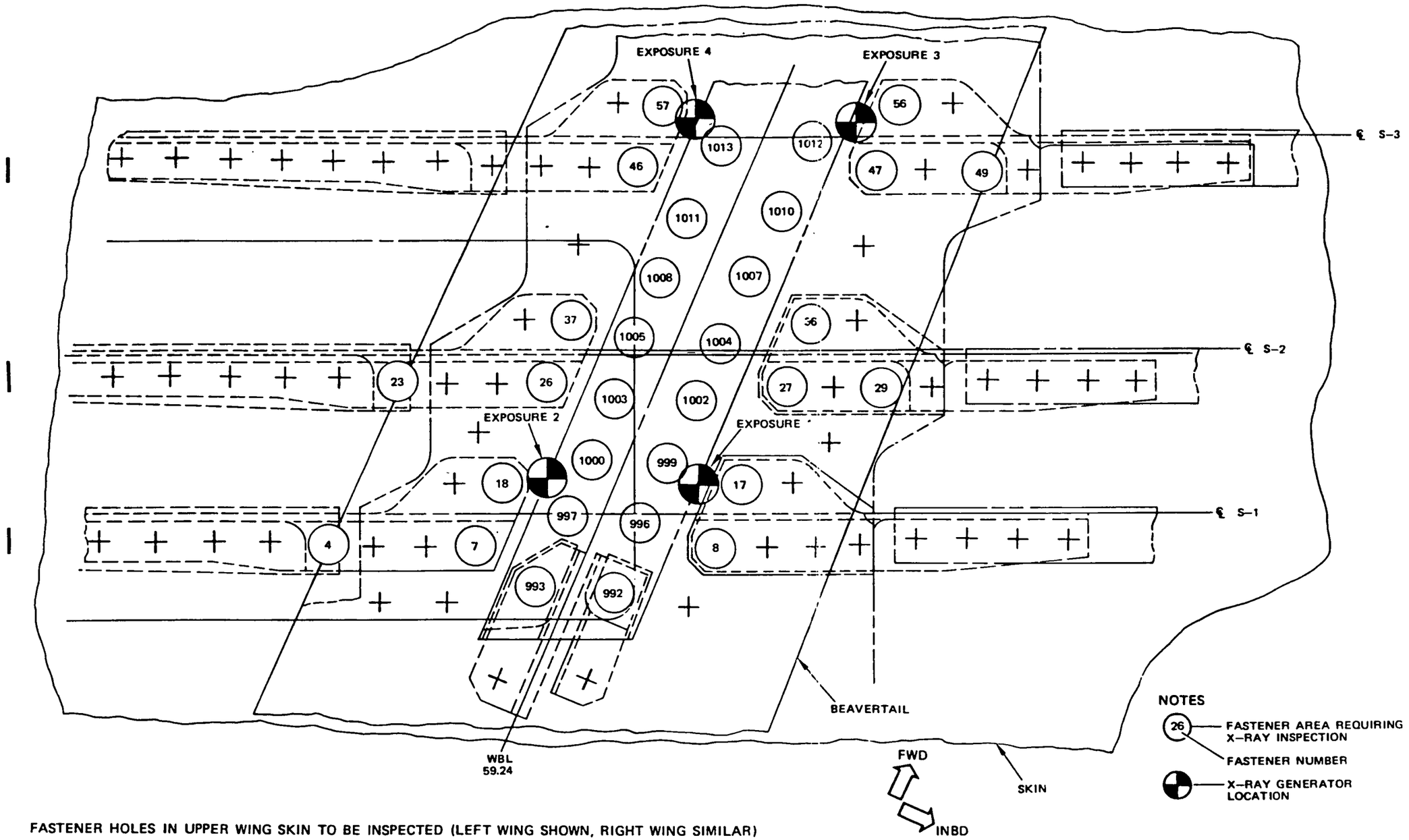
X-RAY PARAMETERS
TABLE I

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 3)



UPPER WING SKIN AT BEAVERTAIL

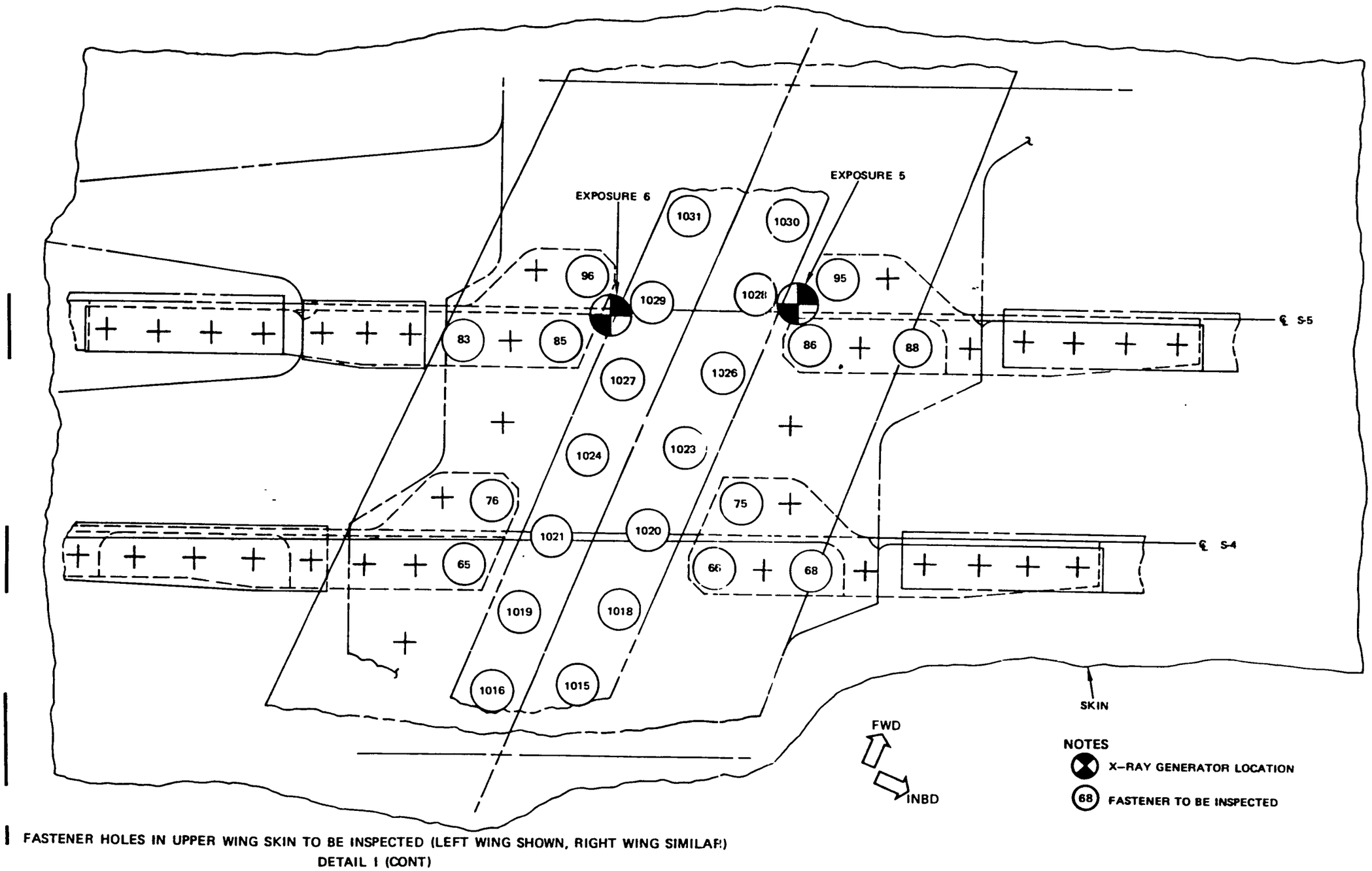
Upper Wing Skin Under Beavertail
Figure 6 (Sheet 4)



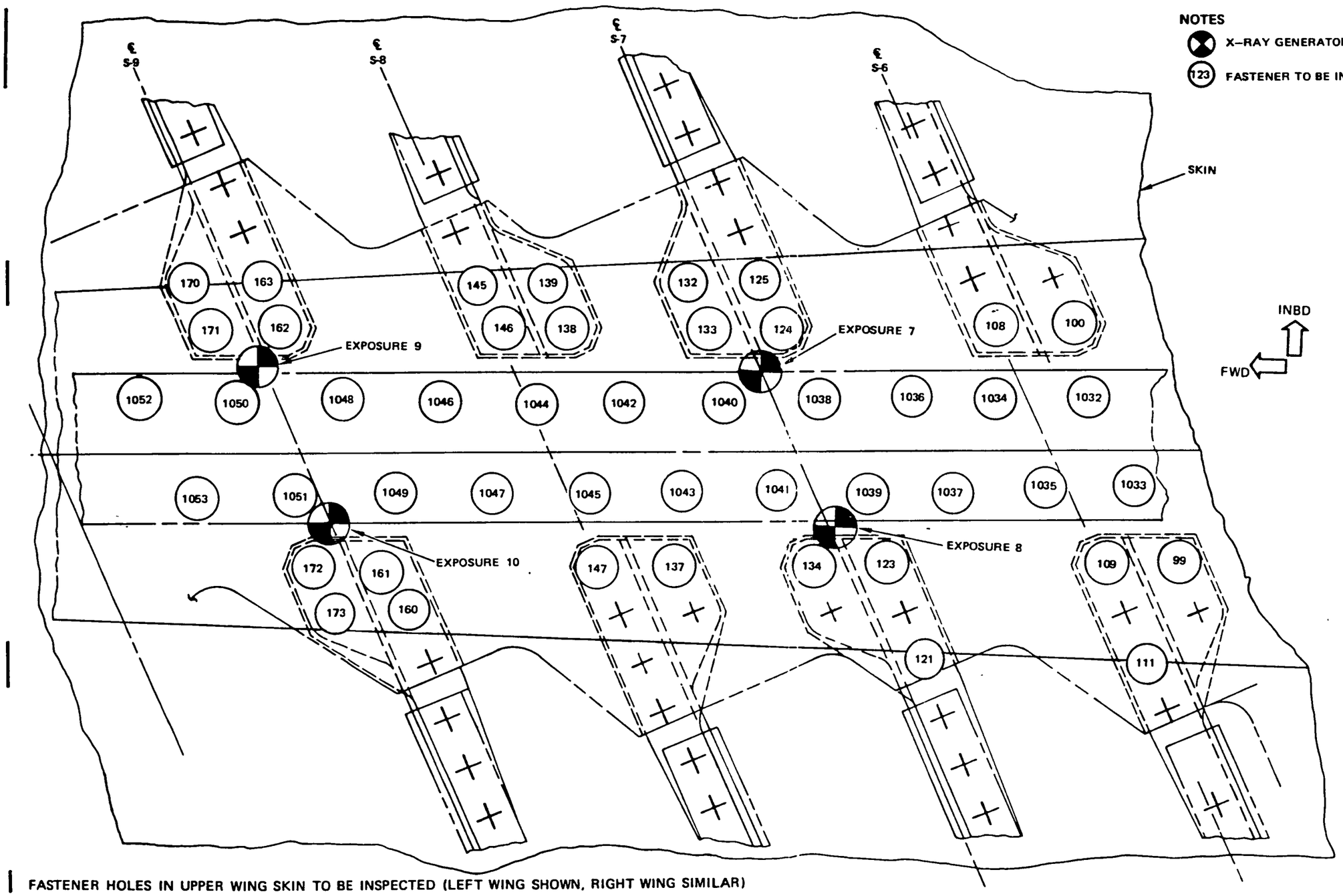
FASTENER HOLES IN UPPER WING SKIN TO BE INSPECTED (LEFT WING SHOWN, RIGHT WING SIMILAR)

DETAIL I

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 5)

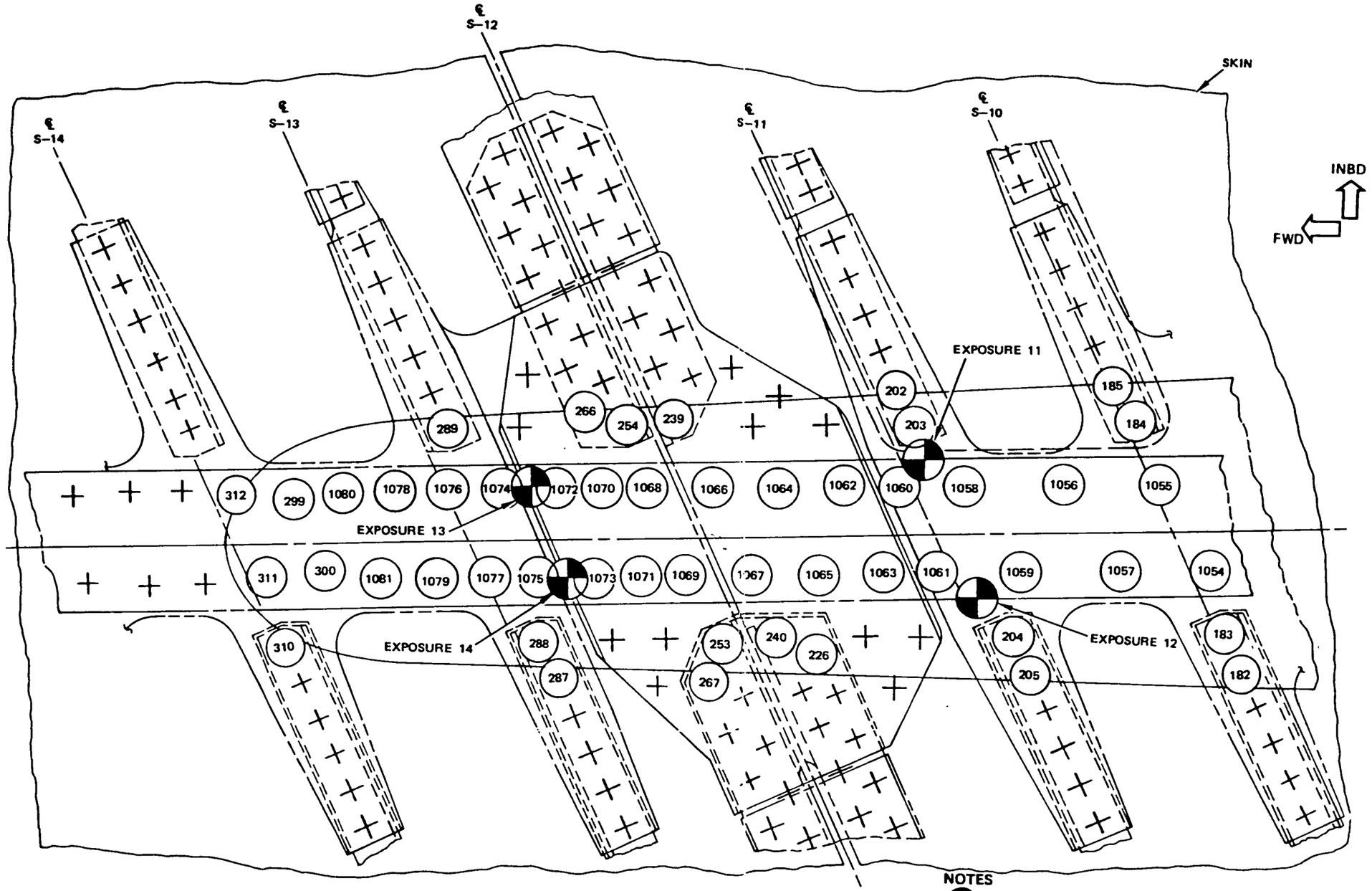


FASTENER HOLES IN UPPER WING SKIN TO BE INSPECTED (LEFT WING SHOWN, RIGHT WING SIMILAR)
DETAIL 1 (CONT)
Upper Wing Skin Under Beavertail
Figure 6 (Sheet 6)



FASTENER HOLES IN UPPER WING SKIN TO BE INSPECTED (LEFT WING SHOWN, RIGHT WING SIMILAR)
DETAIL 1 (CONT)

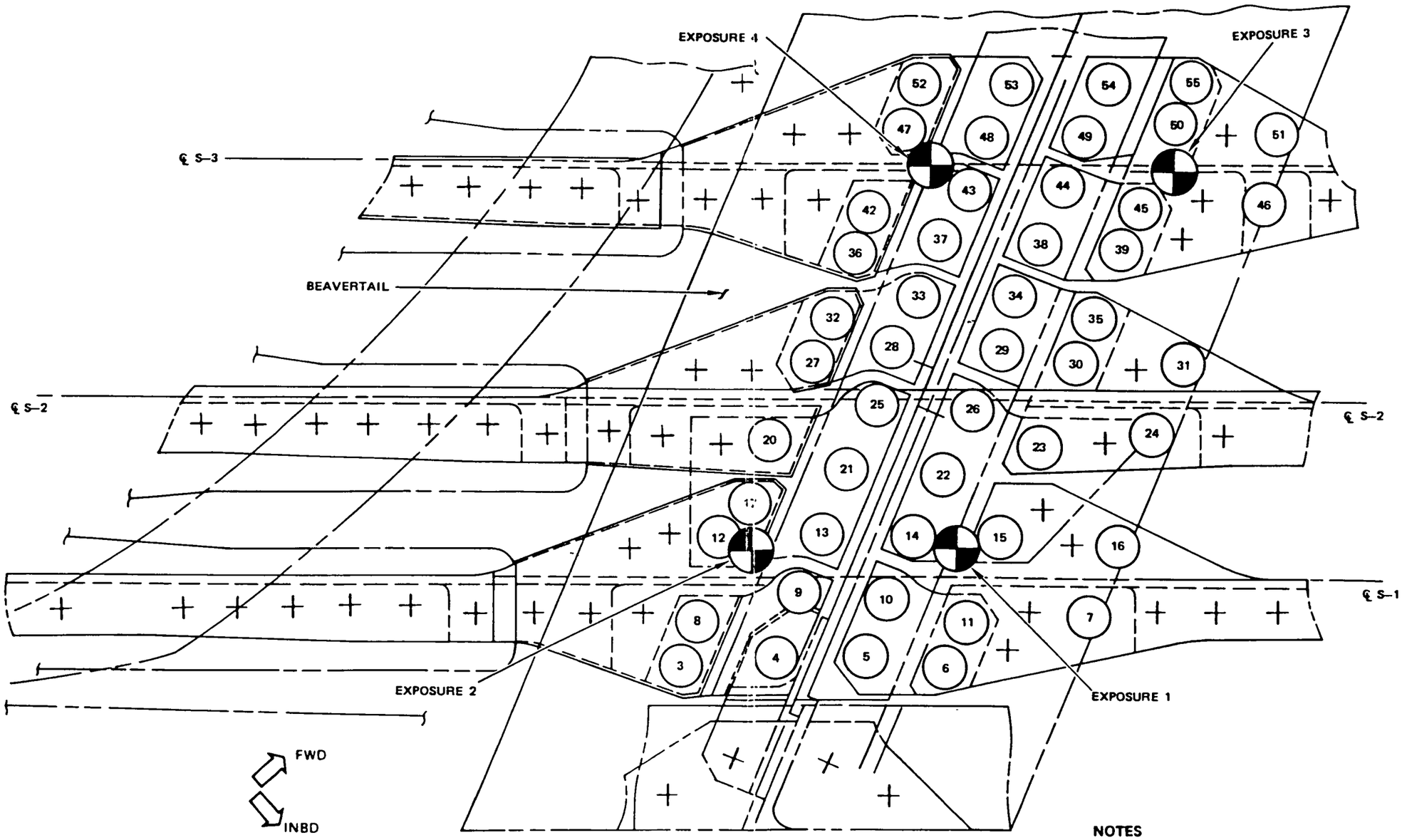
Upper Wing Skin Under Beavertail
Figure 6 (Sheet 7)



NOTES
- X–RAY GENERATOR LOCATION
- 310 FASTENER TO BE INSPECTED

FASTENER HOLES IN UPPER WING SKIN TO BE INSPECTED (LEFT WING SHOWN, RIGHT WING SIMILAR)
DETAIL I (CONT)

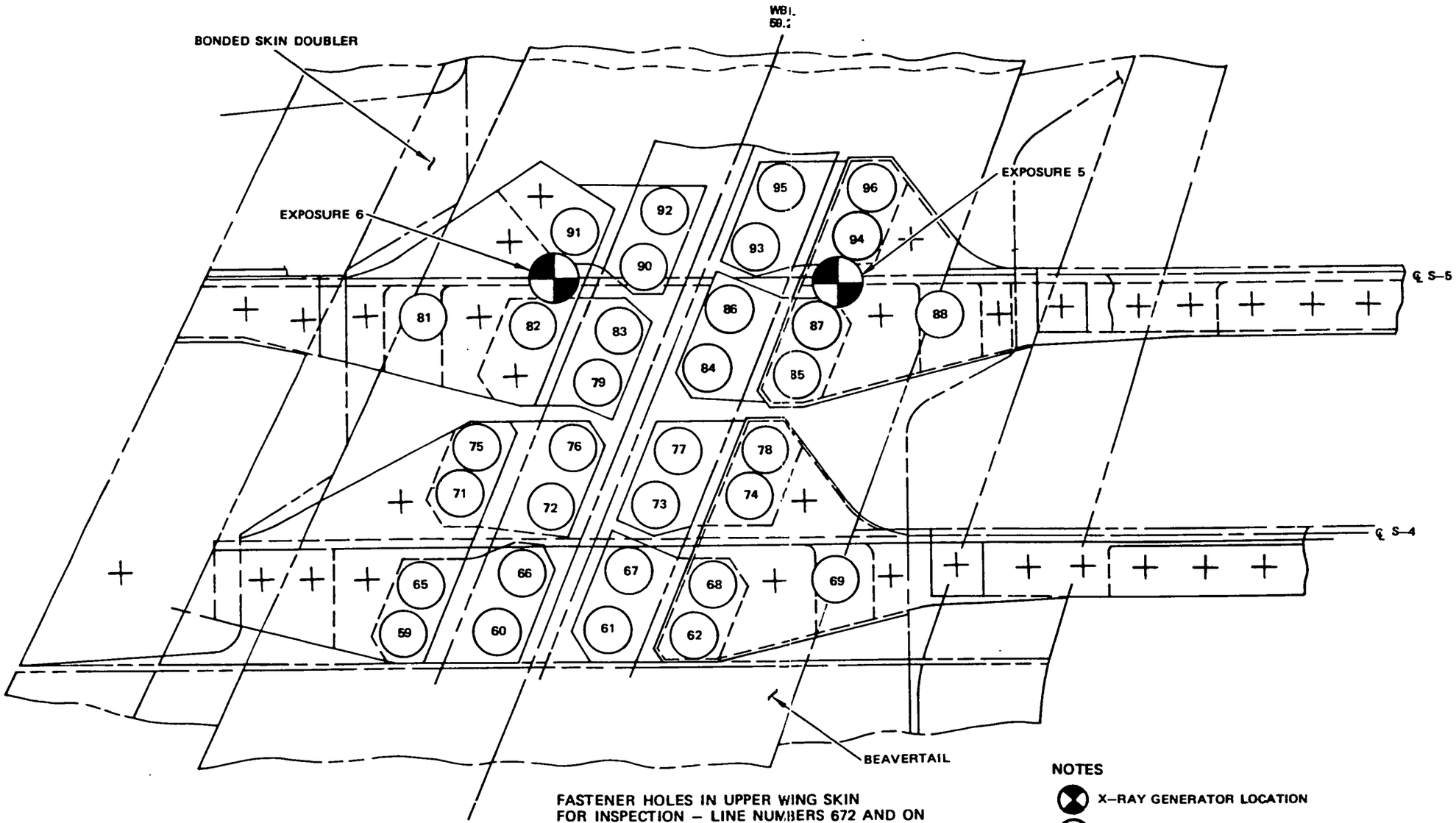
Upper Wing Skin Under Beavertail
Figure 6 (Sheet 8)



FASTENER HOLES IN UPPER WING SKIN FOR INSPECTION – LINE NUMBERS 672 AND ON (LEFT WING SHOWN, RIGHT WING SIMILAR)

DETAIL 1

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 9)



FASTENER HOLES IN UPPER WING SKIN
FOR INSPECTION – LINE NUMBERS 672 AND ON
(LEFT WING SHOWN, RIGHT WING SIMILAR)

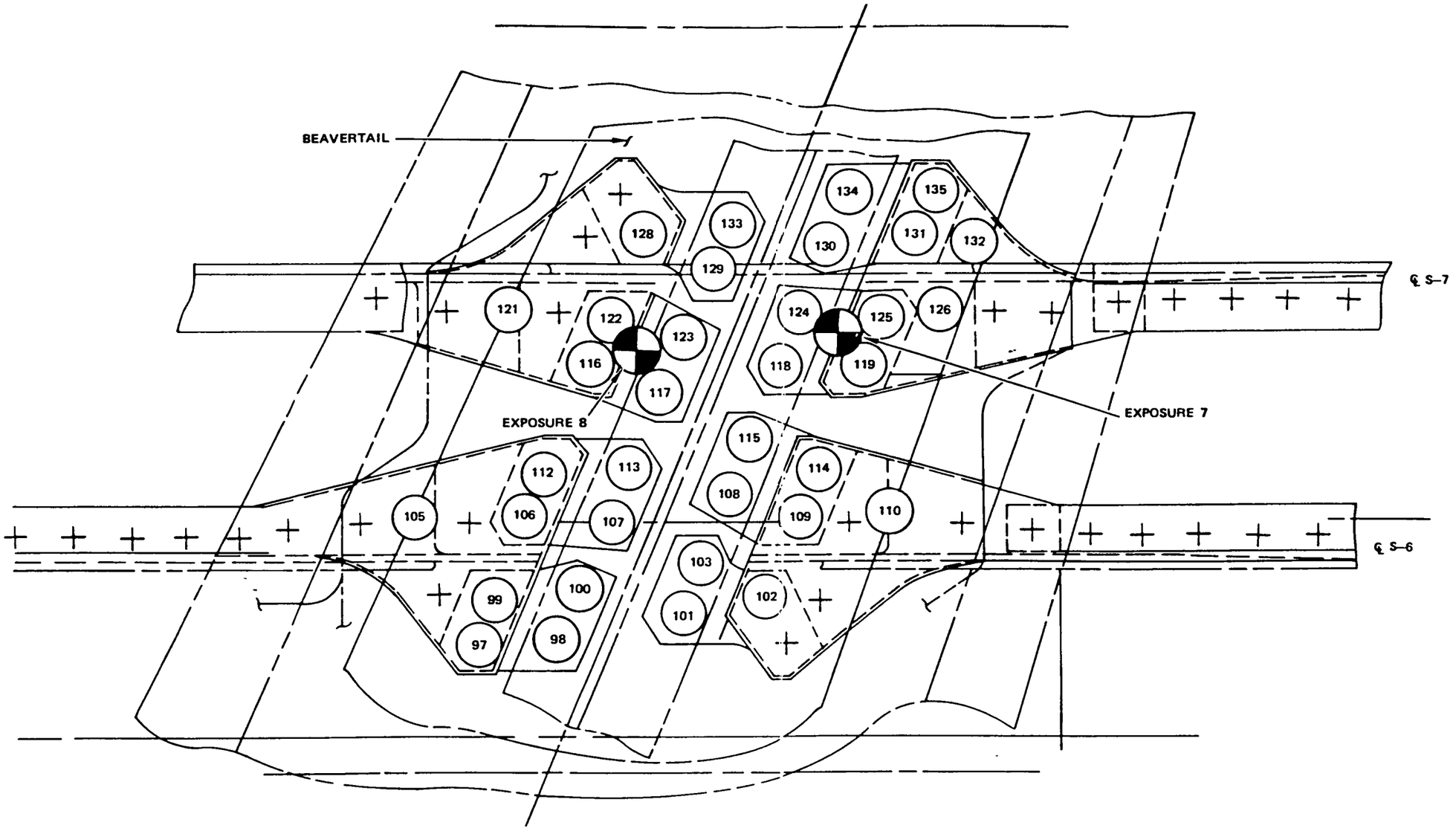
DETAIL II (CONT)

