

SERVICE BULLETIN

SERVICE BULLETIN NO: 57-004

REF NO: 031

MODIFICATION NO:

ATA CHAPTER: 57

WING - CENTER WING NOSE SKIN - INSPECTION FOR CRACK DAMAGE

1. Planning Information

A. Effectivity

PC-9 (M) aircraft MSN 605 and MSN 617 thru MSN 654.

B. Concurrent Requirements

None

C. Reason

(1) Problem

Crack damage can occur in the radii at the rear edge of the nose skin P/N: 557.31.09.120. The radii are adjacent to the left and right corners at the forward edge of the floor panel P/N: 557.31.09.027. Crack damage can also occur in the forward support structure of the floor panel adjacent to the skin panel.

(2) Cause

Fatigue damage caused by stresses which occur normally during operation of the aircraft.

(3) Solution

Do an eddy-current, non-destructive inspection (NDI) of the nose skin for crack damage and if necessary, apply to PILATUS for monitor/repair instructions.

Do an inspection for crack damage in the forward structure of the floor panel.

D. Description

This Service Bulletin (SB) gives the data and instructions necessary to do a NDI of the nose skin above the left and right main landing gear (MLG) bays.

E. Compliance

Mandatory.

Required not later than 150 flying hours or six calendar months after the effective date of this SB, whichever comes first.


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F. Approval

The technical content of this document is approved by the Federal Office for Civil Aviation (FOCA) of Switzerland as an Airworthiness Directive.

PILATUS advises Operators/Owners to check with their local Airworthiness Authorities for any changes, local regulations or sanctions that may affect the embodiment of this SB.

G. Manpower

	Total
Preparation	0.5
Inspection	2.0
Close up	0.5
TOTAL MAN-HOURS	3.0

H. Weight and Balance

(1) Weight Change

Not affected.

(2) Moment Change

Not affected.

I. Electrical Load Data

Not changed.

J. Software

Not changed.

K. References

Aircraft Maintenance Manual (AMM), 05-10-20, 12-00-01, 25-10-00 and 32-11-00.

L. Publications Affected

AMM, 05-10-20 and 57-10-00.

M. Interchangeability of Parts

Not applicable.

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2. Material Information

A. Material - Price and Availability

Not applicable. Modification kit not necessary for this SB.

B. Material Necessary for Each Aircraft

Not applicable.

C. Material Necessary for Each Spare

Not applicable.

D. Reidentified Parts

Not applicable.

E. Tooling - Cost and Availability

Not applicable.

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3. Accomplishment Instructions - Aircraft (Ref. Fig 1)

WARNING: MAKE SURE THAT THE TWO EJECTION SEATS HAVE THE SAFETY PINS IN THE SAFE FOR SERVICING POSITION.

WARNING: BE CAREFUL WHEN YOU WORK IN THE MAIN LANDING GEAR (MLG) BAY WITH THE INBOARD DOORS OPEN. THE DOORS WILL CLOSE IMMEDIATELY AND WITHOUT WARNING, IF THE HYDRAULIC SYSTEM IS ENERGIZED.

This procedure is given for an inspection for crack damage of the nose skin and adjacent structure above the left MLG bay. It is also applicable for an inspection of the nose skin and adjacent structure above the right MLG bay.

A. Preparation

- (1) Make sure the two ejection seats are safe for maintenance (Ref. 25-10-00, Page Block 201).
- (2) Open the MLG inboard doors (Ref. AMM, 12-00-01, Page Block 201).
- (3) If necessary, remove loose paint from the inspection areas (Ref. Fig 1).

B. Inspection

- (1) Use a source of bright light and a X10 magnifier and do an inspection of the forward area of the floor panel and the related structure at the locations shown (Ref. View D). Crack damage is not permitted. Apply to PILATUS for instructions if crack damage has occurred.
- (2) Do an NDI of the nose skin (Ref. Sect 4 and Views B and C). Cracks that have not extended out of the limit areas shown are permitted. Instructions to do subsequent inspections will be given in AMM, 05-10-20. The lengths of permitted cracks must also be monitored at the subsequent inspections.

Cracks that have extended out of the limit areas shown are not permitted. Apply to PILATUS for instructions before the next flight if such cracks have occurred.

- (3) If necessary apply the applicable layers of surface protection and paint on the inspection areas.
- (4) Send the following data to PILATUS if you found cracks in Steps (1) and/or (2):
 - Aircraft MSN
 - Aircraft Flying Hours
 - Wing Serial Number
 - Crack locations, lengths and directions

C. Close-up

- (1) Remove all tools and materials. Make sure the work areas are clean.
- (2) Close the MLG inboard doors (Ref. AMM, 12-00-01, Page Block 201).

