

Cover Page

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**BOEING PART STANDARD
THE BOEING COMPANY**

D-590-PREFACE

Revision T
11 September 2019
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PREFACE D-590 COMPANYWIDE PART STANDARDS

TECHNICAL CHANGES IDENTIFIED BY REVISION BAR.

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1. PURPOSE AND AUTHORITY FOR D-590

The purpose of the Boeing Product Standards System is to control and publish product standards for companywide use. D-590 is the document number that is assigned to the companywide collection of Part Standards that control hardware that is not described by Engineering Drawing, but by part-standard-formatted documents. Information contained in the D-590-PREFACE standard is intended to provide content interpretation guidance and general requirements for implementation and use. In the event there is a conflict with a Part Standard, the Part Standard must take precedence regarding the area of conflict. The Boeing Company, hereafter referred to as Boeing, has established policies to promote standardization. To this end, Boeing employs both company-wide Boeing Original Equipment Manufacturer (OEM) Part Standards, and external standards controlled by Boeing owned external standard Supplements. In addition, Boeing provides that PSDS (Product Standards Data System) is the delivery tool for Product Standards, that the Boeing Product Standard (BPS) collection in PSDS is the "companywide" collection, and that data retrieved from the Standard Part Data System (SPDS) or via the Supplier Product Data Management (SPDM) tool is authoritative.

2. TERMINOLOGY

2.1 Basic

Approval Code	Applicable only to companywide part standards still shown in the "heritage" Boeing format. Each standard in the Book 14 Series has a listing at the top of "F" (Full), "P" (Partial) or "N" (None) in the New Design Approval block to indicate which of the Business Units have approved it for new programs. The "New Design Approval" status controls new drawing callouts, not procurement or receiving of existing callouts. See Section 5.1 . For companywide part standards shown in the One Boeing format, see the standard's Inactivation Applicability section for direction.
Archived Standards	Boeing standards not in PSDS that have a PSDS pointer page and have been inactivated or had little use. Copies are available from the Product Standards Office (PSO) (EngineeringStandards@boeing.com).
Coordination	The process by which all affected organizations review proposed changes to Boeing-originated standards. For changes to non-Boeing standards, contact External Standards Management at (EngineeringStandards@boeing.com).
Dash Number	Any number or set of digits used after the standard number to describe a characteristic of the part.

Engineering Drawing	The collection of product definition data used to disclose, directly or by reference, through pictorial or textual presentations, or combinations of both, the physical and functional end product requirements and configuration an item. The term may be used regardless of the actual medium or method used for its depiction. A drawing may be computer-aided, manually produced, digitally defined within a dataset and plotted, or digitally defined within a dataset and not plotted.
Interchangeable	Parts which are mutually satisfactory as replacement, each for the other, in form, fit and function. There are both 1-way and 2-way interchangeable categories, see Table II .
Part Number	The Part Identification Number (PIN) formed when dash numbers and code letters are added to the standard number to designate sizes, materials, finishes or other options.
Release Date	Date at the top of the PSDS Cover Page of the Boeing standard which identifies the standard or revision as approved and released.
Standard Number	The basic number which is assigned to a standard by its originating agency, exclusive of dash numbers or codes (e.g., BACB30WP).

2.2 Procurement


Qualification	The formal process whereby a supplier demonstrates the ability to make parts which meet all the part standard requirements. Changes in the part design, basic methods of manufacture, plant site or quality level must be approved by Boeing to retain qualification.
Qualified Source	A supplier that has been reviewed and approved by Boeing to a standard which contains qualification requirements. The Boeing standard will use the term "qualified" in the procurement section. Standard parts must be procured from the sources cited and with the required documentation to support product traceability and conformance to the applicable Part Standard.
Approved Source	A supplier that has been reviewed and approved by Boeing to a standard which does not contain qualification requirements. The Boeing standard will use the term "approved" in the procurement section. Standard parts must be procured from the sources cited and with the required documentation to support product traceability and conformance to the applicable Part Standard.
Satisfactory Source (Open Procurement)	Applicable to non-qualified and non-approved sources only, a satisfactory Producer or Supplier of conforming parts or materials is one that delivers said parts and materials with required documentation to support traceability, repeatability, conformance to the applicable Product Standard, and meets the applicable regulatory requirements for hardware used on a Boeing product.
Authorized Distributor	While manufacturers of standard parts sell their parts directly to the airlines, etc., they also sell their parts through independent distributors which they recognize as being technically competent with a letter of authorization. In the case of fasteners and bearings which are qualified to a Boeing Part Specification (BPS), the authorized distributors are listed in D1-4426 , "Approved Process Sources". See http://www.boeingsuppliers.com/ . Distributors for non-critical parts are also authorized by the sources listed on the Boeing standard page under PROCUREMENT, but they are not listed by Boeing in D1-4426 . That information is available from the sources.
Qualified Products List (QPL)	A listing of manufacturers who have qualified to the part standard to which the QPL applies. Exceptions to part numbers may be shown for a specific manufacturer on the Boeing Standard. Products qualified by the Performance Review Institute (PRI), are found (requires you to request a password) at https://www.eauditnet.com/eauditnet/ean/user/login.htm
Qualified Manufacturers List (QML)	A listing of manufacturers who have qualified to AS9100 , through an accredited auditor. Manufacturers qualified by PRI are found at the web site listed above. After logging in, click on Advanced search, and then select the procurement specification under the Commodity. If there is no procurement specification, simply select the Commodity on the first screen.

