DEFINITIVE GUIDE TO BEAR BASE ASSETS AND FUELS SUPPORT EQUIPMENT

For questions regarding Operational Planning and Support, contact the 635 MMG Operations Center (email 49.MMG.Operations.Center@us.af.mil) or DSN 572-BEAR(2327)/5015, Commercial: 575-572-BEAR(2327)/5015

635th Materiel Maintenance Group

Holloman Air Force Base

New Mexico

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For detailed information or questions about this guide and the equipment found in this pamphlet, contact the 635 MMG System Support Flight DSN: 572-6735; Commercial: 575-572-6735.

You can obtain a digital copy of the BEAR Definitive Guide at the site below

https://usaf.dps.mil/teams/11846/SitePages/Home.aspx

Disclosure: This guide is designed to be used as a reference only. Please see associated Technical Orders for equipment specific information pertaining to set up, operation, maintenance and safety.

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Section 1 Facilities

STRUCTURES

Small Shelter System (SSS)

Figure 1: SSS

Manufacturer:	**Alaska Structures**
Storage & Shipment Configuration:	**Store/Ship four shelters per ISU-90 (air) or various quantities in Tricon & Bicon ISO containers (surface)**
Dimensions:	**32.5 ft. x 20 ft. x 10 ft., (650 sq. ft.)**
Weight:	**1,450 pounds w/container**
Cost:	**$17,350 (Green)** **$17,350 (Tan)**
National Stock Number:	**8340-01-512-0071 AK-SS-V2 (Green)** **8340-01-512-0077 AK-SS-V2 (Tan)**
Technical Order Number:	**35E5-6-11**
Associated Equipment:	**10/13K adverse-terrain forklift, FDECU**

SSS Description

Purpose and Use: The Alaska Small Shelter System is designed to provide protection for personnel, equipment and supplies in all types of climate and terrain, including extreme cold and heat. The system can be used in any environment of bare base missions with only normal organic support provided. Shelters will primarily be used for billeting, but do have the capability for numerous other missions, including: command post, administration, messing, maintenance shops and medical facilities.

Electrical Data: 120/208 VAC, 60 Hz, single-phase power, 3 phase required for ECU.

Site Preparation & Setup: The selected site terrain should be level, firm, well-drained and relatively free of surface rock and debris. A minimum of three feet should be allowed between shelters for guy ropes. A minimum of 6 personnel is required to safely assemble the structure. Assembly time is approximately 9 man hours. Multiple buildings can be interconnected.

Preventive Maintenance: Check for rips and tears in fabric and repair, as required, with like patch material and fabric welder. Inspect guy ropes for cuts and fraying. Check, repair and tighten ropes as necessary.

Environmental Limitations: Temp: -25° to +125°. For wind conditions over 40 MPH, utilize shelter guy ropes.

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_14, XF_19, XF_21, XF_3C, XF_BL, XF_C6, XF_CB, XF_CC, XF_CF, XF_EC, XF_GC, XF_LC, XF_LS, XF_MU, XF_SC, XF_VC, XF_WC, XF_XN

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Medium Shelter System (MSS)

Figure 2: MSS

Manufacturers:	**California Industrial Facilities Resources Inc. & Alaska Structures**
Storage & Shipment Configuration:	**Store/Ship one shelter per ISU-90 container (air) or up to two shelters per Bicon ISO container (surface)**
Dimensions:	**52 ft. x 29.5 ft. x 15 ft. (1,534 sq. ft.)**
Weight:	**3,940 lbs.**
Cost:	**$81,815**
National Stock Number:	**5419-01-465-3019 (CAMSS)** **5419-01-670-6992 (AKMSS)**
Technical Order Number:	**CAMSS 35E5-6-21/ALASKA 35E4-245-1**
Associated Equipment:	**10/13K adverse-terrain forklift; hammer drill & bits**

Medium Shelter Description

Purpose and Use: All-purpose mid-sized shelter used as maintenance area, warehouse, storage, communications, messing, etc.

Electrical Data: 120/208 VAC, 60 Hz, 3-phase, 5 wire input.