NOTES

⊗ X-RAY GENERATOR LOCATION

(60) FASTENER TO BE INSPECTED

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 10)



FASTENER HOLES IN UPPER WING SKIN FOR INSPECTION – LINE NUMBERS 672 AND ON (LEFT WING SHOWN, RIGHT WING SIMILAR)

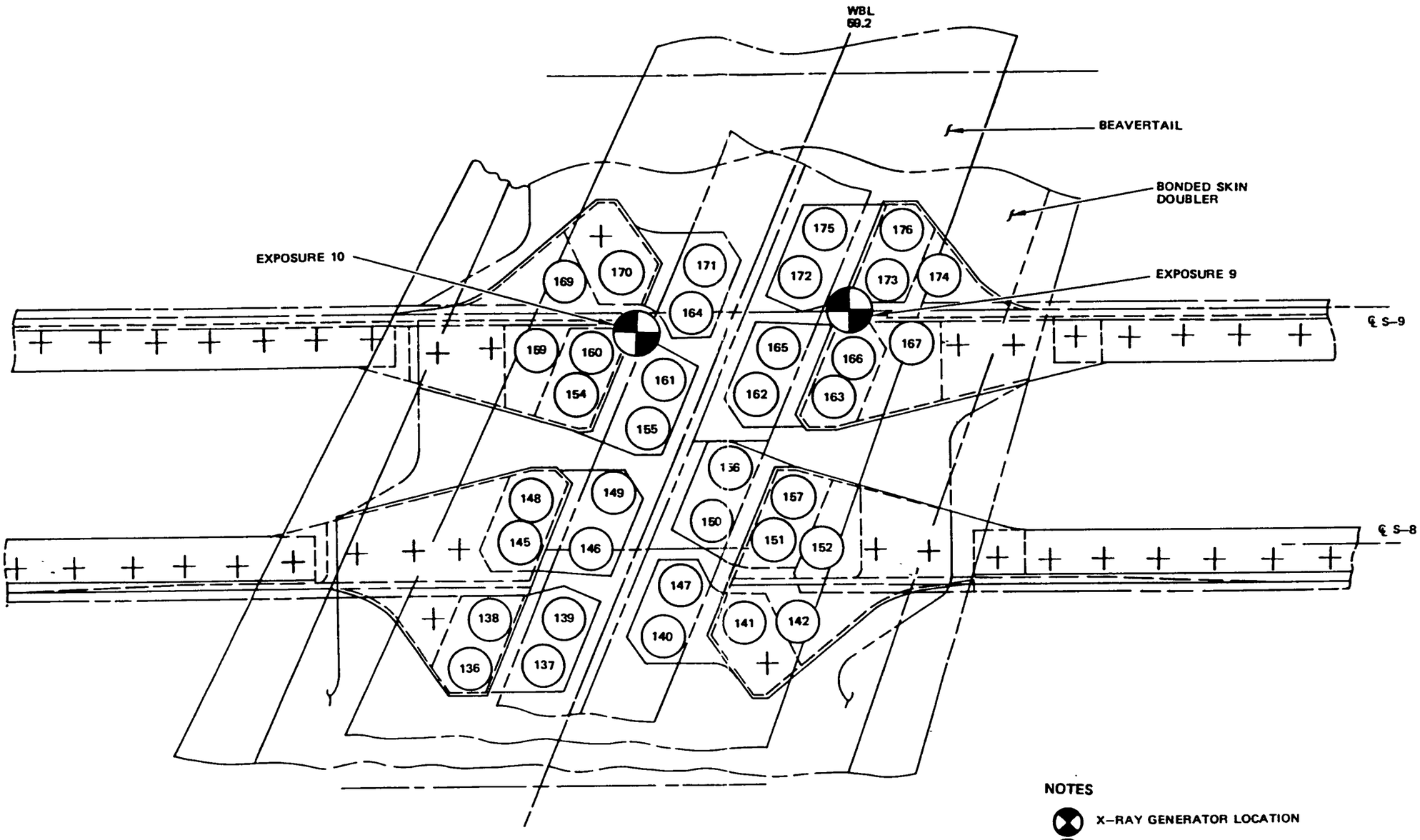
DETAIL II (CONT)

NOTES

X–RAY GENERATOR LOCATION

(121) FASTENER TO BE INSPECTED

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 11)



NOTES

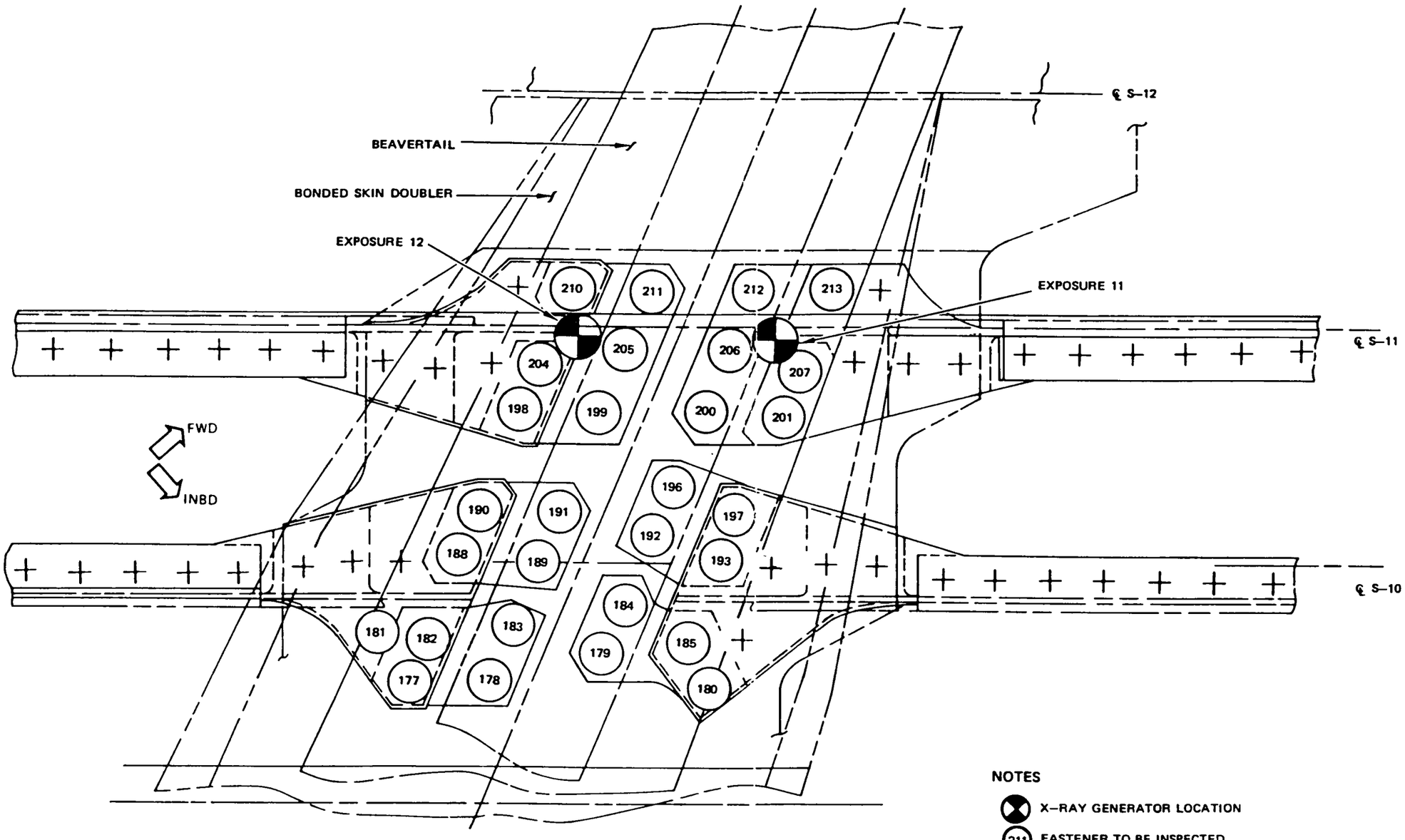
X-RAY GENERATOR LOCATION

(137) FASTENER TO BE INSPECTED

FASTENER HOLES IN UPPER WING FOR INSPECTION – LINE NUMBERS 672 AND ON (LEFT WING SHOWN, RIGHT W NG SIMILAR)

DETAIL II (CONT)

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 12)



NOTES

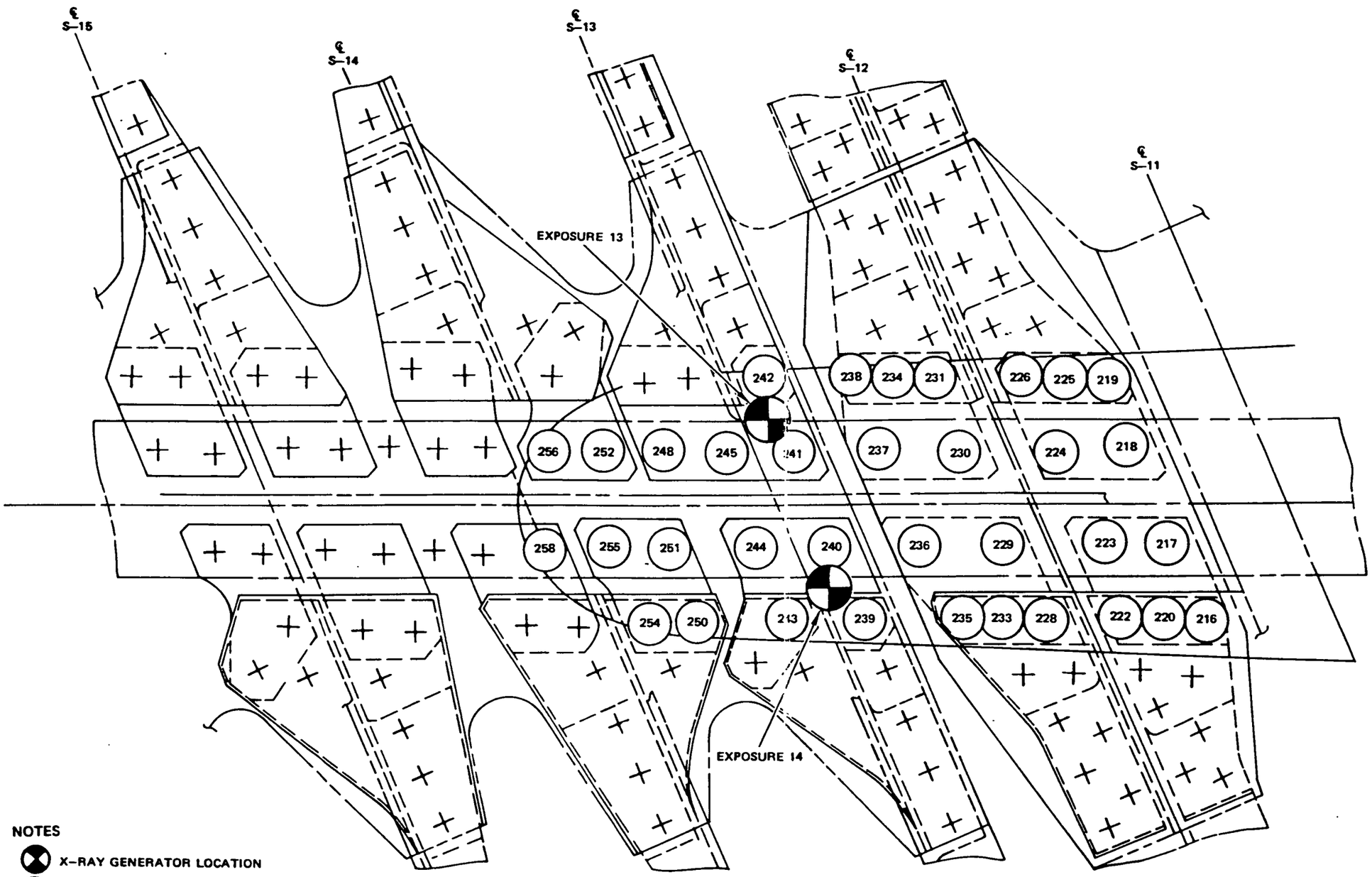
X–RAY GENERATOR LOCATION

(211) FASTENER TO BE INSPECTED

FASTENER HOLES IN UPPER WING FOR INSPECTION – LINE NUMBERS 672 AND ON (LEFT WING SHOWN, RIGHT WING SIMILAR)

DETAIL II (CONT)

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 13)



NOTES

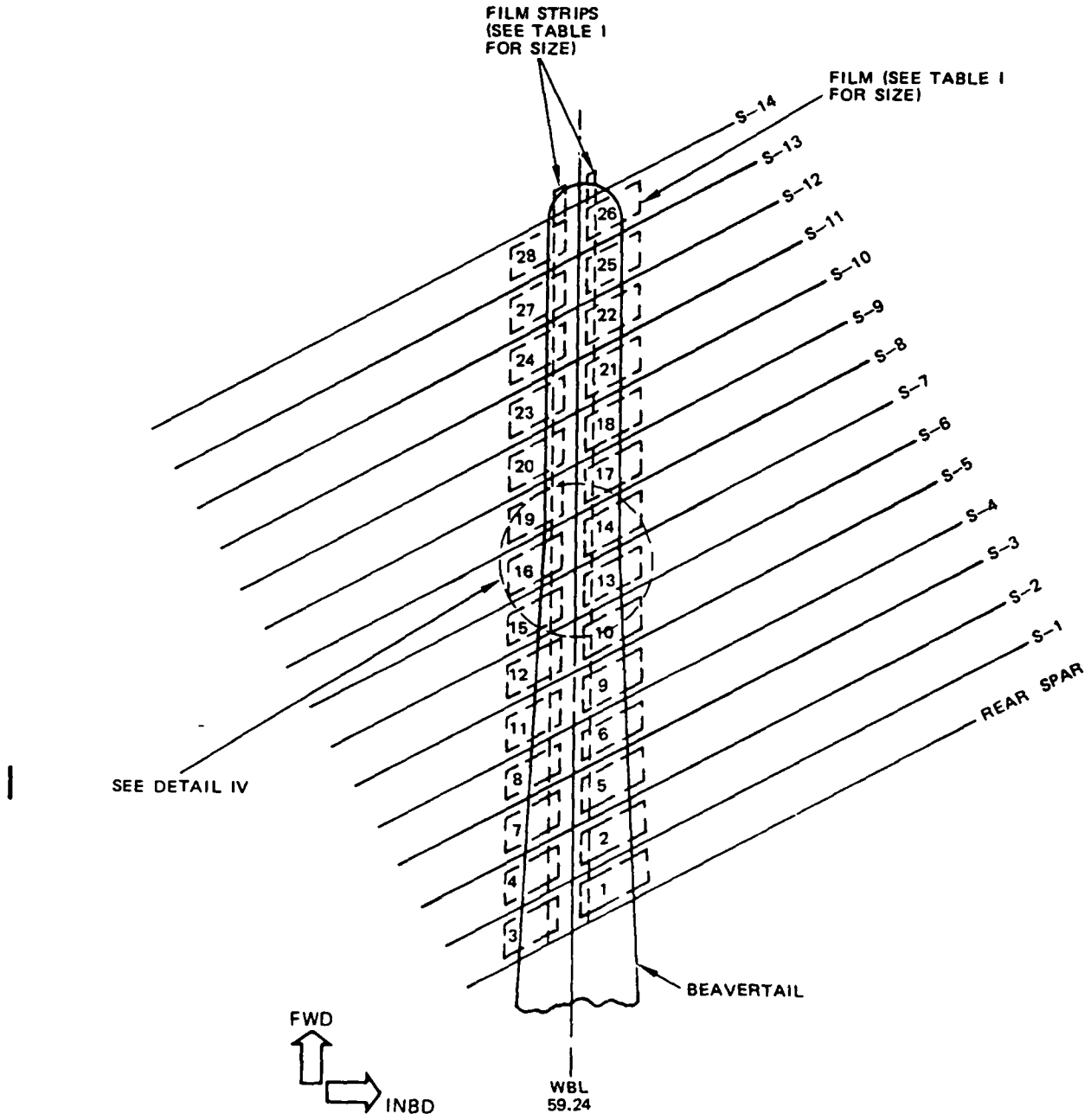
X–RAY GENERATOR LOCATION

256 FASTENER TO BE INSPECTED

FASTENER HOLES IN UPPER WING SKIN FOR INSPECTION – LINE NUMBERS 672 AND ON (LEFT WING SHOWN, RIGHT WING SIMILAR)

DETAIL II (CONT)

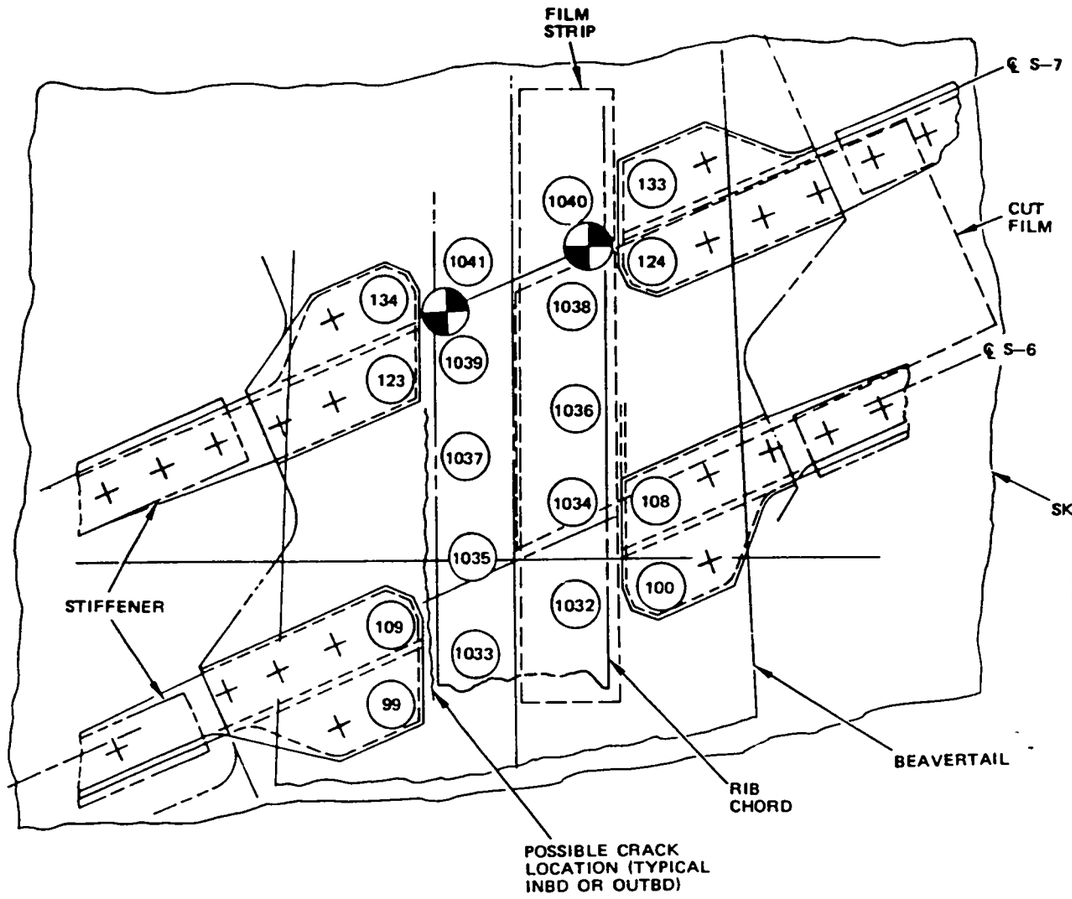
Upper Wing Skin Under Beavertail
Figure 6 (Sheet 14)



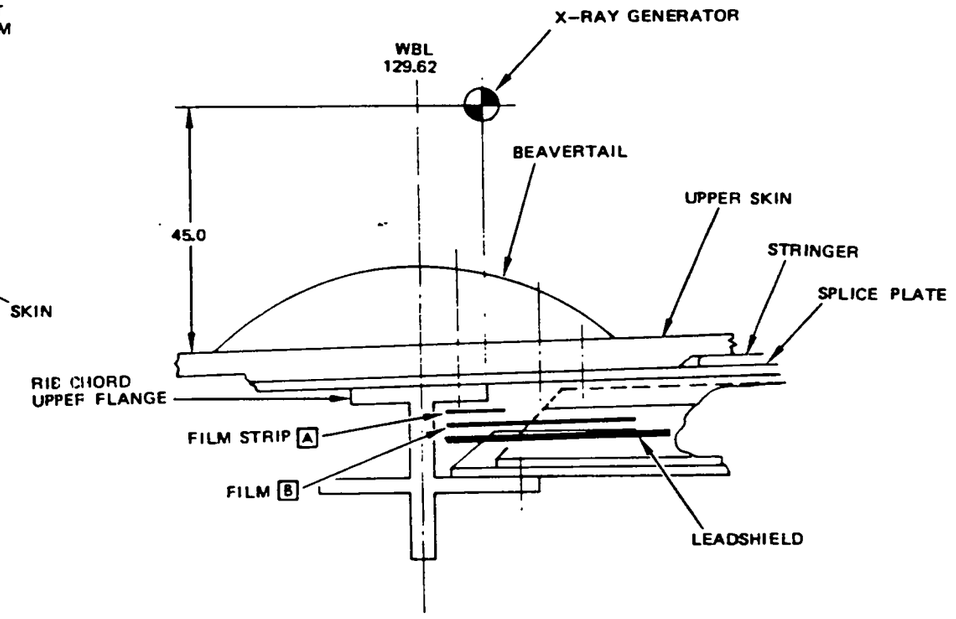
TYPICAL FILM AND FILM STRIP PLACEMENT MAP

DETAIL III

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 15)



FILM AND FILM STRIP PLACEMENT
(TYPICAL)



TYPICAL SECTION

NOTES
- ALL DIMENSIONS ARE IN INCHES
- X-RAY GENERATOR LOCATION
- 99 FASTENER TO BE INSPECTED
- [A] 2X14-INCH
- [B] FILM MAY BE SINGLE OR DOUBLE LOAD. SEE TABLE I. CUT FILM TO FIT BETWEEN STRINGERS.

INSPECTION SET-UP (TYPICAL)
DETAIL IV

Upper Wing Skin Under Beavertail
Figure 6 (Sheet 16)

PART 2 - X-RAY

WINGS - PLATES/SKIN

1. Purpose

   A. To detect cracks in the lower wing skin under the BBL 70.5 steel splice plate at selected fastener holes from stringer S-1 to S-10 and S-18. This includes holes common to steel splice plate, skin, and rib chord as well as holes common to skin and stringer ends. See Detail I.

   B. This inspection requires wing tank entry. Fuel tank must be drained and purged to a "health safe" condition (as defined by Chapter 28 of the Maintenance Manual) before entering.

2. Equipment

   A. The equipment used to develop this technique is as follows:

      (1) Sperry, portable 160 KV, side emission X-ray generator

      (2) ASTM Class I and II film and Class I and II lead pack film

      (3) Lead shield to be placed behind film, 0.03-inch or thicker

3. Preparation for Inspection

   A. Drain and purge the appropriate fuel tank to permit tank entry for film placement outboard of the BBL 70.5 bulkhead.

   B. Remove boost pump screen between stringers S-10 and S-11.

4. Inspection Procedure

   A. Exposure No. 1

      WARNING: PRECAUTIONS AND SAFETY PROCEDURES CONTAINED IN CHAPTER 28 OF THE MAINTENANCE MANUAL MUST BE FOLLOWED BY PERSONNEL ENTERING ANY TANK THAT HAS CONTAINED FUEL. POSSIBILITY OF EXPLOSION AND TOXIC DANGER EXISTS IN VICINITY OF FUEL TANKS WHICH HAVE CONTAINED FUEL.

      (1) Identify X-ray film requirement from Table I.

      (2) Place 2 x 8-inch film strip between the rib chord flange and the stringer tie. See Details II and III.

Lower Wing Skin under BBL 70.5 Splice Plate
707-100/200 Airplanes
Figure 7 (Sheet 1)

(3) Cut additional film of the type identified in Table I to fit between rear spar and Stringer S-1, between Stringers S-1 and S-2, and between Stringers S-2 and S-3. Film should cover area between stringers and bulkhead to approximately one inch past the fastener to be inspected. See Details II and III.

(4) Place lead screens behind film to prevent excessive film fogging from backscatter.

(5) Position the X-ray generator so that the X-ray beam is perpendicular to the lower wing skin and centered over fasteners to be inspected. See Detail I, Exposure No. 1, and Detail III.

(6) Make the radiographic exposure using the Table I generator settings as a guide. Film density in the area to be inspected should be between 2 and 3.

B. For Exposures No. 2 thru 6, repeat steps used for Exposure No. 1.

C. Review film paying special attention to those fasteners marked in Detail I for potential cracks runnnng generally in a forward and aft direction.

