[INCH-POUND]
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31 August 2016
SUPERSEDING
A-A-59494A
28 April 2010

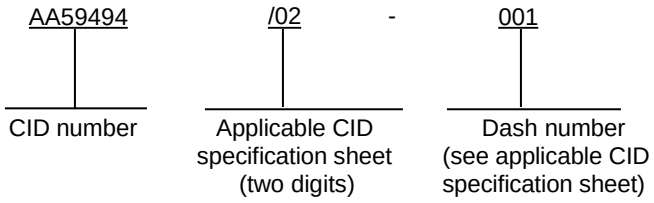
COMMERCIAL ITEM DESCRIPTION

WHEELS AND HUBS FOR INDUSTRIAL PNEUMATIC TIRES

The General Services Administration has authorized the use of this commercial item description for all federal agencies.

1. SCOPE. This commercial item description (CID) covers the general requirements for wheels and hubs, with or without industrial pneumatic tires and tubes. Requirements for specific wheel and hub assemblies are covered in the individual CID specification sheets. Wheels and hubs, with or without industrial pneumatic tires and tubes covered by this CID are intended for commercial/industrial applications.

2. CLASSIFICATION/PART OR IDENTIFICATION NUMBER (PIN). This CID uses a classification system which is included in the PIN as shown in the following example (see 7.1).



3. SALIENT CHARACTERISTICS.

3.1 Interface and physical dimensions. Wheels, hubs, and tires supplied to this CID shall be as specified on the applicable CID specification sheet.

3.2 CID specification sheet. The family of wheels, hubs, and tires shall be in accordance with the requirements specified herein and the applicable CID specification sheet. In the event of a conflict between this general CID and the applicable CID specification sheet, the latter shall govern.

3.3 Performance.

3.3.1 Pressure loads. Wheels, when mounted with tires and tubes, shall not deform when the tires and tubes are subjected to the inflation pressure specified in table I.

Comments, suggestions, or questions on this document should be addressed to: DLA Land and Maritime, Attn: VAI, P.O. Box 3990, Columbus, OH 43218-3990, or emailed to FluidFlow@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at https://assist.dla.mil.

AMSC N/A

FSC 2530

TABLE I. Minimum wheel deformation inflation pressure.

Size	Ply rating	Inflation pressure, psi
3.50-6	4-ply	140
4.00-8	6-ply	175
6.00-9	10-ply	175
7.50-10	10-ply	175
9.00-10	10-ply	175

3.3.2 Static loads. Wheels, when mounted with tires and tubes and mounted to applicable hubs, shall withstand the maximum static loads specified in table II.

TABLE II. Wheel maximum static loads.

Wheel size	Tire inflation, psi	Maximum static load, lbs. (at each wheel)
3.50-6	80	2,500
4.00-8	100	5,000
6.00-9	100	6,250
7.50-10	95	10,000
9.00-10	80	10,000

3.3.3 Towing. Wheel and hub assemblies shall be capable of being moved by hand or towed by a tug over concrete pavement in a circular path having a 35 foot radius (as measured to the outside of the wheels) for a minimum of one-half mile at speeds up to 15 miles per hour (mph) under the 10 percent overrated load condition for 5 mph specified in table I.

3.4 Usage. The wheels and hubs shall be capable of being used as running gear on equipment that may be moved by hand or towed by a tug on paved areas, pierced plank areas, unpaved roads, and unimproved level terrain, whether such areas are dry, wet, or covered with up to 6 inches of snow or 4 inches of mud.

3.5 Design and construction. Wheel and hub assemblies shall be constructed so that no parts will work loose in service.

3.5.1 Materials. Wheels and hubs shall be made out of steel, iron, or aluminum alloy as specified in their respective specification sheet. These materials, which are subject to deterioration when exposed to climatic and environmental conditions, shall be of corrosion-resistant type metal or shall be of metal that is protected against deterioration in a manner that will in no way prevent compliance with the requirements of this CID. The use of any protective coating that will crack, chip, or scale with age or extremes of climate and environmental conditions shall be avoided.