Site Preparation & Setup: The overall area necessary to erect the shelter is approximately 35 ft. x 60 ft. The location should be vehicle-accessible. The selected site terrain should be level as possible, firm, well-drained and relatively free of surface rock and debris. When erecting on concrete, drill ½ inch x 4 inch holes for concrete anchors. A minimum of 6 personnel is required to safely assemble the structure. Assembly time is approximately 24 man hours. Multiple buildings can be interconnected.

Preventive Maintenance: Check that electrical cables are properly connected. Ensure circuit breaker is in correct location. Ensure guy ropes and earth anchors are tight. Check all circuit breakers on distribution panel for security of attachment and proper mechanical operation. Check for rips and tears in fabric and repair, as required, with like patch material and fabric welder. Inspect guy ropes for cuts and fraying. Check, repair and tighten ropes as necessary.

Environmental Limitations: Temp: -25° to +125°. For wind conditions over 40 MPH, utilize shelter guy ropes.

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_14, XF_3C, XF_C6, XF_CL, XF_MU, XF_PS, XF_TF

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Dome Shelter

Figure 3: Dome

Manufacturer:	**Universal Fabric Structures**
Storage & Shipment Configuration:	**4K Dome: Store/Ship in three ISU-90 containers (air) or two ISO Bicon containers(surface)** **8K Dome: Store/Ship in four ISU-90 containers (air) or two ISO Bicon containers and one Tricon ISO container (surface)**
Dimensions:	**4K Dome: 89.3 ft. x 70 ft. x 25.6 ft., (6,251 sq. ft.)** **8K Dome: 120.7 ft. x 70 ft. x 25.6 ft., (8,449 sq. ft.)**
Weight:	**4K Dome: part #9434477-30, 27,060 lbs.** **8K Dome: part #9434477-20, 33,742 lbs.**
Cost:	**4K Dome: part #9434477-30, $118,167** **8K Dome: part #9434477-20, $219,000**
National Stock Number:	**4K: part #9434477-30, NSN 5410-01-455-2004** **8K: part #9434477-20, NSN 5410-01-494-5130**
Technical Order Number:	**35E4-216-1**
Associated Equipment:	**13K adverse-terrain forklift**

Dome Shelter Description

Purpose and Use: All-purpose large shelter used as a maintenance area or warehouse. The Dome exists in four configurations: a -10, -20, -30 and -50 but there is also a -40 extension kit. The -10 is considered the standard however BEAR utilizes the -20 and -30 for UTC configurations.

- -10 Shelter Warehouse is a 4K with 4 bays and 2 big mouth doors.
- -20 Shelter Warehouse is an 8K with 8 bays and two gable (flat) endwalls.
- -30 Shelter Warehouse is a 4K with 4 bays, one gable (flat) endwall and one big mouth door.
- -40 Shelter Aircraft Hangar is an extension kit, not a shelter on its own. It has one arch bay and electrical systems, used to convert a -10 to a -50.
- -50 Shelter Aircraft Hangar is a 5K with five bays, two big mouth doors and a sealed, explosion-proof electrical system.

Electrical Data: 120/208 VAC, 60 Hz, 3-phase, 5 wire input.

Site Preparation & Setup: For all shelter configurations, select an area that is minimum 140 ft. long by 90 ft. wide with a maximum grade slope of 1 percent, well-drained and relatively free of surface rock and debris.

When installing on concrete, secure with concrete anchors. Multiple buildings can be interconnected. A minimum of 10 personnel is required to safely assemble the structure. Assembly time is determined by skill level, experience and number of personnel. Contact 635 MMG for more information.

Preventive Maintenance: Check fabric for wear; repair damaged fabric with like patch material using fabric welder, if feasible. Ensure shear stakes are solid. Ensure perimeter seals are tight. Ensure side-wall tensioning belts are tight. Lubricate threads of adjusting brackets on personnel doors. Lubricate power winch and check brake. Test ventilators for functionality. Check x-bracing for tightness. Ensure weather seal turn-buckles are tight.

Environmental Limitations: Temp: -25° to +125°. Wind Load: 60 knots sustained; gusts to 90 knots.

