

INCH-POUND

MIL-PRF-5041J
30 April 1998
SUPERSEDING
MIL-T-5041H
13 March 1989

PERFORMANCE SPECIFICATION
TIRES, RIBBED TREAD, PNEUMATIC, AIRCRAFT,
GENERAL SPECIFICATION FOR

This specification is approved for use by the Department of the Air Force and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers requirements for aircraft pneumatic tube type and tubeless ribbed tread tires intended for use on aircraft wheels.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are cited in sections 3 and 4 of this specification. These lists do not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of these lists, document users are cautioned that they must meet the requirements specified in the documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified (see 6.2), the applicable issues of these documents are those listed in the specific issue of the Department of Defense Index of Specifications and Standards (DoDISS) and supplement thereto cited in the solicitation.

(See supplement 1 for list of associated MS sheets.)

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Landing Gear Branch, Ogden Air Logistics Center (OO-ALC/LILE), 6040 Gum Lane, Hill Air Force Base, UT 84056-5825 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 2620

DISTRIBUTION STATEMENT A. Approved for public release: distribution is unlimited.

(Unless otherwise indicated [see 6.2], copies of the above standards are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.2.2 Other Government documents, drawings, and publications. The following other Government documents, drawings, and publications form a part of this document to the extent specified herein. Unless otherwise specified (see 6.2), the applicable issues are those cited in the solicitation.

(See supplement 1 for list of associated Air Force Drawings.)

FEDERAL AVIATION ADMINISTRATION PUBLICATION

TSO-C62 - Technical Standard Order - Aircraft Tires

(Copies of specifications, standards, and other Government documents required by the contractors in connection with specific acquisition functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the applicable issues of the documents which have been adopted by the DoD are those listed in the specific issue of the DoDISS cited in the solicitation. Unless otherwise specified (see 6.2), the documents not listed in the DoDISS are the issues of the documents cited in the solicitation.

SOCIETY OF AUTOMOTIVE ENGINEERS, Inc. (SAE)

SAE AS4833 - Aircraft New Tire Standard – Bias And Radial

(Application for copies should be addressed to the Society Of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001)

AMERICAN SOCIETY FOR QUALITY (ASQ)

ANSI/ASQC Z1.4 - Sampling Procedures And Tables For Inspection By
Attributes (DoD-adopted)

(Application for copies should be addressed to the American Society for Quality, 611 East Wisconsin Avenue, P.O. Box 3005, Milwaukee, WI 53202 or the American National Standards Institute, 11 West 42nd Street, New York, NY 10036.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 746 - Standard Test Methods for Brittleness Temperature
Of Plastics and Elastomers by Impact

ASTM D 413 - Rubber Property - Adhesion to Flexible Substrate

(Application for copies should be addressed to the American Society for Testing and Materials,
100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

THE TIRE AND RIM ASSOCIATION, Inc. (TRA)

AIRCRAFT YEAR BOOK

(Application for copies should be addressed to The Tire and Rim Association, Inc., 175 Montrose
West Ave, Suite 150, Copley, OH 44321.)

2.4 Order of precedence. In the event of a conflict between the text of this document and the references cited herein (except for related associated specifications or specification sheets), the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained. If there is a conflict between the contents of this specification and an associated drawing or specification sheet, the associated drawing or specification sheet will apply.

3. REQUIREMENTS

3.1 Qualification. The tires furnished under this specification shall be products that are authorized by the qualifying activity for listing on the applicable qualified products list before contract award (see 4.2 and 6.3). Changes in plants, construction, materials or processes that affect performance of the tire shall require requalification per this specification.

3.2 General requirements. Unless otherwise specified (see 6.2), tires shall be suitable for use on military aircraft, on all types of improved and unimproved runways and on ships (usually aircraft carrier decks), under all conditions of weather. For tires not found in a table I-referenced drawing or specification sheet (hereinafter referred to as a slash sheet), performance or interface requirements shall be provided by the procuring activity (see 6.2).

3.2.1 Ambient temperature range. The ambient temperature range over which the tire is required to operate is -58°F to 125°F (-50°C to 51.7°C). All tire compounds shall maintain their fracture toughness and strength characteristics within this temperature range.

3.2.2 Tire sizing and classification. Tires shall be sized and classified in accordance with (IAW) the TRA Aircraft Year Book.

3.3 Materials. Materials shall be of a quality that will meet the performance requirements specified either herein or in the table I-referenced drawing or slash sheet. The use of toxic chemicals, hazardous substances, or ozone depleting chemicals shall be avoided, whenever possible.

