# CHAPTER

# 53

# Fuselage

CHAPTER 53
FUSELAGE

| | Subject/Page | Date | COC | Subject/Page | Date | COC |
|---|---|---|---|---|---|---|
| | 53-EFFECTIVE PAGES | | | | | |
| | 1 | Jun 15/2016 | | | | |
| | 2 | BLANK | | | | |
| | 53-CONTENTS | | | | | |
| | 1 | Oct 15/2015 | | | | |
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| R | 2 | Jun 15/2016 | | | | |
| | 3 | Feb 15/2015 | | | | |
| | 4 | Feb 15/2015 | | | | |
| | 5 | Feb 15/2015 | | | | |
| | 6 | Oct 15/2015 | | | | |
| | 7 | Oct 15/2015 | | | | |
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# 53-EFFECTIVE PAGES


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# CHAPTER 53
# FUSELAGE



## 53-CONTENTS


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## FUSELAGE - INTRODUCTION

### General

The fuselage is a semi-monocoque structure. Most of material in the fuselage is aluminum.

These auxiliary structures attach to the fuselage:

- Nose radome
- Wing-to-body fairing
- Tail cone.

These dimensions give locations on the fuselage. The scale for each dimension is inches.

- Station line
- Body buttock line
- Water line.

The body station line (STA) is a horizontal dimension. It starts at station line zero. You measure the body station line from a vertical reference plane that is forward of the airplane.

The body buttock line (BL) is a lateral dimension. You measure the buttock line to the left or right of the airplane center line.

The water line (WL) is a height dimension. You measure the water line from a horizontal reference plane below the airplane.

### Training Information Point

Information on the section numbers, zone numbers, and access panel numbers is in the maintenance planning data document (MPD).

### Abbreviations and Acronyms

- BL - buttock line
- LBL - left buttock line
- MPD - maintenance planning data document
- RBL - right buttock line
- sta - station
- WL - water line



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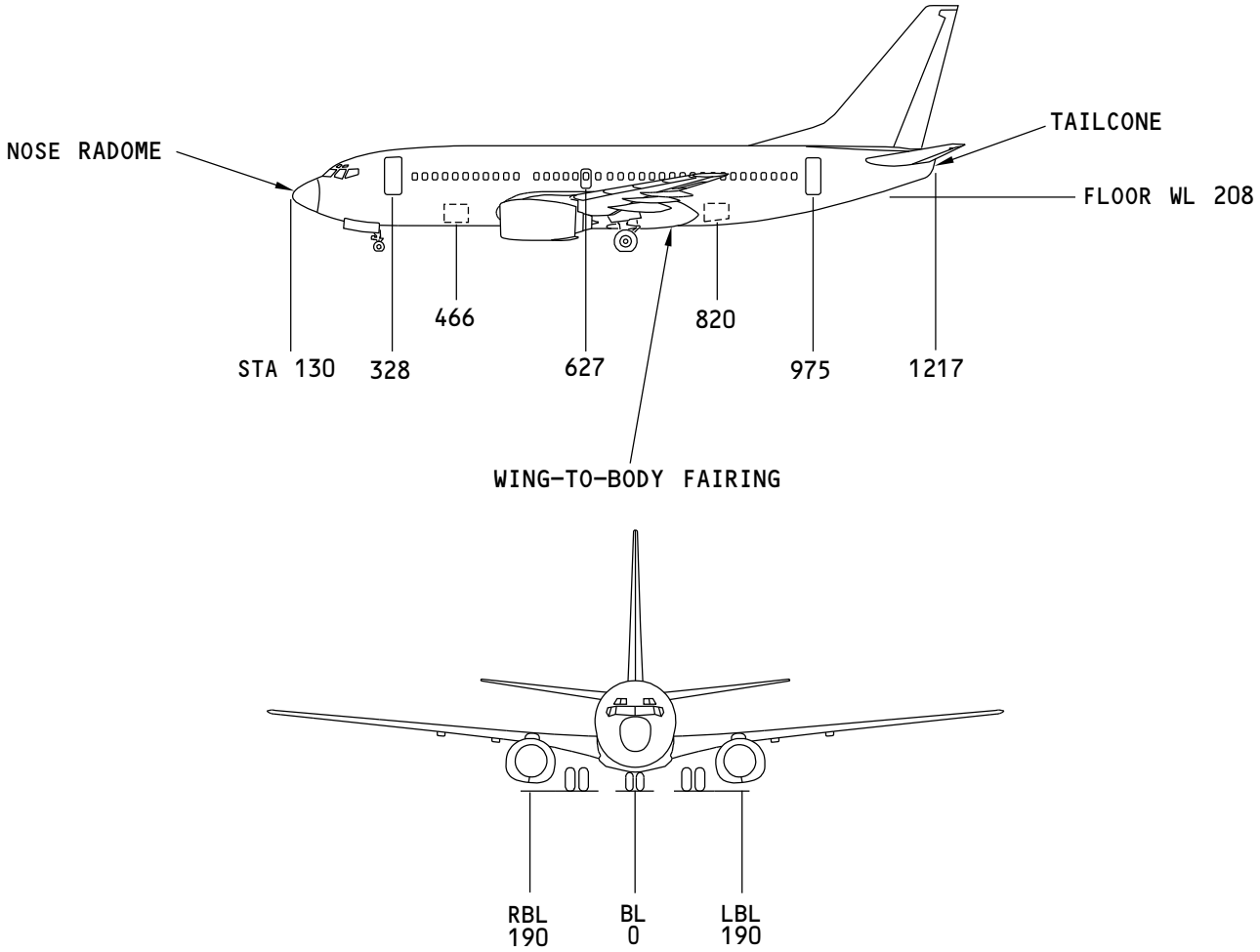


