INCH-POUND

A-A-52476
October 20, 1993
SUPERSEDING
MIL-P-3306E
17 August 1987
MS51084C
17 January 1986

COMMERCIAL ITEM DESCRIPTION

PUMP, ENGINE PRIMING, HAND-DRIVEN, (NONAIRCRAFT) ENGINE

The General Services Administration has authorized the use of this commercial item description (CID) as a replacement for MIL-P-3306E and MS51084C which are canceled.

ABSTRACT

This CID covers a hand-operated, displacement type pump for engine priming and a replacement kit. The pump is capable of delivering 5 to 20 cubic centimeters (cc) of fuel per stroke in 5 cc increments determined by the number of sleeves installed. This pump is intended for installation in, or as auxiliaries to, the fuel systems of vehicles, and other military equipment powered by internal-combustion engines, either during production, or in the field as part of winterization or other kits. Fuel for priming may be tank-installed to hold more volatile fuel. The replacement kit contains the engine priming pump, connecting hardware, and installation instructions.

SALIENT CHARACTERISTICS

a. Materials. Materials shall be as specified herein. Materials not specifically designated shall be suitable for use in priming pumps, when operated over specified ranges, without any change in physical or dimensional properties that would result in operation of the units falling outside of specified limits. The use of recovered materials made in compliance with regulatory requirements is acceptable providing that all requirements of this CID are met (see notes).

Beneficial comments, recommendations, additions, deletions clarifications, etc. and any other data which may improve this document should be sent by letter to: U.S. Army Tank-Automotive Command, ATTN: AMSTA-GDS, Warren, MI 48397-5000.

AMSC N/A FSC 2910

b. Design and construction. Design and construction of the engine priming pump shall be in accordance with figure 1 and as specified herein. The capacity of the engine priming pump, in cubic centimeters, is determined by the number of installed sleeves (see figure 1). When specified (see note b) the replacement kit shall be in accordance with Army drawing 5702557, including instruction sheet.

c. Performance. Unless otherwise specified, tests shall be performed with gasoline conforming to type II of MIL-G-3056 and under room ambient temperature conditions except for low temperature operation.

d. Pumping resistance. The force against the knob or handle to start and to maintain plunger movement in either direction at any point in the normal stroke (not including that required to disengage from the retainer or holding device) shall not exceed 20 pounds while being operated for 55 strokes.

e. Pump delivery (capacity). Pump delivery shall not be less than 95 percent (%) of the nominal capacity required (see figure 1). The pump shall be connected to a test fuel supply and to a reservoir or receiver with suitable intake and discharge lines and fittings. The pump shall be operated at a uniform rate of 20 full strokes per minute for 5 minutes, pumping test fuel against a 20 inch suction head and a 54 inch discharge head. The next 10 strokes shall be counted and delivery volume measured for average delivery per stroke.

f. Leakage. The pump shall evidence no air leakage when subjected to 20 pounds per square inch (psi) air pressure applied to the inlet and outlet ports, respectively, with the opposite port plugged or blocked off, while submerged in water. The plunger shall be drawn back to the end of the suction stroke, and shall then be subjected to a side force of 5 pounds in several directions. Rising air bubbles shall indicate leakage.

g. Low temperature operation. The pump shall meet the pump delivery requirements specified in salient characteristics (SC) 6D when operated at minus 65 degrees Fahrenheit (°F). The pump shall be filled with dry cleaning solvent or combat grade gasoline as specified in 2.3 and shall be conditioned for 48 hours at a temperature of minus 65 + 7°F.

h. Fuel effects. The pump shall operate properly, without impairment of subsequent functioning, after exposure to hydrocarbon test fluids. The pump shall be operated in accordance with SC e. (pump delivery) for one minute using hydrocarbon test fuel consisting of trimethylpentane and toluene mixture. This pumping shall be repeated at 50 minute intervals using 8 cycles (see SC e.). A rest period of 16 hours shall follow, during which time the test fuel shall remain in the pump. The pumping shall then be resumed until an additional 8 cycles have been completed. The plunger cap and packings shall subsequently show no evidence of swelling, shrinking, cracking or discoloration.