3.4 Interface.

3.4.1 Tire dimensions and weight. Dimensions and weight of the tire shall be as specified in the table I-referenced drawing or slash sheet. All lettering and decorative ribs and designs shall be included in the dimensions. The definition of the tire shoulder (for use in shoulder height and width requirements found in the drawing or slash sheet) is found in the TRA Aircraft Year Book.

3.4.1.1 Tire dimensions for helicopters. The maximum allowable increase in dimensions for helicopter application of a tire (given that the maximum allowable inflation pressure for this application is 1.80 times normal rated inflation pressure) is 4 percent.

3.4.1.2 Tire bead width. The tire bead width shall be IAW the TRA Aircraft Year Book.

3.4.2 Rim interface. Each tire shall interface with the rim as specified in the table I-referenced drawing or slash sheet.

3.5 Performance.

3.5.1 Basic tire performance. Unless otherwise specified (see 6.2), the basic performance of the tire shall be as specified in the table I-referenced drawing or slash sheet.

3.5.2 Tire speeds. Unless otherwise specified in the table I-referenced drawing or slash sheet, the tire shall have a minimum velocity capability of 120 MPH at the rated load (see 6.5) and rated inflation pressure (see 6.5).

3.5.3 Tread.

3.5.3.1 Tread pattern. The tread shall be a ribbed tread pattern having a minimum of three grooves for tires with a cross-sectional width greater than 6.0 inches, and a minimum of two grooves for tires with a cross-sectional width of 6.0 inches or less. The grooves shall be continuous and circumferential.

3.5.3.2 Fabric-reinforced tread. Fabric material in fabric-reinforced tread (see 6.6) tires shall not contribute to the failure of the tread.

3.5.3.3 Fabric tread. Fabric material in fabric tread (see 6.6) tires shall not contribute to the failure of the tread.

3.5.4 Sidewall. The sidewall shall protect the carcass against abrasion and weathering.

3.5.4.1 Venting. Means shall be provided to vent any trapped gases in the sidewall. If vent holes are used, there shall be at least eight functioning vent holes per sidewall located above the rim flange.

3.5.4.1.1 Tube type tires. If vent holes are used, they shall be marked with a white or aluminum colored dot. Vent holes may penetrate the liner of the tire.

3.5.4.1.2 Tubeless tires. If vent holes are used, they shall be marked with a bright green dot. Vent holes shall not penetrate the liner of the tire.

3.5.5 Bead.

3.5.5.1 Bead seating pressure. A bead seating pressure within the range specified in table II shall be required to accomplish the initial seating of the tire bead on the rim ledge of a wheel having a contour conforming to the table I-referenced drawing or slash sheet. This shall be achieved without using a lubricant on either bead or rims.

3.5.5.2 Chafing resistance. The bead shall be protected so as to prevent chafing of the tire in the rim area under normal operating conditions.

3.5.6 Maximum wear limit (MWL) indicator. The tire shall provide a visual means of indicating when the tire has reached the MWL of the tread. Either a colored MWL indicator or a ply count indicator may be used; a ply count indicator shows the maximum number of fabric layers to the outermost structural ply that may be exposed before the tire must be removed from service. Tires for Department of Navy use shall not incorporate a MWL indicator.

3.5.7 Retreadability. Unless otherwise specified (see 6.2), tires shall have a retread buff line (RBL) (see 6.6) visible in the cross-sectional cut.

3.5.8 Burst pressure. The tire shall be designed to withstand a minimum burst pressure as specified in the table I-referenced drawing or slash sheet. If the tire is not listed in table I, the tire shall be designed to withstand a minimum burst pressure of 3.5 times rated inflation pressure for land-based aircraft or 4 times rated inflation pressure for carrier-based aircraft.

3.5.9 Dynamic durability. Unless otherwise specified (see 6.2), excluding wear, tires for fighter, attack, and trainer aircraft shall withstand a minimum of 50 cycles of taxi, takeoff, and landing; tires for other aircraft shall withstand a minimum of 100 cycles of taxi, takeoff, and landing. In addition, for Department of Navy aircraft with carrier-based requirements, tires shall withstand normal catapults, landing arrestments, and cable strikes without failure.

3.5.9.1 Cord fraying. During the dynamic life of the tire (as defined in 3.5.9 above), cord fraying, if present in the groove of the tire, shall be only of the outer layer or cord.