Lower Wing Skin under BBL 70.5 Splice Plate
707-100/200 Airplanes
Figure 7 (Sheet 2)

EXPOSURE NO.	FILM			SFD	GENERATOR SETTINGS	
	POSITION NO.	ASTM CLASS	SIZE		KV	MAS
1	1, 2, 3	II, II [A]	CUT TO FIT [B]	48	140	1600
		II [A]	2 X 14			
2	4 AND 5	II, I [A]	CUT TO FIT [B]	48	140	1600
		II	2 X 14			
3	6 AND 7	II	CUT TO FIT [B]	48	140	1600
		II	2 X 14			
4	8 AND 9	I [A]	CUT TO FIT [B]	48	140	1600
		I [A]	2 X 14			
5	10, 11 AND 12	I AND II	CUT TO FIT [B]	48	120	1600
		II	2 X 14			
6	13 AND 14	I AND II	CUT TO FIT [B]	48	120	1600
		II	2 X 14			

X-RAY PARAMETERS
TABLE I

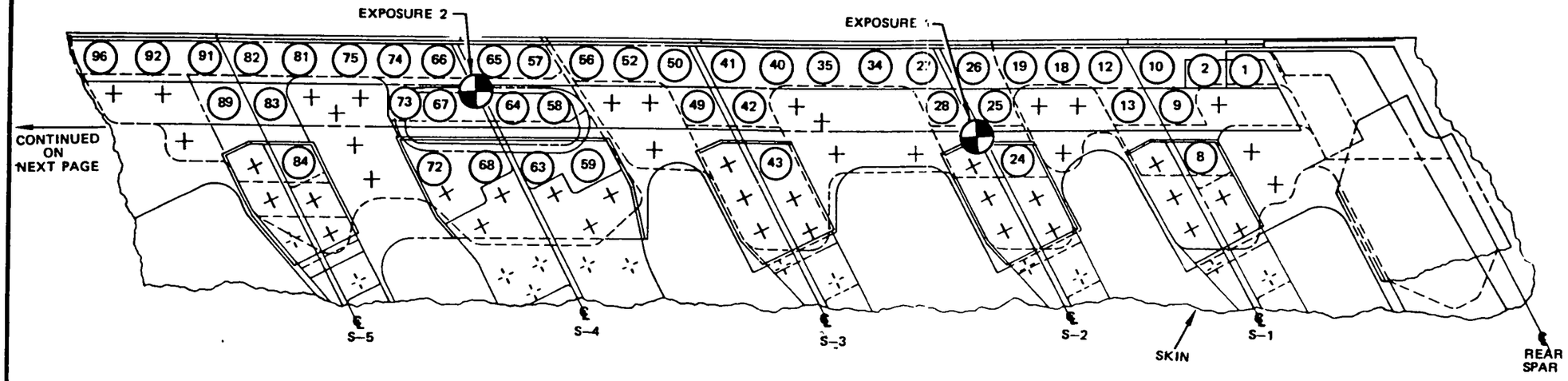
NOTES:

- ALL DIMENSIONS ARE IN INCHES

[A] LEAD PACK

[B] CUT FILM TO FIT BETWEEN STRINGERS, APPROXIMATE LENGTH 7 INCHES

Lower Wing Skin under BBL 70.5 Splice Plate
707-100/200 Airplanes
Figure 7 (Sheet 2A)



NOTES

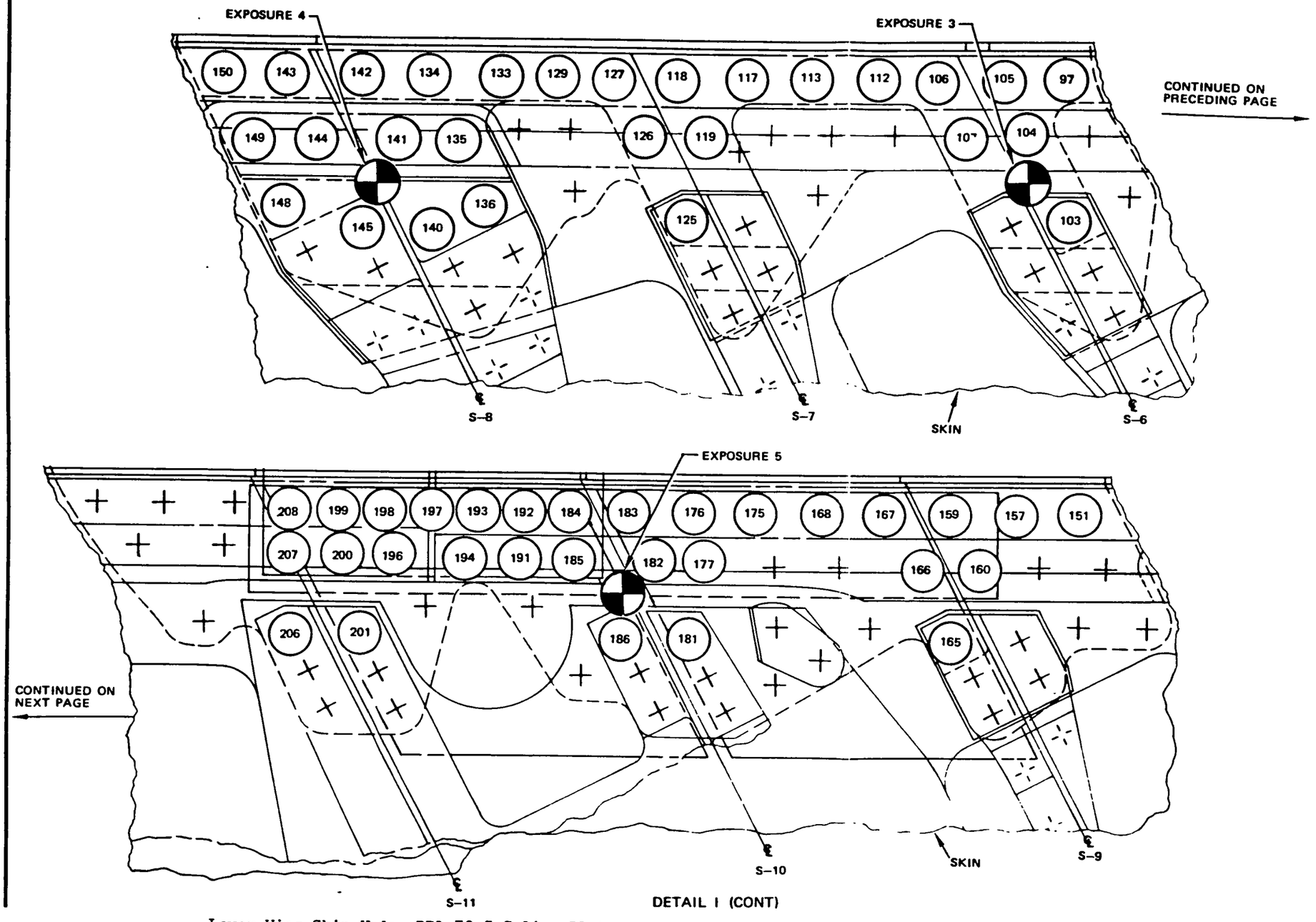
(91) FASTENER TO BE INSPECTED

X-RAY GENERATOR LOCATION

FASTENER LOCATIONS TO BE INSPECTED
LOWER BBL 70.5 SPLICE
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)

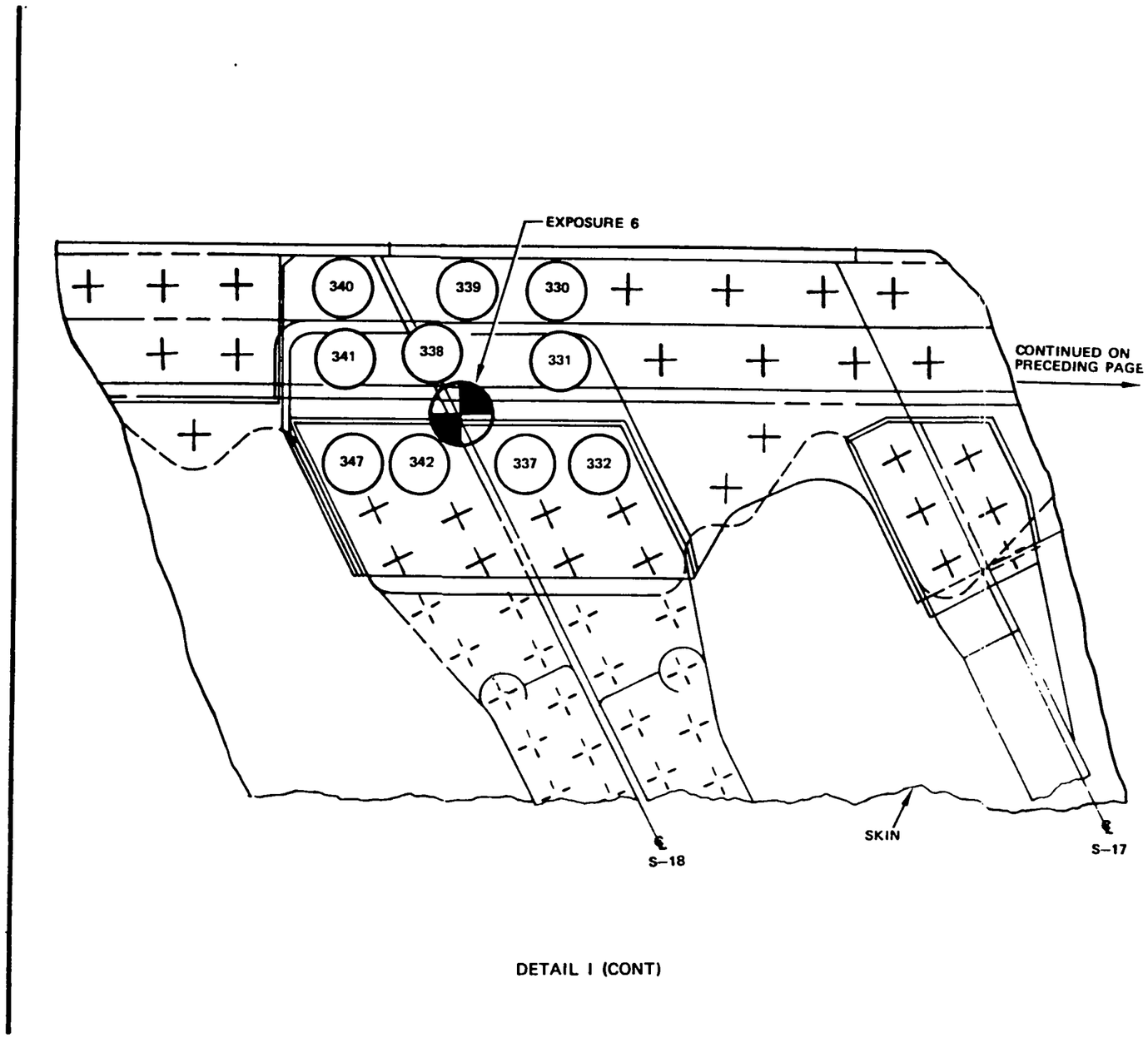
DETAIL I

Lower Wing Skin Under BBL 70.5 Splice Plate
707-100/200 Airplanes
Figure 7 (Sheet 3)

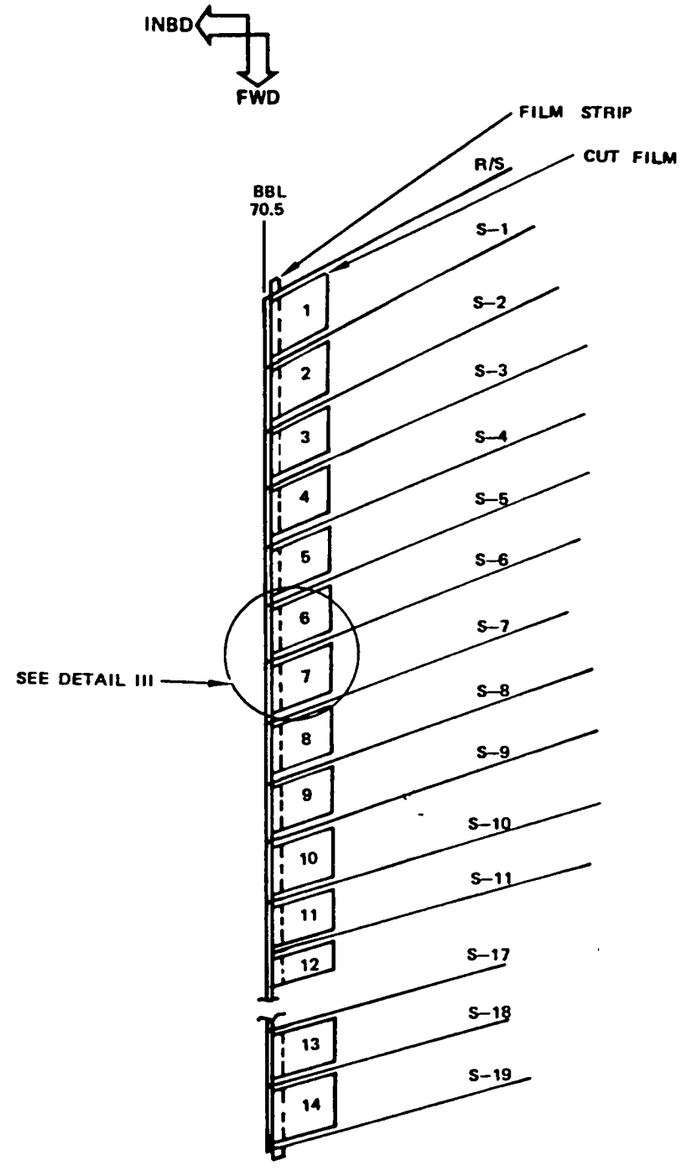


DETAIL I (CONT)

Lower Wing Skin Under BBL 70.5 Splice Plate
707-100/200 Airplanes
Figure 7 (Sheet 4)

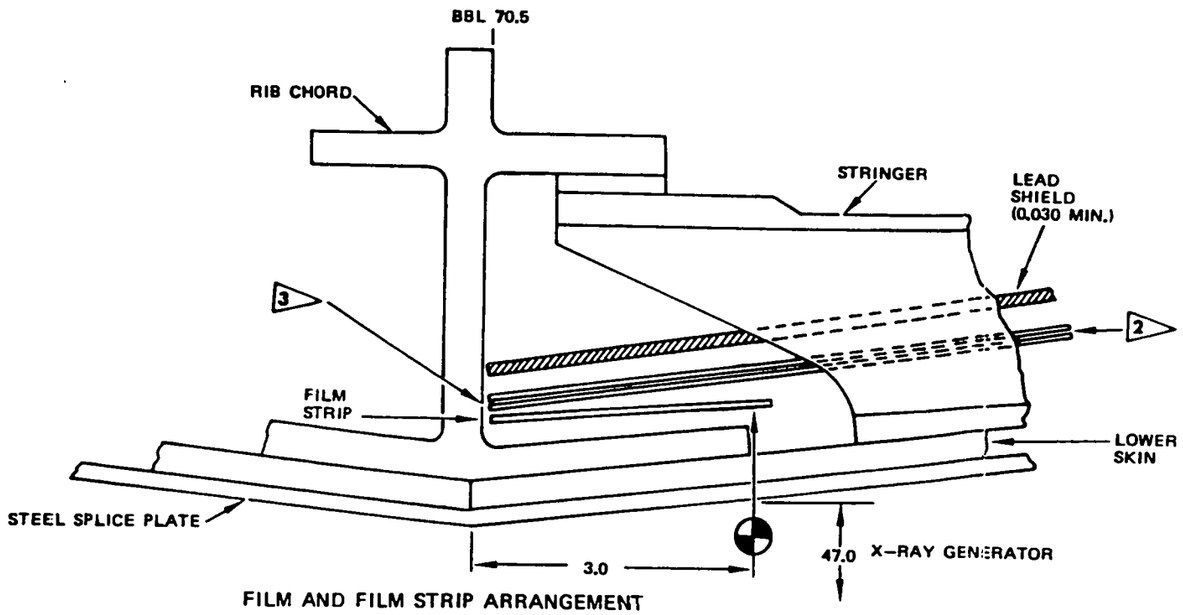


DETAIL I (CONT)



FILM AND FILM STRIP PLACEMENT MAP
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)
DETAIL II

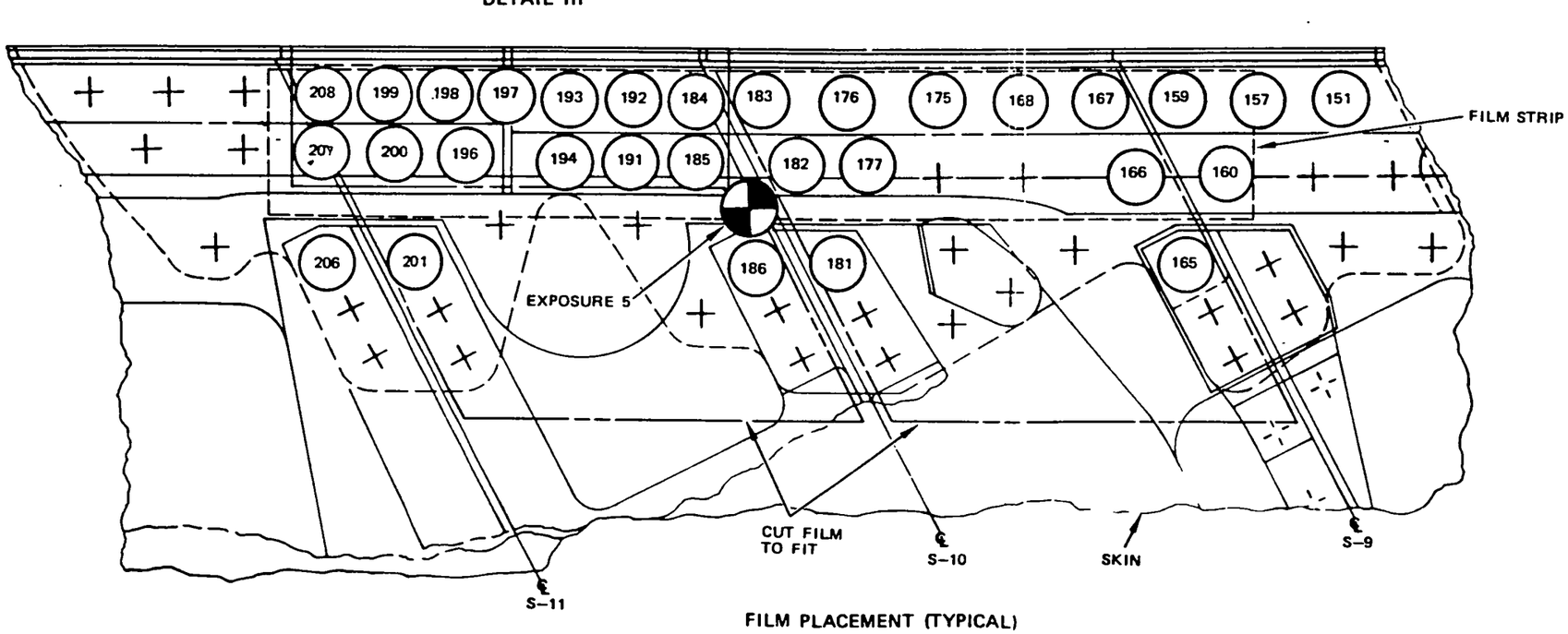
Lower Wing Skin Under BBL 70.5 Splice Plate
707-100/200 Airplanes
Figure 7 (Sheet 5)



FILM AND FILM STRIP ARRANGEMENT
(TYPICAL CROSS SECTION)
DETAIL III

NOTES

- ALL DIMENSIONS ARE IN INCHES
- 1 FILM STRIP (2 X 14) SEE TABLE I FOR FILM TYPE AND DETAIL II FOR FILM PLACEMENT
- 2 CUT FILM TO FIT BETWEEN STRINGERS. DOUBLE OR SINGLE LOAD AS REQUIRED. SEE TABLE I FOR FILM TYPE AND DETAIL II FOR FILM PLACEMENT
- 3 PLACE FILM AND LEAD SHIELD AGAINST RIB CHORD



FILM PLACEMENT (TYPICAL)

Lower Wing Skin Under BBL 70.5 Splice Plate
707-100/200 Airplanes
Figure 7 (Sheet 6)

PART 2 - X-RAY

WINGS - PLATES/SKIN

1. Purpose

   A. To detect cracks in the lower wing skin under the BBL 70.5 splice plate at selected fastener holes. This includes holes common to steel splice plate, skin, and rib chord as well as holes common to skin and stringer ends. See Detail I.

   B. This inspection requires wing tank entry. Fuel tank must be drained and purged to a "health safe" condition (as defined by Chapter 28 of the Maintenance Manual) before entering.

2. Equipment

   A. The equipment used to develop this technique is as follows:

      (1) Sperry, portable 160 KV, side emission X-ray generator

      (2) ASTM Class I and II film and Class I and II lead pack film

      (3) Lead shield to be placed behind film, 0.03-inch or thicker.

3. Preparation for Inspection

   A. Drain and purge the appropriate fuel tank to permit tank entry for film placement both inboard and outboard of the BBL 70.5 bulkhead.

4. Inspection Procedure

   A. Exposure No. 1

      WARNING: PRECAUTIONS AND SAFETY PROCEDURES CONTAINED IN CHAPTER 28 OF THE MAINTENANCE MANUAL MUST BE FOLLOWED BY PERSONNEL ENTERING ANY TANK THAT HAS CONTAINED FUEL. POSSIBILITY OF EXPLOSION AND TOXIC DANGER EXISTS IN VICINITY OF FUEL TANKS WHICH HAVE CONTAINED FUEL.

      (1) Identify X-ray film requirement from Table I.

      (2) Cut film of the type identified in Table I to fit between rear spar and Stringer S-1, between Stringers S-1 and S-2, and between Stringers S-2 and S-3. Film should cover area between stringers and bulkhead to approximately 1 inch past the fastener to be inspected. See Details II and III.

Lower Wing Skin under BBL 70.5 Splice Plate
720 Airplanes
Figure 8 (Sheet 1)

(3) Place lead screens behind film to prevent excessive film fogging from backscatter.

(4) Position the X-ray generator so that the X-ray beam is perpendicular to the lower wing skin and centered over fasteners to be inspected. See Detail I, Exposure No. 1, and Detail III.

(5) Make the radiographic exposure using the Table I generator settings as a guide. Film density in the area to be inspected should between 2 and 3.

B. For Exposures No. 2 thru 16, repeat steps used for Exposure No. 1.

C. Review film paying special attention to those fasteners marked in Detail I for potential cracks running generally in a forward and aft direction.

Lower Wing Skin under BBL 70.5 Splice Plate
720 Airplanes
Figure 8 (Sheet 2)

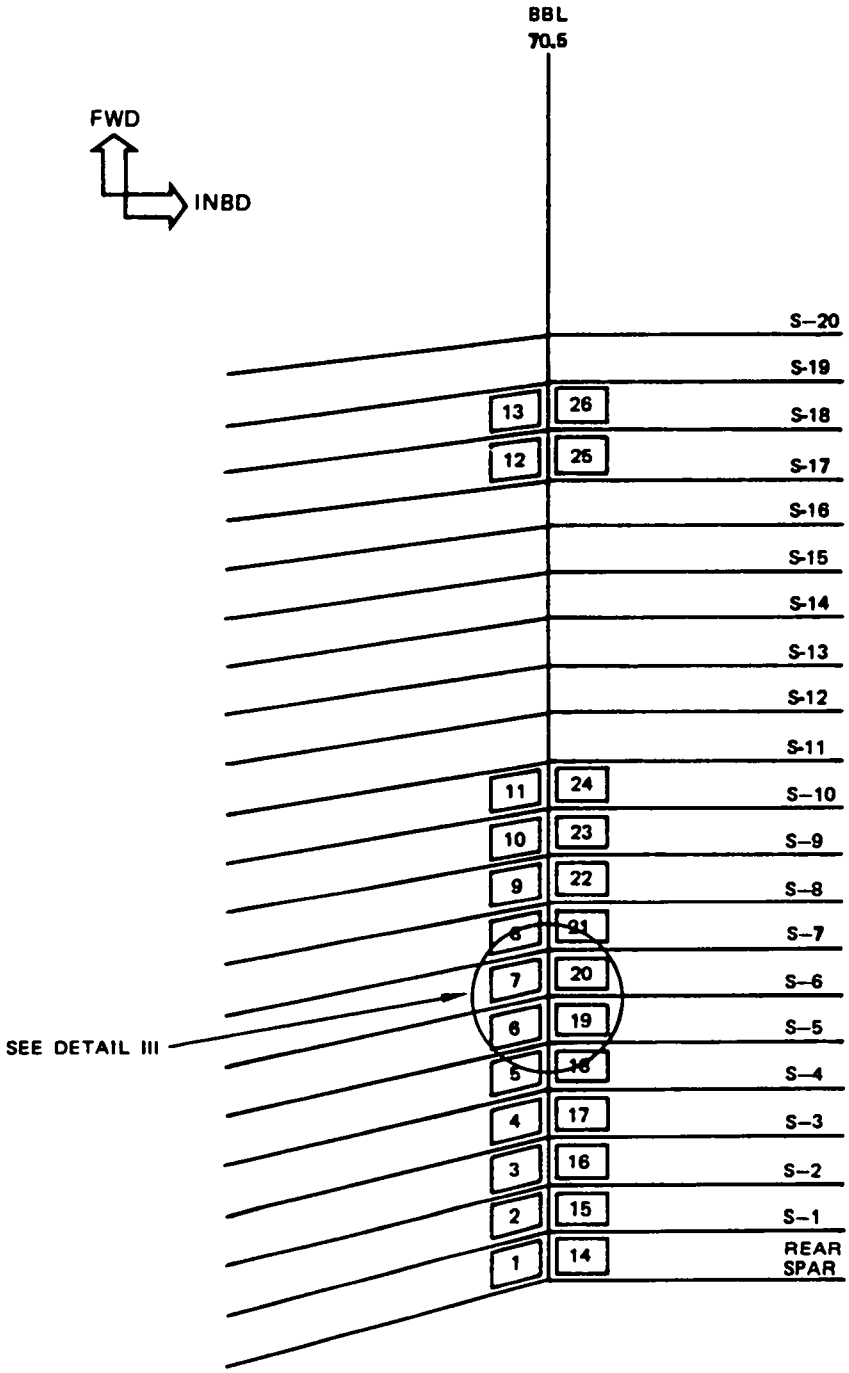
EXPOSURE NO.	FILM			SFD	GENERATOR SETTINGS	
	POSITION NO.	ASTM CLASS	SIZE		KV	MAS
1	1, 2, & 3	I, II, II [A]	[B]	48	100	2400
2	4, 5	I, II, II [A]	[B]	48	100	1600
3	4, 5	I, II, II [A]	[B]	48	100	2400
4	6, 7	I, II	[B]	48	100	1065
5	8, 9	I, II, II [A]	[B]	48	100	1065
6	10, 11	I, II	[B]	48	100	1065
7	12, 13	I, II	[B]	48	80	1600
8	14, 15, & 16	I, II, II [A]	[B]	48	100	1600
9	14, 15, & 16	I, II, II [A]	[B]	48	120	1600
10	17, 18	I, II	[B]	48	100	1335
11	17, 18	II, II [A]	[B]	48	120	1600
12	19, 20	I, II, II [A]	[B]	48	100	1200
13	21, 22	I, II, II [A]	[B]	48	100	1200
14	23, 24	I, II, II [A]	[B]	48	100	1065
15	25, 26	I, II	[B]	48	80	1335
16	25, 26	I, II	[B]	48	120	1335

