Damage Reporting Procedures

A. General

Incomplete and inaccurate reporting of damage/discrepancies will result in requests to the operator for additional information. This creates time delays in the commencement of effective repair design with a net result of increased aircraft down times.

These guidelines are intended to demonstrate acceptable methods of reporting, necessary to avoid delays. Damage reported in this manner will greatly assist in providing a prompt and effective response.

Reporters of damage should be aware that a remote Structure Repair Engineer can only base the remedial action on the information presented to him. Therefore, it is the responsibility of the reporter to give full details of all damage sustained.

B. Basic Information

The following headings MUST be covered, ideally on a front sheet, on every communication sent:-

(1) Manufacturer's number and registration number

(2) Aircraft operator

(3) Contact name, telephone, facsimile number and email address

(4) Traceable document reference number

Additionally the following should be covered on the initial communication:-

(5) Component Part No., Serial No. and Mod. State

(6) Date damage occurred

(7) Priority classification

(8) Aircraft hours and landings

(9) Aircraft location

C. Descriptive Text

A written description should provide as much information as possible concerning the damage, cause and any other relevant details not shown pictorially, e.g. If the aircraft was hit on the ground – how far did it move? Damage definitions and component names/ descriptions contained within the Structural Repair Manual (SRM), will enable the author to utilize the correct terminology, thus providing a clearer understanding of the damage/ parts affected.

The following headings should be covered, when applicable within the text:-

(1) Cracks

Has the area been checked for cracks using a suitable Non Destructive Test Method, (NDT)? Which method was used? What were the results?

(2) Denting

What is the extent of the denting? Is the dent hard or flexible, i.e. will it 'pop' in and out to the touch? Does the dent pass over any underlying structure? (Refer to (4) Underlying Structure). Has the area been inspected for cracks? (Refer to (1) Cracks).

(3) Delamination/ Debonding

Has delamination of bonded composite structure, e.g. glass fibre occurred? How has it been checked? How far does delamination extend?

Is the damage in an area with bonded structure, e.g. reduxed skin/ stringers? If so, has the bond been checked? What was the method used? What were the results?

(4) Underlying Structure

Has the damage extended beyond surface to structure such as stringers, frames and buttstraps? Is damage detailed in a separate illustration?

(5) Fasteners

Are any fasteners damaged and if so, to what extent? Are they highlighted on damage diagrams?

(6) Corrosion

Has all corrosion been removed in accordance with the appropriate Raytheon Aircraft Company manual. What method of removal has been used? Is there evidence of previous corrosion blending and if so, have details been supplied? What method has been used to determine the thickness of sound material remaining? What are the final results?

NOTE: Repair assessment can only be based on sound material remaining.

(7) Existing Repairs

Are there any existing repairs in the immediate vicinity of the reported damage? Have details been supplied?

D. Photographs

Digital photographs can be used to good effect to provide overall impressions. Several photographs of the same area but taken from different angles will provide the best results. All photographs should include a scale and be titled to allow positive identification.

E. Format of Damage Report

This refers to the illustrations at the end of this section, and outlines the correct, structured approach to reporting damage. Faxes/emails sent reporting damage should include these types of diagrams.

Figure 2 – Example of Overall Locations

This shows two typical illustrations giving the location of damage along with a brief description. Ensure the description clearly states the location using terms such as port or starboard, upper or lower surface, inboard or outboard.

Suitable illustrations may be obtained from the Structural Repair Manual or Illustrated Parts Catalogue. Always state relevant page number, i.e. SRM 51-00-00 *Figure 4 sheet 1* page 12.

Figure 3 – Example of Exact Location – Dents (Sheet 1) – Corrosion (Sheet 2)

This shows two typical examples of a damage diagram. Scale should be full size. The easiest method of producing a full size drawing of the damage area is to take a rubbing or tracing, directly from the damage surface.

Care should be taken to include reference points around the damage area to provide accurate location. Reference points should be rivet lines, skin laps, frames, door/ window edges etc.