2.3 Acronyms

The following acronyms that appear in this standard and not defined elsewhere are defined below.

FAA	Federal Aviation Administration
REDARS	Reference Engineering Data Automated Retrieval System

3. **CUSTODIANSHIP**

The organization responsible for the content and revision activity to a standard is called its Custodian. Boeing is the Custodian for all Boeing-originated standards. D-590 contains Boeing OEM standards and standards from a number of Standards Developing Organizations (SDOs). These non-Boeing SDOs are Federal, Industry or Military (FIM) organizations and the respective parts are managed by Boeing owned FIM Standard Supplements  available in PSDS. Examples of Aerospace FIM Standards are listed below:

AF	Air Force Standard
AN	Air Force - Navy Aeronautical Standard
AND	Air Force - Navy Aeronautical Design Standard
AS	Aerospace Standard (SAE International)
ARP	Aerospace Recommended Practice (SAE)
FED-STD-YYYY	Federal Standard
MIL-X-YYYY	Military Specification
MS	Military Standard
NAS	National Aerospace Standard (National Aerospace Standards Committee, NASC)
NASM	National Aerospace Standard Military (converted from the same numbered MS by the NASC)

4. **PART STANDARDS**

4.1 Boeing Standard Numbers

Boeing part standards are assigned the prefix "BAC" part, "BMP" metric part, "BACD" design detail, "BPS" part procurement specification or "STB" contract part. For BAC, BMP and STB, this is followed by the first letter of the technology, e.g., B (bolt, bearing), and a two-digit number to differentiate technologies (B30, bolt; B10, bearing). See [APPENDIX A](#) for a listing of current commodity series identifiers and the associated technology category.

NOTE: A specific category may eventually require more than one two-digit number (for example, Nut standards have now been issued under both BACN10 and BACN11).

BACD2XXX: Design Detail Standard; these define standardized thread, cutout or other manufacturing or installation instructions to simplify drawings. They are not hardware.

[BAC1480](#) - [BAC1680](#): Profiles; previously known as extrusions, these A-size (8 1/2 X 11) drawings describe a cross-section for which the Engineering Drawing supplies a length. They can be extruded metal or rubber or roll-formed metal. They have been removed from D-590 and are the responsibility of BCA, Design Support, Profile Knowledge Center (PKC).

BACHX: High Reliability E/E (Electrical/Electronic)

BMP: Boeing Metric Part

BPS-X-YYY: Boeing Part Specification (for general requirements)

FIM Standard Supplements: The FIM standard number with a "SUP" suffix.

STB: Developed in accordance with AFSCM 375-1 or NPS 500-1 on military contract.

4.2 Indices

- | | |
|-------------------------------------|--|
| Master Index | - In PSDS, click on "Part" under "Standard Collections" / "Boeing Product Standard," for a list of all D-590 part standards in PSDS. |
| Boeing/Vendor Cross-Reference Index | - This Index (D-590-BOEING-TO-VENDOR and D-590-VENDOR-TO-BOEING in PSDS) listed some of the vendor part numbers for sources which were approved or qualified as described in Section 2.2 . These indexes are out of date and are no longer being maintained. |
| Supersession List | - These lists (D-590-SUPERSESSON-LIST and D-590-SUP-LIST-MISC in PSDS) showed the superseding standard for obsolete standards when the superseding standard has been identified. These indexes are out of date and are no longer being maintained. Refer to the applicable standard for supersession direction or use the Standard Part Wizard (SPW) (Boeing employees), SPW via the Boeing Partner Network (BPN) (Boeing Partners), or SPW via My Boeing Fleet (MBF) (Boeing Customers). |

4.3 D-590 Heritage Hard Copy

The hard copy "Book" system is being phased out and implementation of this direction was effective June 28th 2013. PSDS still contains standards with "book" info and the information below provides an explanation of the system.

14 Series Vol 1-30	Each standard in the 14 Series is active for new design as shown by the New Design Approval block at the top. They are referred to as the "14 Series" because they were originally a set of 14 Books (Books 1-14). These standards may have a page number which sorts them by category and custodian.
Book 15	Procurement Specifications. See Section 7 .
Book 16	Repair Standards. See Section 8 .
Book 20	Metric
Book 23	Inactive for New Design. See Section 9 .
Books 27, 28	Markers. They are controlled by BCA Engineering Operations, Marker Graphics. Numbers which are of the form - BACM(5, 8, 9)XX and BACN12XX markers - are inactive for design. They are no longer contained in D-590 (PSDS). Copies can be obtained from Engineering Operations, Marker Graphics and DQA (Drawing QA) Group. E-mail requests to MarkerGraphicsDropBox@boeing.com . BAC27 and BAC29 markers are in REDARS under Tooling drawings since they have been reclassified as detail parts. For drawing problem resolution related to markers or stencils, contact Supplier Liaison, Procurement Quality Assurance.
Books 30, etc.	These manuals contained standards selected from the complete set of corporate standards (30-Minuteman, 31-Dynasoar, 32-Wichita, 33-Turbine, 35-Saturn, 36-Commercial, 37-Vertol, 38-SST).