X-RAY PARAMETERS
TABLE I

NOTES:

[A] LEAD PACK
[B] CUT FILM TO FIT BETWEEN STRINGERS
ALL DIMENSIONS IN INCHES

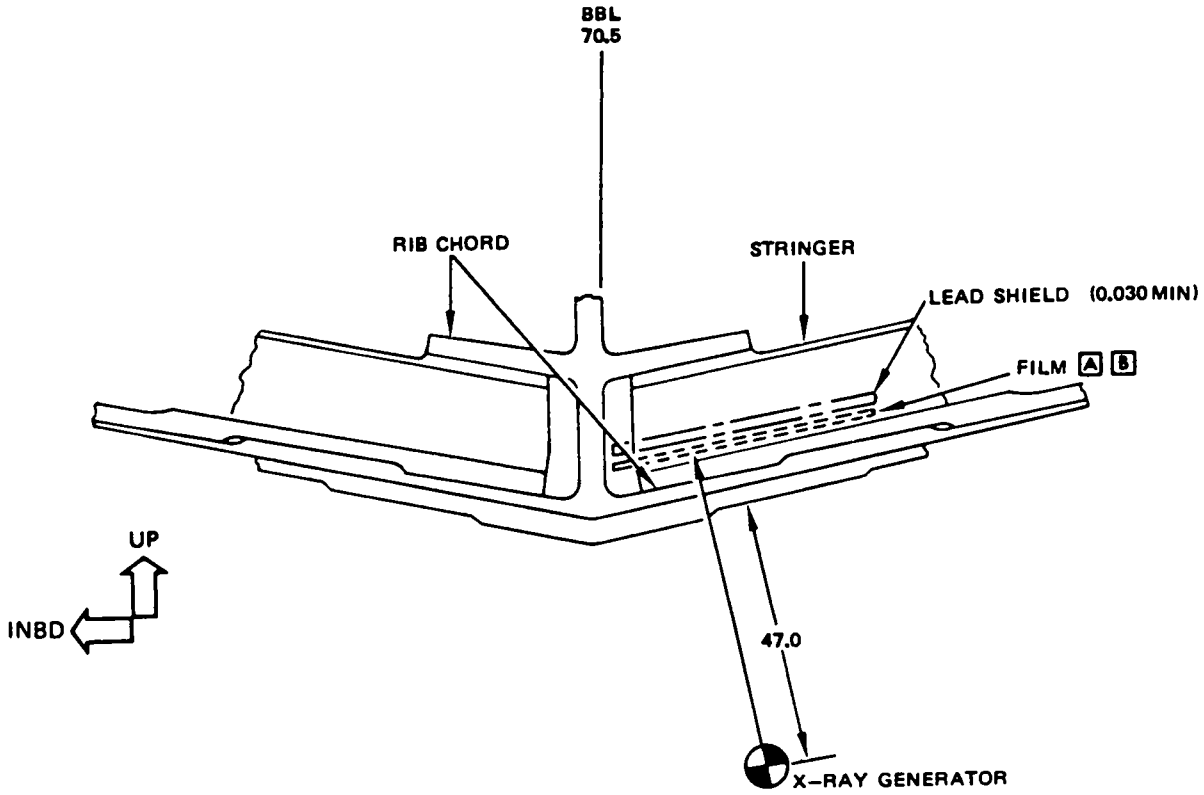
Lower Wing Skin under BBL 70.5 Splice Plate
720 Airplanes
Figure 8 (Sheet 3)



FILM AND FILM STRIP PLACEMENT MAP
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)

DETAIL II

Lower Wing Skin Under BBL 70.5 Splice Plate
720 Airplanes
Figure 8 (Sheet 4)



NOTES

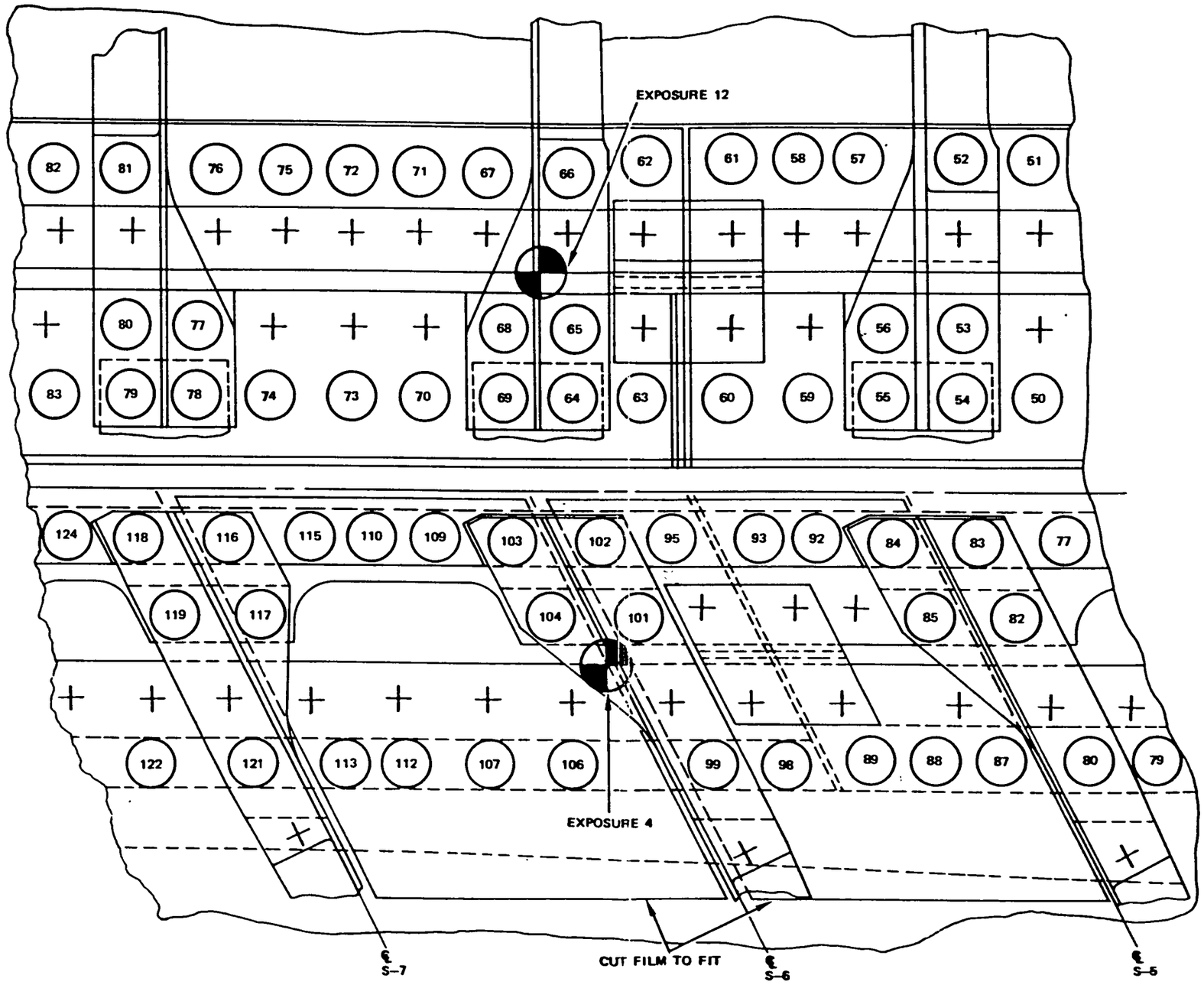
[A] SEE TABLE I FOR FILM TYPE AND DETAIL II FOR FILM PLACEMENT MAP

[B] CUT FILM TO FIT BETWEEN STRINGERS. PLACE FILM AND LEAD SHIELD AGAINST RIB CHORD. DOUBLE OR SINGLE LOAD AS REQUIRED

• ALL DIMENSIONS IN INCHES

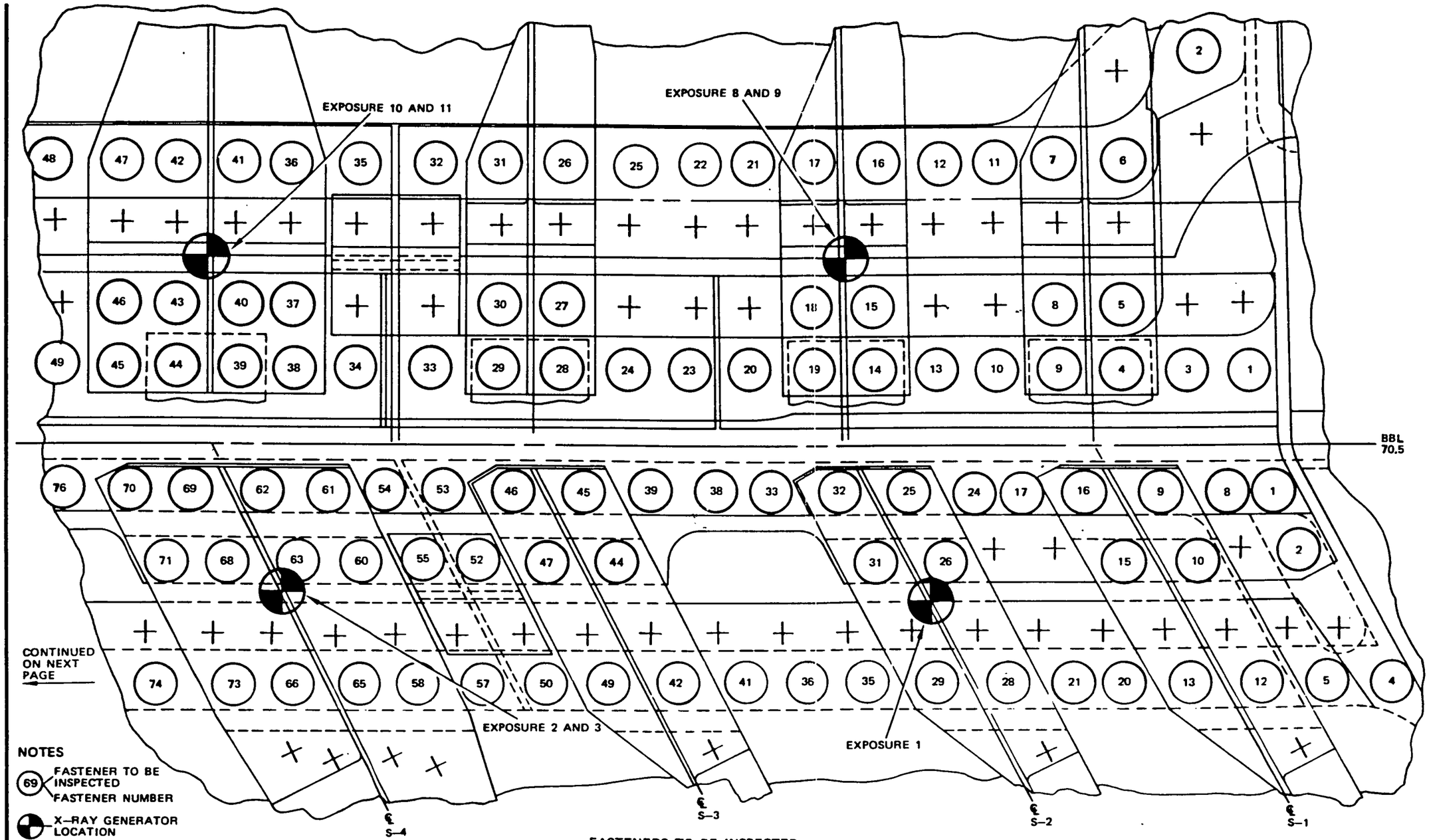
FILM ARRANGEMENT (TYPICAL SECTION)
DETAIL III

Lower Wing Skin Under BBL 70.5 Splice Plate
720 Airplanes
Figure 8 (Sheet 5)



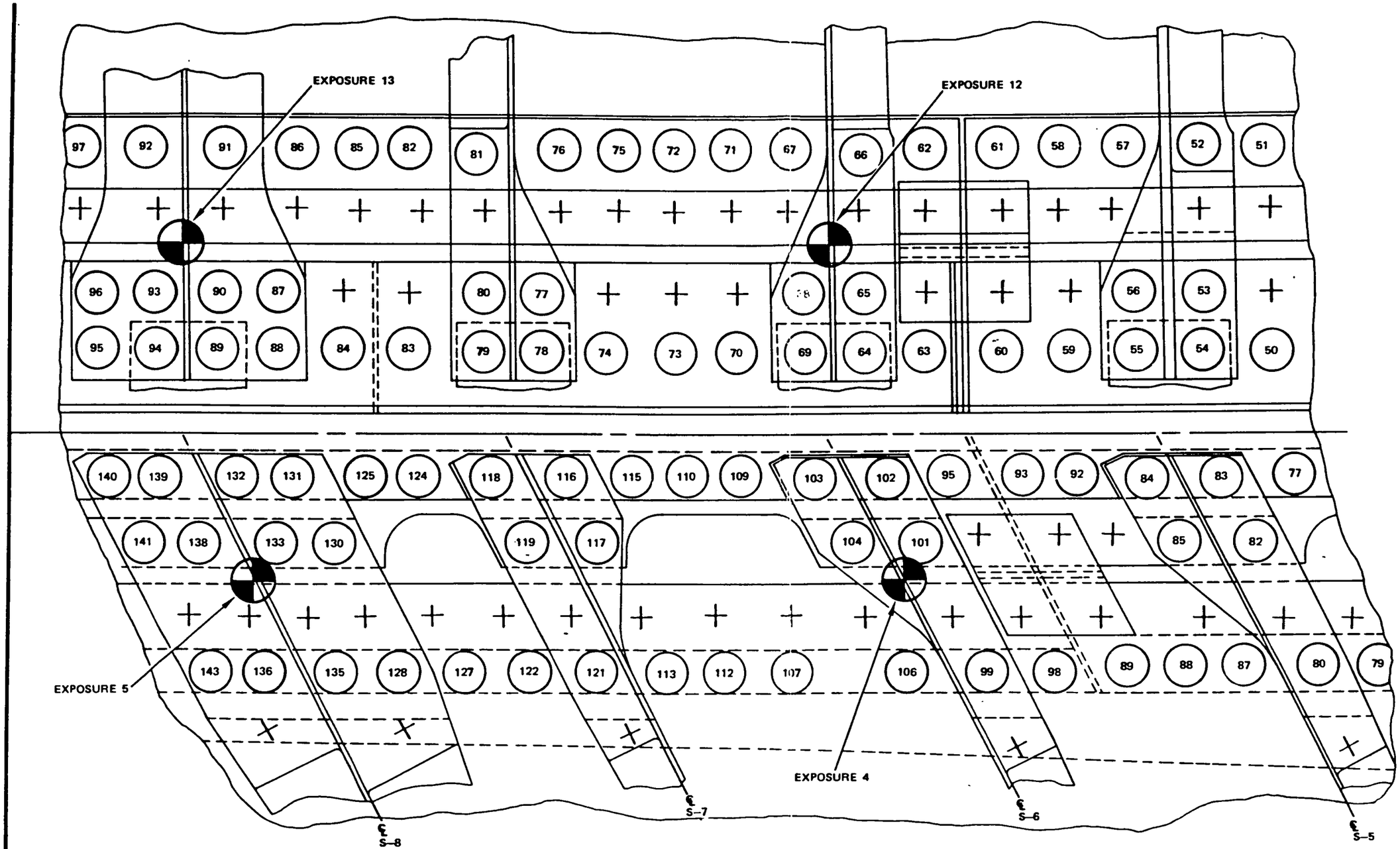
FILM PLACEMENT (TYPICAL)

Lower Wing Skin Under BBL 70.5 Splice Plate
720 Airplanes
Figure 8 (Sheet 6)



FASTENERS TO BE INSPECTED
LOWER HORIZONTAL FLANGE–LOWER BBL 70.5 SPLICE
(LEFT WING SHOWN, RIGHT WING SIMILAR)
DETAIL I

Lower Wing Skin Under BBL 70.5 Splice Plate
720 Airplanes
Figure 8 (Sheet 7)



DETAIL I (CONT)

CONTINUED ON NEXT PAGE

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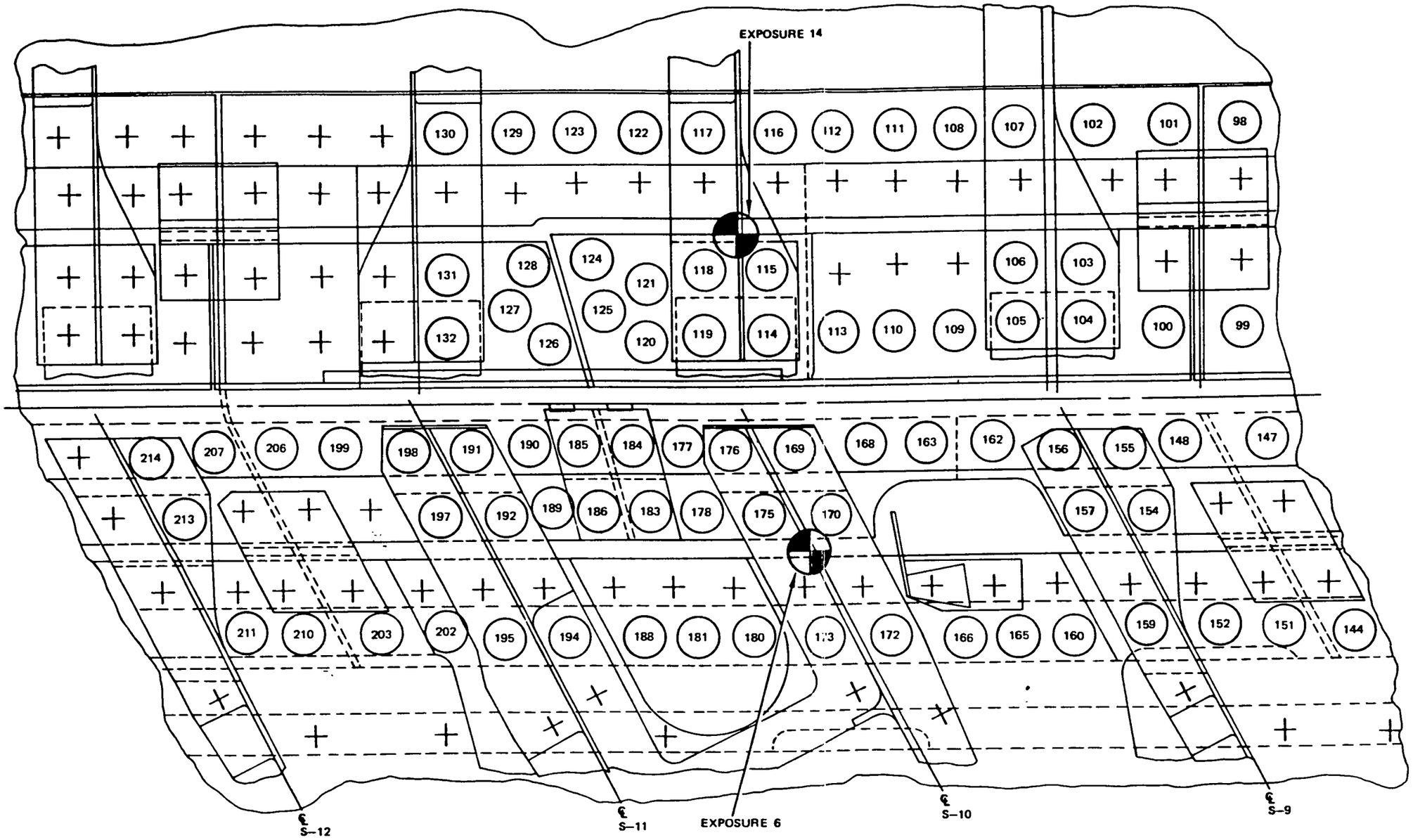
Lower Wing Skin Under BBL 70.5.Splice Plate
720 Airplanes
Figure 8 (Sheet 8)



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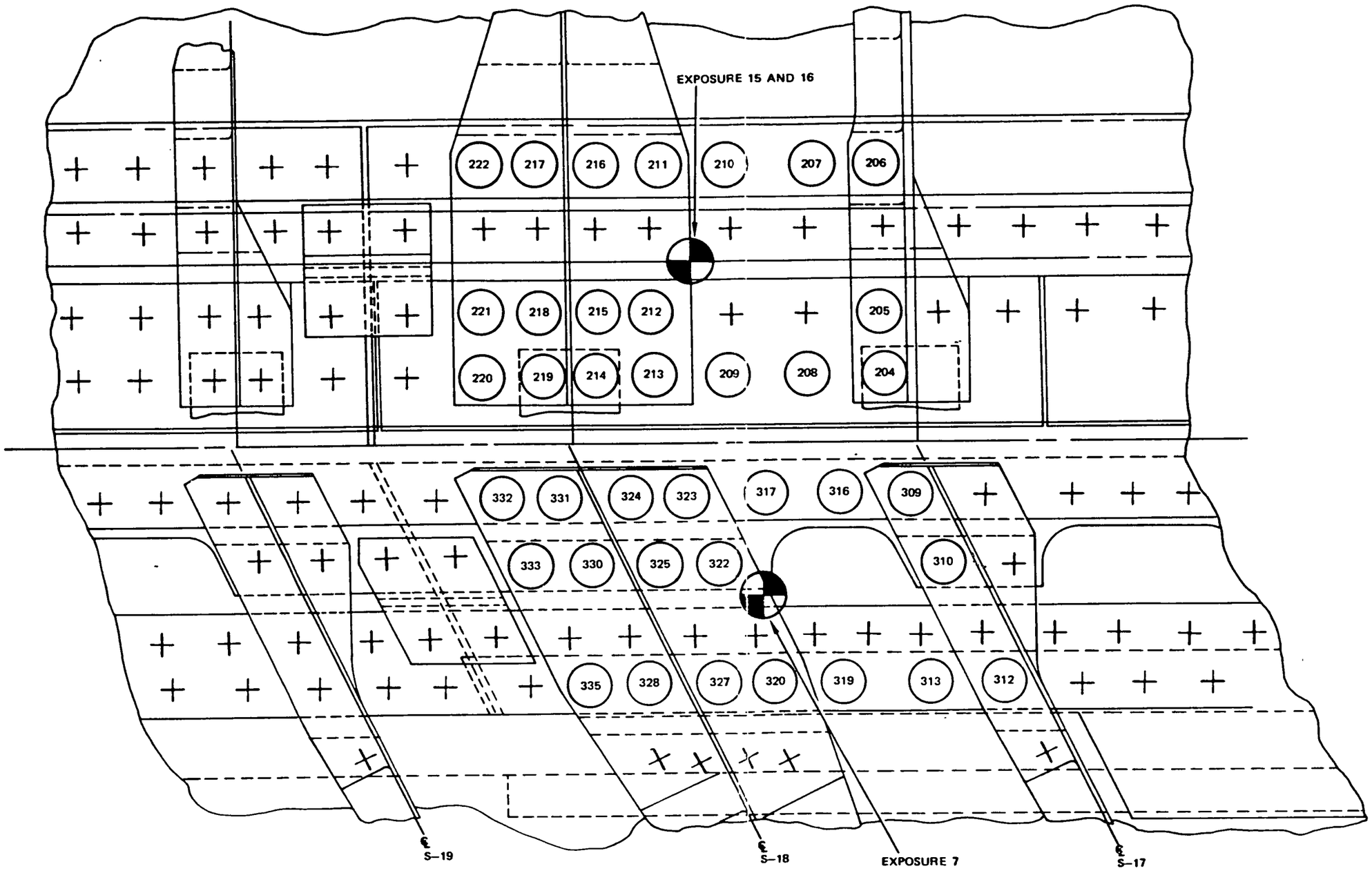
DETAIL I (CONT)

CONTINUED ON PRECEEDING PAGE

Lower Wing Skin Under BBL 70.5 Splice Plate
720 Airplanes

Figure 8 (Sheet 9)



DETAIL I (CONT)

CONTINUED ON PRECEEDING PAGE

Lower Wing Skin Under BBL 70.5 Splice Plate
720 Airplanes
Figure 8 (Sheet 10)

EFFECTIVITY
MODEL: 707-300/400, -300B,-300C
SSI DOCUMENT (D6-44860)
REFERENCE:
SSD 57-A20-03
SSD 57-A30-03
SSD 57-A40-03

PART 2 - X-RAY

WINGS - PLATES/SKIN

1. Purpose

   A. To detect cracks in lower wing skin under the BBL 70.5 steel splice plate at selected fastener holes. This includes holes common to steel splice plate, skin, and rib chord as well as holes common to skin and stringer ends. See Detail I.

   B. This inspection requires wing tank entry. Fuel tank must be drained and purged to a "health safe" condition (as defined by Chapter 28 of the Maintenance Manual) before entering.

2. Equipment

   A. The equipment used to develop this technique is as follows:

      (1) Sperry, portable 160 KV, side emission X-ray generator.

      (2) ASTM Class I and II film and Class I and II lead pack film.

      (3) Lead shield to be placed behind film, 0.02-inch or thicker.

3. Preparation for Inspection

   A. Drain and purge the appropriate fuel tank to permit tank entry for film placement both inboard and outboard of the BBL 70.5 bulkhead.

4. Inspection Procedure

   A. Exposure No. 1

      WARNING: PRECAUTIONS AND SAFETY PROCEDURES CONTAINED IN CHAPTER 28 OF THE MAINTENANCE MANUAL MUST BE FOLLOWED BY PERSONNEL ENTERING ANY TANK THAT HAS CONTAINED FUEL. POSSIBILITY OF EXPLOSION AND TOXIC DAMGER EXISTS IN VICINITY OF FUEL TANKS WHICH HAVE CONTAINED FUEL.

      (1) Identify X-ray film requirement from Table I.

Lower Wing Skin under BBL 70.5 Splice Plate
707-300/400 Airplanes
Figure 9 (Sheet 1)

(2) Cut film of the type identified in Table I to fit between rear spar and Stringer S-1, between Stringers S-1 and S-2, and between Stringers S-2 and S-3. Film should cover area between stringers and bulkhead to approximately 1 inch past the fastener to be inspected. See Details II and III.