Figure 4 – Depths of Dent Depression

Figure 4 shows a desired method of presenting dent depths. Details of dents should include the overall size of the dent, maximum depth, major and minor dimensions.

Figure 5 – Scores

Figure 5 shows that when measuring depths of scores, material overflow should be removed to provide an accurate reading. Several readings along its length should be taken should be taken to establish total material loss.

Figure 6 – Combination – Score and Dent

Where dents and scores are combined then dimensions should be noted separately as shown in *Figure 6*.

Figure 7 – Cracks in Thick Structure/ Down Holes

This shows how to report cracking found in thick structure, especially down holes in structure, found by Eddy Current probe. Note that you must identify which laminate the cracking is in, and the direction of the crack from the hole.

F. Information Transmittal

Damage reporting by means of the telephone is valuable in alerting the Repair Design Office of impending action required, but this method will not instigate any repair design.

The quickest and most effective method is to send reports via facsimile and/ or email. When using these methods the following guidelines should be observed:-

(1) Whenever possible inform recipient by telephone that urgent damage reports are being sent! It is not uncommon for documents not to arrive.

(2) When sending rubbings, detail should be relatively light. Dark rubbings will be received black. Ideally, details should be transposed from the rubbing onto a clean sheet prior to transmittal.

(3) Details can become distorted during transmittal therefore all pictorial sheets should have two scale lines, at right angles to each other, with their written length alongside.

(4) All text should be in bold black capitals. Information should not extend to the full width of the sheet due to the edges often being lost in transmission.

(5) When transmitting large sheets that require cutting into sections, ensure good overlap. Provide positive identification on each sheet's relationship. This can be achieved by individual numbering of sheets with a sketchplan on sheet 1 indicating how the numbered sheets are related.

