BOEING

Pacific Tool

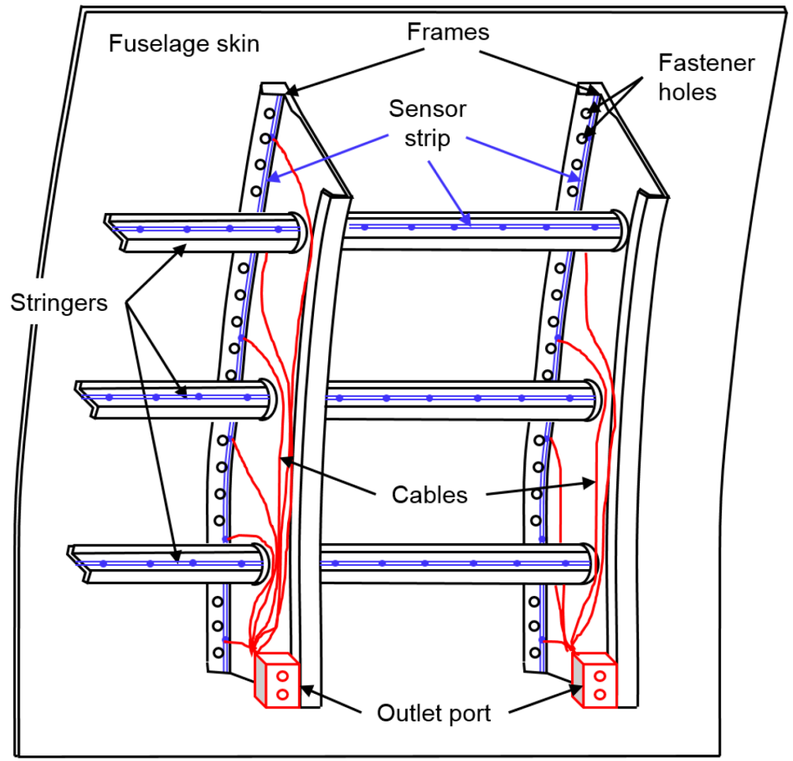
Skin Repair Tools

A guide to Boeing-designed specialized tools for repair of damaged aircraft skins, with references to governing Boeing technical documents.

All Aircraft Models – Boeing & Airbus

Boeing-designed tools address 3 critical maintenance challenges.

1. Size the dent or defect
2. Establish & match skin contour shape
3. Use dinging tips to remove dents or defects



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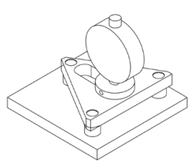
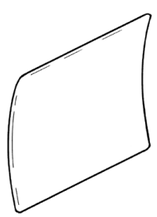


ST8721TBI
Depth indicator gauge

2

ST1716-A Kit
Back up & button plates



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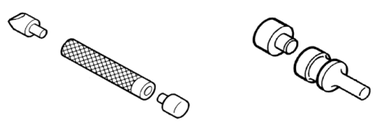
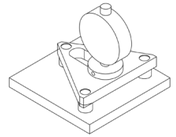


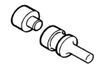
ST1716-A Kit
Dinging tips

Specific Tool Highlights

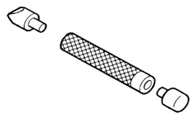
The most frequently used Boeing-designed tools for skin repair.



ST8721TB
Depth Indicator Gage
Three-point tripod holds dial indicator for checking depth/height of aircraft skin contours. Other shapes/foot configurations available.

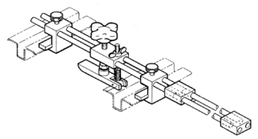


ST1716-A Kit
Powered Dinging Tips
Used to remove various types of dents and dimples in aircraft skins. Designed with shank sizes to mate with standard rivet guns.

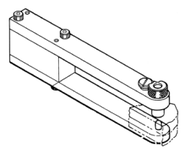


ST1716-A Kit
Manual Dinging Tips
Used for gentle manual removal of various types of dents and dimples in aircraft skins. Three tip configurations for different types of damage.

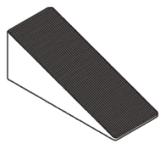
ST1716-A Kit
Back Up & Button Plates
Plates used with powered dinging tips to match nominal fuselage shape, and to spread impact to avoid accidental contact damage.



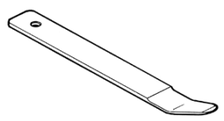
ST1718
Stringer Clamp Pressure Assembly
Applies pressure for removing dents and dings from inside the skin. Clamps onto stringer and is used to force skin into position. To be used with ST1716 and ST1717.