(3) Place lead screens behind film to prevent excessive film fogging from backscatter.

(4) Position the X-ray generator so that the X-ray beam is perpendicular to the lower wing skin and centered over fasteners to be inspected. See Detail I, Exposure No. 1, and Detail III.

(5) Make the radiographic exposure using the Table I generator settings as a guide. Film density in the area to be inspected should be between 2 and 3.

B. For Exposures No. 2 thru 15, repeat steps used for Exposure No. 1.

C. Review film paying special attention to those fasteners marked in Detail I for potential cracks running generally in a forward and aft direction.

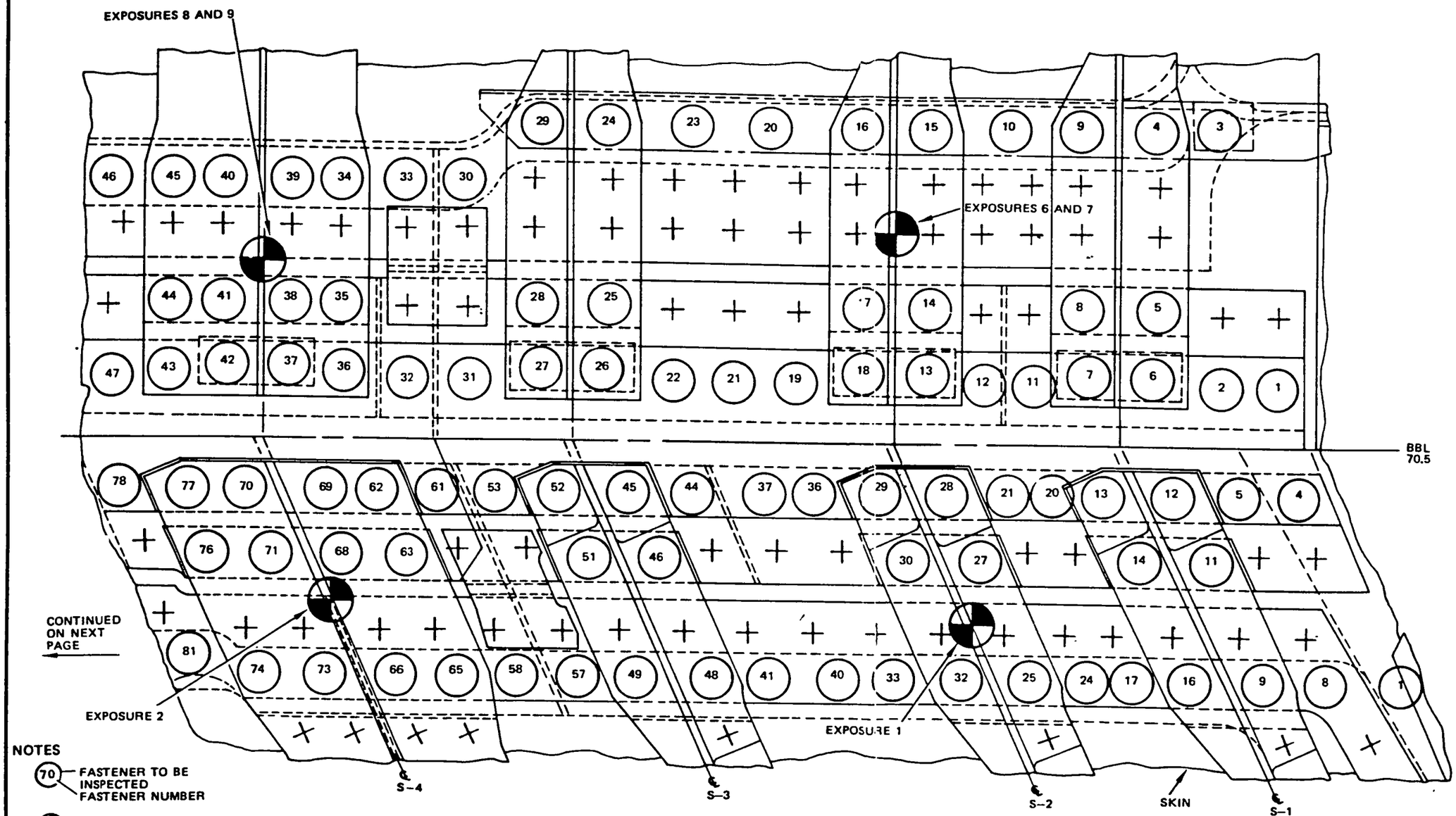
Lower Wing Skin under BBL 70.5 Splice Plate
707-300/400 Airplanes
Figure 9 (Sheet 2)

EXPOSURE NO.	FILM			SFD	Generator Settings	
	POSITION NO.	ASTM CLASS	SIZE		KV	MAS
1	1, 2, 3	I, I [A], II	[B]	48	120	1600
2	4, 5	I, I [A], II	[B]	48	120	1070
3	6, 7	I, I [A], II [A]	[B]	48	120	1070
4	8, 9, 10	I, I [A], II	[B]	48	100	1600
5	11, 12, 13	I, I [A], II	[B]	48	100	1600
6	14, 15, 16	I, II	[B]	48	100	2140
7	14, 15, 16	I, II	[B]	48	120	1600
8	17, 18	I, II	[B]	48	100	1335
9	17, 18	I [A], II	[B]	48	120	1335
10	19, 20	I, II	[B]	48	80	1600
11	19, 20	I [A], II	[B]	48	120	1070
12	21, 22, 23	I [A], II	[B]	48	120	1070
13	21, 22, 23	I [A], II	[B]	48	140	1600
14	24, 25	I, II	[B]	48	70	2140
15	24, 25	I, I [A]	[B]	48	120	1335

X-RAY PARAMETERS
TABLE I

NOTES:
ALL DIMENSIONS IN INCHES
[A] LEAD PACK
[B] CUT FILM TO FIT BETWEEN STRINGERS

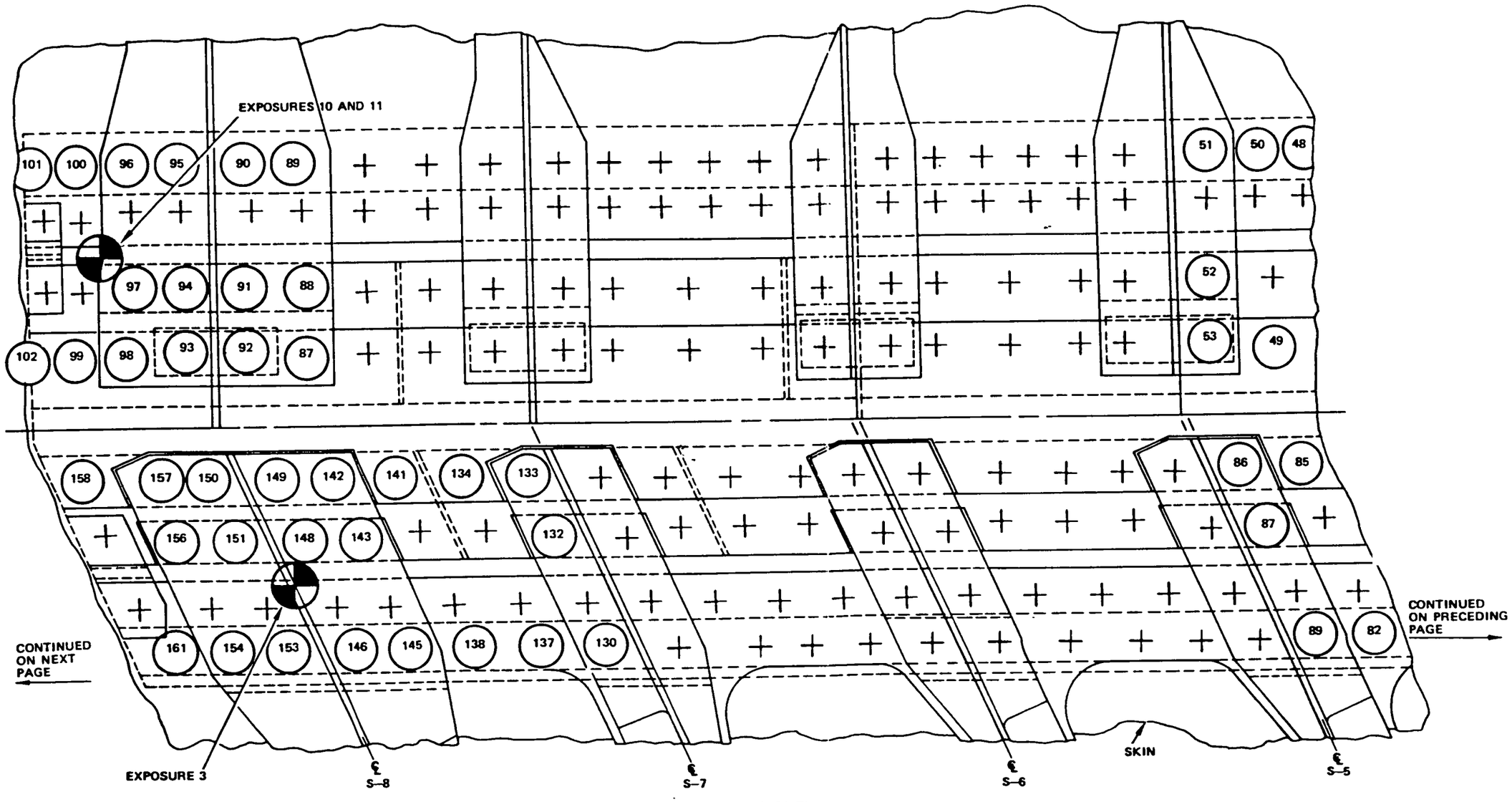
Lower Wing Skin under BBL 70.5 Splice Plate
707-300/400 Airplanes
Figure 9 (Sheet 3)



FASTENER LOCATIONS TO BE INSPECTED
LOWER BBL 70.5 SPLICE
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)
DETAIL I

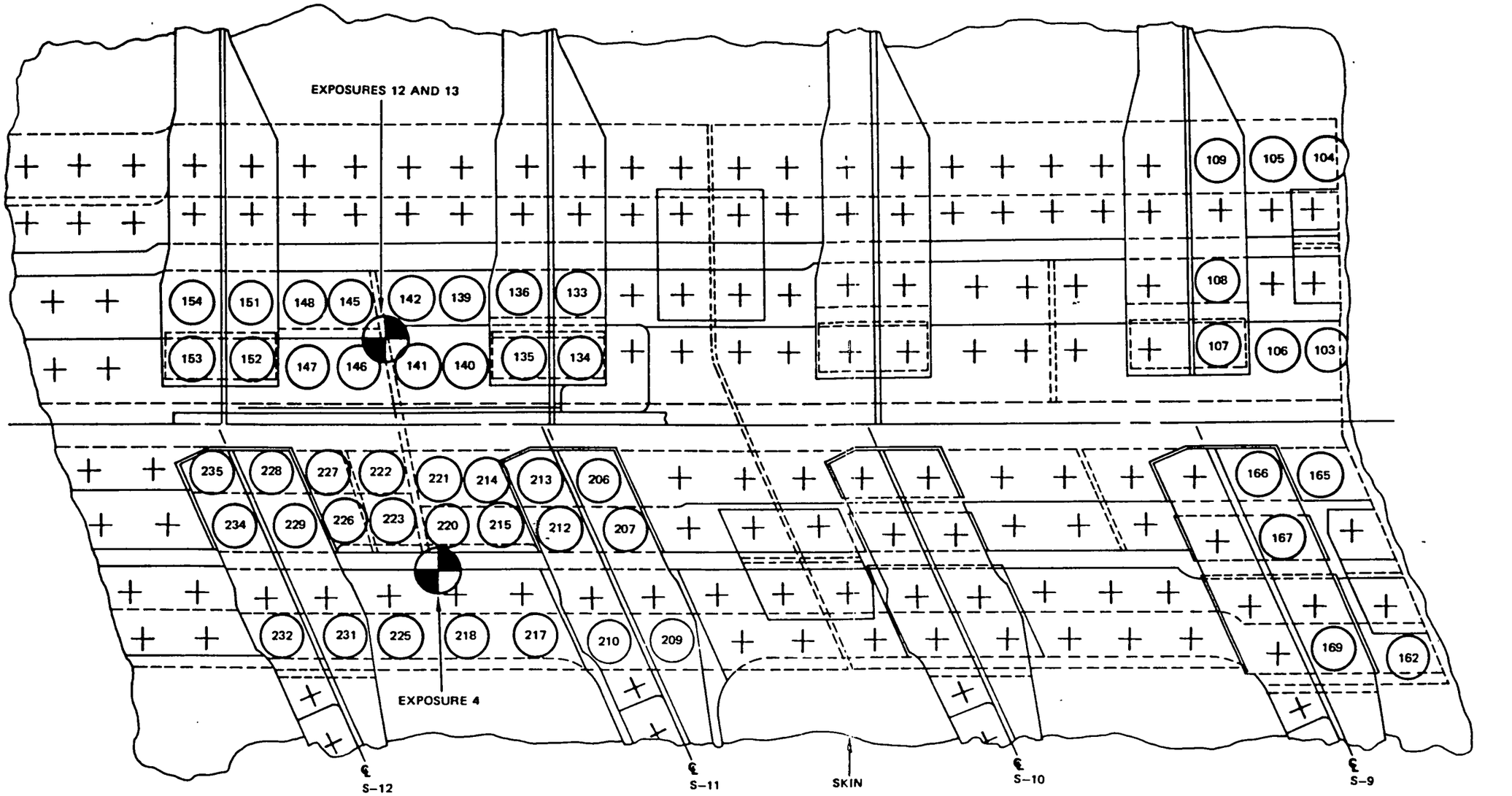
Lower Wing Skin Under BBL 70.5 Splice Plate
707-300/400 Airplanes

Figure 9 (Sheet 4)



DETAIL I (CONT)

Lower Wing Skin Under BBL 70.5 Splice Plate
707-300/400 Airplanes
Figure 9 (Sheet 5)



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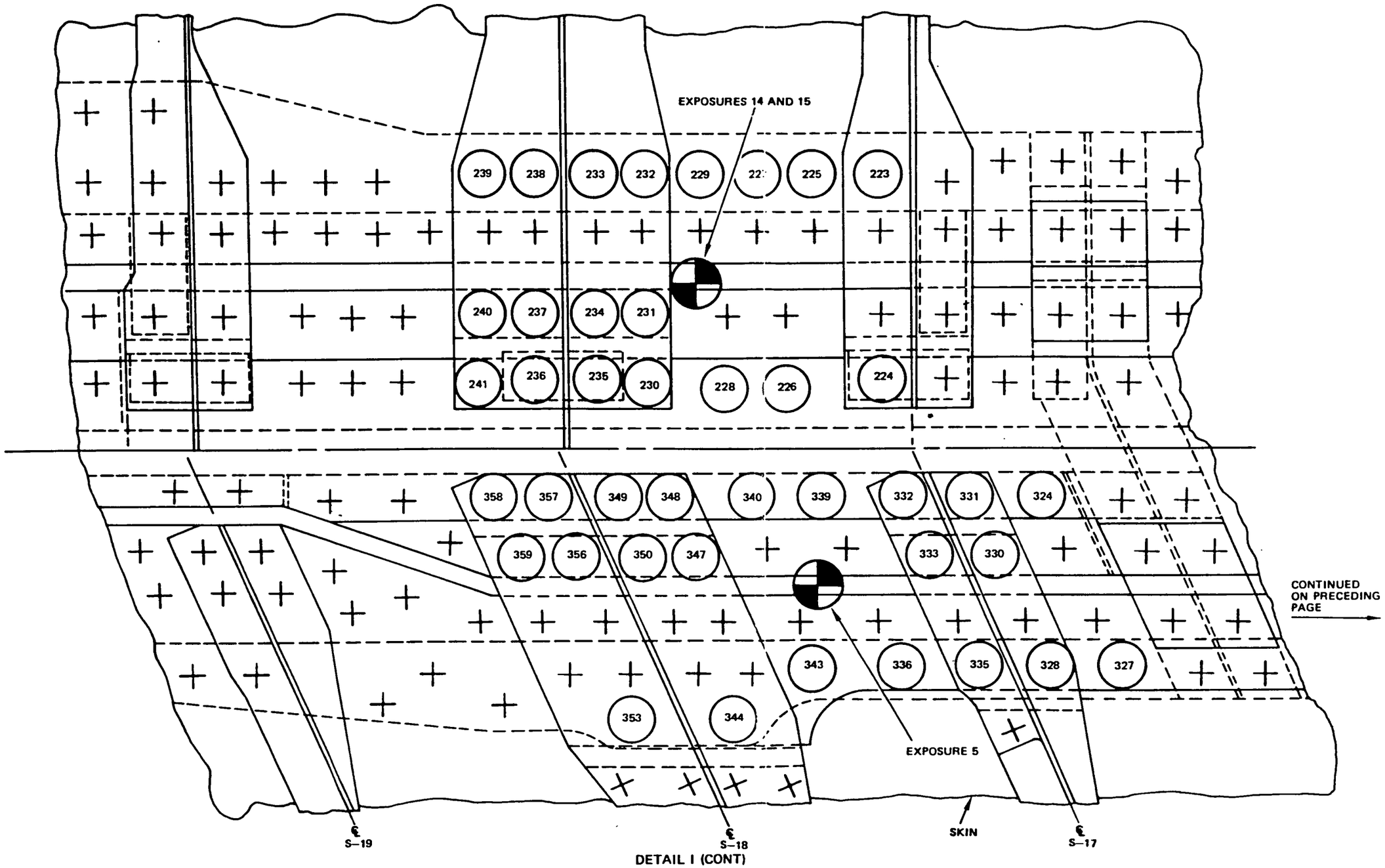
DETAIL I (CONT)

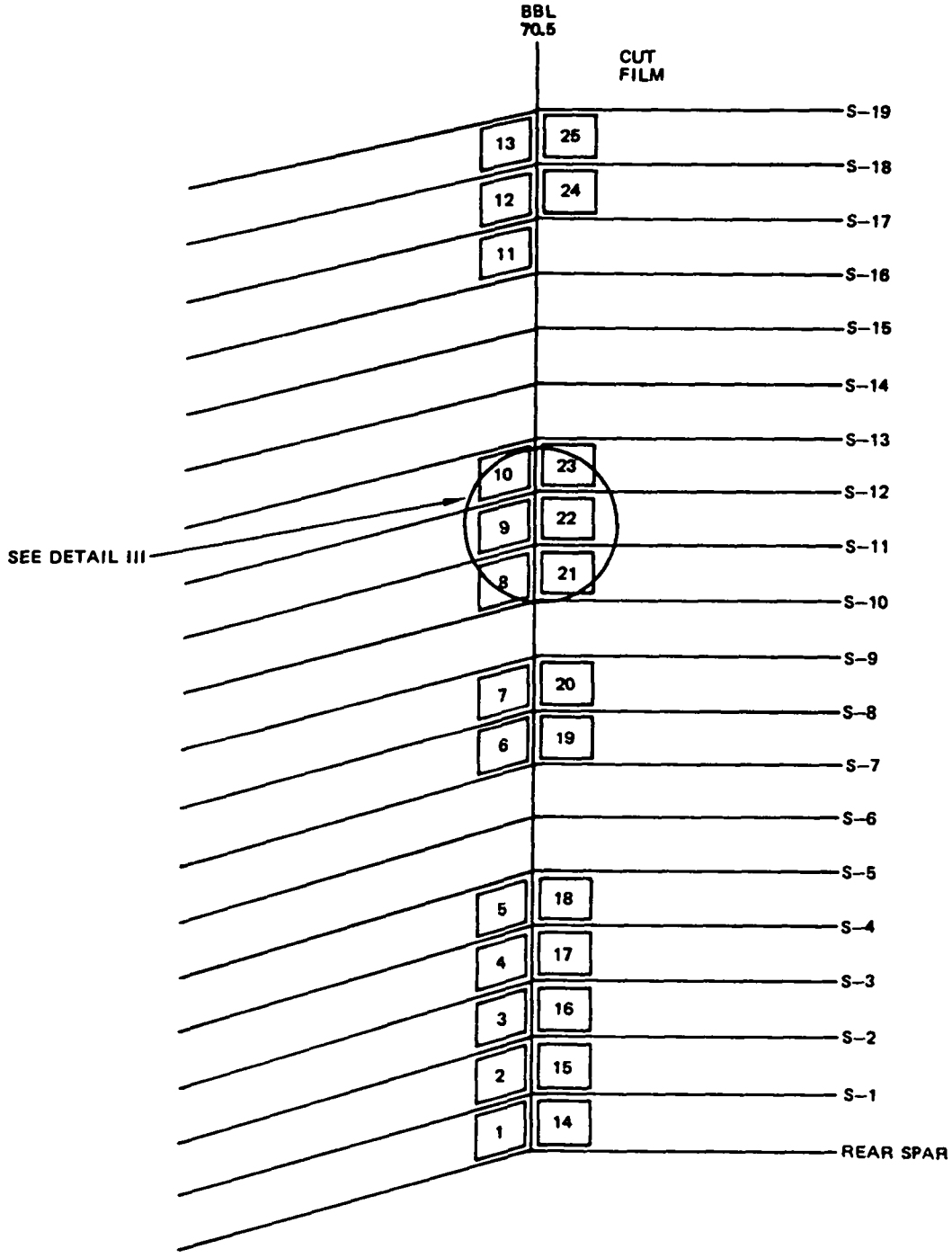
CONTINUED ON PRECEDING PAGE

Lower Wing Skin Under BBL 70.5 Splice Plate
707-300/400 Airplanes
Figure 9 (Sheet 6)



DETAIL I (CONT)

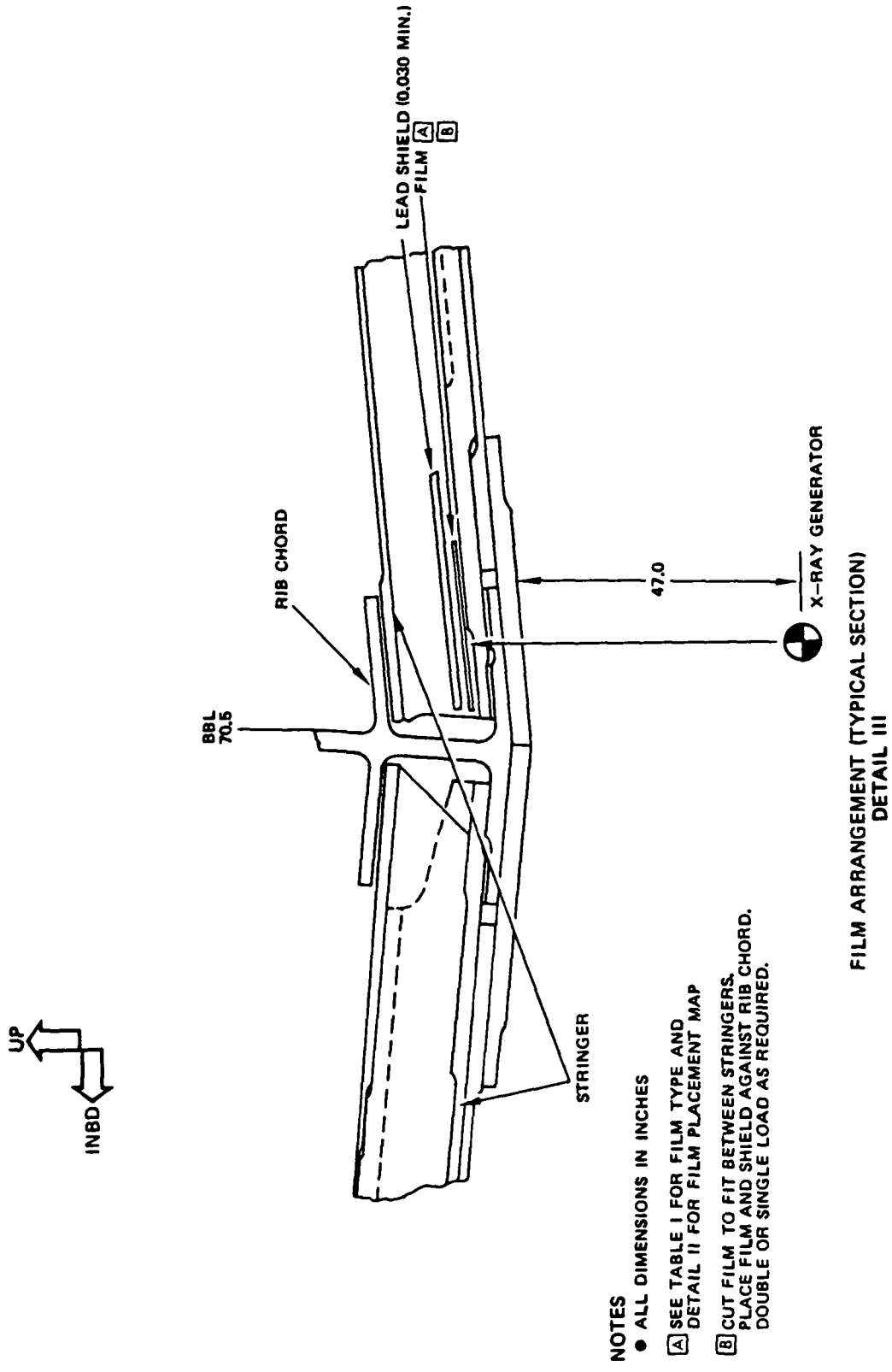
Lower Wing Skin Under BBL 70.5 Splice Plate
707-300/400 Airplanes
Figure 9 (Sheet 7)



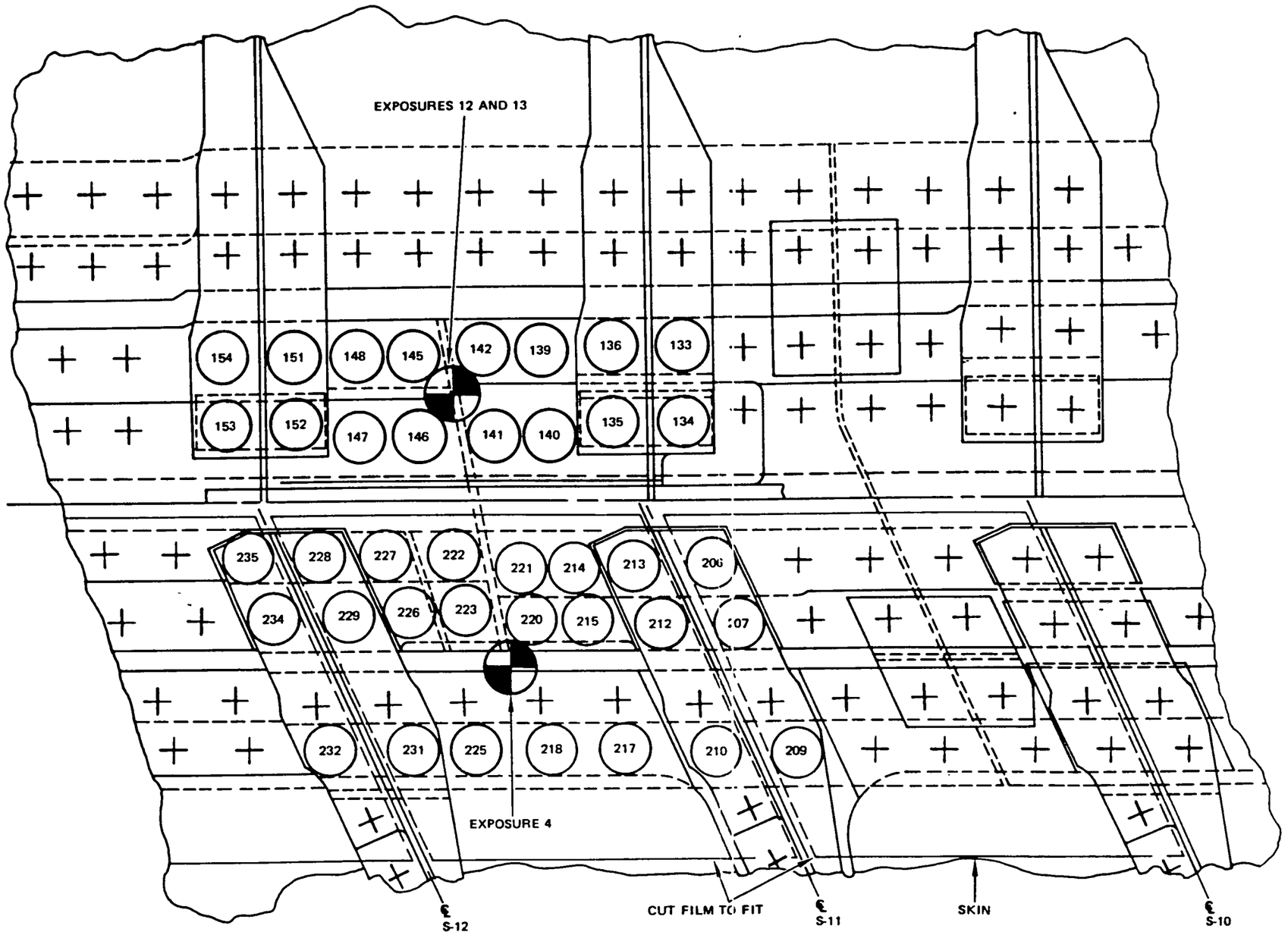
FILM AND FILM STRIP PLACEMENT MAP
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)

DETAIL II

Lower Wing Skin Under BBL 70.5 Splice Plate
707-300/400 Airplanes
Figure 9 (Sheet 8)



Lower Wing Skin Under BBL 70.5 Splice Plate
707-300/400 Airplanes
Figure 9 (Sheet 9)



FILM PLACEMENT (TYPICAL)

Lower Wing Skin Under BBL 70.5 Splice Plate
707-300/400 Airplanes
Figure 9 (Sheet 10)

PART 2 - X-RAY

WINGS - PLATES/SKIN

1. Purpose

   A. To detect cracks in the wing skin under the WBL 129.62 joint (beavertail) at selected fastener holes. This includes holes common to beavertail, skin, and rib chord as well as holes common to skin and stringer ends. See Detail I.