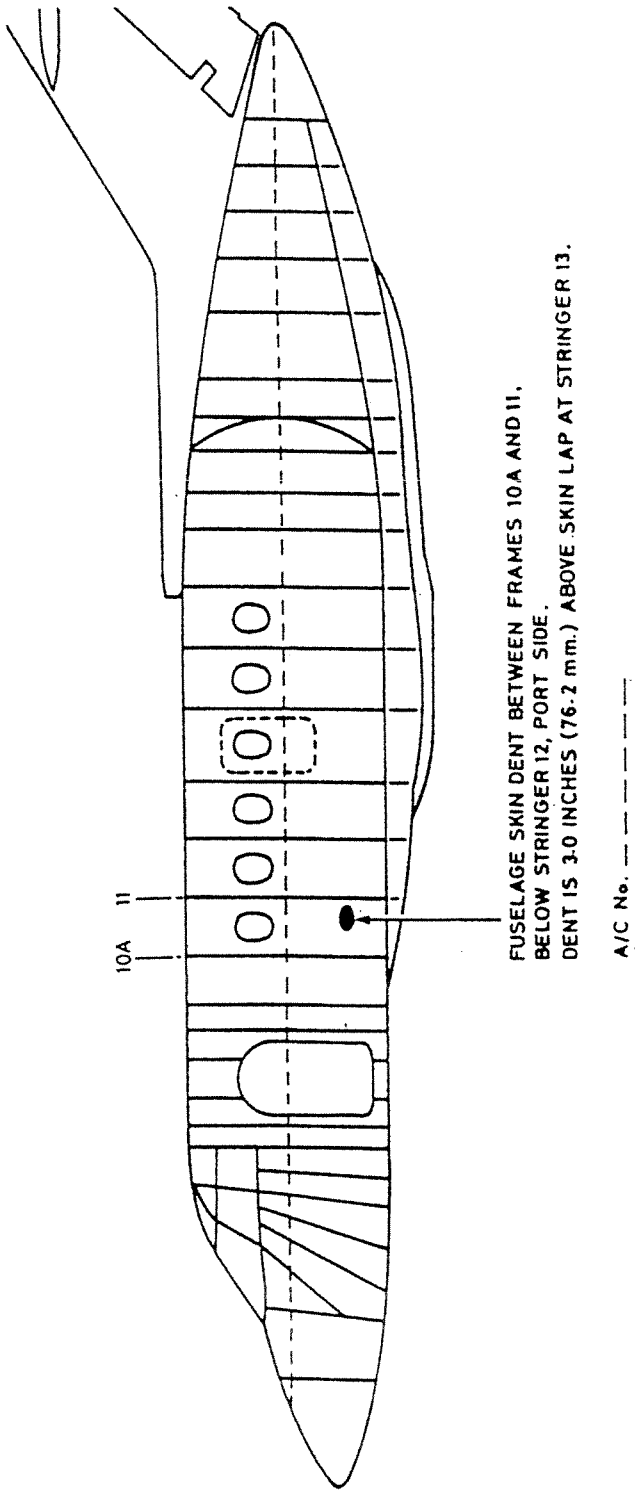
G. Damage Rectification

Whilst carrying out the damage rectification, personnel should be encouraged to report:-

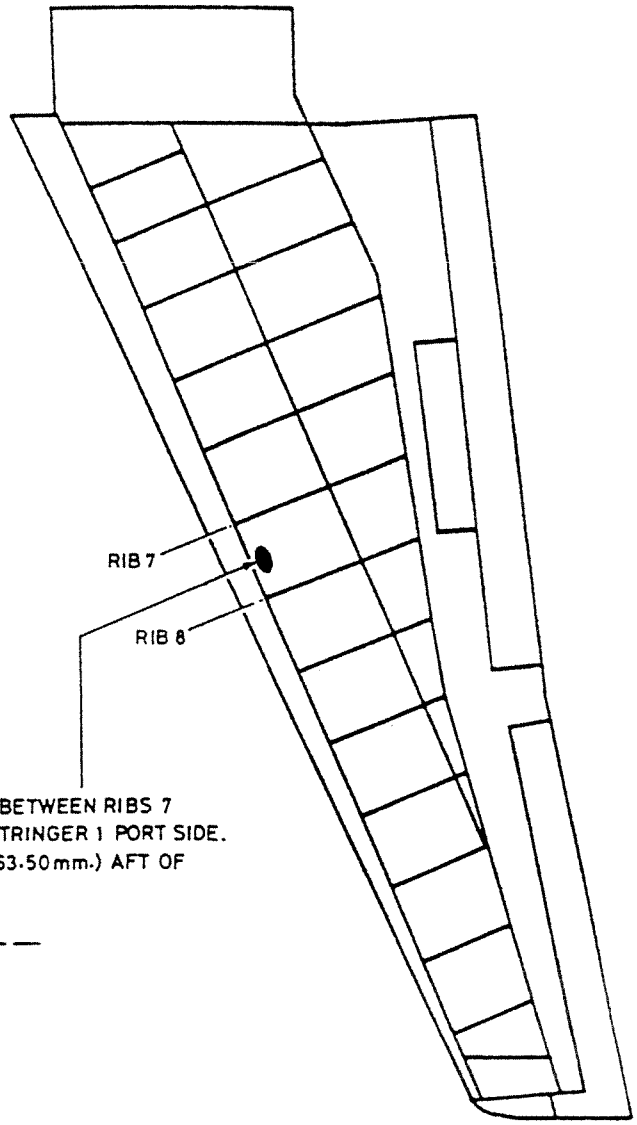
(1) Any additional damage found.

(2) Any inaccuracies in drawings or written text provided.

