

This priority letter Airworthiness Directive (AD) is prompted by an accident involving the in-flight failure of the tailboom vertical fin spar (vertical fin spar) on a Model 205A-1 helicopter. Two other accidents on restricted category (military surplus) aircraft of similar type design have occurred. One of the accidents resulted in a fatality. In 1971 the FAA issued AD 71-21-02 which addressed this problem by requiring a terminating action of adding a steel doubler to the inside edge of the vertical fin spar. There have been several additional failures since that AD was issued. A large number of high-power events can cause fatigue cracks which will cause the vertical fin spar to fail. This condition, if not corrected, could result in in-flight failure of the vertical fin spar and subsequent loss of control of the helicopter.

Since an unsafe condition has been identified that is likely to exist or develop on other Bell Model 204B, 205A, and 205A-1 helicopters of the same type design, this AD requires, within 8 hours time-in-service (TIS) after the effective date of this AD, modification and inspection of the vertical fin spar. Then, at intervals not to exceed 8 hours TIS, further inspections of the vertical fin spar for cracks are required. If any crack is discovered, replacement of the vertical fin spar with an airworthy vertical fin spar is required before further flight.

This rule is issued under 49 U.S.C. Section 44701 (formerly section 601 of the Federal Aviation Act of 1958) pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this priority letter.

**97-18-01 BELL HELICOPTER TEXTRON:** Priority Letter issued on August 19, 1997. Docket No. 97-SW-30-AD.

Applicability: Model 204B, 205A, and 205A-1 helicopters, with tailboom vertical fin spar, part number (P/N) 205-032-899, 205-030-846, or 205-030-851, all dash numbers, installed, certificated in any category.

NOTE 1: This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must use the authority provided in paragraph (c) to request approval from the FAA. This approval may address either no action, if the current configuration eliminates the unsafe condition, or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any helicopter from the applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent in-flight failure of the tailboom vertical fin spar (vertical fin spar) and subsequent loss of control of the helicopter, accomplish the following:

(a) Within 8 hours time-in-service (TIS) after the effective date of this AD, modify the vertical fin spar as follows:

(1) Remove the lower aft tailboom inspection door, located at tailboom station 180 (see Figure 1).

(2) Remove the 42° gearbox cover and open the drive shaft cover on the vertical fin spar (see Figure 2).

(3) Remove the clip, P/N 212-030-099-091, and the radius block, P/N 212-030-099-095 (see Figures 3 and 4). Remove the first four rivets from the bottom of the vertical fin spar left-hand side skin and retainer, P/N 205-032-851-045. Cut and remove the vertical fin spar left-hand side skin as shown (see Figure 5). CAUTION: Extreme care must be taken when drilling the side skin to ensure the vertical fin spar assembly is not damaged.

(4) Trim the retainer using extreme care to not damage the vertical fin spar assembly (see Figure 5).

(5) Deburr the rivet holes and trimmed retainer and skin edges. Remove all debris. In a ventilated work area, remove any surface contaminants with a cloth that has been dampened with aliphatic naphtha or an equivalent cleaning solvent.

(6) Reattach the skin and retainer to the vertical fin spar using MS20470AD rivets. DO NOT install the bottom two rivets into the vertical fin spar where the skin was trimmed.

(7) Reinstall the clip and radius block (see Figure 4).

(8) Refinish all reworked areas.

(b) After modifying the vertical fin spar, immediately inspect the vertical fin spar, and thereafter, inspect at intervals not to exceed 8 hours TIS, for cracks as follows:

(1) Through the lower aft tailboom inspection door, using a bright light and an inspection mirror, inspect the vertical fin spar assembly adjacent to the tailboom top skin on the forward side, paying special attention to the left-hand edge and the adjacent surfaces (see Figure 4).