   B. This inspection requires wing tank entry. Fuel tank must be drained and purged to a "health safe" condition (as defined by Chapter 28 of the Maintenance Manual) before entering.

2. Equipment

   A. The equipment used to develop this technique is as follows:

      (1) Sperry, portable 160 KV, side emission X-ray generator

      (2) ASTM Class I and II film and Class I and II lead pack film

      (3) Lead shield to be placed behind film, 0.03-inch or thicker

3. Preparation for Inspection

   A. Drain and purge the appropriate fuel tanks to permit tank entry for film placement both inboard and outboard of the WBL 129.62 bulkhead.

4. Inspection Procedure

   A. Exposure No. 1

      WARNING: PRECAUTIONS AND SAFETY PROCEDURES CONTAINED IN CHAPTER 28 OF THE MAINTENANCE MANUAL MUST BE FOLLOWED BY PERSONNEL ENTERING ANY TANK THAT HAS CONTAINED FUEL. POSSIBILITY OF EXPLOSION AND TOXIC DANGER EXISTS IN VICINITY OF FUEL TANKS WHICH HAVE CONTAINED FUEL.

      (1) Identify X-ray film requirement from Table I.

      (2) Place 2 x 8-inch film strip between the rib chord flange and the stringer tie. See Details II and III.

Lower Wing Skin at Beavertail
707-100/200 Airplanes
Figure 10 (Sheet 1)

(3) Cut additional film of the type identified in Table I to fit between rear spar and Stringer S-1 and between Stringers S-1 and S-2. Film should cover area between stringers from plus chord to approximately 1.0 inch past edge of external chord (beavertail). See Details II and III.

(4) Place lead screens behind film to prevent excessive film fogging from backscatter.

(5) Position the X-ray generator so that the X-ray beam is perpendicular to the lower wing skin and centered over fasteners to be inspected. See Detail I, Exposure No. 1, and Detail III.

(6) Make the radiographic exposure using the Table I generator settings as a guide. Film density in the area to be inspected should be between 2 and 3.

B. For Exposures No. 2 thru 12, repeat steps used for Exposure No. 1.

C. Review film, paying special attention to those fasteners marked in Detail I for potential cracks running generally in a forward and aft direction.

Lower Wing Skin at Beavertail
707-100/200 Airplanes
Figure 10 (Sheet 2)

EXPOSURE NO.	FILM			SFD	GENERATOR SETTINGS	
	POSITION NO.	ASTM CLASS	SIZE		KV	MAS
1	1	II, II [A]	[B] [C]	48	160	1600
	2	II, I [A]				
	3	I [A]				
2	4	II, II [A]	[B] [C]	48	160	1600
	5	II, I [A]				
	6	I [A]				
3	7 and 8	I, I [A]	[B] [C]	48	140	2140
4	7 and 8	I	[B]	48	120	1600
5	9 and 10	I, I [A]	[B] [C]	48	140	2140
6	9 and 10	I	[B]	48	120	1600
7	11 and 12	I, I [A]	[B] [C]	48	140	2140
8	13 and 14	I, I [A]	[B] [C]	48	140	2140
9	15 and 16	I	[B] [C]	48	140	2140
10	15 and 16	I	[B]	48	120	1600
11	17 and 18	I	[B] [C]	48	140	2140
12	17 and 18	I	[B]	48	120	1600

X-RAY PARAMETERS
TABLE I

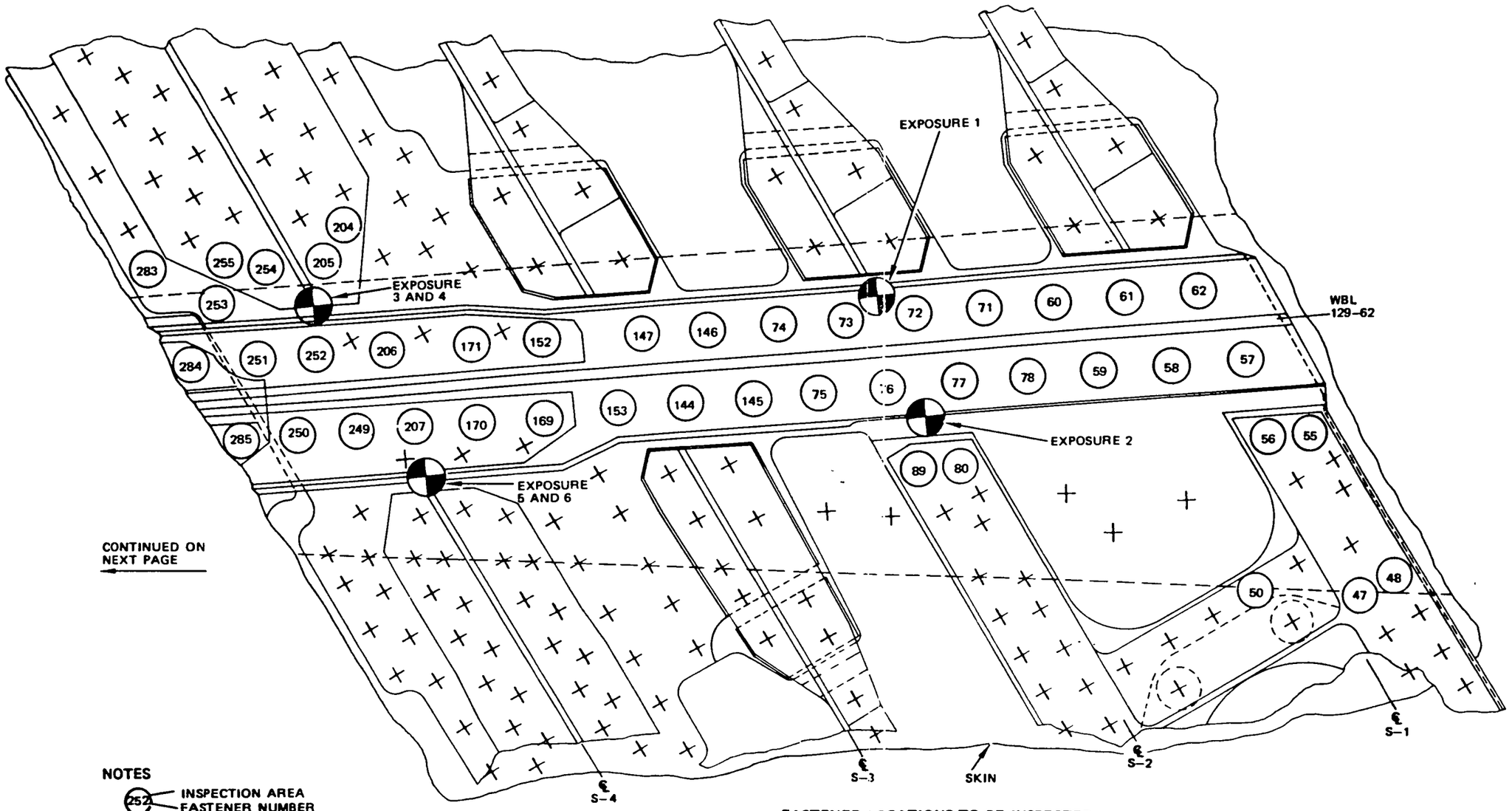
NOTES

- ALL DIMENSIONS IN INCHES

[A] LEAD PACK

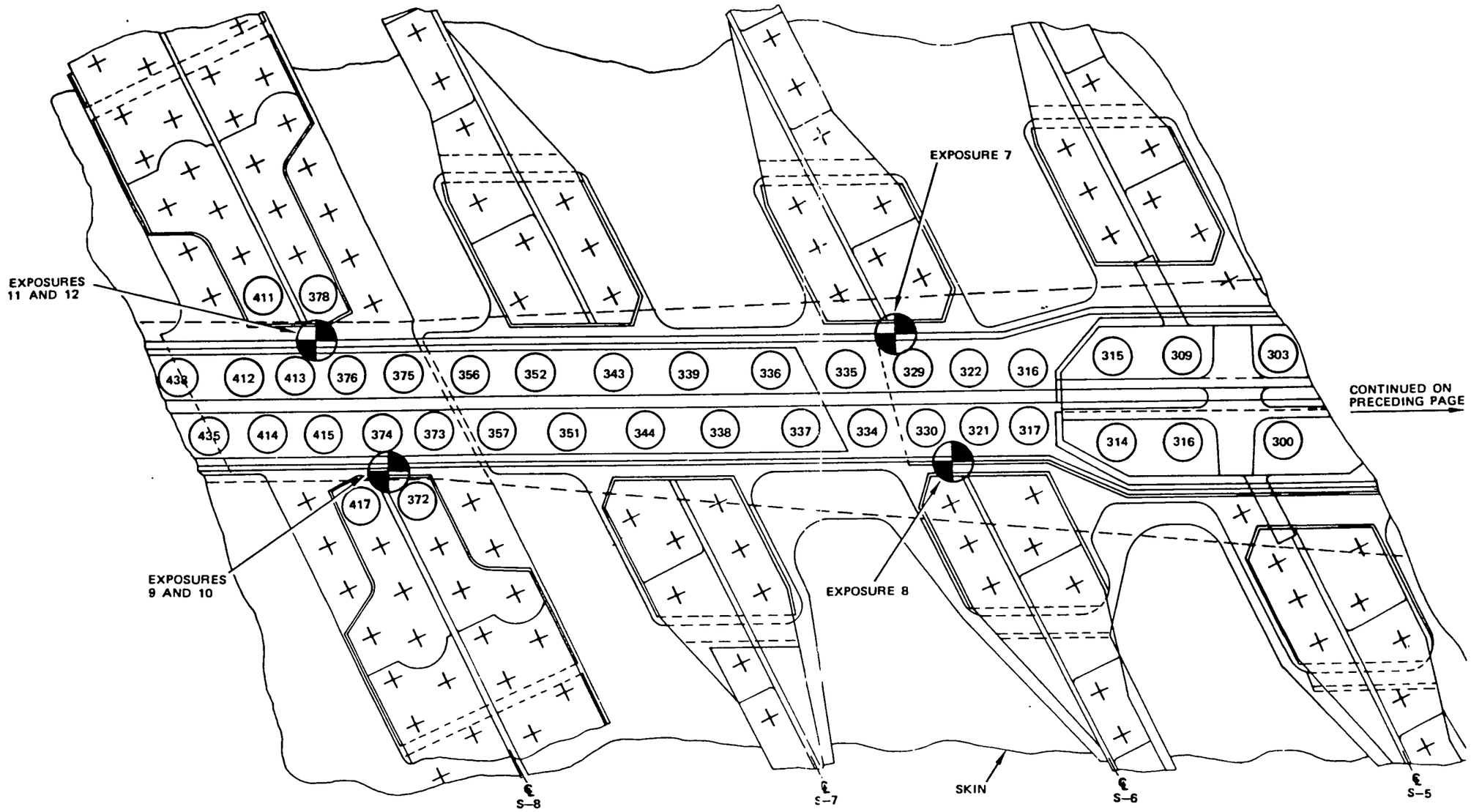
[B] CUT FILMS TO FIT BETWEEN STRINGERS (APPROXIMATELY 7 INCHES LONG)

[C] 2 x 8 FILM STRIP. FILM TYPE IS THE FASTEST FILM REQUIRED FOR THE PARTICULAR POSITION.



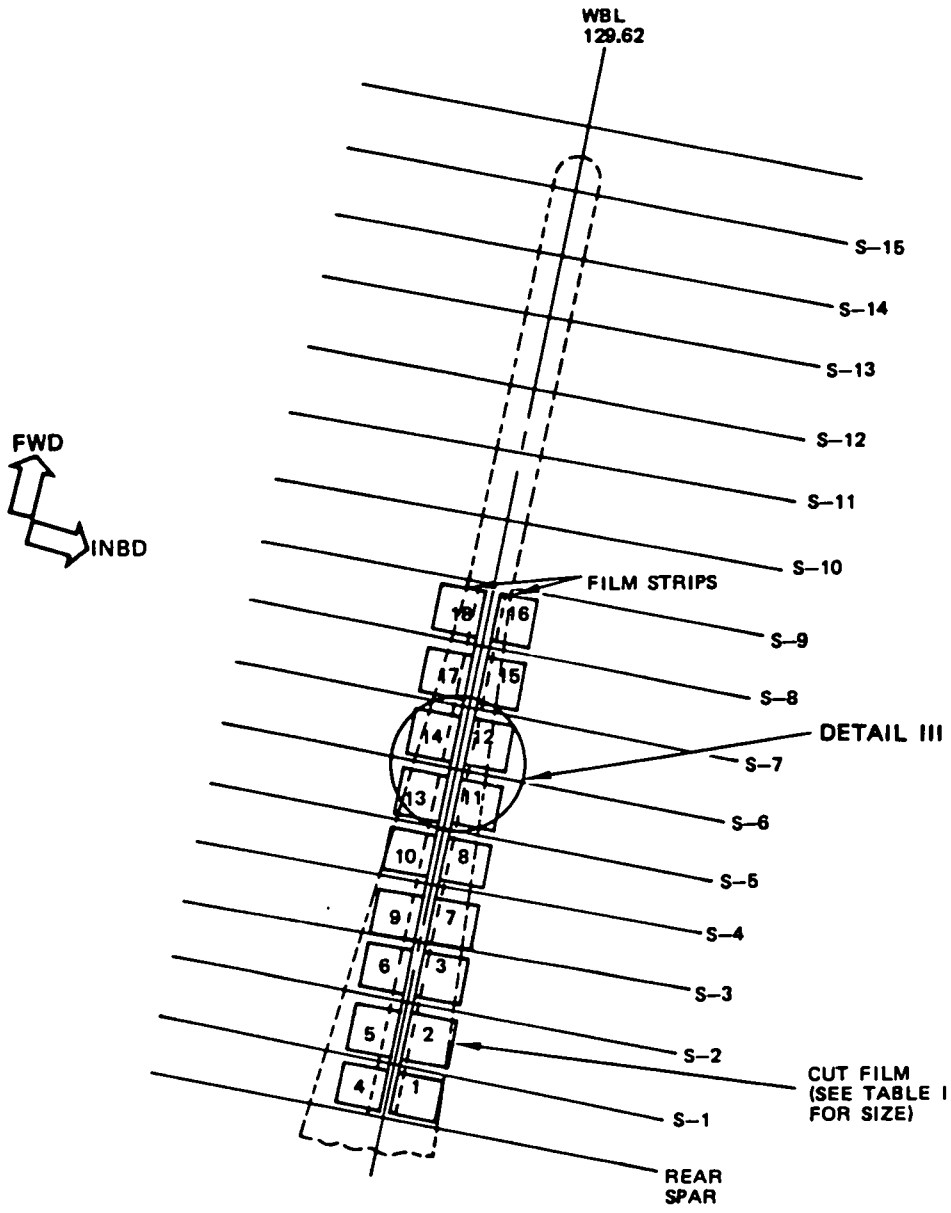
FASTENER LOCATIONS TO BE INSPECTED
LOWER WING SKIN – WBL 129.62
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)
DETAIL I

Lower Wing Skin at Beavertail
707-100/200 Airplanes
Figure 10 (Sheet 3)



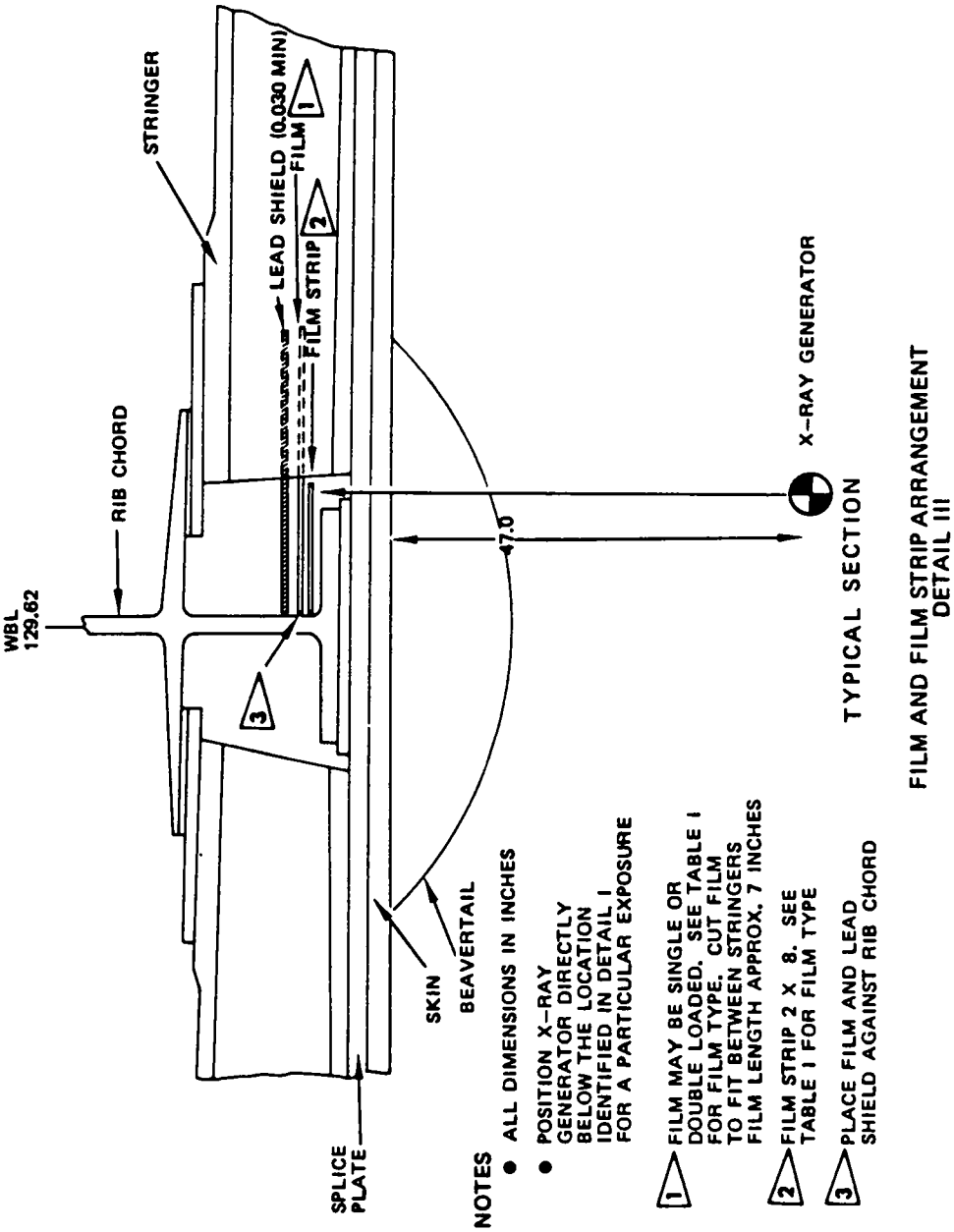
DETAIL I (CONT)

Lower Wing Skin at Beavertail
707-100/200 Airplanes
Figure 10 (Sheet 4)

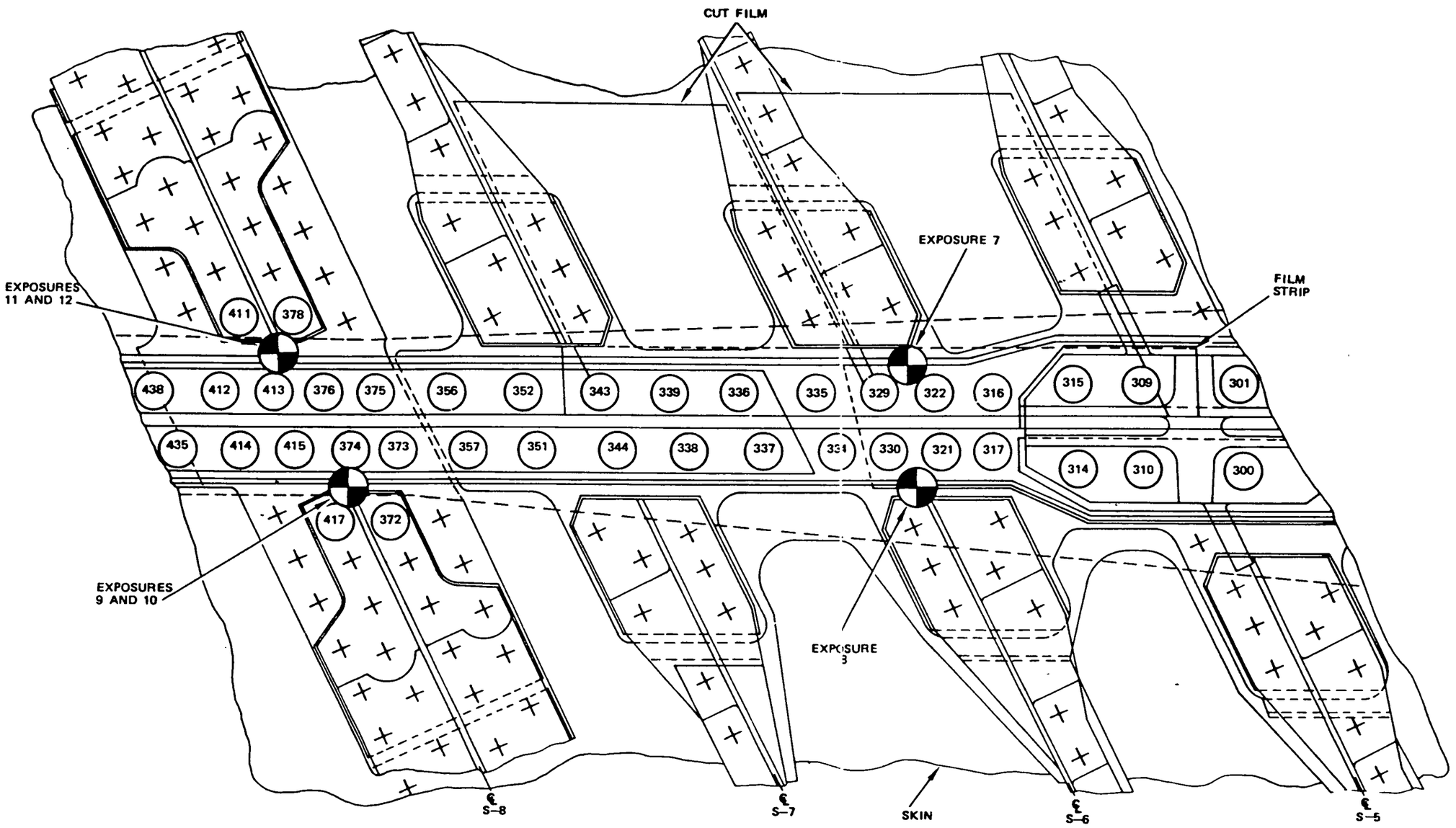


FILM AND FILM STRIP PLACEMENT MAP
(LEFT WING SHOWN , RIGHT WING SIMILAR)
DETAIL II

Lower Wing Skin at Beavertail
707-100/200 Airplanes
Figure 10 (Sheet 5)



Lower Wing Skin at Beavertail
707-100/200 Airplanes
Figure 10 (Sheet 6)



TYPICAL FILM AND FILM STRIP PLACEMENT

Lower Wing Skin at Beavertail
707-100/200 Airplanes
Figure 10 (Sheet 7)

PART 2 - X-RAY

WINGS - PLATES/SKIN

1. Purpose

   A. To detect cracks in the wing skin of the lower WBL 129.62 joint (beavertail) at selected fastener holes. This includes holes common to beavertail, skin, and rib chord as well as holes common to skin and stringer ends. See Detail I.