5. OBSOLESCENCE

Engineering Drawings use standard part callouts derived from federal, military and industry standards, as well as Boeing part standards. Supersessions proposed for federal, industry and military standards are coordinated throughout the company as supplements issued by Boeing. Supersessions for Boeing part standards are coordinated as changes to the standard's Inactivation Applicability section. The Corporate coordination process with affected Engineering groups, combined with configuration management rules, form the basis for Engineering approval of supersessions. The authority to replace a drawing-specified part is based on the supersession as it exists on the part standard or supplement page, and as authorized for the business unit(s) shown there. In each business unit, Engineering is responsible for approving supersessions, since they apply to all of that business unit's programs. See [Table I](#) for current business unit definition. See [Section 5.4](#) for definition of previously used business unit acronyms.

TABLE I - CURRENT BUSINESS UNITS

ACRONYM	BUSINESS UNIT NAME
BCA	Boeing Commercial Airplanes
BDS	Boeing Defense, Space & Security
BH	Boeing Helicopters (part of BDS)

5.1 New Design Approval Block

The New Design Approval block is being phased out and implementation of this direction was effective June 28th 2013. With the exception of "repair parts," all parts defined by standards depicted in the companywide format are considered active for design and procurement unless otherwise specified in the Inactivation Applicability section.

5.2 Inactivation Applicability

The Inactivation Applicability section of a given D-590 part standard applies to Boeing design and manufacturing, including subcontractors, at the division level when invoked by a business unit by the use of its acronym (e.g., BCA) on the standard. The intent of the Inactivation Applicability section is to allow the replacement of old standard part callouts without drawing changes [1](#) (see [Section 5.4.7](#) for NOTES). BCA Spares [2](#), or any organization conducting aftermarket sales, airlines and Maintenance facilities are exempted per [Section 5.5](#). The Inactivation Applicability section is not to be confused with a Program substitution document which authorizes alternate parts, materials and processes for specific production shortages. The superseding parts listed in the Inactivation Applicability section are not alternate parts; they are to be used in place of the obsolete part called out on current drawings, and as new callouts for new designs.

The [D-590-SUPERSESSION-LIST](#) and the [D-590-SUP-LIST-MISC](#) are out of date and no longer maintained. See the applicable part standard for the authoritative inactivation and supersession information, or use the Standard Part Wizard.



When a part number (or all possible part configurations on a standard) is to be discontinued for use by a Business unit (e.g., BCA or BDS), the part number(s) is inactivated on the standard.

The following statements may appear in the Inactivation Applicability section.

ACTIVE (Class III supersessions may apply, "valid D-590 part"): Parts have no design or procurement restrictions and are available to all programs.

INACTIVE FOR NEW DESIGN: A part or standard which has been inactivated for new design by a Business unit is not for use by a new program within that Business unit. However, it may be called out in a design on an existing program, or derivative of an existing program, when approved by the program. An inactivation for new design does not affect procurement.

INACTIVE FOR DESIGN (Class IIA supersessions may apply): A part which has been inactivated for all design applications by a Business Unit. Note that unless otherwise stated on the applicable standard, "repair parts" and "developmental parts" have the part status "inactive for design." An inactivation for design does not affect procurement.

OBSOLETE (INACTIVE FOR DESIGN AND PROCUREMENT) (Class I, Class II, Class IV or Class V supersessions may apply): A part which has been inactivated for design and procurement by a Business unit is no longer allowed for design by any program and is no longer allowed for procurement within that Business unit. Except for parts with unacceptable risk (Class V supersessions), Existing Stock  may be used until depleted and Available Stock  may be procured as needed.

SUPERSEDING STANDARDS: The following terms provide authorization for Design, Supplier Management, Manufacturing, and customers to use the superseding standard to the extent indicated:

- a. "BACB30US() IS A CLASS II SUPERSESSION." This phrase designates that the [BACB30US\(\)](#) is a replacement. See [Section 5.4](#) for class definitions.
- b. "NO SUPERSEDING PARTS." This phrase designates that no standard parts were found to replace the obsolete part; Engineering must provide a new callout in each instance.
- c. "SEE [BACB10DE](#)." The word "SEE" designates that the [BACB10DE](#) standard is only similar to the obsolete standard; Engineering must determine its suitability.
- d. "USE [BACB30US](#)." The word "USE" designates that the [BACB30US](#) standard is an acceptable 1-way interchangeable standard, essentially a Class II supersession.

5.3 Reactivation for New Design

If a new program desires to restore an inactivated standard part to be active for design, it submits its request in accordance with the current Product Standard change process.

For information, contact Parts Standards
(EngineeringStandards@boeing.com).