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4. NDI Procedure

A. Equipment

The following equipment is necessary to do the NDI:

- Hocking locator
- Standard NFe calibration block
- Shielded fine tip probe 314P24F (PSN AY-5526)
- Suitable probe head

B. Calibration

Set the NDI equipment as follows:

- Initial setting - Obey the manufacturer's instructions
- Operating mode to NORMAL
- Alarm to CONT
- Frequency to 2 MHz
- Metal selector to Al/Mg
- Test sensitivity to get 60% of full scale needle deflection from the 0,5 mm (0.02 in.) slot on the standard calibration block
- Alarm sensitivity to operate at 30% needle deflection

C. Inspection

- (1) Put the probe in position on the top of the skin in the inspection scan area.
- (2) Train the equipment.
- (3) Check train.
- (4) Zero the equipment.
- (5) Do a line scan on the nose skin as near to the edge as possible. Make sure you scan the full radius length (Ref. Fig. 1, Views B and C).
- (6) Do Step (5) again as many times as necessary to fully scan the inspection area shown. Make each line scan approximately 1,0 mm (0.04 in.) apart.
- (7) Do Steps (1) thru (5) again on the lower surface of the nose skin.
- (8) Do Steps (1) thru (7) again on the right inspection areas.

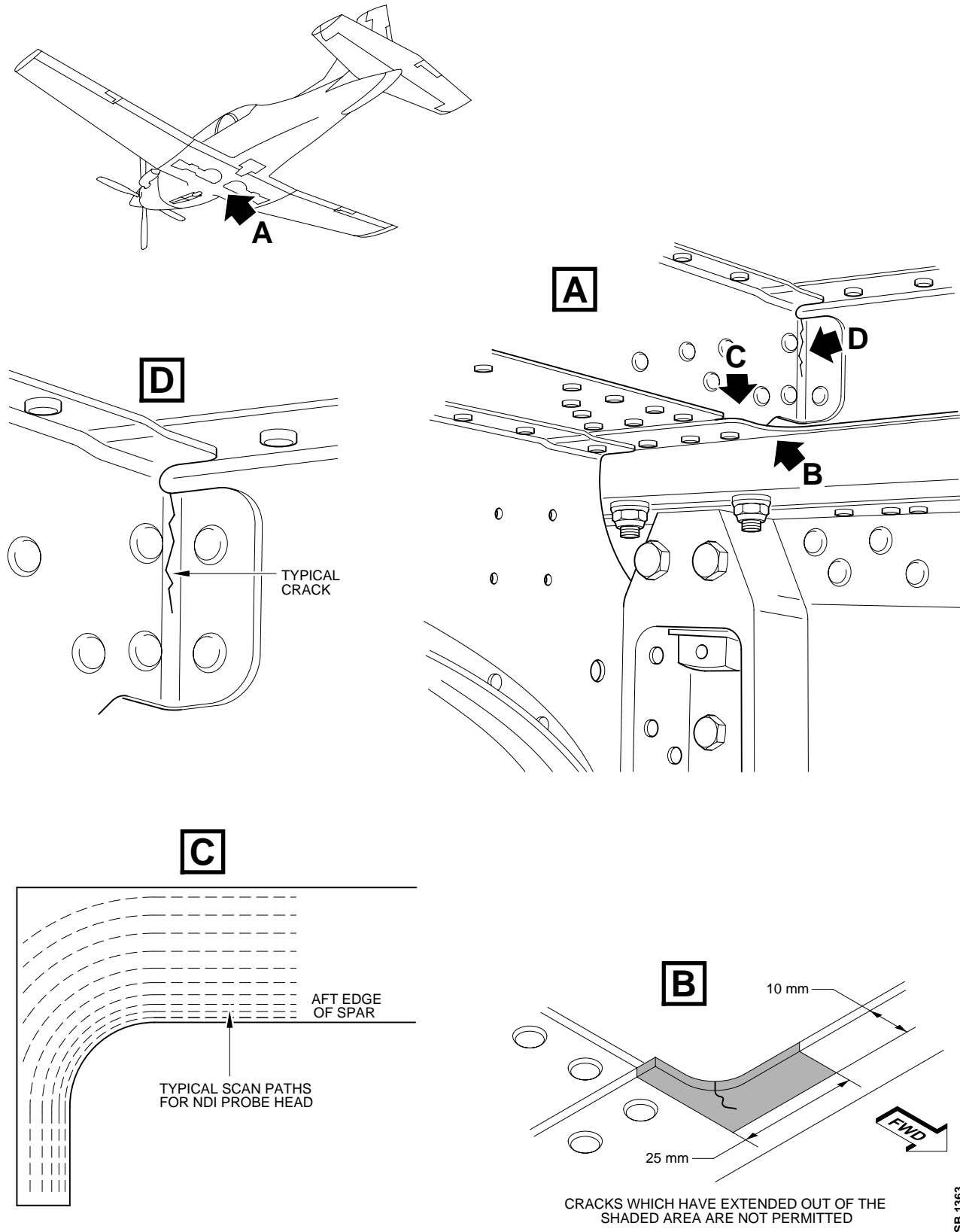
D. Fault Indications

All indications which cannot be attributed to edge, geometric ferrous affect or probe handling are to be considered a fault indication.

E. Action after Examination

Report the results of each inspection.

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Nose Skin - Inspection
Figure 1