   B. This inspection requires wing tank entry. Fuel tank must be drained and purged to a "health safe" condition (as defined by Chapter 28 of the Maintenance Manual) before entering.

2. Equipment

   A. The equipment used to develop this technique is as follows:

      (1) Sperry, portable 160 KV, side emission X-ray generator

      (2) ASTM Class I and II film and Class I and II lead pack film

      (3) Lead shield to be placed behind film, 0.03-inch or thicker

3. Preparation for Inspection

   A. Drain and purge the appropriate fuel tanks to permit tank entry for film placement both inboard and outboard of the WBL 129.62 bulkhead.

4. Inspection Procedure

   A. Exposure No. 1

      WARNING: PRECAUTIONS AND SAFETY PROCEDURES CONTAINED IN CHAPTER 28 OF THE MAINTENANCE MANUAL MUST BE FOLLOWED BY PERSONNEL ENTERING ANY TANK THAT HAS CONTAINED FUEL. POSSIBILITY OF EXPLOSION AND TOXIC DANGER EXISTS IN VICINITY OF FUEL TANKS WHICH HAVE CONTAINED FUEL.

      (1) Identify X-ray film requirement from Table I.

      (2) Place 2 x 8-inch film strip between the rib chord flange and the stringer tie (Details II and III).

Lower Wing Skin at Beavertail
720 Airplanes
Figure 11 (Sheet 1)

(3) Cut additional film of the type identified in Table I to fit between rear spar and Stringer S-1 and between Stringers S-1 and S-2. Film should cover area between stringers from rib chord to approximately 1.0 inch past edge of external chord (beavertail). See Details II and III.

(4) Place lead screens behind film to prevent excessive film fogging from backscatter.

(5) Position the X-ray generator so that the X-ray beam is perpendicular to the lower wing skin and centered over fasteners to be inspected (Detail I, Exposure No. 1, and Detail III).

(6) Make the radiographic exposure using the Table I generator settings as a guide. Film density in the area to be inspected should be between 2 and 3.

B. For Exposures No. 2 thru 10, repeat steps used for Exposure No. 1.

C. Review film, paying special attention to those fasteners marked in Detail I for potential cracks running generally in a forward and aft direction.

Lower Wing Skin at Beavertail
720 Airplanes
Figure 11 (Sheet 2)

EXPOSURE NO.	FILM			SFD	GENERATOR SETTINGS	
	POSITION NO.	ASTM CLASS	SIZE		KV	MAS
1	1,	I, [A] , II[A]	[B] [C]	48	140	1600
	2	II , I[A]				
	3	II, I[A]				
2	4	I[A] , II[A]	[B]	48	140	1600
	5	II, I [A]				
	6	II, I [A]	[C]			
3	7 and 8	II, I [A]	[B] [C]	48	140	1600
4	7 and 8	I	[B]	48	100	1600
5	9 and 10	II, I [A]	[B] [C]	48	140	1600
6	9 and 10	I	[B]	48	100	1600
7	11	I [A]	[B] [C]	48	140	1600
	12	I				
8	13	I [A]	[B] [C]	48	140	1600
	14	I				
9	15	I [A]	[B] [C]	48	120	1600
	16	I				
	17	I				
10	18	I [A]	[B] [C]	48	120	1600
	19	I				
	20	I				

X-RAY PARAMETERS
TABLE I

NOTES

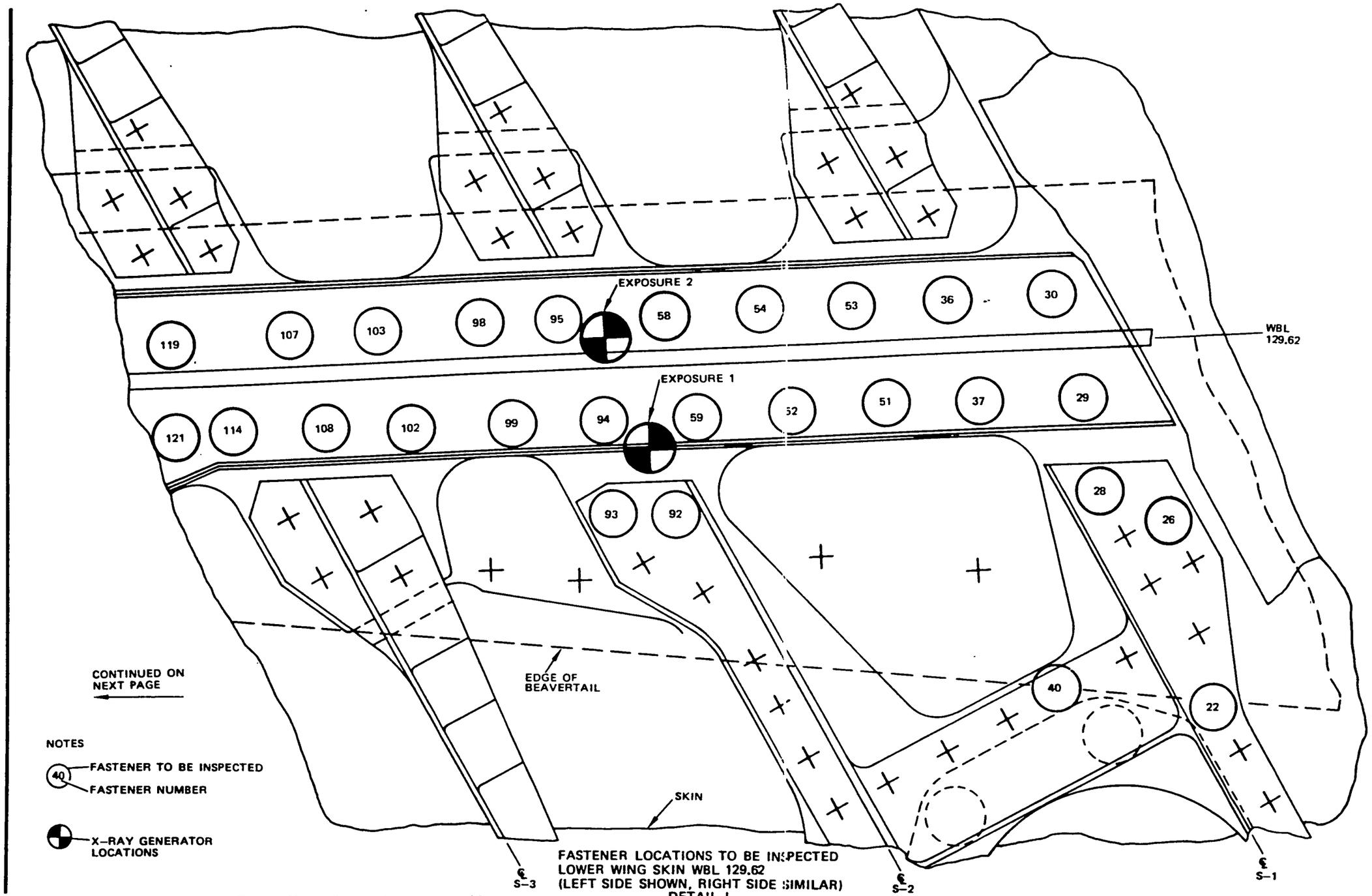
- ALL DIMENSIONS IN INCHES

[A] LEAD PACK

[B] CUT FILMS TO FIT BETWEEN STRINGERS (APPROXIMATELY 7 INCHES LONG).

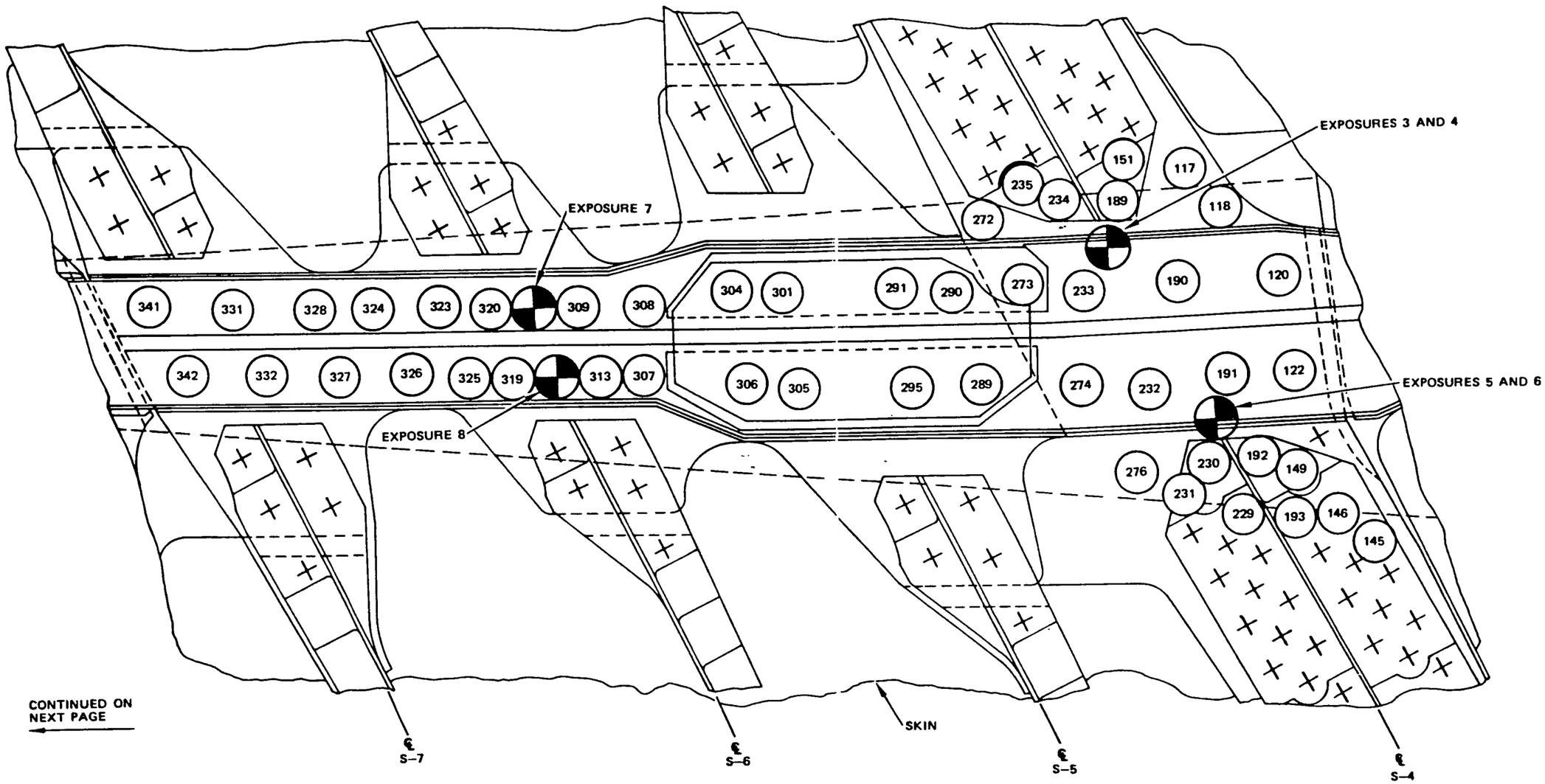
[C] 2 x 8 FILM STRIP. FILM TYPE IS THE FASTEST FILM REQUIRED FOR THE PARTICULAR POSITION.

Lower Wing Skin at Beavertail
720 Airplanes
Figure 11 (Sheet 2A)



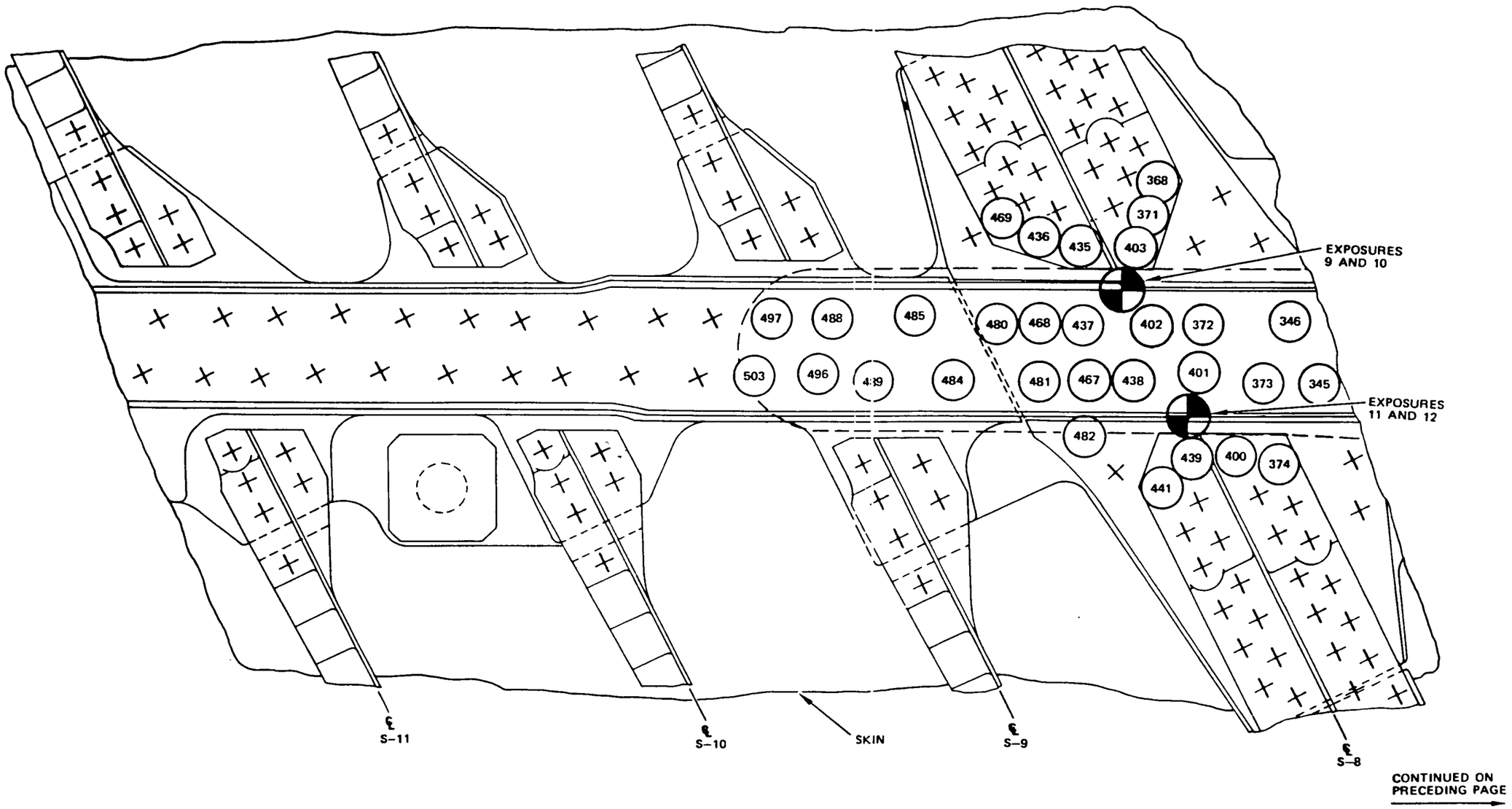
FASTENER LOCATIONS TO BE INSPECTED
LOWER WING SKIN WBL 129.62
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)
DETAIL I

Lower Wing Skin at Beavertail
720 Airplanes
Figure 11 (Sheet 3)



DETAIL I (CONT)

Lower Wing Skin at Beavertail
720 Airplanes
Figure 11 (Sheet 4)



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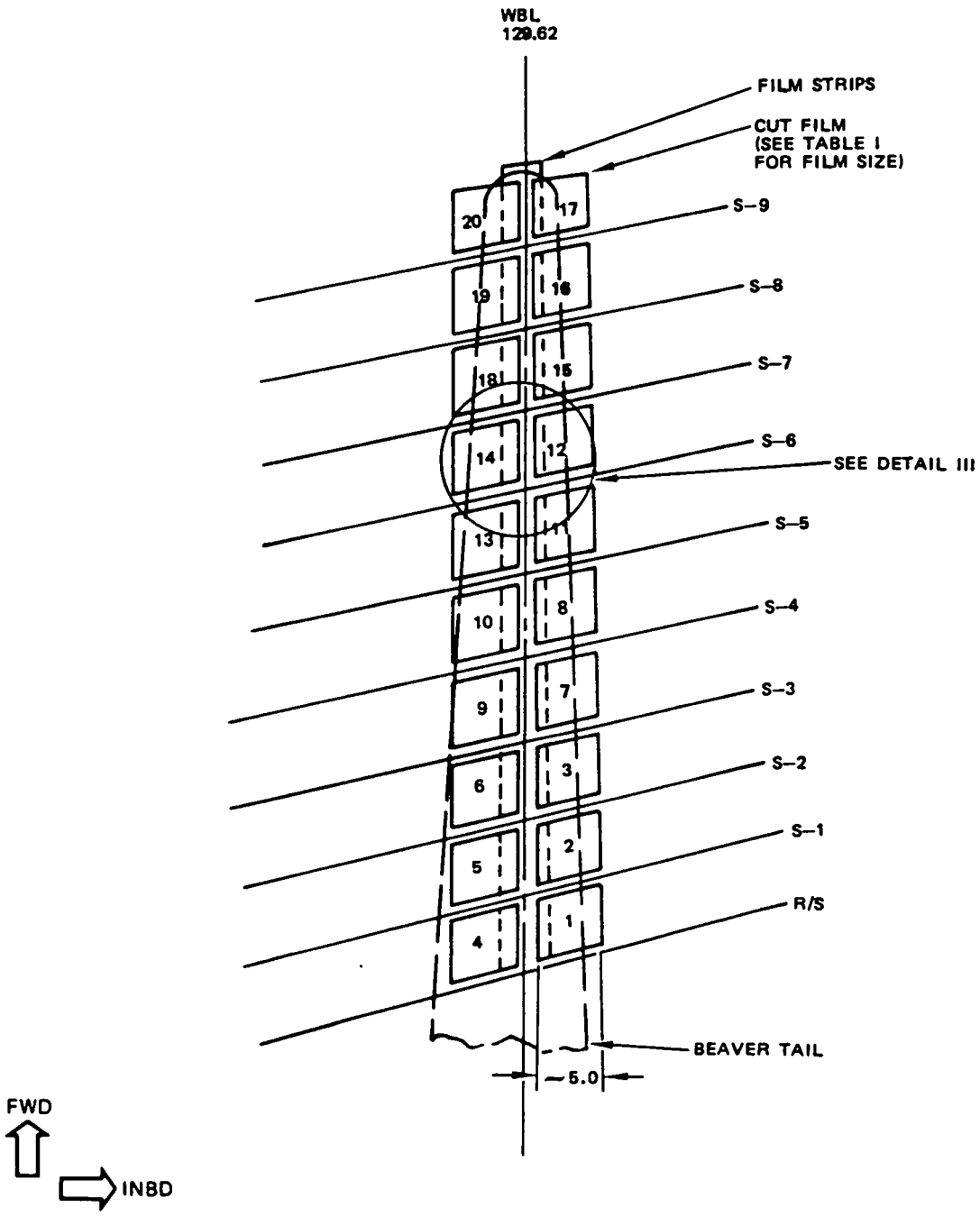
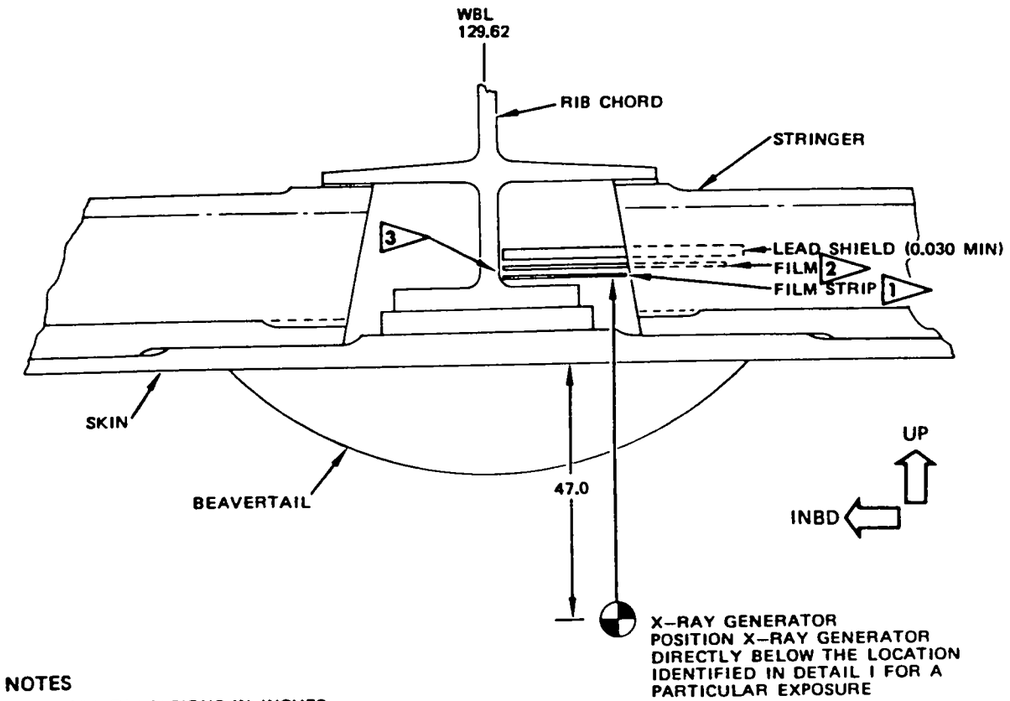
DETAIL I (CONT)

Lower Wing Skin at Beavertail
720 Airplanes
Figure 11 (Sheet 5)



FILM AND FILM STRIP PLACEMENT MAP
(LEFT WING SHOWN, RIGHT WING SIMILAR)

DETAIL II

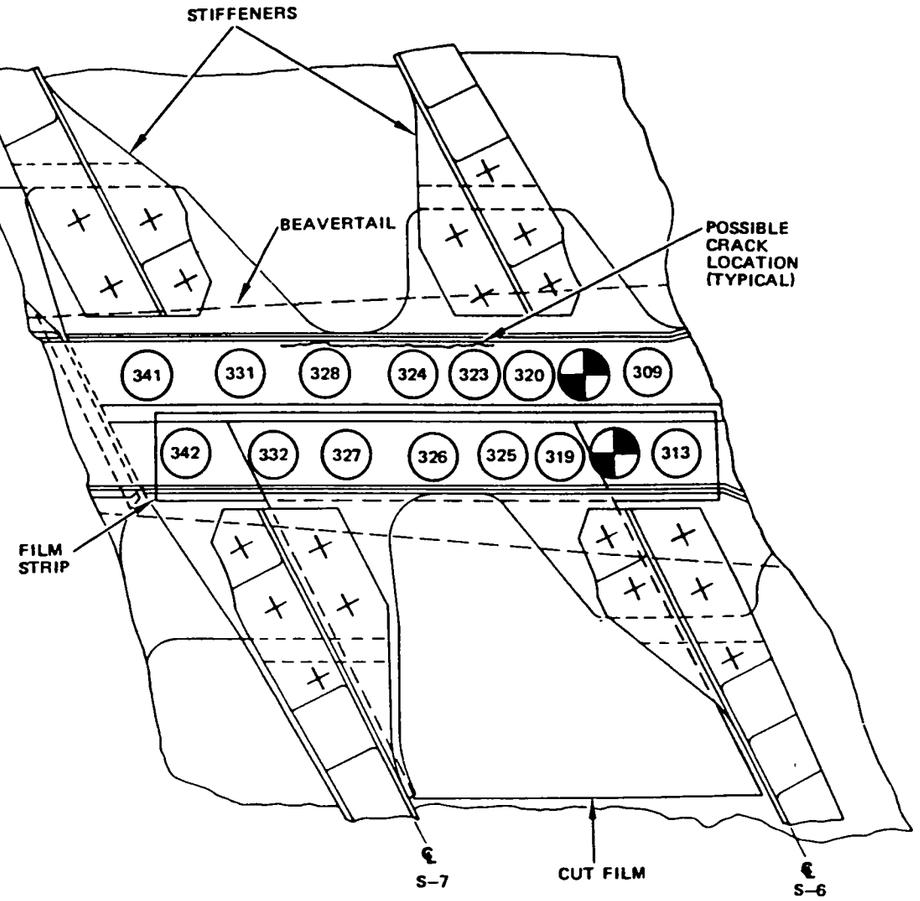


NOTES

- ALL DIMENSIONS IN INCHES

1. FILM STRIP (2 X 8) SEE TABLE I FOR FILM TYPE AND DETAIL II FOR FILM PLACEMENT
2. CUT FILM TO FIT BETWEEN STRINGERS. DOUBLE OR SINGLE LOAD AS REQUIRED. SEE TABLE I FOR FILM TYPE AND DETAIL IV FOR FILM PLACEMENT
3. PLACE FILM AND LEAD SHIELD AGAINST RIB CHORD

TYPICAL SECTION
DETAIL III



TYPICAL FILM AND FILM STRIP PLACEMENT
DETAIL IV

Lower Skin at Beavertail
720 Airplanes
Figure 11 (Sheet 7)

PART 2 - X-RAY

WINGS - PLATES/SKIN

1. Purpose

   A. To detect cracks in the wing skin the lower WBL 59.24 joint (beavertail) at selected fastener holes. This includes holes common to beavertail, skin, and rib chord as well as holes common to skin and stringer ends. See Detail I.

   B. This inspection requires wing tank entry. Fuel tank must be drained and purged to a "health safe" condition (as defined by Chapter 28 of the Maintenance Manual) before entering.

2. Equipment

   A. The equipment used to develop this technique is as follows:

      (1) Sperry, portable 160 KV, side emission X-ray generator

      (2) ASTM Class I and II film and Class I and II lead pack film

      (3) Lead shield to be placed behind film, 0.03-inch or thicker

3. Preparation for Inspection

   A. Drain and purge the appropriate fuel tanks to permit tank entry for film placement both inboard and outboard of the WBL 59.24 bulkhead.