5.4 Supersession

If there is a superseding standard part, and the obsolete standard part is to be controlled, there is a Supersession Class, such as "BACB30US(ALL CODES) IS A CLASS II SUPERSESSION." See [Table II](#) for Supersession Class definitions.

When a canceled external standard (FIM Standard in accordance with [Section 3](#)) is encountered in D-590 Part Standards, use [BSS7122](#) for the method to determine a replacement standard. Following [BSS7122](#) maintains Boeing Engineering's intent with respect to engineering requirements and the interchangeability of parts used on Boeing products.

Business Unit applicability is designated by the following acronyms:

TBC The Boeing Company (now designated by "BCA, BDS" listed together, rather than TBC)
 BCA Boeing Commercial Airplanes (formerly BCAG, BCAC and the Transport Division)
 BH Boeing Helicopters (formerly Vertol)
 BDS Boeing Defense, Space & Security, i.e., Military and Aerospace Division, including WDMC (Wichita Development and Modification Center, formerly PSD (Product Support Division)). Previous acronyms for BDS were: IDS, BD&SG, BA&E/BAC, BAS, BECO, BMA and Wichita. With the exception of BDS St. Louis controlled programs which use the "30M" series of FIM Standard Supplements, the old modifier "PS/W/H" (Puget Sound/Wichita/Huntsville) is ignored since the D-590 collection is the companywide collection per [Section 1](#).

TABLE II - PRODUCTION RULES FOR SUPERSESSION CLASSES
 (SEE [Section 5](#) FOR EXCEPTIONS FOR AIRLINES/CUSTOMERS AND SPARES) [2](#)

CLASS	USE UP STOCK?	BUY OLD PART?	OLD AS CALLOUT?	OLD FOR NEW?	NEW FOR OLD?	ATA INTERCHAN GEABILITY (for Spares use)
I	YES	NO 3	NO	YES	YES	I/W = 2
II	YES			I/W = 1		
IIA	N/A	YES	NO	NO		I/W = 1
III		YES	YES			I/W = 1
IV		YES	YES			NO
V	NO 4	NO	NO	YES	I/W = 1	

"USE UP STOCK?" - MAY THE EXISTING STOCK OF OLD PARTS IN STORES AT BOEING OR A SUBCONTRACTOR BE USED UNTIL GONE? (Not applicable to classes IIA, III or IV, because the old part is still active for procurement when one of those classes is invoked.)

"BUY OLD PART?" - IS THE OLD PART ACTIVE FOR PROCUREMENT? SEE ALSO [3](#) [5](#).

"OLD AS CALLOUT?" - MAY THE DESIGNER CONTINUE TO CALL OUT THE OLD PART ON DRAWINGS?

"OLD FOR NEW?" - IS THE OLD PART AUTHORIZED TO BE DISBURSED FOR USE ON A DRAWING CALLING OUT THE NEW PART?

"NEW FOR OLD?" - IS THE NEW PART AUTHORIZED TO BE DISBURSED FOR USE ON A DRAWING CALLING OUT THE OLD PART, EXCEPT FOR CLASS IV?

[ATA - Air Transport Association](#); I/W (Interchangeability With) is per ATA/AIR SPEC 2000 International, Data Dictionary.

5.4.1 Class I (Two-Way Interchangeable)




The old and new part numbers are each acceptable replacements for both the old and new part numbers.

Procurement of the old part number is to be discontinued in order to eliminate usage under the old part number. Unless otherwise specified on the standard, Available Stock [5](#) may be purchased until stock is depleted. Once Available Stock [5](#) and Existing Stock [3](#) are depleted, purchase of additional parts is not recommended.

Terminology such as "EQUAL" is consistent with a Class I type of supersession.

The format of the inactivation statement is as follows,
"BACB30XX IS INACTIVE FOR DESIGN AND PROCUREMENT; NASYYYY IS A CLASS I SUPERSESSION EFFECTIVE [DATE OF RELEASE]

5.4.2 Class II (The old part is not interchangeable with the new part)

The obsolete part is not considered to be a defective part but is less desirable than its replacing part which may function better, last longer, or result in weight savings. The old part number may be used as a replacement only where the old part number was installed. The new part number is an acceptable replacement for either the old or new part number. Unless otherwise specified on the standard, Available Stock  may be purchased until stock is depleted. Once Available Stock  and Existing Stock  are depleted, purchase of additional parts is not recommended. Terminology such as "USE" is consistent with a Class II type of supersession.

The format of the inactivation statement is as follows,
"BACB30XX IS INACTIVE FOR DESIGN AND PROCUREMENT; NASYYYY IS A CLASS II SUPERSESSION EFFECTIVE [DATE OF RELEASE]

5.4.3 Class IIA (The old part is not interchangeable with the new part)

This class indicates the new part is a satisfactory replacement for the old part. However, procurement and usage of the old part may continue based on economic considerations.

The format of the inactivation is as follows,
"BACB30XX IS INACTIVE FOR DESIGN; NASYYYY IS A CLASS IIA SUPERSESSION [DATE OF RELEASE]

5.4.4 Class III (The old part remains active)

The Class III option is an improvement over the non-preferred part in many applications. The non-preferred part remains active for design and procurement.

