

[INCH-POUND]
A-A-59535A
9 December 2013
SUPERSEDING
A-A-59535
2 February 2000

COMMERCIAL ITEM DESCRIPTION

PUMP, FUEL, ELECTRICAL: 12 AND 24 VOLT DC

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 pump, fuel, electrical: 12 and 24 volt DC. Pump, fuel, electrical: 12 and 24 volt DC 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).

<u>AA59535</u>	-	<u>001</u>
—		—
CID		Type
number		code

2.1 CID codes for types:

- CID code 001 = type I (12 VDC nominal)
- CID code 002 = type II (24 VDC nominal)

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data that may improve this document should be sent to: DLA Land and Maritime, ATTN: VAI, P.O. Box 3990, Columbus OH 43218-3990, or email fluidflow@dla.mil. Since contact information can change you may want to verify the currency of the address information using the ASSIST Online database at <https://assist.dla.mil/>.

3. SALIENT CHARACTERISTICS.

3.1 Interface and physical dimensions. Pump, fuel, electrical: 12 and 24 volt DC supplied to this CID shall be as specified herein.

3.1.1 Envelope. The external dimensions of the pump shall conform to the envelope dimensions shown on figure 1.

3.1.2 Fuel filter. The pump shall incorporate a fuel filter to protect the fuel supply system. The filter shall be removable for cleaning without demounting the pump.

3.1.3 Inlet and outlet connections. The inlet and outlet connections shall be threaded to interface with the mating threaded part. Internal threads shall be 0.1250 - 27 NPT (American National Standard Taper Pipe Threads) and external threads shall be 0.2500 - 18 NPT. If internal threads are used on the pump, a threaded adapter shall be provided with external threads of 0.2500 - 18 NPT. The adapter shall not protrude from the pump body more than 0.5 inches.

3.1.4 Electrical connector and cable. The electrical connector shall be as shown on figure 1. The electrical connector shall withstand a pull of not less than 60 pounds. The mated connector shall not require more than 30 pounds to separate from its mate at a temperature of -55 degrees Fahrenheit (°F). The cable shall conform to MIL-DTL-13486 type I, class A, or equal. When necessary, part or all of the cable may conform to MIL-DTL-13486 type II, class A, or equal, provided that a separate cable ground is used. Cables shall exit the pump within or before the area marked "CABLE CLEARANCE" shown on figure 1. Both the cable and the cable ground shall be external to the pump body and shall be located within the cable clearance area shown on figure 1. The cable shall be flexible down to -55 °F. The junction between the connector and cable shall be waterproof. The boot attached to the power cable shall be made of rubber ASTM D2000 M5BC 610 A14E034F19 Z1 (Z1 is method B of C12) in accordance with ASTM D2000, or equal.

3.2 Performance.

3.2.1 Fuel compatibility. The pump shall be capable of operating with the following fuels:

- a. Diesel fuel oil, grades 1-D and 2-D, conforming to ASTM D975.
- b. Diesel fuel oil conforming to A-A-52557.
- c. Jet A-1 turbine fuel conforming to ASTM D1655.

3.2.2 Output. The output of each pump type shall equal or exceed the applicable performance curve shown on figure 2 when operated at temperatures between 65 and 75 °F. The pump fuel flow, at any given pressure, shall be not less than 67% of the value shown in figure 2 in ambient temperatures ranging from -55 to +65 °F.

3.2.3 Electrical. The pump shall operate within the voltage range listed in table I. The negative terminal of the pump shall be connected to ground. The load current shall not exceed 1.75 amperes.

TABLE I. DC voltage.

Pump type	Nominal voltage	Minimum voltage	Maximum voltage
I	12	6	18
II	24	18	30

3.2.4 Electromagnetic interference suppression. Conducted emissions and radiated emissions on power leads shall not exceed the values shown on figures 3 and 4, respectively.

3.2.5 Dry operation. The pump shall be capable of withstanding dry pumping operation for a period of not less than 4 hours without evidence of damage or impairment of performance.