3.5.9.2 Tread chunking. During the dynamic life of the tire (as defined in 3.5.9 above), any tread chunk shall not exceed 1 square inch in area or 75 percent of the skid depth (see 6.6.9); there shall

be no more than 3 chunks, each 1/2 to 1 square inch in area; and there shall be no more than 10 chunks totaling more than 4 square inches in area.

3.5.9.3 Groove cracking - rubber and fabric tread tires. During the dynamic life of the tire (as defined in 3.5.9 above), there shall be no groove cracking in tires having all rubber tread. In tires with fabric tread, any void in the bottom of the groove shall be no deeper than a void caused by the outer layer of cord being pulled through the rubber stock in the bottom of the groove. There shall be no rib undercutting.

3.5.9.4 Bead separation. During the dynamic life of the tire (as defined in 3.5.9 above), the walls of the bead bundle shall not show evidence of separating from the carcass plies. If bead wires are used, individual wires shall not show evidence of separating from each other or of being kinked, broken, or exposed.

3.5.9.5 Cable bruise (carrier-based tires only). A tire to be used on carrier-based aircraft shall withstand the minimum cable bruise load specified in the table I-referenced drawing or slash sheet without pressure loss.

3.5.10 Wheel/tire slippage. A mounted tire inflated to rated inflation pressure shall not slip on the wheel rim to such an extent that would damage the tube or valve in a tube type tire or the inflation seal of a tubeless tire.

3.5.11 Inflation pressure retention - tubeless tires. After an initial 12-hour growth starting at rated inflation pressure, the pressure loss from rated inflation pressure in a tubeless tire assembly during the subsequent 24-hour period shall not exceed 5 percent of rated inflation pressure specified in the table I-referenced drawing or slash sheet.

3.5.12 Balance. Tires shall be balanced, when not inflated, within tolerances specified in the table I-referenced drawing or slash sheet. Out-of-tolerance conditions may be corrected by utilizing balance pads affixed to the inside of the tire. In tube type tires, the pads shall not chafe the tubes. Balance pad adhesion values shall be as follows: 8 pounds force per inch-width minimum for tubeless tires and 1.5 pounds force per inch-width minimum for tube type tires.

3.6 Product identification and marking. Unless otherwise specified (see 6.2), the following information, as applicable, and as further identified in the paragraphs below, shall be marked legibly and permanently on the tire sidewall for the life of the casing. Markings on the tire sidewall shall be located so that they will not be removed during buffing for retreading.

- a. Date of manufacture and serial number.
- b. Manufacturer's name or trademark, or both (to be located by the manufacturer).
- c. Color dots for vent holes, if used.

- d. The maximum wear limit (MWL) marking shall be either “MWL-RC” for tires with a colored indicator or “MWL-#” for tires with a ply count indicator to be shown in a separate molded box (see figure 1). Tires for Department of Navy use shall not incorporate a MWL marking.
- e. Size.
- f. TUBE TYPE, if applicable.
- g. Ply rating (PR is permissible).
- h. Cut-limit dimension (see figure 1).
- i. National stock number (NSN).
- j. Manufacturer's qualification test report (QTR) number, prefixed by letters "QTR".
- k. Tires with a fabric tread shall be marked FABRIC TREAD.
- l. Country of manufacture (if other than USA).
- m. Manufacturer's mold number.
- n. Additional markings as required by the table I-referenced drawing or slash sheet.

3.6.1 Date of manufacture and serial number. The date of manufacture of the tire shall be included in the serial number of the tire. The serial number shall consist of a maximum of 10 digits. The first five digits shall be the date of manufacture in the form of a Julian date (see 6.5). The remaining digits (not to exceed five), selected by the manufacturer, may be numbers, letters, or a combination thereof.

3.6.2 Maximum wear limit identification. For tires with an outside diameter greater than 26 inches, the MWL marking shall be molded in a minimum of two places equally spaced on each sidewall of the tire. For tires with an outside diameter less than or equal to 26 inches, the MWL marking shall be molded once on each sidewall (180 degrees from the cut-limit marking) as shown in figure 1. Tires for Department of Navy use shall not incorporate a MWL marking.

3.6.3 Cut-limit dimension identification. For tires with an outside diameter greater than 26 inches, the cut-limit dimension identification shall be molded in a minimum of two places equally spaced on each sidewall of the tire. For tires with an outside diameter less than or equal to 26 inches, the cut-limit dimension identification shall be molded once on each sidewall (180 degrees from the cut-limit marking on the opposite sidewall) as shown in figure 1.

3.6.4 National stock number. The NSN shall be molded on one side of the tire, on the same side as the serial number. The prefix NSN shall be included. The NSN shall not contain dashes or spaces (example: NSN 2620XXXXXXXXXX).