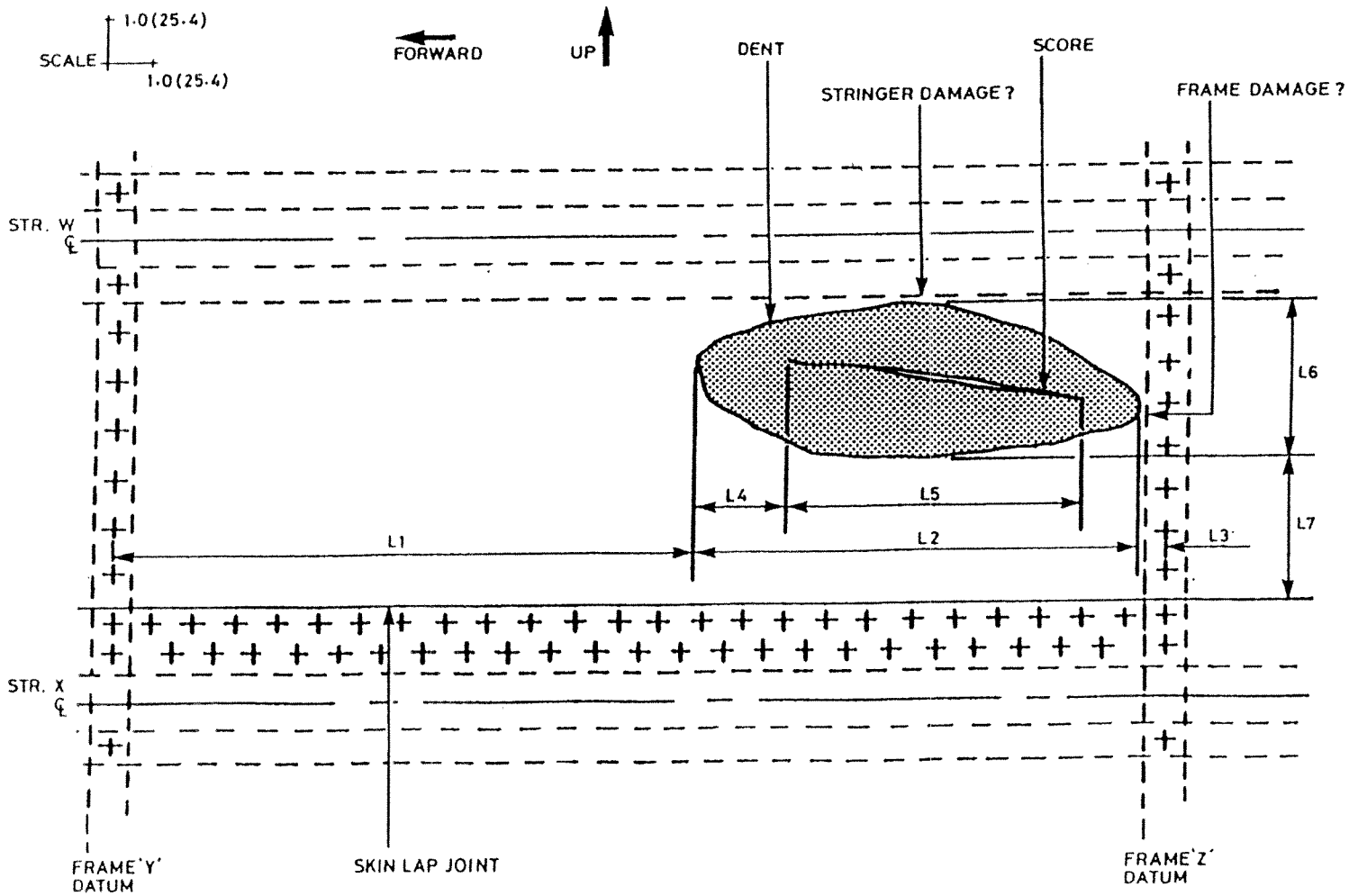
(3) Suggested improvements to repair methods, component replacement or procedures.