3.2.6 Dry prime. The pump shall be capable of commencing and maintaining fuel pumping operation from a dry condition with the fuel source not less than 2.5 feet below the bottom of the pump.

3.2.7 Endurance. The pump shall maintain a delivery versus pressure relationship not less than that specified in 3.2.2 for a period of not less than 3,000 hours.

3.3 Materials. Materials shall conform to the manufacturer's materials specifications for pumps. Asbestos, cadmium, and radioactive materials defined by Title 10, Code of Federal Regulations (CFR), Part 40, and other radioactive material in which the radioactivity is greater than 0.002 microcuries per gram or 0.01 microcuries total activity, shall not be incorporated into the pump assembly.

3.4 Environmental conditions.

3.4.1 Storage temperature. The pump shall operate after being stored at temperatures ranging from -65 to +160 °F.

3.4.2 Vibration resistance. The pump shall show no evidence of damage or leakage and shall meet the output requirements of 3.2.2 when subjected to a simple harmonic motion with an amplitude of not less than 0.03 inch at a frequency range of 10 to 55 Hz along each of the three mutually perpendicular axes.

3.4.3 Shock resistance. The pump shall show no evidence of damage or leakage and shall meet the output requirements of 3.2.2 when subjected to sawtooth wave shocks (see figure 5) of 25 gravity units (g) with a nominal duration of 18 milliseconds along each of the three mutually perpendicular axes.

3.4.4 Corrosion resistance. The pump shall resist corrosion resulting from exposure to salt fog .

3.4.5 Fungus resistance. The pump shall be non-nutritive for fungus growth.

3.5 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.

3.6 Workmanship. Pump, fuel, electrical: 12 and 24 volt DC 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.

4. REGULATORY REQUIREMENTS. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with 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 place. The Government reserves the right to require proof of such conformance

5.2 Certification. Certification must be done with the procuring activity approval. The contractor shall certify that the product offered meets the salient characteristics of the description and conforms to the producer's own drawings, specifications, standards, and quality assurance practices, and is the same as the product offered for sale in the commercial marketplace. The government reserves the right to require proof of such conformance prior to first delivery and thereafter as may be otherwise provided for under the provisions of the contract

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 pump, fuel, electrical: 12 and 24 volt DC to DLA Land and Maritime under the Parts Management Advisory Team (PMAT), CAGE code 58536 should be used.

7.4 Source of documents.

COMMERCIAL ITEM DESCRIPTION

A-A-52557 - Fuel Oil, Diesel; for Posts, Camps and Stations

DEPARTMENT OF DEFENSE SPECIFICATION

MIL-DTL -13486 - Cables, Special Purpose, Electrical: Low-Tension, Heavy-Duty, Single Conductor and Multiple Conductor, Shielded and Unshielded, General Specification for

(Copies of these documents are available online at <https://assistquicksearch.daps.mil/> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

FEDERAL REGULATIONS

FAR – Federal Acquisition Regulations (FAR)

(Copies of these documents are available online at www.acquisition.gov/comp/far/index.html or from the U.S. Government Printing Office, 732 North Capital Street, NW, Washington D.C. 20401.)

ASTM INTERNATIONAL

ASTM D975 - Standard Specification for Diesel Fuel Oils

ASTM D1655 - Standard Specification for Aviation Turbine Fuels

ASTM D2000 - Standard Classification System for Rubber Products in Automotive Applications

(Copies of these documents are available online at <http://www.astm.org> or from the ASTM International, P.O. Box C700, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

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 Commercial products. As part of the market analysis and research effort, this CID was coordinated with the following manufacturers of commercial products. At the time of CID preparation and coordination, these manufacturers were known to have commercial products that would meet the requirements of this CID. (NOTE: This information should not be considered as a list of approved manufacturers or be used to restrict acquisition to only the manufacturers shown.)

