

TECHNICAL MANUAL
OPERATOR, UNIT, AND INTERMEDIATE DIRECT SUPPORT
MAINTENANCE MANUAL
[INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST]
TACTICAL PETROLEUM TERMINAL
MODEL WBEI-10002
NSN 3835-01-182-1976

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HEADQUARTERS, DEPARTMENT OF THE ARMY
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CHAPTER 1 - INTRODUCTION

OVERVIEW

The scope and use of this manual are described in Section I. Section II generally describes the operation of a typical Tactical Petroleum Terminal (TPT). Detailed instructions are covered in subsequent chapters. Important safety precautions are summarized in Section III.

SECTION I SCOPE OF MANUAL

1-1 Description of Coverage

This manual covers the installation, operation, and maintenance of a typical single Tactical Petroleum Terminal. Included are comprehensive parts lists cross-referenced to the NSN and military specifications, when applicable. U.S. Army and manufacturers' technical manuals are referenced when appropriate. The combination of information will permit the installation, operating, and support organizations to perform their functions effectively. It is emphasized that the instructions and data are for a typical terminal rather than a specific terminal for a certain site. Recommended criteria on site selection and layout is included. Modification may be necessary for specific sites as determined by qualified authorities responsible for the actual site selection, installation, and operation. Information to assist in modification decisions is included. The relationship to an associated pipeline system servicing the terminal is covered in general terms. Technical data regarding associated pipeline systems are covered in other technical manuals for those specific systems.

1.2 How to Use the Manual

1-2.1 General. It is recommended that users of the manual first review its entire content. Areas of specific interest can then be studied in detail. The Table of Contents, List of Figures, and List of Tables at the front of the manual clearly describe its structure and content. Most subject descriptions are covered in logical order in the Table of Contents. If a specific subject cannot be located in the Table of Contents, refer to the Alphabetical Index at the back of the manual. It is noted that most drawings and illustrations are included in Chapter 2 and that it is often necessary to refer back to these when concerned with installation, operation and maintenance. Required technical information is either in the manual or reference is made to other identified technical manuals or data published by the Government or the original manufacturer of the equipment. When references are made, it is most important that the reference noted be studied thoroughly.

1-2.2 Equipment Names. There are a number of different names for equipment used in various Government documents and by various Government groups. The names in this manual may not match up exactly to the name normally used by the reader. Table I-1 cross references the name used in this manual to the various Government names observed or heard.

1-2.3 Terminology. If certain abbreviations and terminology used in this manual are not fully understood, refer to the Glossary and List of Abbreviations at the back of the manual.

TABLE 1-1

EQUIPMENT NAME
CROSS REFERENCE

EQUIPMENT NAME IN THIS MANUAL	EQUIVALENT GOVERNMENT EQUIPMENT NAMES
<p>5000 Bbl Fabric Collapsible Tank</p> <p>50,000 Gal. Fabric Collapsible Tank</p> <p>600 Gpm Hoseline Pump (Wheel-Mounted)</p> <p>350 Gpm Transfer Pump (Wheel-Mounted)</p>	<p>5000 Bbl BFTA</p> <p>Tank, Fabric, Collapsible, 5000 Bbl Bulk Fuel</p> <p>Tank, Fabric, Collapsible, 5000 Barrel Petroleum</p> <p>Tank, Fabric, Collapsible, POL 210,000 Gallon</p> <p>Tank, Fabric, Collapsible, POL, 50,000 Gallon</p> <p>Tank, Fabric Collapsible, 50,000 Gallon Petroleum</p> <p>Pumping Assembly, Diesel Engine Driven, Self-Priming, Centrifugal, 600 gpm at 150 psi</p> <p>Pumping Assembly, Hoseline, Diesel-Engine Driven Centrifugal, 600 gpm at 150 psi.</p> <p>6-inch Hoseline Pump, Bulk Liquid Distribution System</p> <p>Pump Assembly, 350 gpm, 275 ft. head POL, (81349) MIL. P-52144</p> <p>Pumping Assembly, Diesel Engine Driven, Wheel Mounted, 350 gpm, 275 ft. head, Model 13220E 1070 (97403) (Fuel Use Only) NSN 4320-01-141-3551</p>

TABLE 1-1

EQUIPMENT NAME
CROSS REFERENCE
 (continued)

EQUIPMENT NAME IN THIS MANUAL	EQUIVALENT GOVERNMENT EQUIPMENT NAMES
1250 Gpm Flood and Transfer Pump (Skid-Mounted) Filter Separator Fuel Dispensing Assembly Optional Tank Configuration	Pumping Assembly, Diesel Engine Driven, Self-Priming Centrifugal, 1250 gpm at 180 feet total head Flood and Transfer Pump, Petro- leum Distribution System Pumping Assembly, Flood and Transfer Diesel Engine Driven, Centrifugal, 1250 gpm at 180 feet total head Filter-Separator, Liquid Fuel, Frame Mounted, 350 gpm capacity Fuel Dispensing Kit 50,000 Gal. Tank TPT Option

SECTION II - GENERAL INFORMATION

1-3 Purpose and Theory of Operation

A Tactical Petroleum Terminal is a facility designed and packaged in such a way that it can be rapidly erected at most any location for the receipt, storage, and dispensing of liquid fuels, specifically diesel, motor gasoline, and aviation jet fuel. Fuels can be received from a pipeline or from tanker trucks. The TPT can dispense fuels directly to user vehicles or to fuel transport vehicles, or return fuel to the pipeline for downstream distribution. The facility can be disassembled and moved to another location or returned to an equipment storage facility.

