Boeing is restructuring the airplane configuration data used by airplane operators and maintenance, repair, and overhaul shops. The data are being structured around parts rather than engineering drawings, thereby allowing users to identify and locate the specific data they need more quickly.
A comprehensive business process improvement, known as Define and Control Airplane Configuration/Manufacturing Resource Management (DCAC/MRM), has been under way at Boeing. (See “New-Airplane Configuration Definition Software,” Aero no. 4, October 1998.) DCAC/MRM, which is in the final stages of implementation, affects part-tracking and airplane-configuration processes. Airplane parts replace Boeing engineering drawings as the engineering design reference (i.e., the configuration design authority) for each airplane.

Airplane operators; maintenance, repair, and overhaul (MRO) shops; and others who work with Boeing airplane data are familiar with the data structure in which parts lists are correlated with drawings and drawings are correlated with airplanes. The new structure, which correlates part information directly with airplanes, was effective in third-quarter 2002 for in-production 757s and will be effective for in-production 737, 747, 767, and 777 airplanes later in 2002 and 2003. Boeing offers users of the restructured data training on how to navigate and best apply the data.

Configuration data are not being restructured for the 717 and airplanes already in service, including out-of-production models. The restructuring of configuration data does not change the physical configuration of the airplanes.

This article discusses the following:
1. Data structured around engineering drawings.
2. Data structured around parts.
3. Implementation and training.
consuming for airline customers to find the applicable drawings for particular airplanes during maintenance planning and repair work.

Under DCAC/MRM, maintenance and engineering data for an airplane model are structured around airplane parts (fig. 2). For each airplane model, parts are grouped into modules based on their location within the airplane. Each module includes all of the information necessary to install a group of parts (i.e., part numbers, location on the airplane, installation requirements, and geometry references).

The options chosen by the customer determine which modules are installed on a particular airplane. Each airplane, with its unique set of modules, is identified with a single airplane identification number. In addition, each customer is given a customer variable number, which is a unique number that is assigned to each airplane of similar configuration in the customer’s fleet.

Using the airplane identification or customer variable number, a customer can find part information for any or all of its airplanes on MyBoeingFleet.com, the Boeing business-to-business web site offered to airplane owners and operators as well as MROs. (See “MyBoeingFleet.com: For Increased Efficiency and Productivity,” Aero no. 18, April 2002.)

On MyBoeingFleet, modules for a particular airplane are identified by maintenance zones so that users can retrieve data for specific maintenance activities or identify installations by knowing part locations on the airplane. Maintenance zones, which are specified in Boeing maintenance planning data documents, divide the
modate the modules. The processes for ordering spare parts by telephone or fax or through the PARTS Page on MyBoeingFleet are not affected.

**IMPLEMENTATION AND TRAINING**

Implementation of the new configuration data structure was effective for in-production 757 airplanes in third-quarter 2002. For all other in-production models, except the 717, the new structure will be implemented later in fourth-quarter 2002 and in 2003.

Boeing Digital Data Customer Support will notify customers of the specific implementation date for an in-production airplane model through the usual communication channels (e.g., letter, BOECOM message, fax, or e-mail). Training will be offered to the airlines and MROs that are directly affected. The training will be designed according to the preferences and needs of the airplane operators.

Editor’s note: To gain access to MyBoeingFleet.com, contact Boeing Digital Data Customer Support by e-mail at DDCS@boeing.com or call 206-544-9990 Monday through Friday from 6:30 a.m. to 6:30 p.m. (U.S. Pacific time).
Major Zone 100 —
Lower half of fuselage

Major Zone 200 —
Upper half of fuselage

Major Zone 300 —
Body section 48 and empennage

Major Zone 400 —
Power plant

Major Zone 500 —
Wing, left

Major Zone 600 —
Wing, right

Major Zone 700 —
Landing gear and doors

Major Zone 800 —
Doors
Boeing is changing its system for managing engineering design configuration data for in-production airplanes, except the 717. The configuration design authority is the parts, with engineering pictures available for reference only.

Each airplane is defined by a group of part modules. All modules are associated with one or more maintenance zones, giving users a simple way to find part data on MyBoeingFleet. The search functions on MyBoeingFleet are the primary navigation tool for determining the applicable parts for each airplane.

These changes are scheduled for completion in 2003 for all Boeing in-production airplanes, except the 717. Configuration data for the 717 and in-service airplanes, including out-of-production models, remain unchanged.
The first DCAC-configured airplane was a 757 delivered in April 2002.