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_AB, XF_AD

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Large Area Maintenance Shelter (LAMS)

Figure 4: LAMS

Manufacturer:	**Clamshell Buildings**
Storage & Shipment Configuration:	**20ft ISO on a T-3 pallet train and the Bicon on a T-2 pallet train (air) or one 20ft ISO container and one Bicon ISO container (surface)**
Dimensions:	**129 ft. x 75 ft. x 31 ft., (9,675 sq. ft.)**
Weight:	**Surface: 35,670 lbs. Air: 33,965 lbs.**
Cost:	**$205,432.84**
National Stock Number:	**5410-01-533-7395**
Technical Order Number:	**35E4-219-1**
Associated Equipment:	**10/13K Adverse Terrain F/L. A boom truck or scissor lift will greatly facilitate setup**

LAMS Description

Purpose and Use: Large shelter provides semi-portable housing for small aircraft and vehicle maintenance.

Electrical Data: Input: 120/208VAC, 3-phase 60 Hz. Lighting: 110-120VAC, single-phase, 350 Watts x 8 each. Utility Outlets: 110-120VAC, single-phase, 20-Amp x 8 each. Door Operating Winches: 230VAC, single-phase, 60 Hz, 1.5 HP x 2 each.

NOTE: Shelter is equipped with Class 1, Div. 1, Group C Electrical System (explosion-proof lights, outlets, wiring, and switches)

Site Preparation/Setup time: The area required to erect the shelter is approximately 100 ft. x 135 ft. x 8 to 10 inch thick reinforced concrete pad, earth or asphalt surface. Max allowable slope of 1%-2% (1% of slope is 1.5" of change over 12.5 ft.). A minimum of 10 personnel is required to safely assemble the structure. Assembly time is determined by skill level, experience and number of personnel. Contact 635 MMG for more information.

Preventive Maintenance: Check the condition of all cables, connectors, purlins, fabric, and electrical system. Lubricate winch and associated cables. Ensure anchor cables on baseplates are tight. Inspect baseplates and stakes for corrosion. See Chapter 13 of 35E4-219-1 for complete and specific maintenance instructions.

Environmental Limitations:

Temperature:

Setup: 25°F to 120°F;

Operate: -20°F to 120°F.

Wind Setup: 25 mph; Operate CS End-Door: 20 mph; Enclosed Shelter: 90 mph w/High Wind Kits and tie-downs in place.

Clamshell End-Door Operational Limits:

- 0-20 mph no operational limits
- 21-30 mph, keep closed and tied down. Open only at direction of supervisor
- 30+ mph, A/C or emergency equipment ingress/egress only if required, at direction of supervisor

Rain: 2 inches per hour (@45 mph wind).

Freezing rain/hail: 2 inches per hour, pellets to 1 inch dia.

Snow load: 8 lbs. /sq. ft. (w/o snow kit)

Earthquake: Suitable for Zone 4 earthquakes.

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_CJ

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Section 2 Mechanical Systems

HVAC






Utilities









Tricon Refrigerated Container System (TRCS)

Figure 5: TRCS

Manufacturer:	**Charleston Marine Containers, Inc. (CMCI)**
Storage & Shipment Configuration:	**Ship as is (surface)**
Dimensions:	**96” x 78” x 96”**
Weight:	**4,630 lbs.**
Cost:	**$20,880**
National Stock Number:	**8145-01-598-4829**
Technical Order Number:	**40R-6-11**
Associated Equipment:	**10K or 13K Adverse-terrain forklift**

TRCS Description

Purpose and Use: This unit functions as storage and transport for perishables. It provides precise temperature control for refrigerated or frozen rations in hot and arid climates. The system is capable of maintaining either proper freezer or refrigerator temperature ranges throughout the container. Storage Capacity: 270 internal usable cubic feet; Compressor Type: Semi-hermetic; Mounting Surface Plane: parallel; Lift Type: four-way forklift pockets; Air Delivery: Helicopter lift and internal air transport (FULLY CERTIFIED). Coolant Type: R404A Refrigerant (Environmentally Safe).

Electrical Data: AC Voltage: Operates on 187 VAC to 229 VAC. Frequency Rating: 50/60 Hertz, 3-phase.