i. Endurance. Pump shall conform to SC e (pump delivery [capacity]) after it has been subjected to 20 full strokes per minute for a period of 5 hours per day until 20 hours of operation have been reached. During periods of nonoperation the pump shall remain filled with fuel.

j. Lubrication. The plunger shall be coated with grade 30 engine oil suitable for preservation and break-in.

k. Exterior surface treatment. All exposed surfaces of the pump and its components shall be cleaned, treated, and painted in accordance with drawing 12369000. Unless otherwise specified (see note b), the color of topcoat shall be green 383.

l. Ozone resistance. When specified (see note b), rubber components shall be ozone resistant.

m. Identification and markings. The pump identification and markings shall consist of inlet and outlet port identification (see figure 1), the CID part number, and the manufacturer's identification CAGE code. The replacement kit shall be marked in accordance with Army drawing 5702557. Identification and markings of pumps and replacement kits shall be permanent and legible.

QUALITY ASSURANCE PROVISIONS

a. Responsibility for inspection. The contractor is responsible for the performance of all inspections (examinations and tests).

b. Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of this commercial item description and that the product conforms to the producer's own drawings, specifications, workmanship standards, and quality assurance practices. Items with known defects shall not be submitted for Government acceptance. The Government reserves the right to require proof of such conformance prior to the first delivery and thereafter as may be otherwise provided for under the provisions of the contract.

PRESERVATION, PACKAGING, PACKING, LABELING, AND MARKING

Preservation, packaging, packing, labeling, and marking for the desired level shall be as specified in the contract for the engine priming pump and in accordance with Army drawing 5702557 for the replacement kit.

NOTES

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

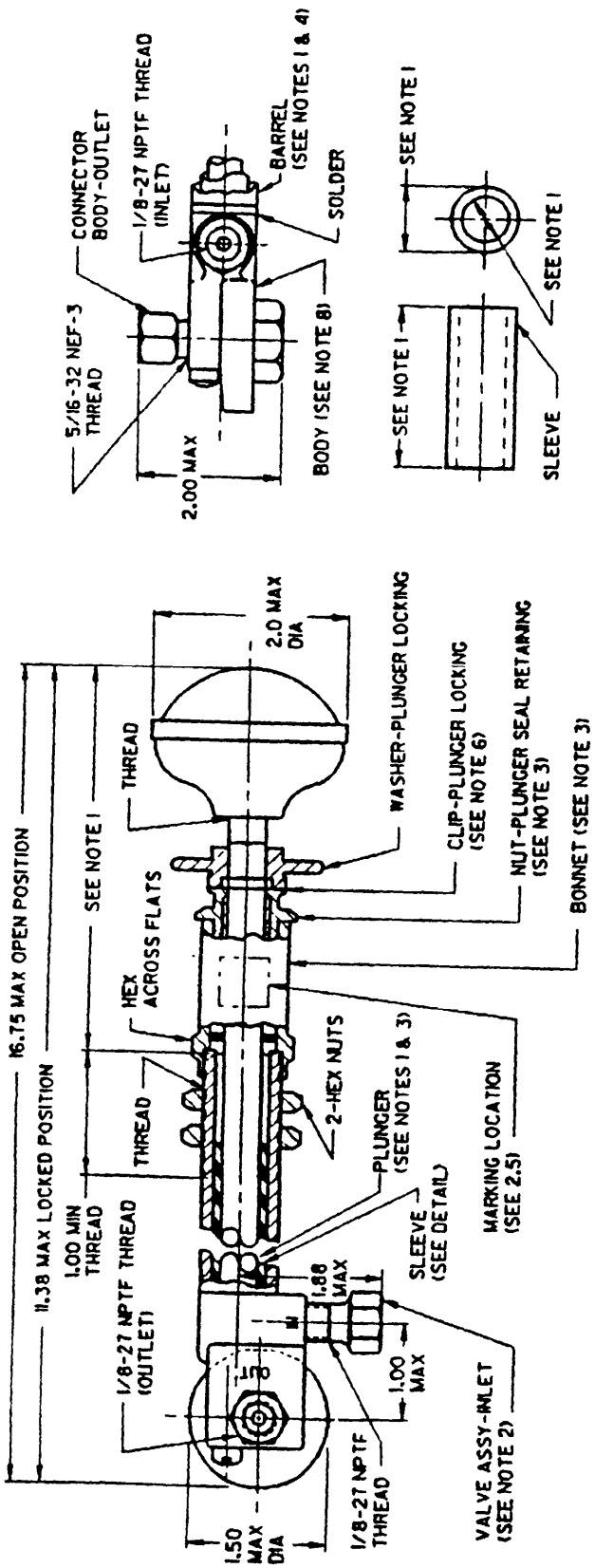
a. Addresses for obtaining copies of referenced documents.