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**FUSELAGE - INTRODUCTION**



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## FUSELAGE - NOSE RADOME

### General

The nose radome is an aerodynamic fairing on the front of the fuselage. Most of the material in the radome is fiberglass.

The radome area has navigation and weather radar antennas. Lightning diverter strips prevent damage to these antennas and the equipment they connect to. The lightning diverter strips decrease lightning energy and transmit it to the airframe.

See the navigation chapter for more information on the navigation and weather radar antennas. (CHAPTER 34)



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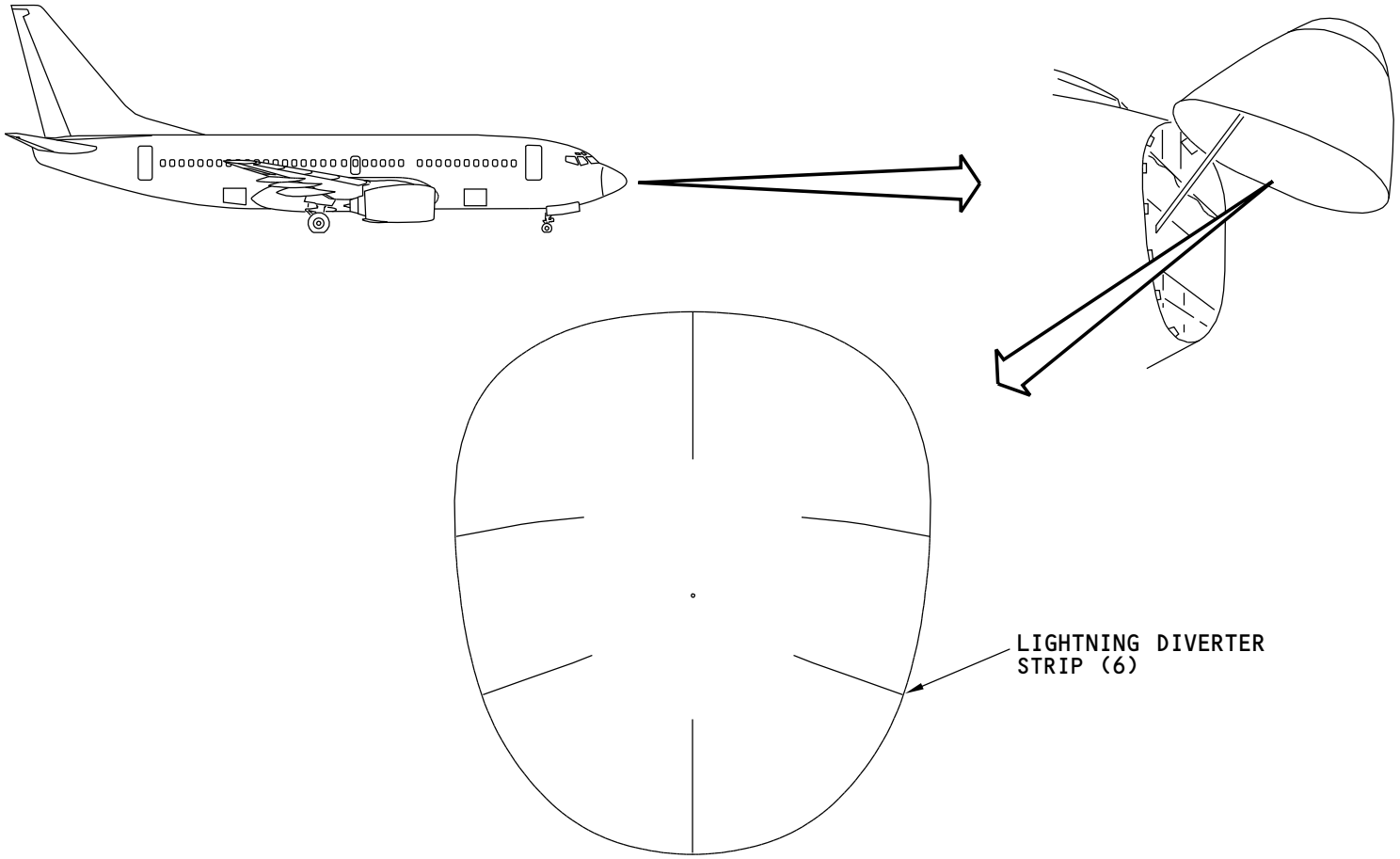


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**FUSELAGE - NOSE RADOME**



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## FUSELAGE - BROADBAND RADOME

### General

The Broadband Radome provides protection for the receive/transmit antenna, as well as aerodynamic smoothing for what would be antenna protrusion into the airstream. Atmospheric pressure inside of the radome is at ambient pressure.

The broadband radome attaches to the CbB Next Generation Antenna (NGA) Adapter Plate. The adapter plate transfers radome loads into the body through nine attachment points.

Because of the length of the radome adapter plate, the plate is isolated from fuselage deflections by using pivot links at most of these attachment points. The use of pivot links prevents excessive deflection-induced fore-aft or inboard-outboard loads.

The links are fastened to attachment fittings that are installed on the external side of the fuselage skin. The attachment fittings are fastened to the fuselage skin and are backed-up internally by a combination of frame shear ties and intercostals.

### Component Description

The broadband radome is 92.6 inches long, 42.3 inches wide and 11.0 inches high.

The broadband radome is made from a quasi-isotropic quartz-epoxy laminate construction. It is somewhat teardrop in shape (in plan view) and performs an aerodynamic smoothing function around the receive/transmit antenna.

The frontal surface shape is similar in configuration to that of the Wedgetail® radome, thereby enabling the radome to bounce a bird if impacted in flight.

The broadband radome is attached to the adapter plate all along the lower edge band utilizing 5/16- inch diameter, countersunk fasteners.

Near the aft end of the radome is a pressure relief panel approximately 5.5 inches by 15 inches in size. The panel door is designed to fail benignly when the internal pressure between the radome and the fuselage reaches between 1.0 to 1.3 psi.