Site Preparation & Setup: The site should be as level as possible to ensure proper operation and drainage.

Preventive Maintenance: Check for structural damage and proper operation of condenser unit. Refer to the T.O.

Environmental Limitations: Refer to 40R-6-11 Work Package 0006 Operation under unusual conditions

Special Warning: Condenser unit needs free access to outside air to operate properly. Dust and debris will shorten life and cause operational problems with condenser.
**Danger: Phosgene is only caused with refrigerants that contain chlorine, but if you expose R-404a to heat or open flame it will cause harmful vapors and or explosion/combustion.

Fuel: N/A

Associated UTCs: XF_CH, XF_SC, XF_KC, and XF_CC.

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Advanced Design Refrigerator (ADR) 300

Figure 6: ADR-300

Manufacturer:	**AAR Manufacturing Inc.**
Storage & Shipment Configuration:	**Unit is self-contained, 463L compatible (air) Ship as is (surface)**
Dimensions:	**108” x 88” x 96”**
Weight:	**3,285 lbs.**
Cost:	**$32,000**
National Stock Number:	**4110-01-465-4564 (Tan)**
Technical Order Number:	**40R7-6-1**
Associated Equipment:	**10K or 13K Adverse-terrain forklift**

ADR-300 Description

Purpose and Use: The purpose of the ADR-300 is to provide refrigerated storage for a wide range of commodities including food, medical supplies and cadavers that may require low temperature storage. The system also provides thermal protection for stored items during transport including air shipment. It provides 281 cubic feet of storage space and can maintain interior temperatures as low as 0°F (-18°C) at 110°F ambient temperature. The extremely efficient thermal design maintains safe food temperature during flight and/or during loss of power. Compressor Type: Semi-hermetic; Mounting Surface Plane: parallel; Built-in pallet: 463L pallet for aircraft (roll on and roll off); Lift Type: four-way forklift pockets and lifting rings; Air Delivery: Helicopter lift and internal air transport (FULLY CERTIFIED). Coolant Type: R404A Refrigerant (Environmentally Safe).

Electrical Data: 208/230 VAC 50/60 Hertz, 3-phase

Site Preparation & Setup: The site should be as level as possible to ensure proper operation and drainage.

Preventive Maintenance: Check for structural damage and proper operation of condenser unit. Refer to the T.O.

Environmental Limitations: N/A

Special Warning: Condenser unit needs free access to outside air to operate properly. Dust and debris will shorten life and cause operational problems with condenser.
**Danger: Phosgene is only caused with refrigerants that contain chlorine, but if you expose R-404a to heat or open flame it will cause harmful vapors and or explosion/combustion.

Fuel: N/A

Associated UTCs: XF_CH, XF_SC, XF_KC, XF_CC, and XF_XN.

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Field Deployable Environmental Control Unit (FDECU)

Figure 7: FDECU

Manufacturer:	**KECO Industries & Nordic Air**
Storage & Shipment Configuration:	**12 per 463L pallet, four stacks - three high (air) four each in three Tricon ISO container (surface)**
Dimensions:	**42” x 52” x 32.5”**
Weight:	**(-2 and -3 Models) 800 lbs. (-4, -5, and -9 Models) 700 lbs.**
Cost:	**$10,825.84**
National Stock Number:	**4120-01-449-0459**
Technical Order Number:	**35E9-314-1**
Associated Equipment:	**4K forklift or larger**

FDECU Description

Purpose and Use: The FDECU is intended to provide cooled and dehumidified air, or heated air, through flexible ducts, into various types of portable shelters in accordance with electronic and personnel requirements. It utilizes an ozone-friendly refrigerant, R-134a. The FDECU-2 uses two compressor crankcase heaters that are wrapped around the compressor and a compressor warm up indicator light on each of the control panels to indicate heater operation. Units after the FDECU-2 do not have compressor crankcase heaters or compressor warm up indicator lights. Most of the FDECU-2 units have undergone field modifications to disable the crankcase heater. The FDECU-4 and thereafter are lighter weight due to manufacturing process changes and the use of a lighter compressor. The FDECU-5 incorporates a redesigned compressor with a deeper oil sump that improves the reliability of the compressor. The FDECU-9 incorporates a redesigned evaporator compartment assembly, a redesigned lid assembly and a new compressor.