1. Government specification. Copies of MIL-G-3056 "Gasoline, Automotive, Combat" are available from the Navy Publications and Printing Service Office, Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.

2. Government drawings. Army drawing 5702557 "Special Packaging Instruction" and Army drawing 12369000 "Chemical Agent Resistant Coatings (CARC) Paint Systems Index" are available from U.S. Army Tank-Automotive Command, ATTN: Contracting Officer, Warren, MI 48397-5000.

b. Ordering data. Acquisition documents must specify the following:

1. Title, number, and date of this CID.
2. Issue of DODISS to be cited in the solicitation, and, if required, the specific issue of individual documents referenced.
3. Specify capacity of engine priming pump and PIN number.
4. Whether replacement kit is required.



NOTES:

1. This CID is not intended to limit the design or configuration other than to features and dimensions specified herein.
2. Valve assembly contains check valve for proper operation of pump. Do not remove or substitute fittings.
3. Bonnet, plunger seal retaining nut, plunger locking washer, connector body outlet and valve assembly inlet shall be leaded brass, 1/2 hard conforming to Unified Numbering System (UNS) C35600.
4. Barrel material: Brass, round, seamless tubing, cond-hard-drawn, UNS C33200.
5. Sleeves material: Plastic, tubes, rolled paper-base, phenolic-resin.
6. Clip, plunger locking material: Carbon steel, UNS G10600 to G10750, zinc plated.
7. Body shall be bronze casting conforming to UNS C93200 or C93500.
8. Dimensions are in inches. Tolerances are as shown.
9. Engine priming pump, PIN A52476-3, is modified to obtain 10 cc, 15 cc, or 20 cc by removing sleeves from shaft to increase the length of the stroke.

FIGURE 1. Pump assembly, manual, engine priming

5. Whether rubber components are to be ozone resistant, and to what degree.
6. Color of paint if other than as specified.
7. Selection of applicable level of packaging requirements.

c. Part or identification number (PIN). The PINs to be used for engine priming pumps acquired to this CID are created as follows:

A 52476 - X

- X: Pump capacity:
  - 1 - 20 cc
  - 2 - 10 cc
  - 3 - 5 cc
  - 4 - 15 cc
  - 5 - parts kit
- 52476: CID number.
- A: CID designator.

d. Cross-reference data. Pumps conforming to this CID are substitutable with pumps conforming to MIL-P-3306E, dated 17 August 1987, and MS51084C, dated 17 January 1986. PIN number to former part numbers are as follows:

CID PIN no.	Capacity in cc	Number of sleeves	Former MS part number	Former ordnance part number
A52476-1	20	0	MS51084-1	8710979
A52476-2	10	2	MS51084-2	8722841
A52476-3	5	3	MS51084-3	8742193
A52476-4	15	1	MS51084-4	8722842

e. Regulatory requirements. The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent practicable.

MILITARY INTERESTS:

Custodian
Army - AT

Review activities
Navy - MC
DLA - CS

User activity
Army - ME

CIVIL AGENCY COORDINATING ACTIVITY:
GSA-FSS

PREPARING ACTIVITY:
Army - AT

(Project 2910-0208)