3.7 Interchangeability. All parts having the same manufacturer's part number shall be functionally and dimensionally interchangeable.

3.8 Age. The tire shall not be more than 36 months old from the date of manufacture to the initial date of delivery.

4. VERIFICATION

4.1 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. Qualification inspection (see 4.2).
- b. Conformance inspection (see 4.3).

4.2 Qualification inspection. Qualification inspection shall be performed on tires when qualification is required (see 6.3). This inspection shall include all the tests listed in 4.6. The qualification test samples shall consist of at least one tire of each construction, size, and type. The samples shall be identified and marked as specified in 3.6. A waiver of the marking requirements on tires supplied for qualification tests may be granted when agreed to between the procuring activity and the contractor.

4.3 Conformance inspection. Conformance inspection shall include the individual tests of 4.3.1 and sample tests of 4.3.2.

4.3.1 Individual tests. Each tire shall be subjected to the following tests:

- a. Examination of product (4.6.1).
- b. Balance (4.6.2).

4.3.2 Sample tests. Unless otherwise specified (see 6.2), tires shall be sampled IAW ANSI/ASQC Z1.4 at an initial inspection level of normal, and the following tests shall be performed:

- a. Tire dimensions, weight, and rim interface (4.6.3).
- b. Balance pad adhesion (4.6.4).
- c. Inflation pressure retention for tubeless tires (4.6.8).

d. Burst pressure (4.6.9).

4.4 Test conditions. Unless otherwise specified in the individual test description (see 6.2), all tests shall be conducted at ambient temperature and pressure as specified in applicable paragraphs below.

4.5 Requirement cross-reference matrix. Table III provides a cross-reference matrix of the section 3 requirements tested or verified in the paragraphs below.

4.6 Tests.

4.6.1 Examination of product test. The tire and associated documentation shall be examined to determine compliance with size, material, dimensions, weight, bead width, tread pattern, sidewall, venting, identification, interchangeability, and age requirements.

4.6.2 Balance test. The tire shall be balance checked to determine that the moment required to static balance the tire does not exceed the limits specified in the table I-referenced drawing or slash sheet.

4.6.3 Tire dimensions, weight, and rim interface test. The tire shall be mounted on its rim, inflated to rated inflation pressure specified in the table I-referenced drawing or slash sheet, allowed to stand for 12 hours minimum at room temperature, and then readjusted to rated inflation pressure. The tire dimensions and weight shall then be determined and compared to the values in the table I-referenced drawing or slash sheet or in the TRA Aircraft Year Book. Tire weight may be measured unmounted.

4.6.4 Balance pad adhesion test. Balance pad adhesion shall be tested IAW ASTM D 413, to determine compliance with the requirements specified in 3.5.12.

4.6.5 Bead seating pressure test. Without the use of lubricant on either the bead or rim, the pressure at which the tire bead is initially and properly seated against the wheel flange shall be measured. This pressure shall be within the range specified in table II (see 6.5 for a suggested test method).

4.6.6 Dynamic durability test. A dynamic durability test shall demonstrate satisfactory tire performance during the taxi, takeoff, and landing cycles. Unless otherwise specified (see 6.2), test parameters for taxi, takeoff, and landing are specified in the table I-referenced drawing or slash sheet. A suggested test method for 120 MPH and 160 MPH tires, entitled Alternate Qualification Procedures – 120 MPH Rated Tires is provided in SAE AS4833.

4.6.6.1 Dynamic durability test temperature. Unless otherwise specified (see 6.2), the inflation medium temperature or highest casing temperature at the start of 80 percent of the taxi, takeoff, and landing cycles shall be no less than $105^{\circ} \pm 5^{\circ}\text{F}$ ($41^{\circ} \pm 3^{\circ}\text{C}$).

4.6.6.2 Cable bruise test (carrier-based aircraft tires only). Unless otherwise specified (see 6.2), the tire shall be inflated to carrier pressure (see 6.6) and vertically loaded against a 1.625 inch diameter length of plain round steel stock or equivalent diameter arresting gear cable to the specified vertical load in the table I-referenced drawing or slash sheet. Immediately following the release of this load, the tire shall be subjected to the same loading condition 180 degrees from the application of the first load.