<u>MFR's CAGE</u>	<u>MFR's name and address</u>
0FWZ1	DAR Enterprises, Inc 2700 Rogan Rd Orlando, FL 32812-5828 (407) 896-7433 (407) 898-6066 rogan2700@aol.com
0T0Y2	CME ARMA INC. 4500 NW 36 TH AVE MIAMI, FL 33142-4220 305-633-1524 cmearma@cmearma.com

<u>MFR's CAGE</u>	<u>MFR's name and address</u>
0VW10	AM-MAC INCORPORATED 311 US HIGHWAY 46 STE C FAIRFIELD, NJ 07004-2419 973-575-7567 ammac1@aol.com
7Z016	KAMPI COMPONENTS CO. INC. 88 CANAL RD FAIRLESS HILLS, PA 19030-4302 sabrina@kampi.com amy@kampi.com 215-736-2000 267-543-4002

7.7 Government users. To acquire information on obtaining these pump, fuel, electrical: 12 and 24 volt DC from the Government inventory system, contact DLA Land and Maritime, ATTN DLA Land and Maritime Call Center (-NAB), P.O. Box 3990, Columbus, OH 43218-3990 or telephone (614) 692-2271 or (614) 692-3191.

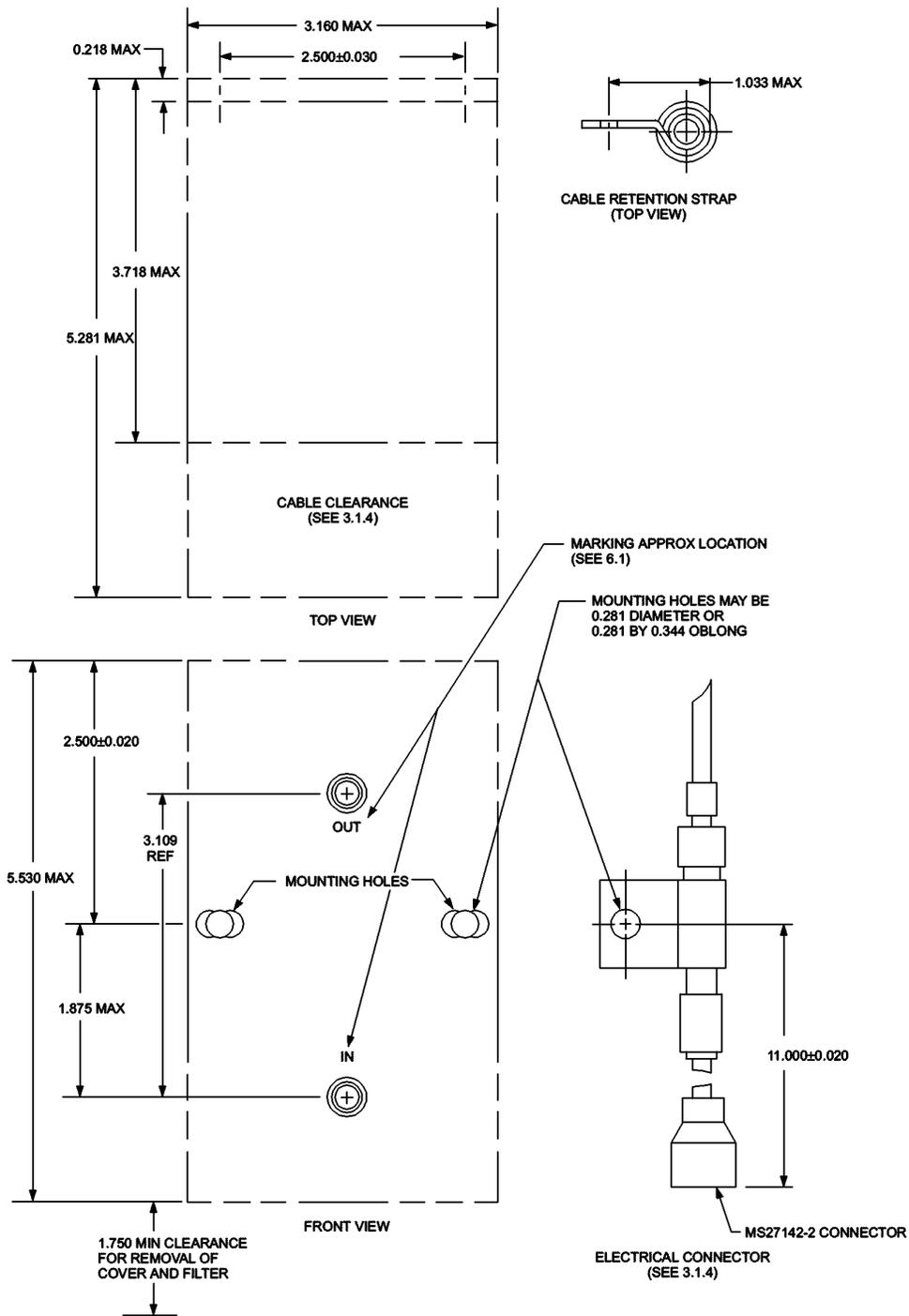
7.8 Legacy. This commercial item description is a replacement for MIL-P-45328 and MS51321 for all federal agencies (MIL-P-45328 and MS51321 is canceled as of 30-APR-1993 and copies of these documents are available online at <https://assist.dla.mil/quicksearch/> or from the DLA Document Services Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094).