ST5701B
Piloted Hole Locator
Used to locate holes in new aircraft skins requiring matching with frame and other structural component hole locations.

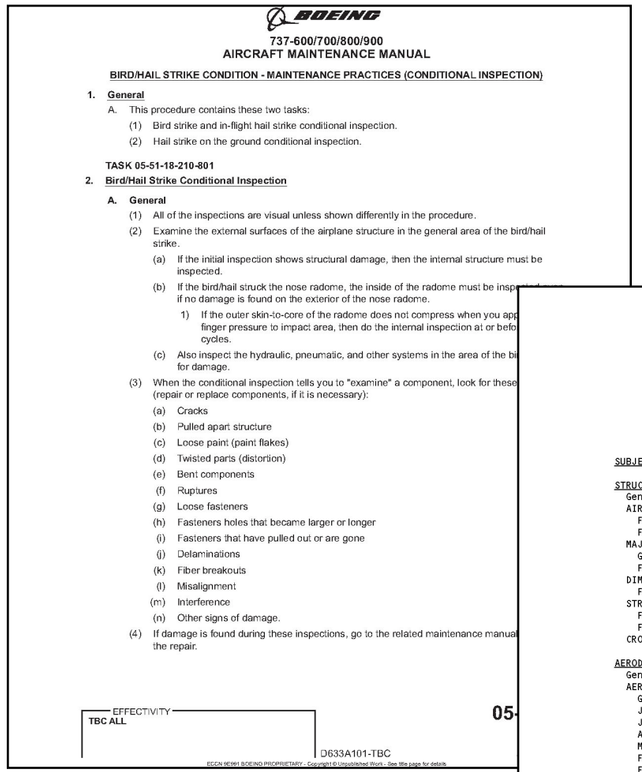


ST995
Fairing Wedge
Soft wedge used to separate sealed and/or riveted skin panels without causing damage. Customizable size configurations for all areas of the aircraft.



ST991A
Skin Wedge
Pry tool used to separate and/or relocate skin panels. Often used during cleaning & sealing.

Aircraft Maintenance Manual (AMM) and Specialized Tool Designations



BOEING
737-600/700/800/900
AIRCRAFT MAINTENANCE MANUAL

BIRD/HAIL STRIKE CONDITION - MAINTENANCE PRACTICES (CONDITIONAL INSPECTION)

1. General
   A. This procedure contains these two tasks:
      (1) Bird strike and in-flight hail strike conditional inspection.
      (2) Hail strike on the ground conditional inspection.

TASK 05-51-18-210-801

2. Bird/Hail Strike Conditional Inspection
   A. General
      (1) All of the inspections are visual unless shown differently in the procedure.
      (2) Examine the external surfaces of the airplane structure in the general area of the bird/hail strike.
         (a) If the initial inspection shows structural damage, then the internal structure must be inspected.
         (b) If the bird/hail struck the nose radome, the inside of the radome must be inspe
         if no damage is found on the exterior of the nose radome.
            1) If the outer skin-to-core of the radome does not compress when you app
            finger pressure to impact area, then do the internal inspection at or befo
            cycles.
         (c) Also inspect the hydraulic, pneumatic, and other systems in the area of the bi
         for damage.
      (3) When the conditional inspection tells you to "examine" a component, look for these
      (repair or replace components, if it is necessary):
         (a) Cracks
         (b) Pulled apart structure
         (c) Loose paint (paint flakes)
         (d) Twisted parts (distortion)
         (e) Bent components
         (f) Ruptures
         (g) Loose fasteners
         (h) Fasteners holes that became larger or longer
         (i) Fasteners that have pulled out or are gone
         (j) Delaminations
         (k) Fiber breakouts
         (l) Misalignment
         (m) Interference
         (n) Other signs of damage.
      (4) If damage is found during these inspections, go to the related maintenance manual
      the repair.