4.6.6.3 Post-test inspection. At the conclusion of the dynamic durability tests, the examination of product test (see 4.6.1) shall be performed with the tire at rated inflation pressure. In addition, the tire and associated documentation shall be examined to determine compliance with the fabric material, chafing resistance, MWL indicator, tread chunking, groove cracking, cord fraying, bead separation, cable bruise (for carrier-based aircraft tires), RBL, and wheel/tire slippage requirements. The post-test inspection shall include examination of a cross-sectional cut.

4.6.6.4 Bead separation test. If bead bundle or wire separation is found in the cross-sectional cut, the material around the bead bundle shall be stripped back at least one inch to determine if the separation was caused by the cross-sectional cut of the post-test inspection or during the dynamic durability test. If no separation is found in the stripped area, the bead construction shall be considered satisfactory.

4.6.7 Low temperature test. Samples of the tread, carcass, and liner compounds shall be tested IAW ASTM D 746 at -58°F (-50°C). An alternate test method may be utilized provided that data is submitted substantiating an equivalent test method and the alternate method is approved by the responsible procurement activity.

4.6.8 Inflation pressure retention test for tubeless tires. The tire shall be inflated to rated inflation pressure specified in the table I-referenced drawing or slash sheet and allowed to stand for a minimum of 12 hours, at which time the pressure loss due to stretch shall be replaced. The tire shall then stand for an additional 24 hours, at which time the pressure shall be recorded. Ambient temperature shall be measured at the start and finish of the test to assure that any pressure change was not caused by ambient temperature change. At no time shall the tire be inflated above rated inflation pressure.

4.6.9 Burst pressure test. The minimum burst pressure specified in the table I-referenced drawing or slash sheet shall be applied to the mounted tire and held for a minimum of 3 seconds. The tire shall not fail under this pressure. The burst pressure test of a tubeless tire may be conducted with a tube in the same manner as for tube type tires.

4.6.10 Retreadability test. The verification of retreadability shall be the presence of a retread buff line (RBL) when inspecting the tire cross-sectional cut during the post-test inspection (4.6.6.3).

4.6.11 Maximum wear limit indicator test. If a colored indicator is used, it shall be visible when observing the cross-sectional cut made during 4.6.6.3.

5. PACKAGING

5.1 General. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department or Defense Agency automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature which may be helpful, but is not mandatory.)

6.1 Intended use. Tires covered by this specification are intended for use on aircraft wheels.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number and date of this specification.
- b. Issue of the DoDISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1, 2.2.2, and 2.3).
- c. Operational environment, if different from that in 3.2.
- d. Performance or interface requirements for tires not found in table I (see 3.2).
- e. Basic tire performance requirements, if different from 3.5.1.
- f. Retreadability requirements, if different from that in 3.5.7.
- g. Taxi, takeoff, and landing cycle conditions to be met by the tire, if different from those in 3.5.9.
- h. Identification requirements, if different from those in 3.6.
- i. Initial inspection level or sample tests, if different than 4.3.2.
- j. Test conditions, if different from those in 4.4.
- k. Dynamic durability test requirements (see 4.6.6), test temperature requirements if different from those in 4.6.6.1, and cable bruise test requirements if different from 4.6.6.2.
- l. Packaging requirements (see 5.1).

m. Data required.

6.3 Qualification. The attention of the contractor is called to the requirements with respect to products requiring qualification. Awards will be made only on products that are, at the time of award of contract, qualified for inclusion in Qualified Products List QPL No. 5041, whether or not such products have actually been so listed by that date. In order that the manufacturers may be eligible to be awarded contracts or purchase orders for products covered by this specification, they are urged to arrange to have the product that they propose to offer to the Federal Government tested for qualification. Information pertaining to qualification of products or qualification test reports may be obtained from OO-ALC/LILE, 6040 Gum Lane, Hill AFB, UT 84056-5825 (see 3.1). For information regarding qualification procedures, applicants proposing to submit a product for qualification approval should refer to Defense Standardization Document SD-6, entitled Provisions Governing Qualification.

6.4 Additional information.

6.4.1 Use of tubeless tire in tube type applications. In tube type applications, tubeless tires (with a tube installed) may be used in lieu of tube type tires.

6.4.2 Suggested marking nomenclature and/or lettering height.

6.4.2.1 Serial number. The lettering should be a minimum of 3/16 inch in height.

6.4.2.2 Cut-limit dimension identification. The cut-limit dimension should be expressed in increments of 1/32 inch and should be rounded to the next smaller increment of 1/32 inch when a fraction of 1/32 inch is involved. The lettering should be a minimum of ¼ inch in height and the diameter of the circle should be a minimum of 1 inch.