(2) In a ventilated work area, clean all surfaces to be inspected with a cloth dampened with aliphatic naphtha or an equivalent cleaning solvent. Using a bright light and a 10x magnifying glass, inspect the vertical fin spar assembly adjacent to the tailboom top skin, on the inboard and outboard sides, the vertical edge, and the two open rivet holes. Using a bright light and a mirror, inspect the aft side of the vertical fin spar in the same area. Special attention must be given to the left-hand edge of the vertical fin spar and any adjacent surfaces between fin station 66.31 and 71.31 (see Figure 4).

(3) If any crack is discovered on the vertical fin spar as a result of the inspection specified in paragraphs (b)(1) or (b)(2) of this AD, replace the vertical fin spar assembly with an airworthy vertical fin spar assembly before further flight.

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Rotorcraft Certification Office, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Rotorcraft Certification Office.

NOTE 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Rotorcraft Certification Office.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) Priority Letter AD 97-18-01, issued August 19, 1997, becomes effective upon receipt.

FOR FURTHER INFORMATION CONTACT: Mr. Charles Harrison, Aerospace Engineer, FAA, Rotorcraft Directorate, Rotorcraft Certification Office, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5447, fax (817) 222-5960.

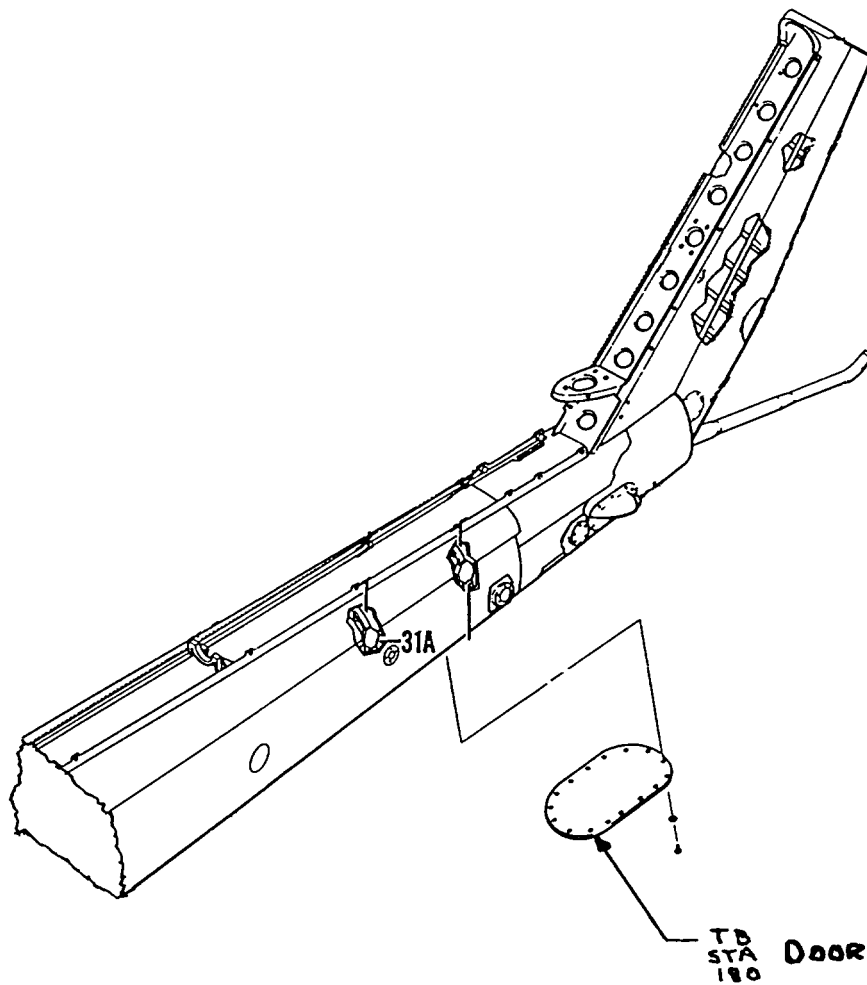


Fig. 1  
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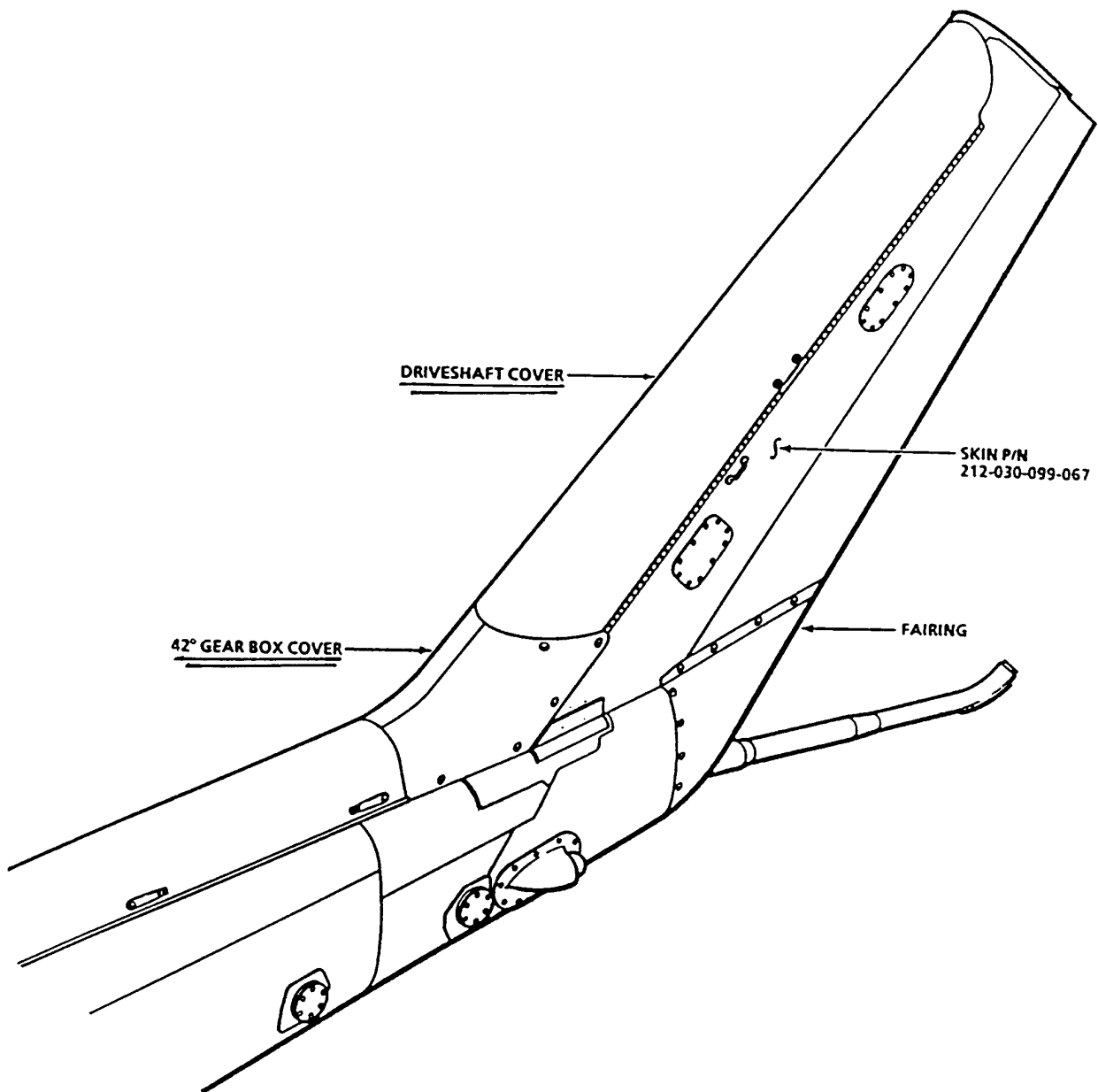