7.9 Cross reference table (See table II):

TABLE II. Cross reference table.

<u>Pump type</u>	<u>Former MS part number</u>	<u>CID number</u>
I (12 volts)	MS51321-1-12N1	AA59535-001
I (12 volts)	MS51321-2-12N1	AA59535-001
II (24 volts)	MS51321-3-24N1	AA59535-002
II (24 volts)	MS51321-1-24N1	AA59535-002
II (24 volts)	MS51321-2-24N1	AA59535-002

7.10 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.



NOTE: Dimensions are in inches. Unless otherwise specified, tolerances are ±0.010.

FIGURE 1. Envelope dimensions for electrical fuel pump.

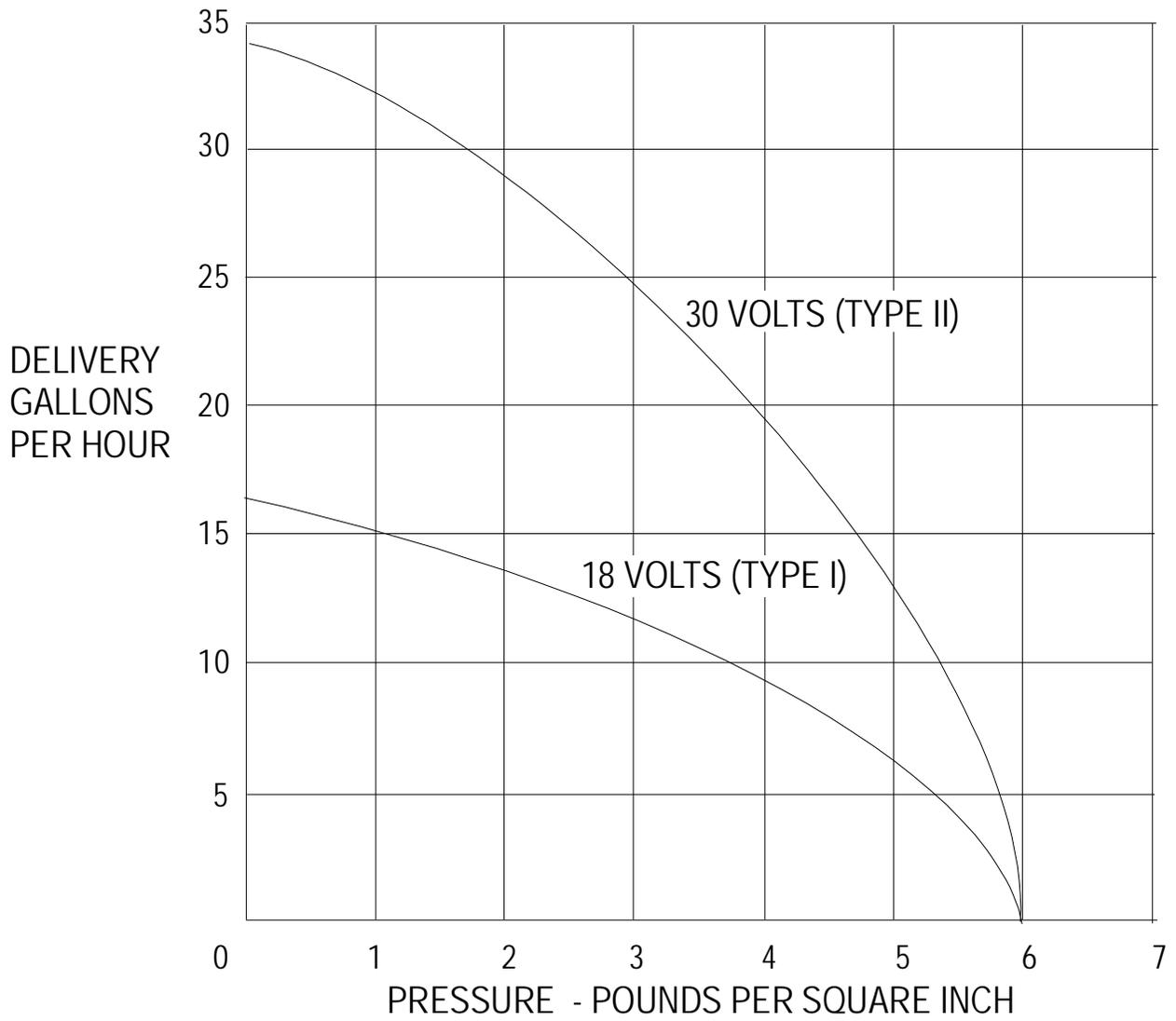


FIGURE 2. Output performance curves.