6.4.2.3 Maximum wear limit marking. The lettering should be a minimum of 3/8 inch in height and the dimensions of the rectangle should be a minimum of ½ inch by 1 ¼ inch.

6.4.2.4 National stock number. The lettering should be a minimum of ¼ inch in height.

6.5 Suggested Test Methods.

6.5.1 Bead seating pressure test. The bead seating pressure can be measured by employing an electrical contact system to determine when the bead has been seated against the wheel flange. After placement of shim stock at three locations 120 degrees apart around the tire, the tire is inflated. The pressure at which the last shim makes electrical contact can be considered the bead seating pressure. The test is accomplished without using lubricant on either bead or rims (see 4.6.5).

6.6 Definitions.

6.6.1 Carrier pressure. Unless otherwise specified in the table I-referenced drawing or slash sheet, for testing purposes, carrier pressure is a minimum of 1.3 times the rated inflation pressure.

6.6.2 Casing. The structural part of the tire.

6.6.3 Fabric-reinforced tread. A fabric-reinforced tread is one with a fabric ply or plies constructed in the material between the outer carcass ply and the bottom of the tread grooves.

6.6.4 Fabric tread. A fabric tread is one with a fabric ply or plies constructed in the tread ribs above the bottom of the tread grooves.

6.6.5 Julian date. The Julian date is a five digit alphanumeric code indicating the year and the number of the day of the year. As an example, the Julian date of May 23, 1996, which is day number 143 of the year 1996, would be 96143. An acceptable variation of the Julian date using a decade identifier may be used and assigned by the manufacturer. This variation is also a five digit alphanumeric code indicating the year, the number of the day of the year, and a decade identifier. As an example, the Julian date of May 23, 1996, which is day number 143 of the year 1996, would be 6143J; "J" being the decade identifier.

6.6.6 Rated inflation pressure. The rated inflation pressure is the specified inflation pressure corresponding to the rated load for the tire.

6.6.7 Rated load. Rated load is the maximum permissible load at the specified inflation pressure. Rated loads are established and standardized by TRA. The rated load combined with the rated inflation pressure will be utilized when selecting tires for application to an aircraft and for testing to the performance requirements of this document.

6.6.8 Retread buff line. The RBL is a definitive, continuous, circumferential layer of uninterrupted rubber, 0.060 inch minimum thickness, extending shoulder to shoulder in the finished tire.

6.6.9 Skid depth. Skid depth is the radial distance, measured along the centerline of the tire mold, from the line enveloping the outer cross section of the tread to the line enveloping the outer cross section of the undertread of the deepest groove.

6.7 Subject term (key word) listing.

- Bead seating pressure
- Cut-limit dimension
- Fabric-reinforced tread
- Fabric tread
- Ply rating
- Rated inflation pressure
- Rated load
- Skid depth

Tread chunking

Tubeless

Tube type

6.8 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

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TABLE I. Tire drawing & slash sheet matrix.

Wheel Type 1/	Size	Ply Rating	Old Drawing or MS Number 2/	New Drawing or Slash Sheet Number 4/
TL	8.50-10	10	54C763	N/A
TL	8.50-10	12	3/	
TL	12.50-16	12	64F1880	N/A
TL	20.00-20	26	65D1542	N/A
TL	18x4.4	6	56D1172	N/A
TL	18x5.5	14	MS26535	
TT	20x4.4	10	MS26538	
TL	20x4.4	10	MS26538	
TL	20x4.4	12	56D1171	N/A
TL	20x4.4	14	8631427	N/A
TL	20x5.5	12	MS26540	
TL	20x5.5	14	MS26540	
TL	22x5.5	8	MS26539	
TT	24x5.5	12	MS26526	
TL	24x5.5	12	MS26526	
TT	24x5.5	14	MS26526	
TL	24x5.5	14	MS26526	
TT	24x5.5	16	MS18060	
TT	24x7.7	10	MS26558	
TL	24x7.7	14	58D510	N/A
TT	25x6.0	16	MS26543	
TL	26x6.6	14	60C4280	N/A
TL	28x7.7	14	MS17838	
TT	32x8.8	18	MS26537	
TL	36x11	22	8631526	N/A
TL	36x11	24	MS14482	
TL	36x11	28	MS90346	
TL	38x11	14	61D3069	N/A
TL	39x13	16	63D3009	N/A
TL	40x14	26	MS26563	
TL	44x13	26	MS26557	
TL	44x16	28	61F4307	N/A
TL	46x16	28	TS0C62	N/A
TL	49x17	26	60D2561	N/A
TL	49x17	26	71203	N/A
TL	56x16	38	60D510	N/A

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TABLE I. Tire drawing & slash sheet matrix - Continued.