Example of Overall Location



Example of Overall Location

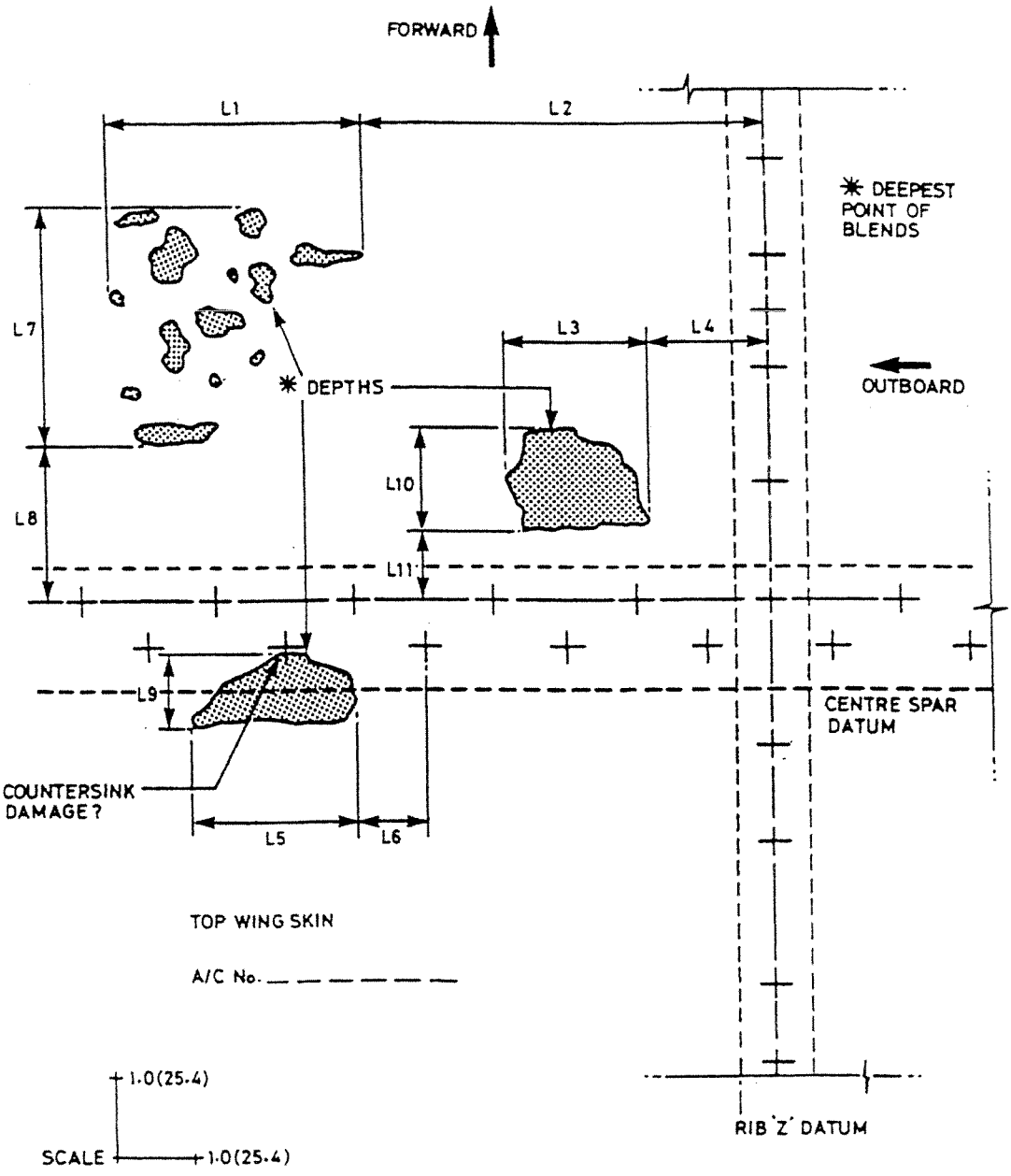


VIEW ON PORT SIDE LOOKING INBOARD

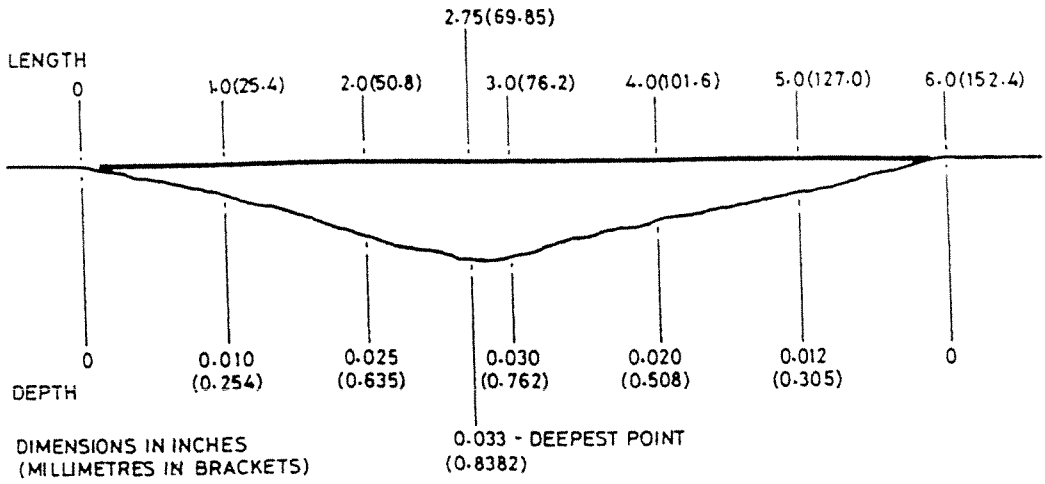
DIMENSIONS IN INCHES
(MILLIMETRES IN BRACKETS