1-4 Primary Components of a TPT

The primary components of a single typical TPT, arranged in the order of the project's Components List, are:

- 1-4.1 One (1) Switching Manifold consisting of aluminum pipe, valves, and fittings.
- 1-4.2 Three (3) Tanker-Truck Receipt Manifolds consisting of hose, valves, and fittings.
- 1-4.3 Three (3) Fuel Dispensing Assemblies consisting of:
 - a. Six (6) Filter Separators (two (2) each assembly)
 - b. Hose, valves, and fittings (one (1) lot each assembly)
- 1-4.4 Three (3) Transfer Hoseline Assemblies consisting of hose, valves, and fittings (one (1) lot each)
- 1-4.5 Three (3) Tank Farm Primary Modules consisting of:
 - a. Six (6) 5000 bbl fabric collapsible tanks (two (2) each module)
 - b. Six (6) 600 gpm hoseline pumps (two (2) each module)
 - c. Hose, valves, fittings (one(1) lot each module)
- 1-4.6 Six (6) Tank Farm Secondary Modules consisting of:
 - a. Twelve (12) 5000 bbl fabric collapsible tanks (two (2) each module)
 - b. Six (6) 600 gal hoseline pumps (one (1) each module)
 - c. Hose, valves, and fittings (one (1) lot each module)
- 1-4.7 One (1) Sampling Assembly
- 1-4.8 One (1) Contaminated Fuel Module consisting of:
 - a. Two (2) 50,000 gal. fabric collapsible tanks
 - b. One(1) 350 gpm transfer pump
 - c. Hose, valves and fittings

1-4 Primary Components of a TPT - Cont'd.

- 1-4.9 Nineteen (19) Fire Suppression Sets including equipment and clothing
- 1-4.10 Twenty (20) Roadway Crossing Guards
- 1-4.11 One(1)Testing Kit
- 1-4.12 Six (6) Flood Light Sets
- 1-4.13 One (1) Optional Tank Configuration consisting of:
 - a. Six (6) 50,000 gal. fabric collapsible tanks
 - b. Hose, valves and fittings
- 1-4.14 Three (3) 600 Gpm Hoseline Pumps (for tanker-truck receipt manifold or utility use)
- 1-4.15 Seven (7) Meter Strainer Assemblies (for use in intake system and at fuel dispensing)
- 1-4.16 Miscellaneous Government supplied ancillary, and utility items not detailed herein and not supplied as part of NSN 3835-01-182-1976 but necessary for effective operations.
- 1-4.17 Communications facilities are specified and supplied by the Government and are outside the scope of supply under NSN 3835-01-182-1976. Communications procedures and communication facility operation are as specified by the Government and are not covered in this manual.

1-5 General Configuration and Arrangement

The primary components listed in paragraphs 1-4 through 1-4.16 are arranged and installed in such a way as to make up a functional TPT. Fig. 1-1 at the end of this chapter schematically represents a single TPT. The details of design, specification and structure are covered in Chapter 2. The reader may refer forward to the Piping and Instrument Diagram (P&ID), contained in Chapter 2, Fig. 2-1, for a better understanding; however, it will be described and referred to in detail in Chapter 2 and subsequent chapters. The following is a general overview of the TPT;

1-5.1 A standard configuration TPT is composed of eighteen (18) 5000 Bbl fabric collapsible tanks, twelve (12) 600 gpm hoseline pumps, seven (7) meter-strainers, three (3) fuel dispensing sets including six (6) filter- separators, the associated piping, hose, valves, and fittings and support equipment, and ancillary equipment. Optional configurations are outlined under para.'s 1-5.9 and 1-5.10.

1-5.2 Each standard configuration TPT may be arranged into three (3) separate Fuel Units, one for diesel, one for motor gasoline, and one for jet fuel. If desired for certain or some other combinations of service conditions, two or all three Fuel Units may be designated for the same fuels. Each Fuel Unit consists of six (6) 5000 bbl fabric collapsible tanks arranged in three (3) modules; two (2) secondary modules, and one (1) primary module; a fuel dispensing set, and a transfer hoseline set connecting the switching manifold.

1-5.3 A Tank Farm, Secondary Module, consists of two (2) 5000 bbl fabric collapsible tanks, one (1) 600 gpm hoseline pump, and the associated hose, valves, and fittings.