Wheel Type 1/	Size	Ply Rating	Old Drawing or MS Number 2/	New Drawing or Slash Sheet Number 4/
TL	13.5x6.0-4	14	MS14224 (AS)	
TL	18x5.7-8	14	MS14196	
TL	18x5.7-8	18	GD16VL027	N/A
TL	18x5.7-8	20	GD16VL036	N/A
TL	18x6.5-8	12	63J4242	N/A
TL	21x7.25-10	20	72318	N/A
TL	22x6.6-10	18	8412568	N/A
TL	22x6.6-10	22	MS14168	
TL	22x6.75-10	18	MS14161	
TL	22x7.75R9	22	PS68-450068	N/A
TL	22x7.75-9	26	PS68-450068	N/A
TL	22x8.5-11	16	63J4241	N/A
TL	23.5x7.5R10	N/A	5PTA3065	N/A
TL	24x6.5-14	18	MS14178	
TL	24x8.0-13	18	73453	N/A
TL	25.5x8.0-14	20	GD16VL028	N/A
TL	25.5x8.0-14	20	9235498	N/A
TL	26x7.75R13	10	MS14483	
TL	26x7.75-13	10	MS14225	
TL	26x8.75R11	16	MS14223	
TL	26x10.0-11	10	3/	
TL	26x10.0-11	12	3/	
TL	27.75x8.75-14.5	24	GD16VL032	N/A
TL	27.75x8.75R14.5	24	GD16VL032	N/A
TL	28x9.0-14	22	74201	N/A
TL	30x11.50-14.50	26	MS14171	
TL	30x11.5-14.5	26	MS21781	
TL	34.5x9.75-18	26	8412569	N/A
TL	34x14.0-12	24	DAA3221P508	N/A
TL	35x11.5-16	22	L194C2003	N/A
TL	36x11.0-18	30	PS68-410065	N/A
TL	36x11.0R18	N/A	PS68-410065	N/A
TL	37x11.5-16	28	MS14152	
TL	37x11.5R18	N/A	5PTA3066	N/A

TABLE I. Tire drawing & slash sheet matrix - Continued.

Wheel Type 1/	Size	Ply Rating	Old Drawing or MS Number 2/	New Drawing or Slash Sheet Number 4/
TL	40x16-14	26	PS17026	N/A
TL	43x16.0-20	28	DAA3222P508	N/A
TL	B46x16.0-23.5	30	L194C2025	N/A
TL	47x18.0-18	30	69E177	N/A
TL	50x21.0-20	30	PS17046	N/A

1/ TT-Tube type; TL-Tubeless

2/ The above listed Air Force drawings contain only performance data and do not contain detail drawings.

3/ The MS number has not yet been identified by the Department of Navy.

4/ Department of Navy – AS will convert the existing MS drawings for which it is the preparing activity to slash sheets after the issuance of this document.

TABLE II. Bead seating pressures.

Rated Inflation Pressure (psi)	Minimum Bead Seating Pressure (psi)	Maximum Bead Seating Pressure (psi)
40 or less	25	40
40 to 100	25	*
Over 100	50	*

* In no case shall the maximum bead seating pressure exceed either the rated inflation pressure or 200 psi, whichever is less.

TABLE III. Paragraph cross-reference matrix.

Section 3 Requirement Paragraph	Qualification Examination or Test Paragraph
3.1 Qualification	4.2 and 4.6
3.2 General requirements	4.6
3.2.1 Ambient temperature range	4.6.6 and 4.6.7
3.2.2 Tire sizing and classification	4.6.1
3.3 Materials	4.6.1
3.4.1 Tire dimensions and weight	4.6.1 and 4.6.3
3.4.2 Rim interface	4.6.3
3.5.1 Basic tire performance	4.6
3.5.2 Tire speeds	4.6.6
3.5.3.1 Tread pattern	4.6.1
3.5.3.2 Fabric-reinforced tread	4.6.6
3.5.3.3 Fabric tread	4.6.6
3.5.4 Sidewall	4.6.1
3.5.4.1 Venting	4.6.1
3.5.5.1 Bead seating pressure	4.6.5
3.5.5.2 Chafing resistance	4.6.6
3.5.6 Maximum wear limit (MWL) indicator	4.6.11
3.5.7 Retreadability	4.6.10
3.5.8 Burst pressure	4.6.9
3.5.9 Dynamic durability	4.6.6
3.5.10 Wheel/tire slippage	4.6.6
3.5.11 Inflation pressure retention - tubeless tires	4.6.8
3.5.12 Balance	4.6.2 and 4.6.4
3.6 Product identification and marking	4.6.1
3.7 Interchangeability	4.6.1
3.8 Age	4.6.1

