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## STEEL WING LIFT STRUTS

X-RAY Inspection

**Background** This procedure originally known as X-Ray Technique 57-20, was raised to provide an alternate means of compliance to cancelled ADs DCA/J3/5B, DCA/PA18/120E, DCA/PA22/127D, DCA/PA25/121F and DCA/M-4/6D.

Revised X-Ray Technique 57-20-01 has been raised at the request of CAANZ to enable public distribution of the technique originally known as 57-20

**Purpose :** To detect internal corrosion in the lower 11 inches of wing lift struts installed on Piper, Maule and other aircraft fitted with steel wing lift struts.

This inspection procedure has been raised to provide an alternate means of compliance with manufacturer or AD inspection requirements for internal corrosion in steel wing lift struts.

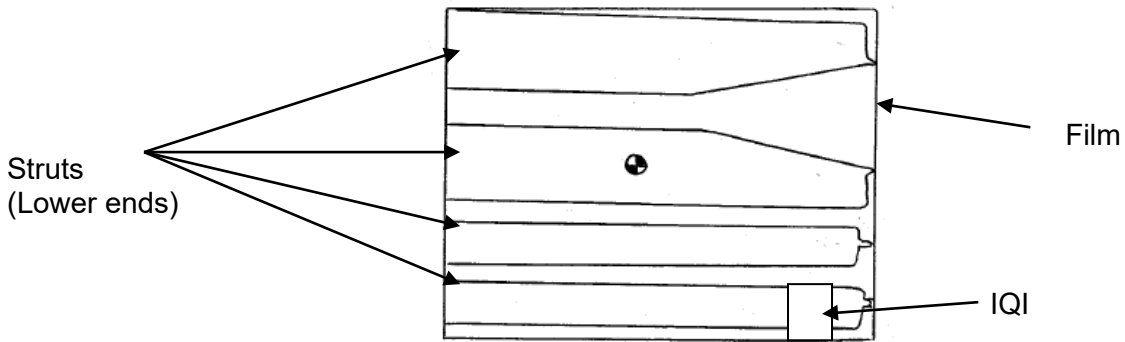
**Reference** ASTM E 1742  
CAD letter 61/12/3 dated 16 December 1977

**Equipment** The following equipment was used to validate this inspection. Alternative equipment may be used as long as film density and sensitivity is maintained.

X-Ray Unit	Seifert 120 – Self rectified unit
Film	Agfa D7 (0.002" front screens)
Processor	Agfa Nova automatic processor.
IQI	EN479 FE wire type.
Reference std	Lift strut test piece with 5%, 10% and 20% machined areas. Calibrated FE Shims can be used to simulate loss of material.
Densitometer	Wilnos LCD 301.
Viewer	Keiyu (max readable film density - 4D)

### Notes

- 1) Ensure all equipment checks are carried out as per ASTM 1742 and recorded.
- 2) Identify each film – Date, Aircraft, Position and exposure number
- 3) For struts removed from aircraft, refer to exposure settings in table 1.  
Adjust MAM when using alternative equipment and maintain Min SFD and Max KV settings.
- 3) Density shall be between 1.8 and 3 in area of interest.
- 4) Min Sensitivity 2% (EN462-1 Wire type)
- 5) Use lift strut machined test piece or calibrated shims to evaluate corrosion depth
- 6) Refer to CAD letter for limits.
- 7) Inspection report to include equipment settings and results.

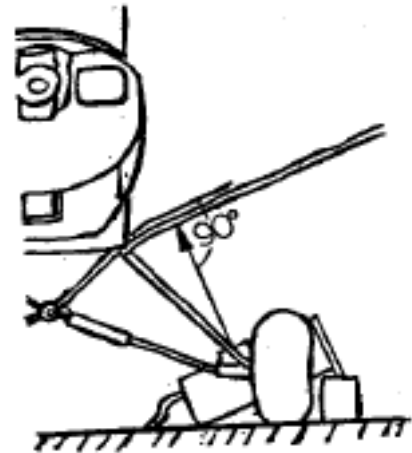


EXP	KV Max	MAM	SFD Minimum	FILM	SCREENS	SIZE (CM)
1-4	70	3.45 X 4	700 mm	Agfa D7	.002F	35 X 43

### Insitu inspection

#### PA18, PA22 and other High Wing aircraft fitted with steel wing lift struts

Place films on top of struts and position x-ray unit on ground.  
Aircraft may need to be raised to achieve SFD.




#### PA25 and other Low Wing aircraft fitted with steel wing lift struts

Position x-ray unit below wing and place films on top of each strut.  
Shooting through wing to expose films will require that the exposure be increased to achieve min film density

Procedure  
Date

57-20-01 rev 1  
01 Jan 2014

Approved

  
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