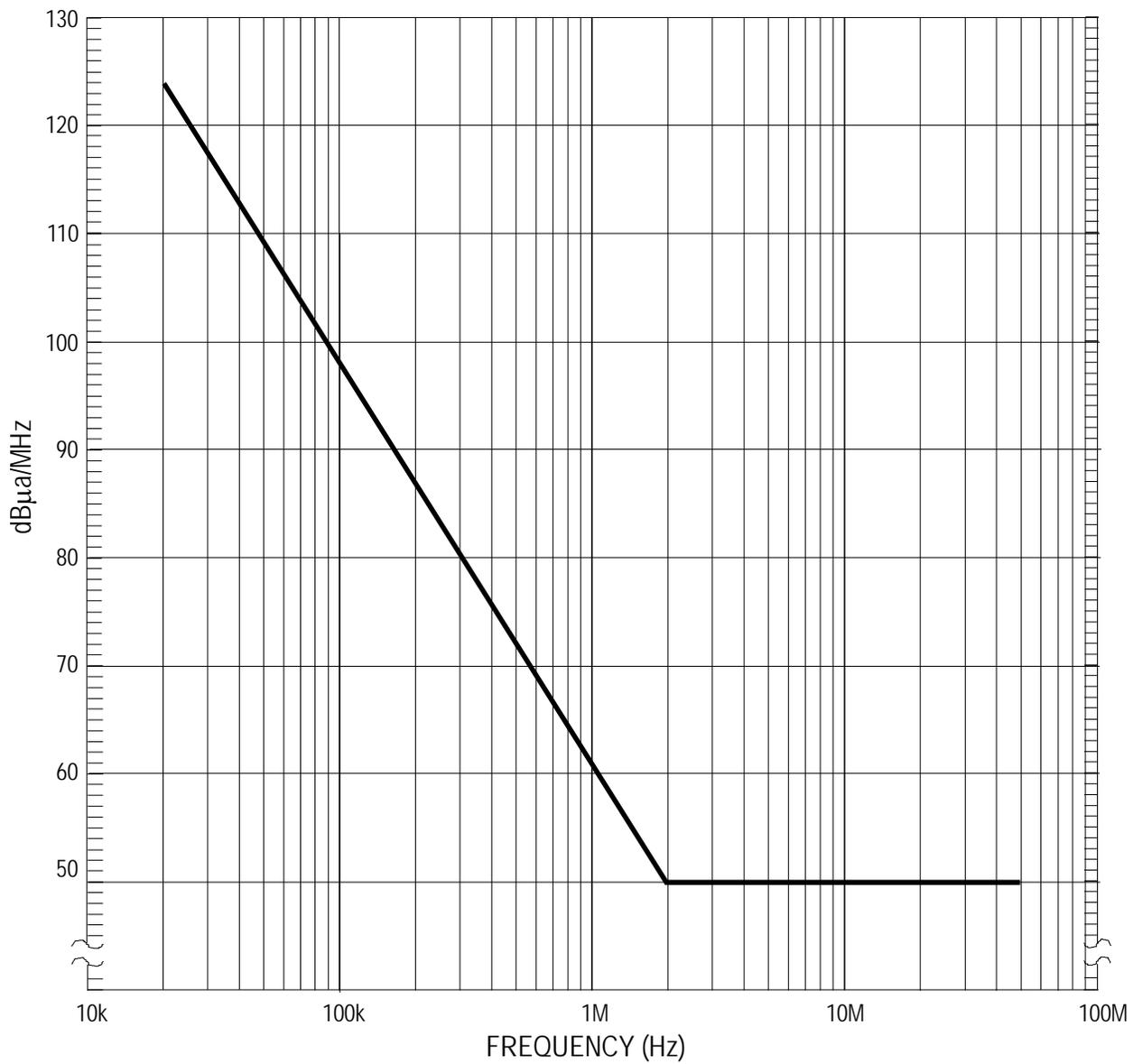


FIGURE 3. Conducted emission limits.

