RIB-TO-REAR SPAR INTERSECTIONS RS 106.142 TO RS 181.034

1. Purpose

A. To detect internal damage at all rib-to-rear spar intersections between RS 106.142 and RS 181.034.

NOTE: Extensive fractures in which member displacement has not occurred might not be detectable.

2. Equipment

A. Any radiographic equipment that satisfies the performance requirements of this procedure is suitable. The following equipment was used to develop this procedure.

(1) X-ray generator -- Andrex 100 kv, 6 ma, side emission constant potential, portable unit, operating at 30 kv.

(2) Film -- Kodak AA Readypack (ASTM Class II).

(3) Processor -- Automatic

3. Preparation for Inspection

A. Carry out standard radiation safety procedures.

B. Identify inspection area and wipe surface clean (see Figure 1).

4. Instrument Calibration

WARNING: X-RADIATION IS A POTENTIAL HEALTH HAZARD. CARRY OUT STANDARD RADIATION SAFETY PRECAUTIONS.

A. Position X-ray film for exposure No. 1 per Figure 1.

B. Position X-ray generator for exposure No. 1 per Figure 1.

C. Adjust generator settings to meet exposure parameters per Table 1.

D. Expose film to obtain a density of between 1.8 and 2.5 in the area of radiographic interest, i.e., rear spar to skin flange.

E. Repeat Paragraph 4.A. thru Paragraph 4.D. for exposures No. 2 and 3.

F. Repeat exposures No. 1, 2 and 3 on opposite side of rudder by repeating steps Paragraph 4.A. thru Paragraph 4.E.

5. Inspection Results

A. Review the film giving particular attention to the following:

(1) Cracks in the flange-to-web radius of rear spar and ribs (Part 2, 51-00-02).

(2) Displacement or distortion of web structure (Part 2, 51-00-02).

(3) Water contamination in skin panels (Part 2, 51-00-01).

NOTE: Radiographs may not show internal damage unless structural displacement has occurred. Visually inspect areas of concern for fastener pull-through, skin distortion or cracked paint around fasteners and reevaluate films.

Table 1 X-ray Generator And Film Parameters

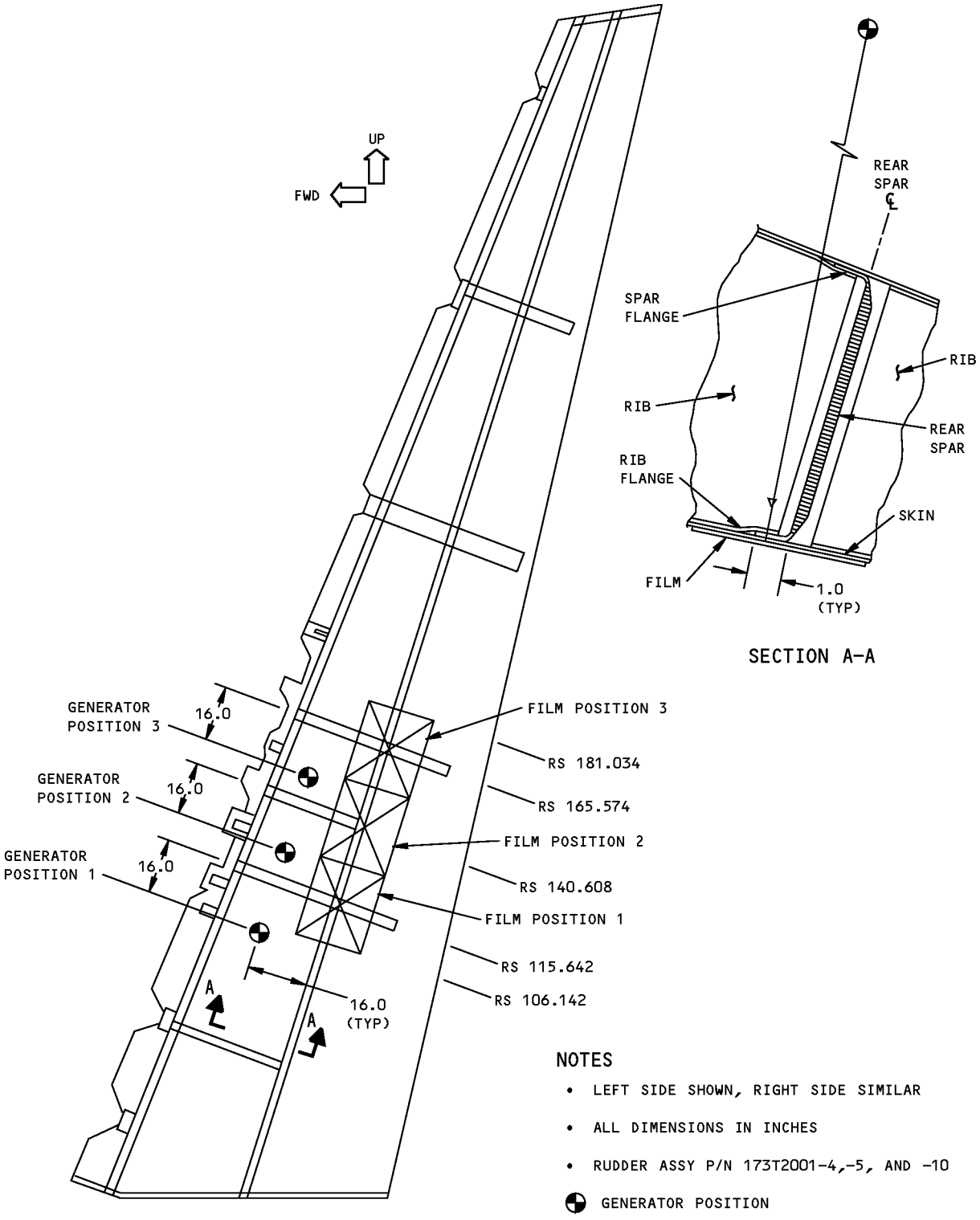
EXPOSURE NUMBER	FILM			SFD	GENERATOR SETTINGS	
	POSITION	ASTM CLASS	SIZE		KV	MAS
1	1	II	14 x 17	60	30	300

(Continued)

EXPOSURE NUMBER	FILM			SFD	GENERATOR SETTINGS	
	POSITION	ASTM CLASS	SIZE		KV	MAS
2	2	II	14 x 17	60	30	300
3	3	II	14 x 17	60	30	300

NOTE: Generator settings shown should be used only as a guide. Equipment, film and processing differences can significantly affect generator setting requirements. The above parameters were developed using an automatic processor.

NOTE: A density of between 1.8 and 2.5 is required in the area of radiographic interest.



Rudder Assembly
Figure 1