A/C No. — — — — — —

Example of Exact Location - Dents

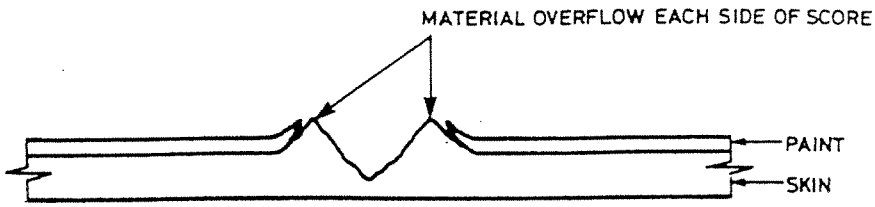


Example of Exact Location - Corrosion



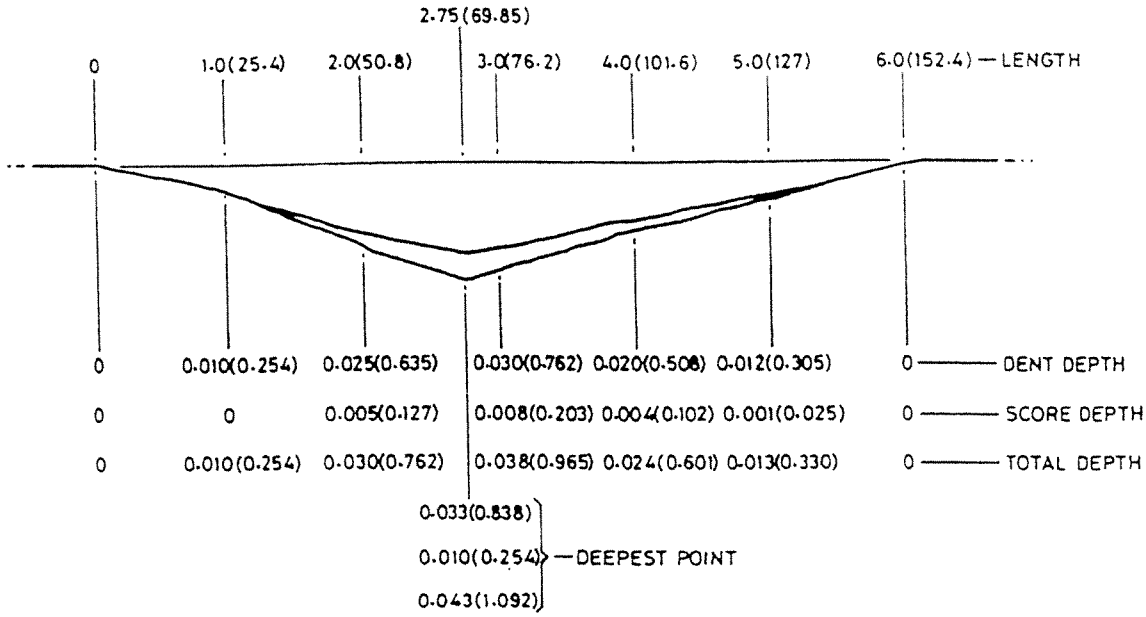
CROSS SECTION THROUGH DENT GIVING DEPTHS OF DEPRESSION