EFFECTIVITY
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BOEING
737-400
STRUCTURAL REPAIR MANUAL

CHAPTER 51

STRUCTURES - GENERAL

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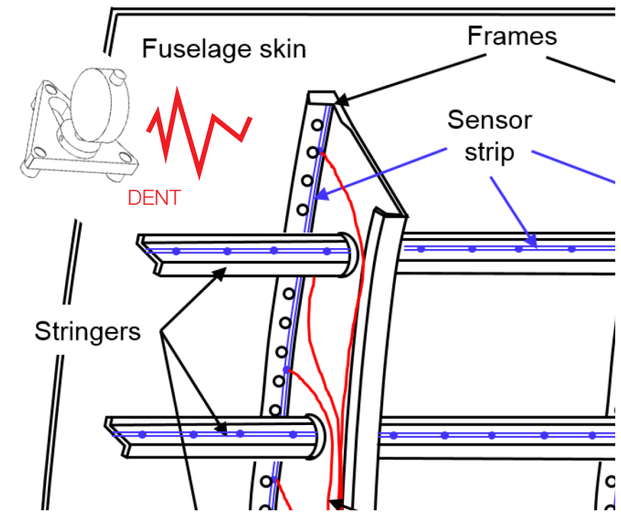
Tool Explanation and References

Depth Indicator Gauge

ST8721TB

Gauge is placed over the dent or dimple and measures the depth and height, to ensure that damage falls within allowable rework/repair limits.



AMM Reference

TASK 05-51-18-210-801

- SUBTASK 05-51-18-210-003
  2./A./(5) Examine the external fuselage structure
  2./A./(5)/(a)/7 Refer to SRM 51-10 for the analysis and continued service of airplanes with on-ground hail damage

TASK 57-31-21-400-801 (INSTALLATION)

SRM Reference

Chapter 51-10-01

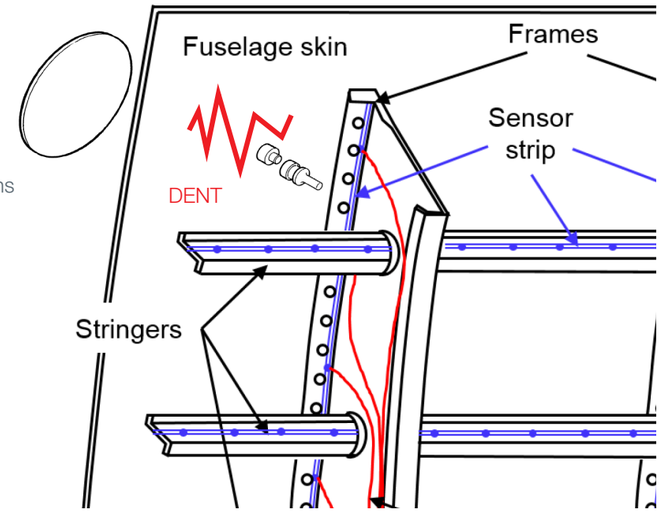
1./A. The 737 airplane requires an aerodynamically clean shape and sooth exterior for high performance. Unrepaired damage, unfilled dents (51-70-01) or repairs which change the shape or roughen the surface will be reflected in reduced performance. Every effort should be made to maintain original contour and exterior surface smoothness.

Tool Explanation and References

Dinging Tips, Backup Plates & Button Plates Kit

ST1716-A

Dinging tips can be selected from the kit for powered repair with a rivet gun, or a gentler manual repair. Used with back up plate specific to fuselage contour, to restore dents to original condition. Multiple tip configurations available for various damage types.



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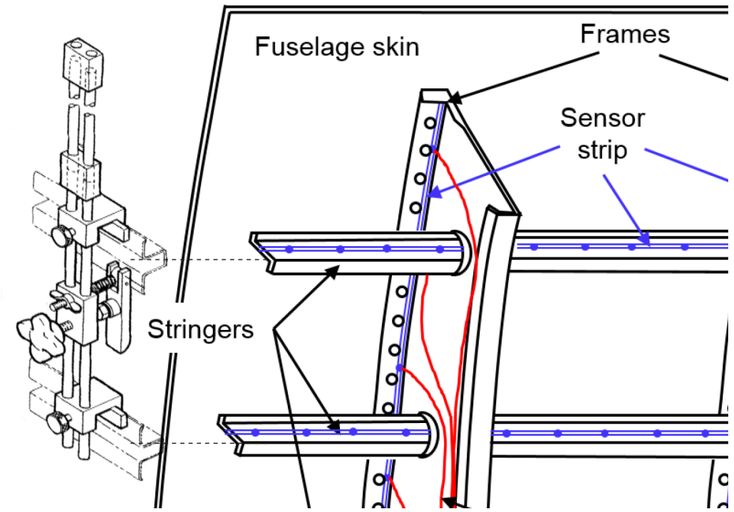
Tool Explanation and References

Clamp Assembly

ST1718

Clamps onto stringer and is used to press dents back into nominal position. Often used with ST1716-A Kit items.