3.5.2 Wheels. Wheels shall be of the split-rim type, with all of the necessary bolts, lockwashers, and nuts required for assembly of the two halves. The wheels shall allow removal of the wheel from the hub without deflating the tire.

3.5.3 Hubs. A hub shall consist of all the parts shown on the respective specification sheet for the hub assembly, as applicable, including all bolts, nuts, and lockwashers for attaching the wheel to the hub. All parts such as grease seals and hubcaps that are not specified in detail shall meet the requirements specified in 3.6. Axles are not a part of the hubs covered by this CID.

3.5.3.1 Bearing cup removal. Slots or other provisions shall be inside the hubs to facilitate removal of bearing cups.

3.5.3.2 Attachment bolts. Hub-to-wheel attachment bolts shall be of the sizes shown on the applicable specification sheet and shall be ribbed-neck carriage bolts. The length of the ribbed part of the bolt shall be from the head to within 1/16 inch of extending through the flange of the hub. Bolts shall be capable of being pressed out to allow for attachment of a brake mechanism to the hub body.

3.5.3.3 Seals. Seals for the hub as shown on the respective specification sheet for the hub assembly shall be standard grease seals of the molded, synthetic-rubber type. The seals shall provide protection for the wheel bearings under the environmental conditions specified herein.

3.5.3.4 Brake drum pilot. Each type 1 cantilever mounting hub shall be provided with a brake drum pilot surface on the hub flange.

3.5.4 Threads. Unless other specified, all threads shall conform to FED-STD-H28 (see 7.4).

3.6 Environmental conditions. The wheels and hubs shall be capable of withstanding exposure to the following environmental conditions:

a. Temperatures from -65 to 125 °F.

b. Relative humidity of 95±5 percent at a temperature of 125±5 °F.

c. Airborne sand and dust particles incident to normal road operation.

d. Atmosphere containing salt-laden moisture (a salt fog of 5±1 percent salt solution).

3.7 Tires and tubes. All industrial pneumatic-type tires and tubes furnished with the wheels shall conform to ZZ-T-410, except that tire size 7.50-10 shall be 10-ply rating. Tire size 9.00-10 shall be used only with ferrous metal hubs and wheels. All tires shall have a free-rolling tread design, be of a non-directional type, and have multiple ribs.

3.7.1 Flaps. Unless otherwise specified (see 7.5), all 10-ply rating tires shall be equipped with flaps.

3.7.2 Valve stem. The valve stem on the tube furnished with the tire shall conform to the appropriate TRA Standard (see 7.4) as indicated:

Tire size	TRA Standard
3.50-6	TR 87
4.00-8	TR 13 or TR 87
6.00-9 and 7.50-10	TR 135
9.00-10	TR 150

3.8 Finishes and protective coatings.

3.8.1 Color. Wheels and hubs shall be finished in the color specified in the contract or order (see 7.5).

3.8.2 Bearings, grease seals, enclosed parts, and utility parts. The bearings, grease seals, and enclosed parts and surfaces of the hub shall not be painted. The outside surface of the seals shall be painted or plated in accordance with the applicable finishes specified above. Bearing cup bores shall not be finished. Utility parts (e.g., wheel mounting bolts) shall be masked or otherwise protected during painting of the hubs.

3.9 Marking. Wheels and hubs supplied to this CID shall be marked with the manufacturer's (MFR's) standard commercial PIN. (NOTE: The part number marked on the unit pack shall be the CID PIN.)

3.10 Recycled, recovered, or environmentally preferable materials. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

3.11 Workmanship. The wheels and hubs shall be processed in such a manner as to be uniform in quality and shall be free from other defects that will affect life, serviceability, or appearance.

3.11.1 Wheel surface. The surface of the wheel between bead seats shall be free of defects that would be injurious to the innertube and tire.

3.11.2 Flanges. The hub face and mating wheel faces shall be smooth and free from defects.

3.11.3 Register. The register bore of the wheel and register diameter of the hub shall be concentric and free from defects. The least clearance between these surfaces shall be maintained consistent with the applicable figures.

4. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. PRODUCT CONFORMANCE PROVISIONS.

5.1 Product conformance. The products provided shall meet the salient characteristics of this CID, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

5.2 Market acceptance. The following market acceptance criteria are necessary to document the quality of the product to be provided under this CID:

a. The company producing the item must have been producing a product meeting the requirements of this CID for at least 1 year.

6. PACKAGING. Preservation, packing, and marking shall be as specified in the contract or order.

7. NOTES.

7.1 PIN. The PIN should be used for Government purposes to buy commercial products to this CID. See section 2 for PIN format example.

7.2 Environmentally preferable material. Environmentally preferable materials should be used to the maximum extent possible to meet the requirements of this specification. As of the dating of this document, the U.S. Environmental Protection Agency (EPA) is focusing efforts on reducing 31 priority chemicals. The list of chemicals and additional information is available on their website http://www.epa.gov/osw/hazard/wastemin/priority.htm. Included in the EPA list of 31 priority chemicals are cadmium, lead, and mercury. Use of these materials should be minimized or eliminated unless needed to meet the requirements specified herein (see Section 3).

7.3 Commercial and Government Entity (CAGE) code. For ordering purposes, inventory control, and submission of these wheels and hubs to DSCC under the Military Parts Control Advisory Group (MPCAG) evaluation program, CAGE code 58536 should be used.

7.4 Source of documents.

Federal Specification

ZZ-T-410	-	Tires, Pneumatic, Industrial

Federal Standards

FED-STD-H28	-	Screw-Thread Standards for Federal Services
FED-STD-595	-	Colors Used in Government Procurement

Commercial Item Descriptions

A-A-59494/1	-	Wheels and Hub Assemblies
A-A-59494/2	-	Wheel, Pneumatic Tire, 3.50-6
A-A-59494/3	-	Wheel, Pneumatic Tire, 4.00-8
A-A-59494/4	-	Wheel, Pneumatic Tire, 6.00-9
A-A-59494/5	-	Wheel, Pneumatic Tire, 7.50-10 or 9.00-10
A-A-59494/6	-	Hub Assembly, Cantilever Mounting, for 3.50-6 and 4.00-8
A-A-59494/7	-	Hub Assembly, Cantilever Mounting, for 6.00-9, 7.50-10, and 9.00-10
A-A-59494/8	-	Hub Assembly, Fork Mounting, for 3.50-6 and 4.00-8 Wheels
A-A-59494/9	-	Hub Assembly, Fork Mounting, for 6.00-9 and 7.50-10 Wheels

(Copies of these documents are available online at https://assist.dla.mil)

Federal Regulations

FAR	-	Federal Acquisition Regulation (FAR)

(Copies of these documents are available online at https://www.acquisition.gov/Far)

Other Publications

Tire and Rim Association (TRA)

The Tire and Rim Association (TRA) Standards

(Copies of these documents may be obtained online at http://www.us-tra.org/traPubs.html)

Aerospace Industries Association of America

NASM24665	-	Pin, Cotter (Split)

(Copies of these documents may be obtained online at http://global.ihs.com/?RID=AIA)

7.5 Ordering data. The contract or order should specify the following:

a. CID document number, revision, and CID PIN

b. Product conformance provisions.

c. Packaging requirements.

7.6 Government users. To acquire information on obtaining these wheels and hubs from the Government inventory system, contact Defense Supply Center, Columbus, ATTN: DSCC Call Center (DSCC-NAB), P.O. Box 3990, Columbus, OH 43218-3990, or telephone (614) 692-2271 or (614) 692-3191.

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

MILITARY INTERESTS:

Custodians:
Army - AT
Air Force - 99
DLA – CC

Review activity:
Air Force - 84

CIVIL AGENCY AND COORDINATING ACTIVITY:

GSA - FAS

Preparing activity:
DLA - CC

Project 2530-2016-002

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at https://assist.dla.mil.