The format of the inactivation statement is as follows,
"BCA: [BACB10AN](#)() REMAINS ACTIVE FOR DESIGN AND PROCUREMENT, BUT IT MAY BE REPLACED BY [BACB10FT](#)()RG AS A CLASS III SUPERSESSION EFFECTIVE [DATE OF RELEASE]."

5.4.5 Class IV (The new part is not interchangeable with the old part in all applications)

The old and new parts are not interchangeable in all applications. Engineering Drawings require revisions to eliminate old parts. New design must not use the obsolete part. When there is no superseding part, "NONE" must be entered as the superseding, and the Class must be left blank; this will serve to notify the user that Engineering has not found a suitable superseding part.

The format of the inactivation statement is as follows,
"BACS40M()A() IS INACTIVE FOR DESIGN AND PROCUREMENT. [BACS40M](#)()-() IS A CLASS IV SUPERSESSION. EFFECTIVE [DATE OF RELEASE]" or "BACB30MR() () (HT, T)()() ARE INACTIVE FOR DESIGN AND PROCUREMENT. NO SUPERSEDING PARTS. EFFECTIVE [DATE OF RELEASE]"

5.4.6 Class V (The old part is an unacceptable risk) 4

The procurement and use of standard parts in this classification must be discontinued immediately. Material Review Board approval is required to use any existing stock. Existing stocks on hand of the obsolete part must be treated as non-conforming and segregated for Material Review Board Disposition. Terminology such as "SCRAP" is consistent with a Class V type of supersession.

The format of the inactivation statement is as follows,
 "BACB30XX IS INACTIVE FOR DESIGN AND PROCUREMENT; NASYYYY IS A CLASS V SUPERSESSION EFFECTIVE [DATE OF RELEASE]

5.4.7 Notes

- 1 Changes to parts used on military or space programs typically require a drawing change to implement a supersession. Check with your program parts focal for program requirements.
- 2 Spares - Includes: Spares Materiel Procurement, Spares Receiving, and Spares sales to customers.
- 3 Existing Stock - Parts purchased, whether in house, in transit or under contract.
- 4 The use of old parts requires authorization by Material Review Board procedures.
- 5 Available Stock - Parts in inventory at a manufacturer listed on the applicable standard, or their distributors, which are available for purchase prior to the date of inactivation. Work in progress at a manufacturer's facility is included in available stock. Note that available stock may be used to augment existing stock.
- 6 The FIM standard supplements in PSDS provide Boeing requirements and supplemental information regarding the applicable FIM standard parts. This always includes a Procurement section, and may include a Usage and Application section to provide design guidance and/or an Inactivation Applicability section if there are parts inactive for design. In accordance with [Section 5.5](#), the revision level of a given FIM Standard does not effect procurement.

5.5 Effectivity

Standards are considered released (i.e., authoritative) on the day that they are released to PSDS. On existing purchase orders, compliance must be with the revision in effect at the date of the request for quote, unless negotiated otherwise. Parts in stock are not affected by revision of their standard, except when the parts have been ordered removed from stock via a Class V supersession. Part Numbers are configuration controlled at the part level. A Part Number defined in the governing Part Standard from revision to revision is the same part with respect to interchangeability.

Supersession classes (defined by [Section 5.4](#)) applied to D-590 compliant standard parts, are applicable during the design and production of commercial airplanes at Boeing and its subcontractors, but not after their delivery.

BCA Spares, or any organization conducting aftermarket sales, is not required to impose the standard's Inactivation Applicability section direction for non-production sales except for Class V, which is binding.

Part manufacturers listed on D-590 standards may sell obsolete parts to airlines, Boeing Spares and maintenance facilities, except that Class V is prohibited from use by the Business Unit that established the supersession.

5.6 Old Part Numbers with Extraneous Dashes "-"

The earliest versions of Boeing standards used one or more dashes "-" in the standard number: BAC-L20P-()(), where neither dash was significant. The dashes were gradually dropped, but the part numbers with dashes were not always superseded to the format used today. If a drawing callout contains one or more non-significant dashes, and the current standard doesn't utilize those dashes, then the current part number interpretation is authorized, ignoring the dash(es).

5.7 Superseding Parts Optional for Commercial Airlines and Maintenance Facilities

All parts replacement made by end users must be in accordance with approved repair documentation, applicable drawings, and other supporting documentation such as Airworthiness Directives, Service Bulletins and Service Letters. Supersessions authorized by D-590 are optional for users such as airlines and independent maintenance facilities. End users may continue to use existing parts wherever they are called out, unless otherwise stated in mandatory documentation such as Airworthiness Directives. (i.e., Class V)

Boeing authorized part supersessions are recommended to all applicable Business Unit end users to take advantage of their technological advancements.

6. MISCELLANEOUS

6.1 Fastener Quality Act

The Fastener Quality Act (FQA), 15 U.S.C. §§5401 et seq., 15 Code of Federal Regulations Part 280 established requirements relating to the manufacture, inspection, testing and sale of certain fasteners. On June 8, 1999 the Fastener Quality Act Amendments Act of 1999 (H.R. 1183) provided that the aircraft industry was granted a full exemption.