Depths of Dent Depression



MATERIAL OVERFLOW MUST BE REMOVED PRIOR TO MEASUREMENT OF SCORE DEPTH

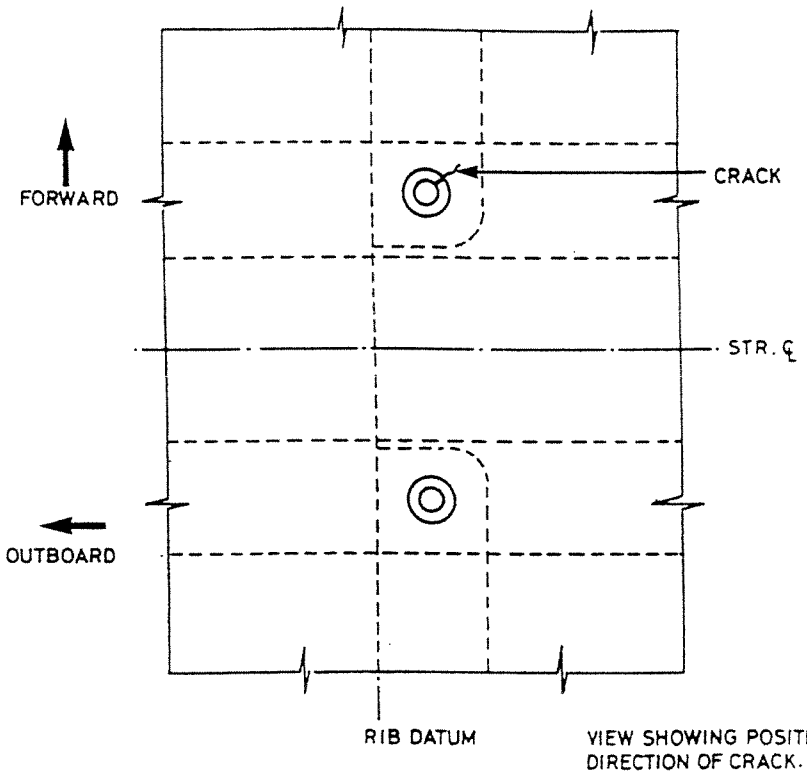
PAINT AND OVERFLOW REMOVED



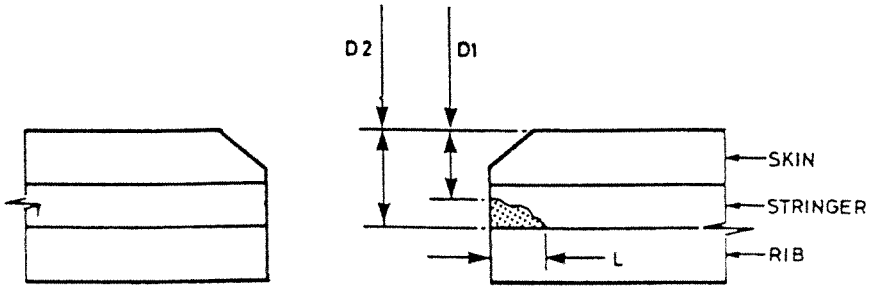
WHERE DENT/SCORE COMBINATION EXISTS DEPTH OF SCORE MUST BE REPORTED SEPARATELY AS SHOWN

DIMENSIONS IN INCHES (MILLIMETRES IN BRACKETS)

Combination - Score and Dent



VIEW SHOWING POSITION AND DIRECTION OF CRACK.



SECTION THROUGH HOLE - AFFECTED LAMINATE AND DIMENSIONS OF CRACK

Cracking Through Thick Structure