Fig. 2

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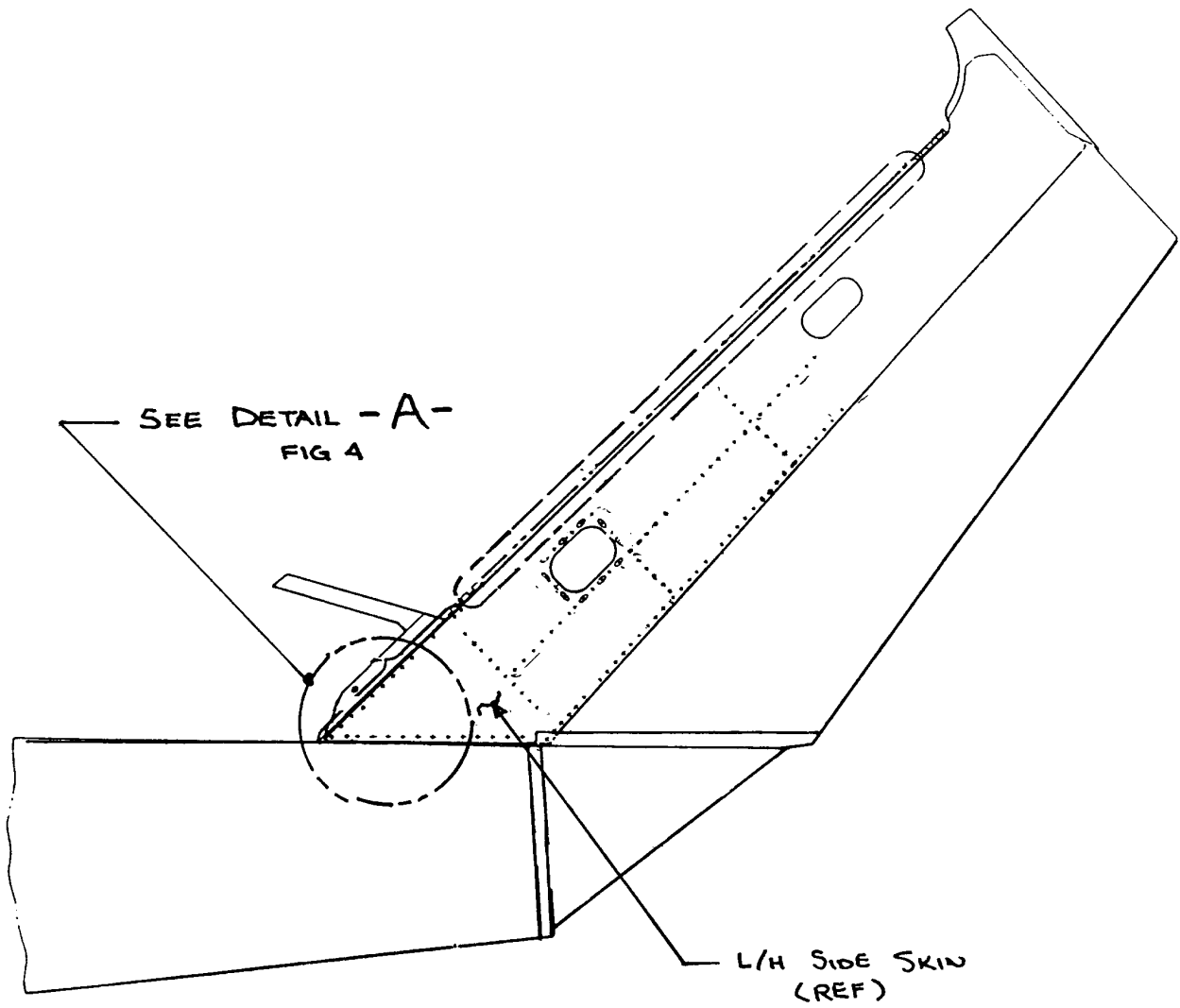
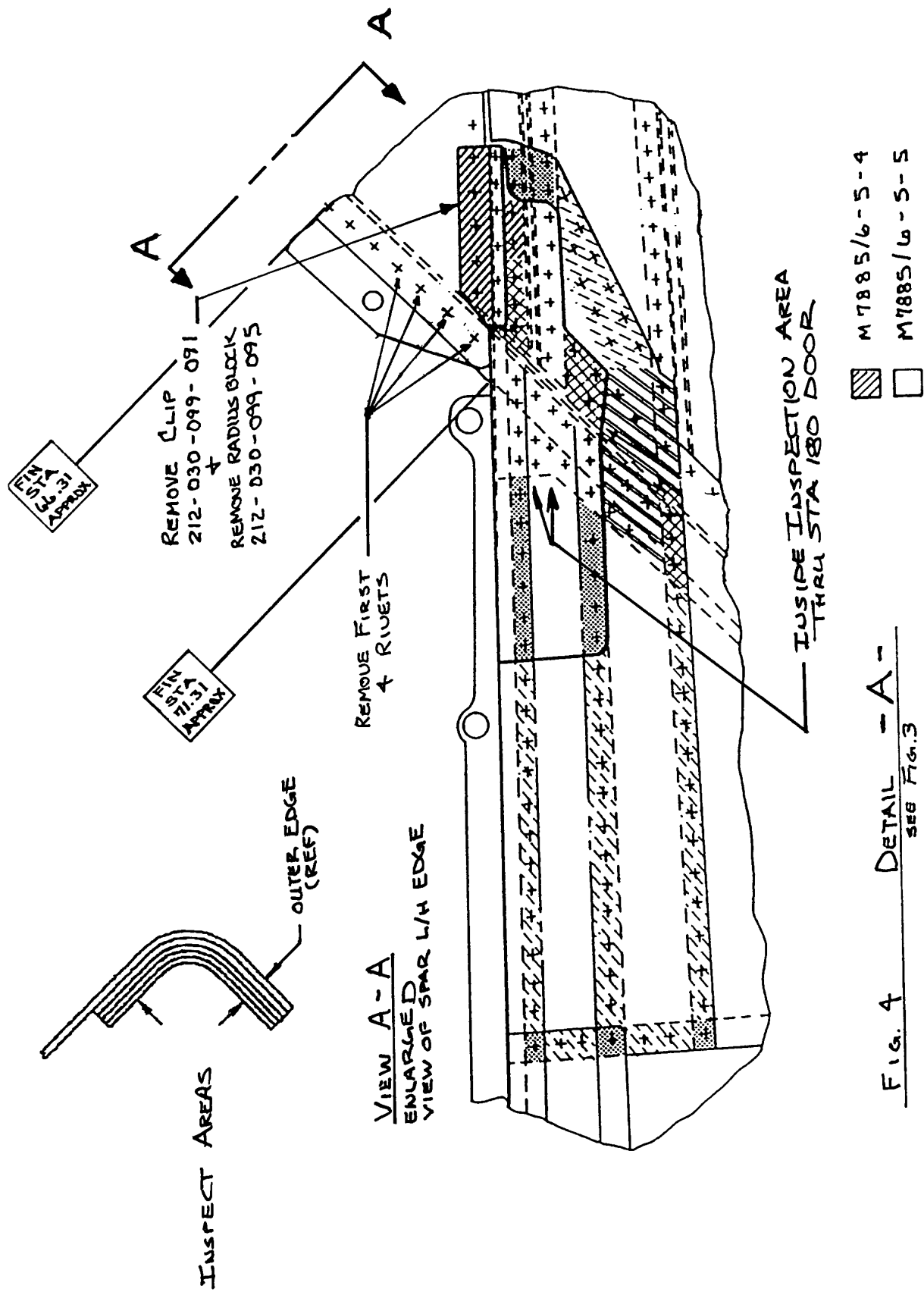