7. PROCUREMENT SPECIFICATIONS

These general specifications define qualification and testing requirements. A procurement specification becomes a requirement of any part standard which references it. Examples are listed below:

AS1424 (SAE)	"Hose Assemblies, Metal, Medium Pressure, High Temperature"
AS81820 (SAE)	"Bearings, Plain, Self-Aligning, Self-Lubricating, Low Speed Oscillation"
BPS-C-115 (Boeing)	"Contacts, Crimp Type - For Electrical Connectors"
MIL-PRF-23827 (Military)	"Grease, Aircraft and Instrument, Gear and Actuator Screw"
NAS1400 (NAS)	"Rivet, Blind, Self-Plugging, Mechanically Locked Spindle"

8. REPAIR STANDARDS

"REPAIR" parts are simply oversize equivalents to their nominal size counterparts. In all other respects, repair parts are identical to nominal size parts, and purchased in the usual fashion. Use of these parts in design is limited to modification programs where replacement of nominal size standard parts by their repair equivalents is required. They must not be used for original design.

Revisions to nominal standards are incorporating the repair standards; thus, "repair only" standards are being phased out. When a repair standard counterpart to a nominal standard exists, it will appear in PSDS following the nominal size standard, with a continuation of sheet numbers.

For information, contact Parts Standards
(EngineeringStandards@boeing.com).

9. STANDARDS ACTIVE FOR PROCUREMENT ONLY

Some standards in PSDS carry the previously used "Book" system (see [Section 4.3](#)) notation in the top block, "BOOK 23. DO NOT USE FOR NEW DESIGN" because the entire Boeing Company has inactivated them for new design. These parts are still called out on repair and modification drawings since they were previously called out when the program was new. They are not defective, but they may be superseded by one or more Business Units and may also be made inactive for procurement. Even in that case, Spares can still purchase them. See [Section 5.5](#) for more information.

APPENDIX A

Commodity Series List for Boeing OEM D-590 Parts

Commodity Series/Noun List ("BAC" precedes the series identifier unless otherwise shown)

A11 ACCUMULATOR
A12 ACTUATOR
A13 ACCUMULATOR
A14 ADAPTER, NON-ELECTRICAL
A19 ADAPTER, ELECTRICAL
A20 ALARM
A21 AMPLIFIER
A22 AMMETER
A23 ATTENUATOR
A24 ARRESTER
A25 ANCHOR, CONCRETE (BOLTS)
A26 ANODE
B 2 (No Longer Assigned) BRACKET (See B20)
B 6 (No Longer Assigned) BLOCK (See B19)
B10 BEARING
B11 BASIN
B12 BALLAST (LAMP)
B13 BELLOWS
B14 BEAD
B15 BAND
B16 BOX
B17 BEND
B19 BLOCK
B20 BRACKET
B21 BARREL
B24 BODY
B25 BRUSHES, ELECTRICAL
B28 BUSHING
B29 BUS
B30 (No Longer Assigned) BOLT (See B31 for series continuation)
B31 BOLT
B33 BOOT
B40 BUCKLE
B41 BATTERY
B42 BAR ASSEMBLY
B45 BUMPER
B46 BUZZER
B47 BELL
B48 BAG ASSEMBLY
B49 BUTTON
B50 BASE
B51 BLOCK

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B52 BEAM
B53 BLOWER
B54 BOOT (HEAT SHRINKABLE)
B55 BINDER
BMP BOEING METRIC PART, BEARING (BMPB10)
BMP BOEING METRIC PART, BOLT (BMPB30)
BMP BOEING METRIC PART, BUSHING (BMPB28)
BMP BOEING METRIC PART, COLLAR (BMPC30)
BMP BOEING METRIC PART, NUT (BMPN10)
BMP BOEING METRIC PART, WASHER (BMPW10)
C 1 (No Longer Assigned) CAPACITOR (See C11)
C 2 (No Longer Assigned) CABLE (See C13)
C10 CLAMP
C11 CAPACITOR
C12 CATCH
C13 CABLE
C14 CAP
C15 CLIP
C16 CELL
C17 CHIMES
C18 CIRCUIT BREAKER
C19 CHAIN
C20 CAM
C21 CLOCK
C22 CONDUCTOR
C23 COMPENSATOR
C24 CONDUIT
C25 CONVERTER
C26 CONTROL
C27 CROSS
C28 CHANNEL
C29 CARD
C30 COLLAR
C31 CUSHION
C32 CASTER
C34 CYLINDER
C35 CASE
C36 CARTRIDGE
C37 CASTING
C40 COCK
C41 COUPLER, CURRENT MODE
C42 COUPLING, FLUID
C43 CHOKE
C44 CORE
C45 (No Longer Assigned) CONNECTOR (See C61 through C68)