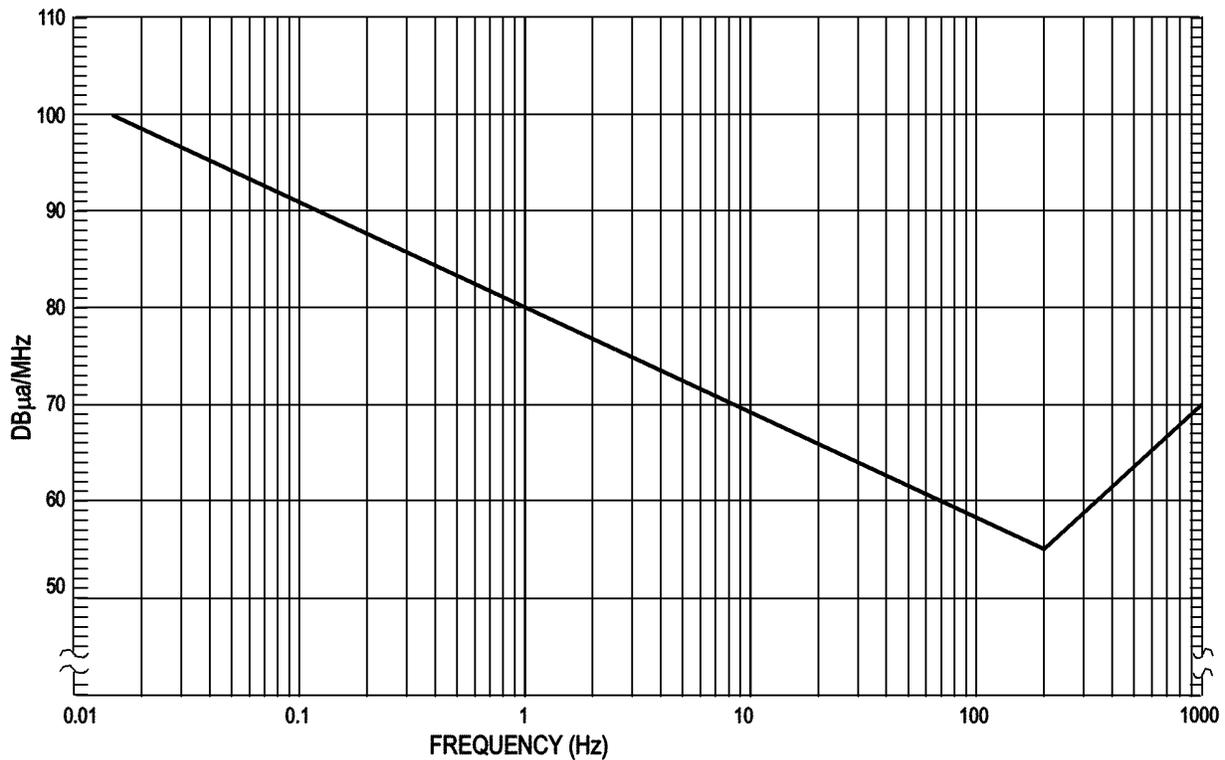
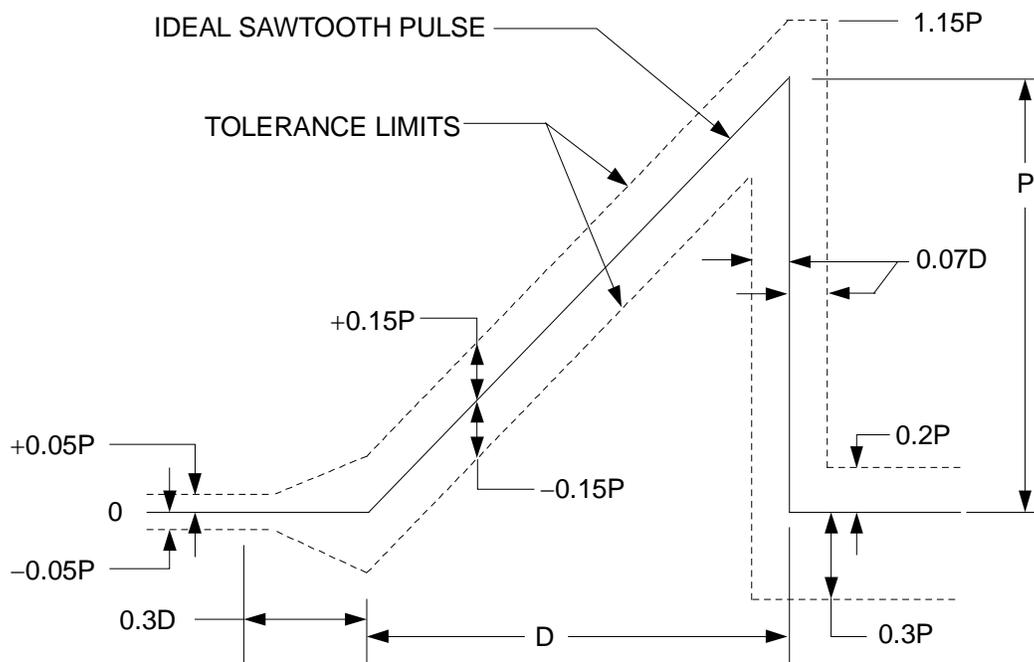


FIGURE 4. Radiated emission limits.



P=PEAK VALUE IN Gs

D=NOMINAL DURATION IN MILLISECONDS (MS)

FIGURE 5. Shock conditions.

MILITARY INTERESTS

Custodians:

Army – AT
Navy-YD
Air Force - 99
DLA - CC

Review activities:

Army-AR
Navy- MC, SA
Air Force - 71

CIVIL AGENCY COORDINATING ACTIVITY:

GSA - FSS

Preparing activity:
DLA - CC

Project 2910-2014-003

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/>.