4. Inspection Procedure

   A. Exposure No. 1

      WARNING: PRECAUTIONS AND SAFETY PROCEDURES CONTAINED IN CHAPTER 28 OF THE MAINTENANCE MANUAL MUST BE FOLLOWED BY PERSONNEL ENTERING ANY TANK THAT HAS CONTAINED FUEL. POSSIBILITY OF EXPLOSION AND TOXIC DANGER EXISTS IN VICINITY OF FUEL TANKS WHICH HAVE CONTAINED FUEL.

      (1) Identify X-ray film requirement from Table I.

      (2) Place 2 x 8-inch film strip between the rib chord flange and the stringer tie. See Details II and III.

Lower Wing Skin at Beavertail
707-300/400 Airplanes
Figure 12 (Sheet 1)

(3) Cut additional film of the type identified in Table I to fit between rear spar and Stringers S-1 and between Stringers S-1 and S-2. Film should cover area between stringers from plus chord to approximately 1.0 inch past edge of external chord (beavertail). See Details II and III.

(4) Place lead screens behind film to prevent excessive film fogging from backscatter.

(5) Position the X-ray generator so that the X-ray beam is perpendicular to the lower wing skin and centered over fasteners to be inspected. See Detail I, Exposure No. 1, and Detail III.

(6) Make the radiographic exposure using the Table I generator settings as a guide. Film density in the area to be inspected should be between 2 and 3.

B. For Exposures No. 2 thru 12, repeat steps used for Exposure No. 1.

C. Review film, paying special attention to those fasteners marked in Detail I for potential cracks running generally in a forward and aft direction.

EXPOSURE NO.	FILM			SFD	GENERATOR SETTINGS	
	POSITION NO.	ASTM CLASS	SIZE		KV	MAS
1	1	II, II [A]	[B] [C]	48	160	2140
	2	II, I [A]				
	3	I [A]				
2	4	II, II [A]	[B] [C]	48	160	2140
	5	II, I [A]				
	6	I [A]				
3	7 and 8	I, I [A]	[B] [C]	48	140	2140
4	7 and 8	I	[B]	48	120	1335
5	9 and 10	I, I [A]	[B] [C]	48	140	2140
6	9 and 10	I	[B]	48	120	1335
7	11, 12	I, I [A]	[B] [C]	48	140	1600
8	13 and 14	I, I [A]	[B] [C]	48	140	1600
9	15, 16 and 17	I, I [A]	[B] [C]	48	120	1600
10	15, 16 and 17	I	[B]	48	100	1600
11	18, 19 and 20	I	[B] [C]	48	120	1600
12	18, 19 and 20	I	[B] [C]	48	100	1600

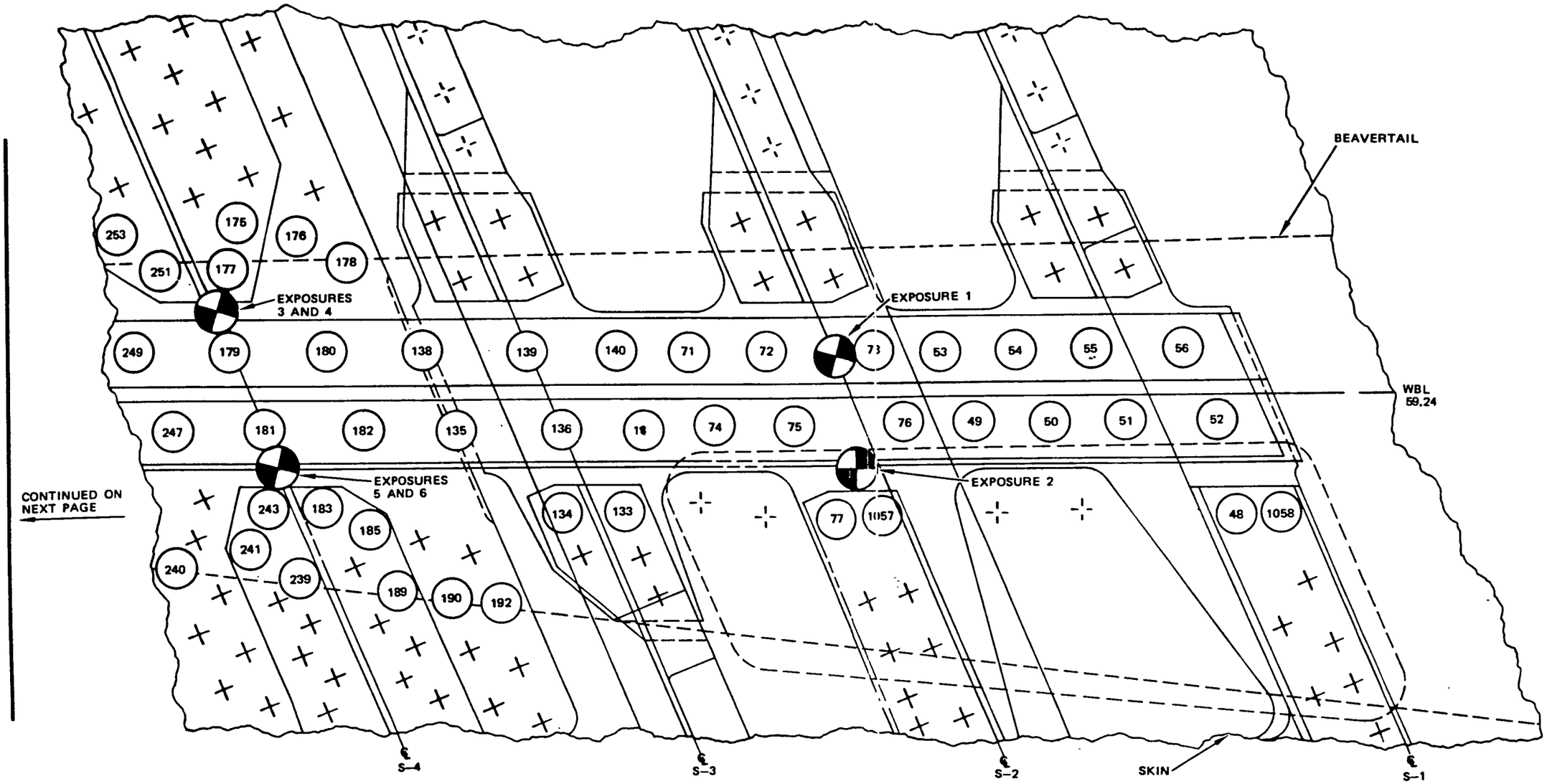
X-RAY PARAMETERS
TABLE I

NOTES:
- ALL DIMENSIONS IN INCHES

[A] LEAD PACK

[B] CUT FILMS TO FIT BETWEEN STRINGERS (APPROXIMATELY 7.0 INCHES IN LENGTH)

[C] 2 X 8 FILM STRIP. FILM TYPE IS THE FASTEST FILM REQUIRED FOR THE PARTICULAR POSITION.



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NOTES

240 — FASTENER TO BE INSPECTED
FASTENER NUMBER

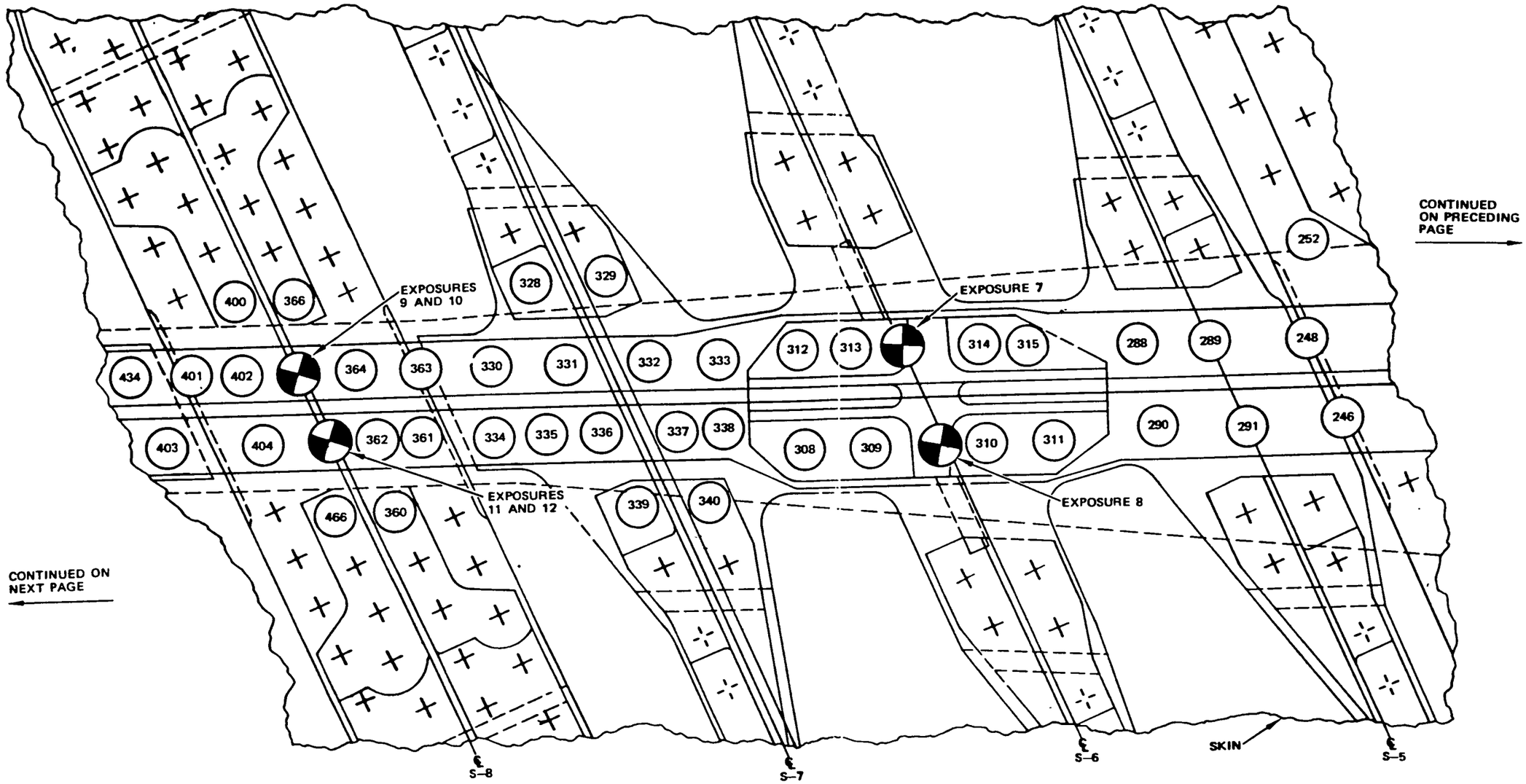
X-RAY GENERATOR LOCATION

FASTENER LOCATIONS TO BE INSPECTED
LOWER WING SKIN--WBL 59.24 BEAVERTAIL
(LEFT SIDE SHOWN, RIGHT SIDE SIMILAR)

DETAIL I

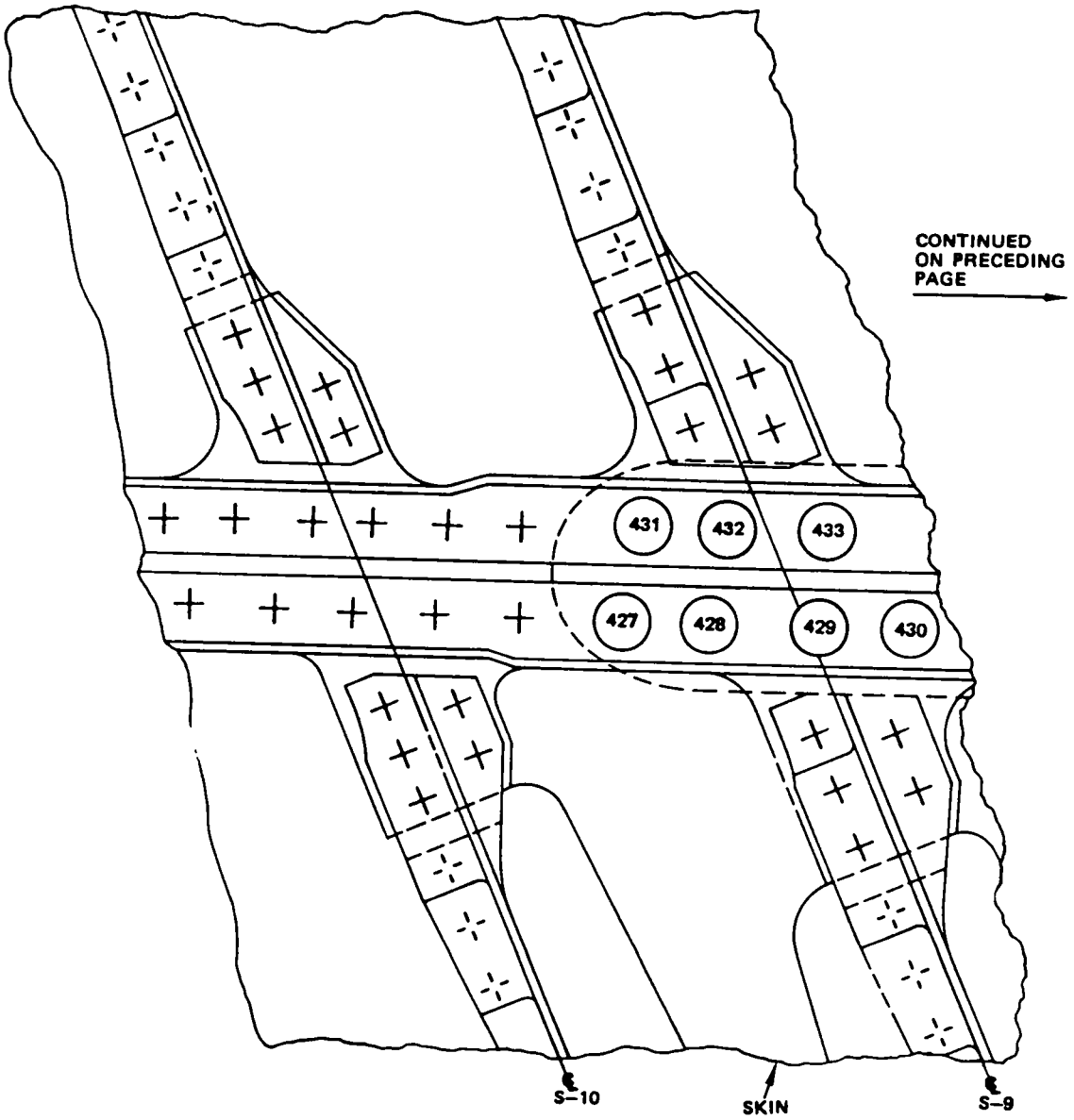
INBD
FWD

Lower Wing Skin at Beavertail
707-300/400 Airplanes
Figure 12 (Sheet 3)

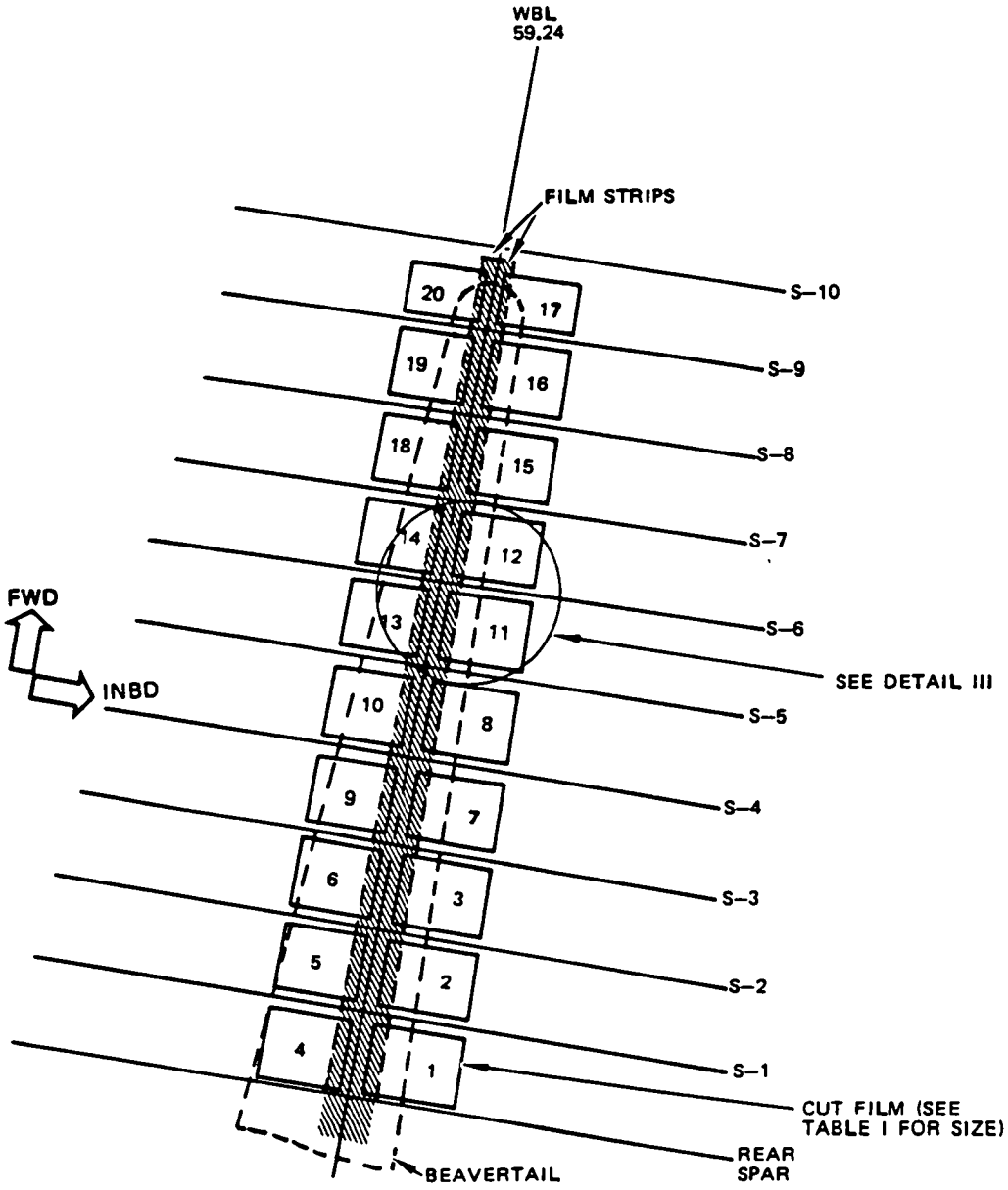


DETAIL I (CONT)

Lower Wing Skin at Beavertail
707-300/400 Airplanes
Figure 12 (Sheet 4)



DETAIL I (CONT)

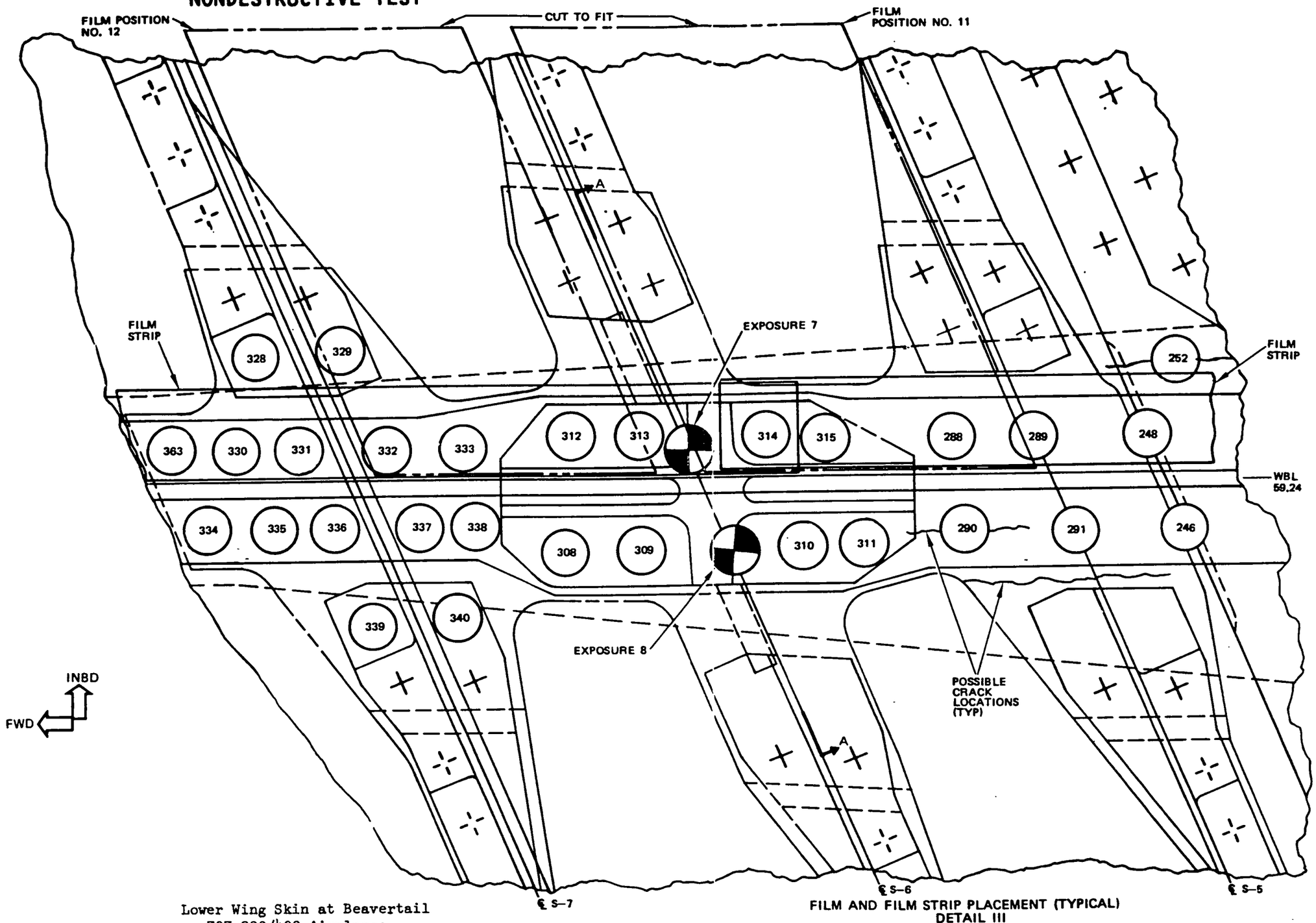


NOTE
FILM STRIPS

FILM AND FILM STRIP PLACEMENT MAP
(LEFT WING SHOWN, RIGHT WING SIMILAR)

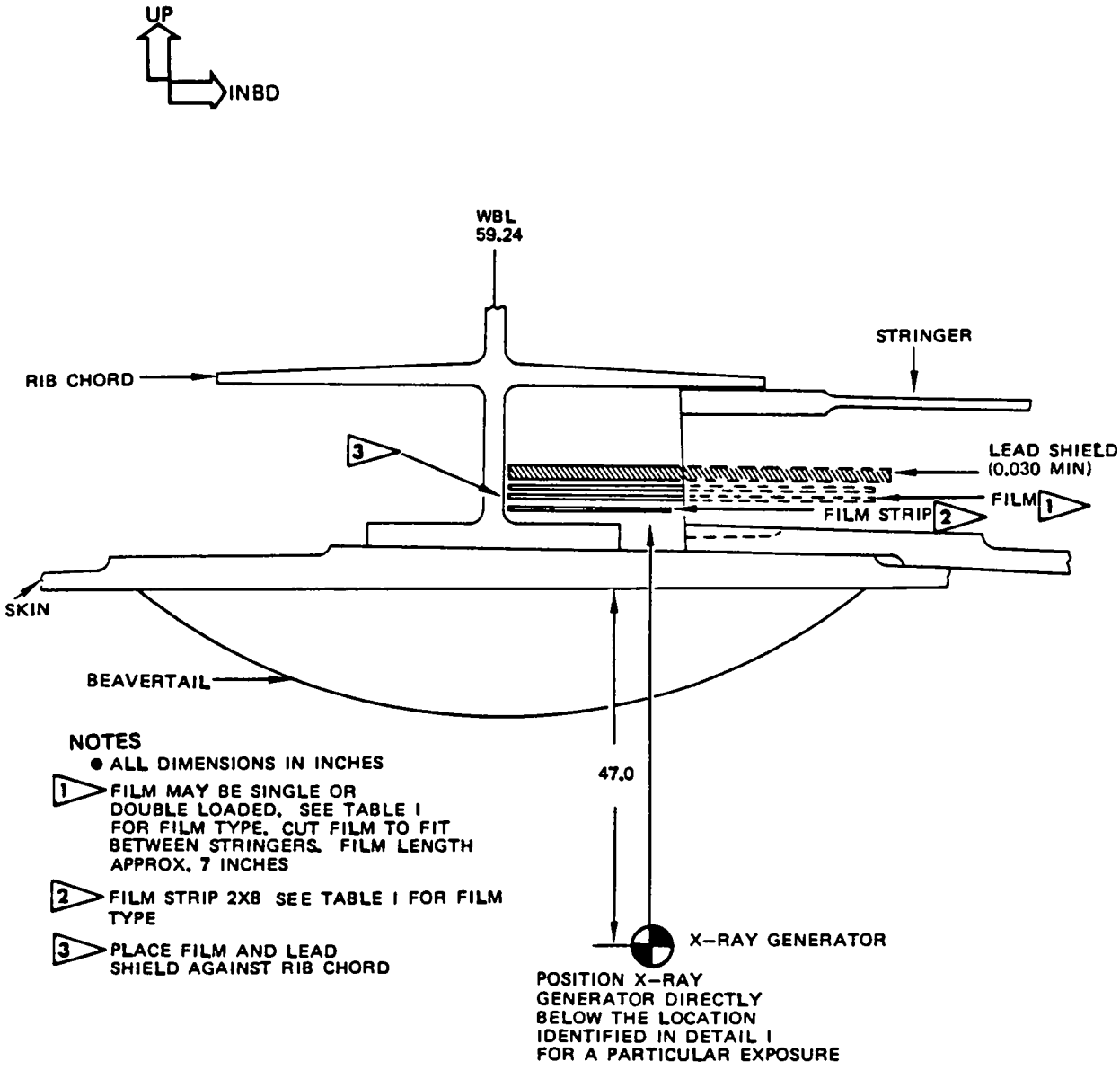
DETAIL II

Lower Wing Skin at Beavertail
707-300/400 Airplanes
Figure 12 (Sheet 6)



Lower Wing Skin at Beavertail
707-300/400 Airplanes
Figure 12 (Sheet 7)

FILM AND FILM STRIP PLACEMENT (TYPICAL)
DETAIL III



SECTION A–A

FILM AND FILM STRIP ARRANGEMENT (TYPICAL SECTION)
DETAIL III (CONT)