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C46 CRYSTAL
C47 CONTACT
C48 COIL
C49 CLAMP ASSEMBLY, END
C50 COVER
C53 CAP
C54 COUPLING, ELECTRICAL CONDUIT
C55 CHASSIS
C56 CABINET
C57 CONSOLE
C60 CABINET
C61 CONNECTORS, RACK AND PANEL
C62 CONNECTORS, HEAVY DUTY
C63 CONNECTORS, CIRCULAR
C64 CONNECTORS, COAXIAL
C65 CONNECTORS, PRINTED CIRCUIT
C66 CONNECTORS, MISC.
C67 COUPLER, MULTIPLEX, DATA BUS
C68 CONNECTOR, FIBER OPTIC
C69 CABLE ASSEMBLY, FIBER OPTIC
C70 CONTACTOR
C71 POWER CONTROLLER
C795 (No Longer Assigned) CYLINDER, ELECTRICAL
D 1 (No Longer Assigned) DIODE (See D12)
D 2 (No Longer Assigned) DIODE (See D12)
D 3 (No Longer Assigned) DIODE (See D12)
D 4 (No Longer Assigned) DIODE (See D12)
D 5 (No Longer Assigned) DIODE (See D12)
D 6 (No Longer Assigned) DIODE (See D12)
D 7 (No Longer Assigned) DIODE (See D12)
D 8 (No Longer Assigned) DIODE (See D12)
D 9 (No Longer Assigned) DIODE (See D12)
D10 DECALS
D12 DIODE
D13 DIAL
D14 DETECTOR
D15 DEHYDRATOR
D16 DISPLAY
D18 DISCHARGE
D20 DISCONNECT
D25 DISSIPATOR
D28 DIVIDER
D30 DOME
D40 DUCT
D45 DRAWER

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D46 DAMPER
D47 DISKETTE
E10 EYELET
E11 EXTRACTOR
E15 EYE
E18 (No Longer Assigned) ELEMENT (See F17)
E20 EXTINGUISHER
E21 ELBOW
E33 EXTENSION
E40 ELEMENT
E41 ELECTRODE
F 1 (No Longer Assigned) FITTING, SELECTOR CHARTS
F 3 (No Longer Assigned) FILLER (See F33)
F10 FAIRLEAD
F15 FLASHER
F17 FILTER ELEMENT, FLUID
F18 FILTER, FLUID
F19 FITTING
F20 FLARE
F21 FLASHLIGHT
F22 FLANGE
F24 FORK
F25 FORM
F26 FILTER, RF
F28 FUEL
F30 FUSE
F31 FUSEHOLDER
F32 FERRULE
F33 FILLER
F34 FASTENER, QUICK RELEASE
F35 FRAME, VENTILATION
F36 FASTENER, PANEL AND DOOR
F37 FIXTURE, LIGHTING
F38 FLOOR, ELECTRICAL CABINET
F39 FEED THROUGH ASSEMBLY
G10 GASKET
G14 GEAR
G15 GEAR
G20 GROMMET
G21 GLASS
G25 GUARD
G26 GAGE
G27 GUIDE
H 4 (No Longer Assigned) HOSE ASSEMBLY, INCONEL 625 (See H30)
H 5 (No Longer Assigned) HOSE ASSEMBLY, MEDIUM PRESSURE (See H30)

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H 6 (No Longer Assigned) HOSE ASSEMBLY, HIGH PRESSURE (See H30)
H 7 (No Longer Assigned) HOSE ASSEMBLY, METAL (See H30)
H 8 (No Longer Assigned) HOSE ASSEMBLY, NON-METALLIC (See H30)
H 9 (No Longer Assigned) HOSE, POTABLE WATER (See H30)
H10 HANDLE
H15 HANDSET
H20 HINGE
H24 (No Longer Assigned) HOSE (See H30)
H30 HOSE
H35 HEAD
H37 HOLDER (LARGE ITEM)
H38 HOLDER (SMALL COMPONENT)
H39 HOOD
H40 HOOK
H41 HEADER
H42 HOUSING
H47 HANGER
H50 HYDRAULIC
H60 HEATER
I10 INSERT ARRANGEMENT
I12 INSERT, THREADED
I18 INDICATOR
I20 INDUCTOR
I22 INSULATOR
I30 INTEGRATED CIRCUITS
J10 JAR
J11 JACK
J20 JOINT
J24 JOINT
J40 JUMPER
K18 KIT
K20 KNOB
K30 KEEPER
L10 LATCH
L11 LINK
L12 LAMP
L13 LENS
L15 LIGHT
L16 LATERAL
L18 LIMITER
L20 LOOP
L24 LOCK
L25 LAMINATION
L26 LABEL
L30 LITHO-CAL