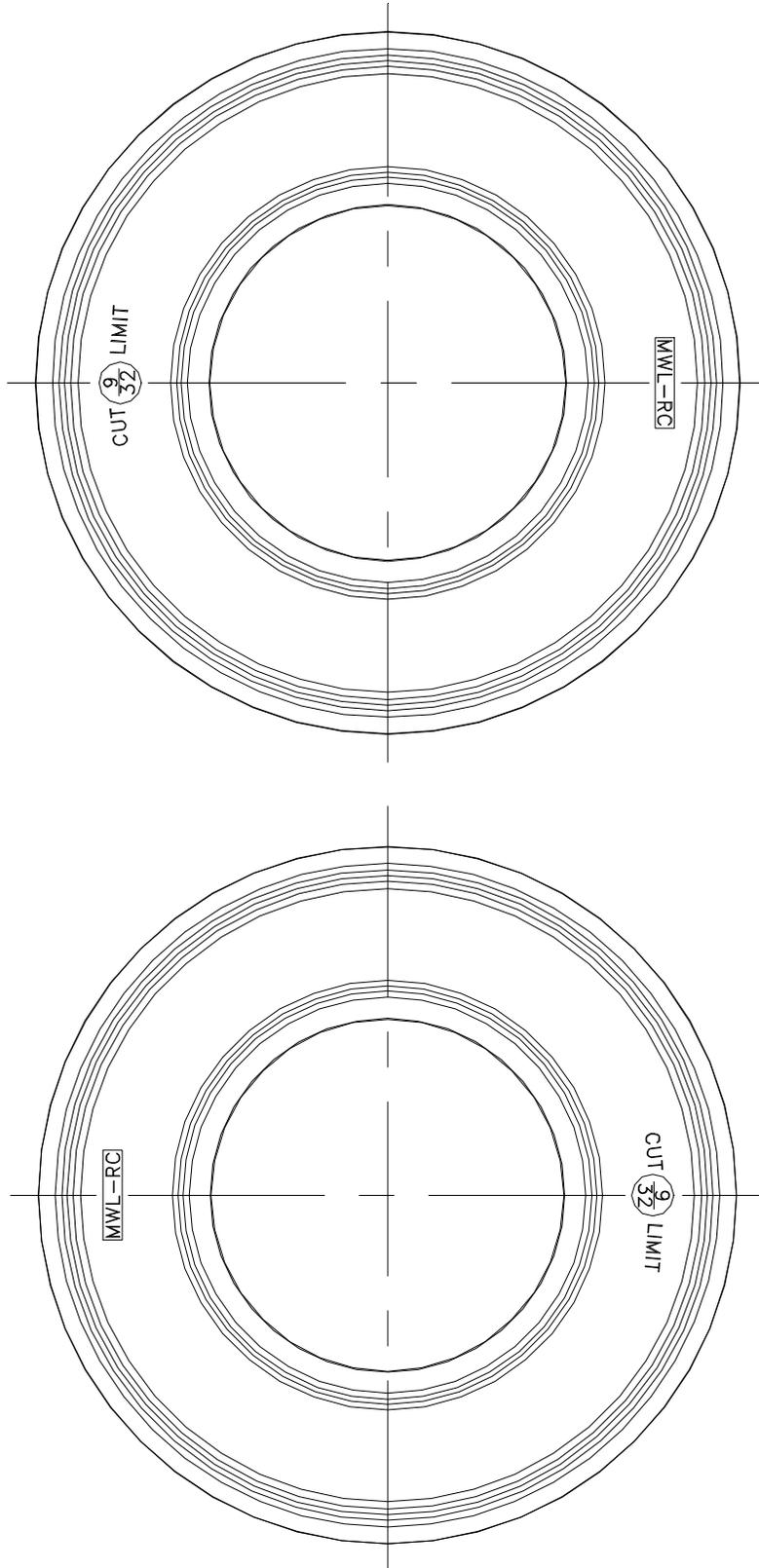


FIGURE 1. Cut-limit dimension and wear limit identification

CONCLUDING MATERIAL

Custodians:

Air Force - 99

Army - AV

Navy - AS

Review activities:

Navy - MC

Preparing Activity:

Air Force - 70

Project 2620-0275