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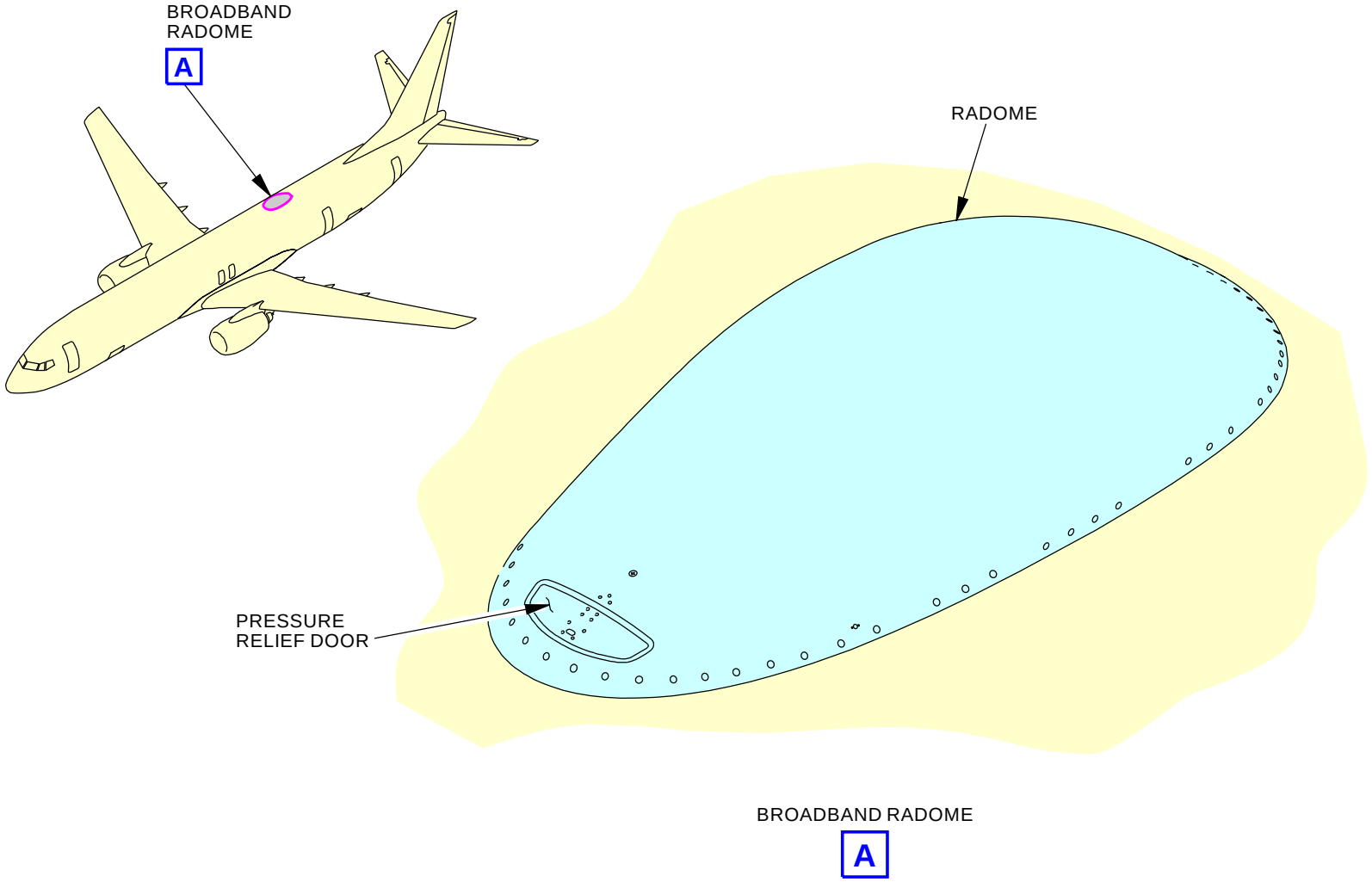


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**BROADBAND RADOME**



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