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L35 LOUDSPEAKER
L36 LIGHTNING ROD
L37 LINE, DELAY
M 4 (No Longer Assigned) MARKER, PHOTSENSITIVE VINYL
M 5 (No Longer Assigned) MARKER, PHOTSENSITIVE ALUMINUM
M 6 (No Longer Assigned) MARKER, "WRITE-ON" MYLAR DECALS
M 7 (No Longer Assigned) MARKER, LUMINESCENT
M 8 (No Longer Assigned) MARKER, MYLAR, FLUID RESISTANT
M 9 (No Longer Assigned) MARKER, VINYL
M10 (No Longer Assigned) METAL-CAL
M11 MAST
M12 MAGNET
M13 MICRO CIRCUIT
M14 MOUNT
M15 MODULE
M20 MECHANISM
M21 MANIFOLD
M24 MOTOR
M25 MOUNT
M26 MARKER
M27 MOLD
M30 MODULE, SINGLE DEPTH
M31 MODULE, DOUBLE DEPTH
M32 MODULE, TRIPLE DEPTH
M33 METER
M34 MONITOR
N10 (No Longer Assigned) NUT (See N11 for series continuation)
N11 NUT
N12 (No Longer Assigned) NAMEPLATE (See N13)
N13 NAMEPLATE
N15 NAIL
N18 NIPPLE
N20 NOZZLE
O10 OSCILLATOR
P10 PANEL
P11 PACKING
P12 PLASTI-CAL
P13 PAD
P18 PIN
P19 PLATE
P20 PLUG
P21 PLUG
P22 PLUG
P23 PROTECTOR
P24 POST

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P30 PULLEY
P35 PLUG, GROMMET SEALING
P40 POWER SUPPLY
P50 PAD
P51 PANEL
R 1 (No Longer Assigned) RESISTOR (See R14)
R10 RETAINER
R11 RECEPTACLE
R12 RING
R13 RELAY
R14 RESISTOR
R15 RIVET
R16 RIVET-NUT
R17 REDUCER
R18 RHEOSTAT
R19 REGULATOR
R20 RESONATOR, TUNING FORK
R24 ROD
R25 RECEPTACLE
R26 RECTIFIER
R27 RACK
R28 RESERVOIR
R30 RECTIFIER
R31 ROD END
R32 RACE, THRUST
R41 RETURN
S 1 (No Longer Assigned) SEMICONDUCTOR DEVICE, DIODES (See D12)
S 2 (No Longer Assigned) SEMICONDUCTOR DEVICE (TRANSISTOR) TRIODE (See T62)
S 3 (No Longer Assigned) SEMICONDUCTOR DEVICE (TRANSISTOR) TETRODE (See T62)
S 4 (No Longer Assigned) SEMICONDUCTOR DEVICE, DIODES (See D12)
S 5 (No Longer Assigned) CONTROLLED RECTIFIERS (SEE R30)
S 7 (No Longer Assigned) DUAL DIODES (SEE D12)
S 8 (No Longer Assigned) DUAL TRANSISTORS, TRIODE (SEE T62)
S 9 (No Longer Assigned) DUAL TRANSISTORS, TETRODE (SEE T62)
S10 SLIDE
S11 SEAL
S12 SCREW
S13 SLEEVE (or INSERT)
S14 SHOCK MOUNT
S15 SNAP
S16 SOCKET
S17 SELECTOR
S18 SPACER
S19 SHIELD
S20 SPRING

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S21 STUD
S22 STRIP
S23 (No Longer Assigned) SUPPORT (See S31)
S24 SOLENOID
S25 STARTER
S26 STIFFENER
S27 STAY(, DOOR)
S28 STRAINER
S29 STOPPER
S30 SWITCH
S31 SUPPORT
S32 SLING
S34 SCRAPER
S35 SWIVEL
S36 STRIKE
S37 SIGNAL
S38 STRAP
S39 STREAMER
S40 SHIM
S41 SEAL
S42 SHIELD
S43 SUPPRESSOR
S44 STRAIN GAGE
S45 SEAL
S46 STRIP
S47 SHIM
S49 SNUBBER
S50 SHUNT
S52 SPLICE, ELECTRICAL
S53 STUD, ELECTRICAL
S60 SHELF
S61 SPROCKET
S62 STEP
S70 SHEET, CORRUGATED
T 1 (No Longer Assigned) TRANSISTOR (See T62)
T 2 (No Longer Assigned) TRANSISTOR (See T62)
T 3 (No Longer Assigned) TRANSISTOR (See T62)
T 4 (No Longer Assigned) TRANSISTOR (See T62)
T 5 (No Longer Assigned) TRANSISTOR (See T62)
T 6 (No Longer Assigned) TRANSISTOR (See T62)
T11 TAPE
T12 TERMINAL, ELECTRICAL
T13 TERMINAL, ELECTRICAL
T14 TERMINAL, MECHANICAL
T15 TIP

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T16 TEE
T17 THERMOCOUPLE
T18 TIES
T19 TAPE, IDENTIFICATION
T20 TRANSFORMER
T22 TAB, IDENTIFICATION
T25 TRAY
T30 TURN
T31 THIMBLE
T32 TUBE
T35 TAG
T40 TERMINAL, ELECTRICAL
T41 TUBE, ELECTRON
T42 TERMINAL BOARDS
T44 TRACK, TERMINAL BLOCK
T45 TURNBUCKLE
T50 (No Longer Assigned) TESTING
T60 TIMER
T61 THERMOSTAT
T62 TRANSISTOR
T63 TUBING
T64 TERMINI, FIBER OPTIC
T70 TILE
U24 UNION
V10 VALVE
V25 VOLTMETER
W10 WASHER
W20 WEDJIT
Z10 ZIPPER