FIG 3 VIEW LOOKING INSD  
L/H SIDE

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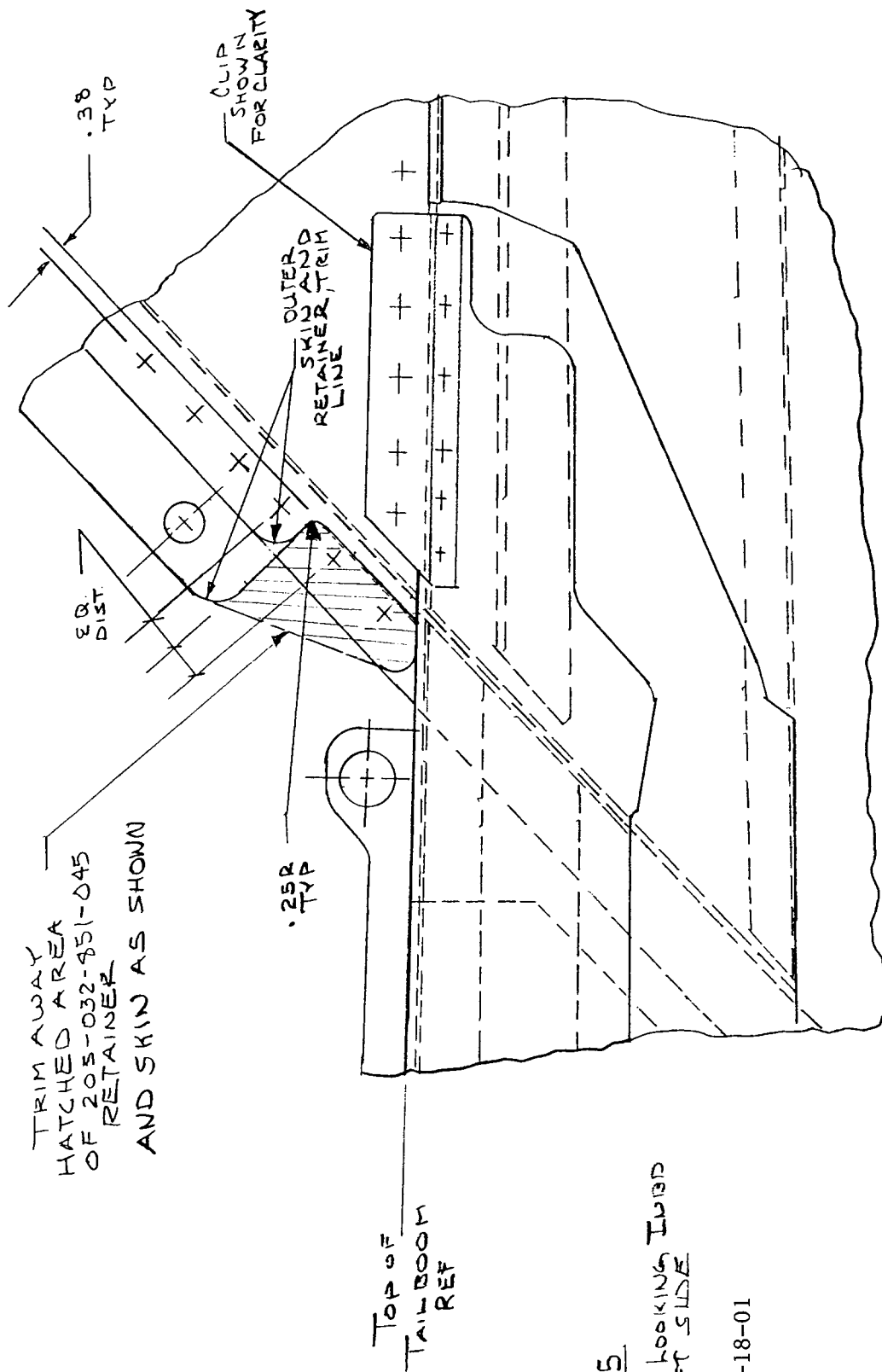


FIG. 5  
 VIEW LOOKING INWARD  
 LEFT SIDE

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