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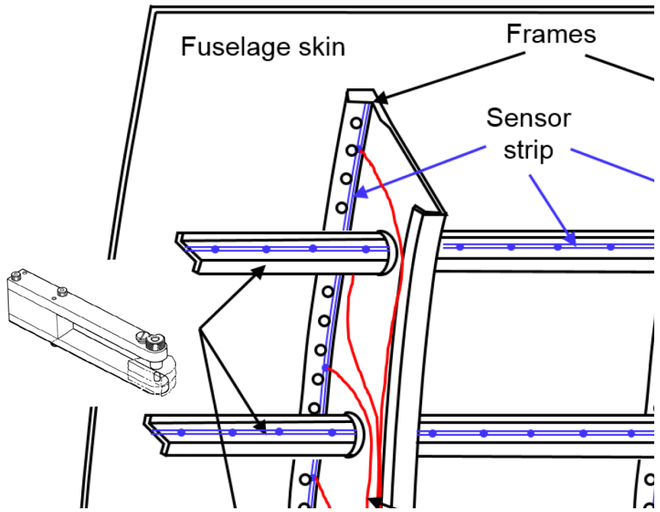
Tool Explanation and References

Piloted Hole Locator & Drill Guide

ST5701B

Locates pilot hole in underside of part and drill hole frpm top.



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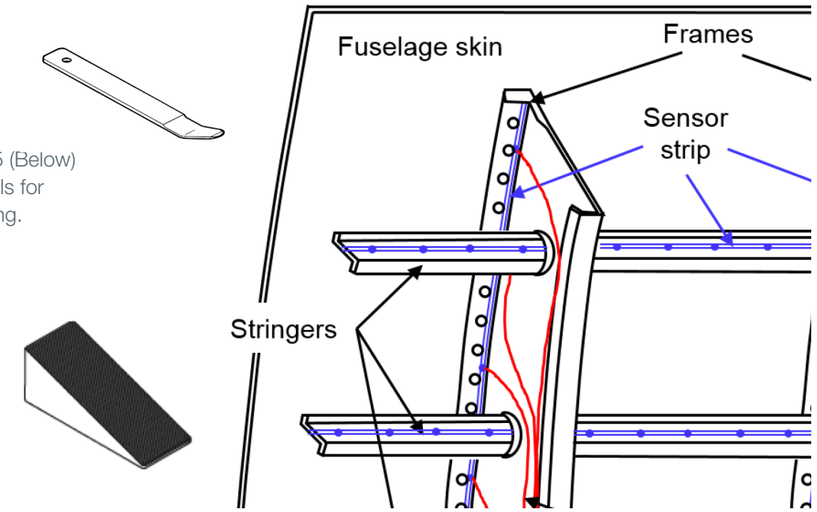
Tool Explanation and References

Skin Wedges

ST995 & ST991A

ST991A (Above) and ST995 (Below) help seperate the skin panels for removal, cleaning and sealing.



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Find the Right Tool

Pacific Tool provides Boeing customers and maintenance the right tool from the 25,0000 Boeing-designed specialized production tool catalog to lower labor costs and reduce quality errors.

Pacific Tool connects a Boeing-designed specialized tools for production with a repair and maintenance activities and provides references for the tool to maintenance documentation and Boeing production standards.

Pacific Tool was founded in 1966, guided by the principles of engineering innovation, technology, data and service. With over 50 years serving Boeing, as well as its suppliers and customers, Pacific Tool is recognized as a pioneer in specialized tooling across the disciplines of fastening systems, assembly, and automation. Pacific Tool is AS9100 and ISO9001 certified. Officially licensed by Boeing.

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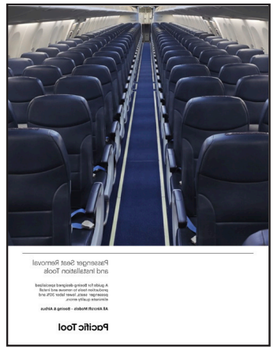
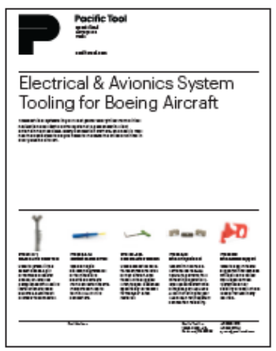
In-Depth Tool Guides



Fast Fives – Top Tools from the AMM by Functional Area



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