Electrical Data: 208 VAC, 50/60 Hz, 3-phase power.

Site Preparation & Setup: Allow Forklift access to unit. Position FDECU on a level surface, at least 4 feet from any obstructions. Ensure that ducts can be attached between the FDECU and shelter without kinks or sharp bends.

Preventive Maintenance: Check for structural damage, filter condition, corrosion, oil and refrigerant leaks, and proper operation of unit. Ensure fresh air is able to circulate to and from unit. Ensure fans are not blocked or covered.

Environmental Limitations: Non-Operational (Storage): Temp Range: -60°F to 160°F.

Operational: Temperature Range Cooling: 50°F to 125°F. Temperature Range Heating: -25°F to 75°F. Altitude Range (feet): 6,000.

Special Warning: Wear protective gear when charging or recovering refrigerant. **Danger: If R134a is exposed to heat or open flames, harmful vapors and/or combustion could occur.

Fuel: N/A

Associated UTCs: XF_AC, various shelter UTCs.

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M-80 Boiler

Figure 8: M-80

Manufacturer:	**Hunter Manufacturing Co. Inc.**
Storage & Shipment Configuration:	**Store/Ship in ISU-90 containers (air) or in various ISO containers (surface)**
Dimensions	**52” x 27” x 47”**
Weight:	**465 lbs.**
Cost:	**$11,820.68**
National Stock Number:	**4520-01-162-0385**
Technical Order Number:	**35E7-4-27-1; 40P1-6-2-1; TM 10-4520-259-13&P**
Associated Equipment:	**4K Forklift and larger**

M-80 Boiler Description

Purpose and Use: Supplies hot water to deployable kitchens and shower/shave units. Portable, skid mounted with forklift pockets. It has a 23.7 gallon capacity.

Electrical Data: 208VAC, 50/60 Hz, 3-phase.

Site Preparation & Setup: Site should be firm and level ground. The method of water supply should be considered when positioning the heater. Freshwater supply hoses should not be subjected to vehicle traffic. Vehicle access for frequent refueling of diesel fuel may be required. Also consider the need for a 208 VAC power source to operate the water heater.

Preventive Maintenance: Check for structural damage and proper operation of unit. Refer to T.O. for maintenance guidance.

Environmental Limitations: Can operate between -25° to +125°.degrees F. If operated in temperatures below 32°F, must ensure that the water heater and water hose assemblies do not freeze.

Special Warning: Ensure exhaust fumes are properly vented, do not operate indoors. Ensure carbon dioxide fire extinguishers are available. Do not operate above 190°F.

Fuel: Multi-fuel; Diesel 1&2, JP-4, JP-5, JP-8

Associated UTCs: XF_LC, XF_LD, XF_KC

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Water Heater (WH 400) 400K BTU

Figure: 9: WH 400

Manufacturer:	**PVI Industries LLC.**
Storage & Shipment Configuration	**Store/Ship in ISU-90 container (air) or in various ISO containers (surface)**
Dimensions	**55” x 32” x 46”**
Weight:	**500 lbs.**
Cost:	**$25,520**
National Stock Number:	**4520-01-566-6669**
Technical Order Number:	**TM 10-4520-266-13&P**
Associated Equipment:	**4K Forklift and larger**

400-BTU Water Heater Description

Purpose and Use: The WH-400 provides a high outlet flow of hot water for numerous applications. It consists of a burner assembly, water tank, frame assembly, exhaust stack, and control box. It is fuel-fired, skid mounted and suitable for military transport. This unit can be used in the BEAR environment where ever hot water is needed (i.e. showers, kitchen, etc.). The operating control maintains temperature between 100°F and 210°F.

Electrical Data: Requires 208VAC, 50/60 Hz, 3-phase power supply, 10 Amp draw.

Site Preparation & Setup: Site should be level and free of debris. Locate the unit as close as possible to the greatest hot water usage and as near to electrical power as practical. Locate the unit at least 3 feet from any wall, vertical surface or inside corner of an L-shaped structure. Vehicle access for frequent refueling of diesel fuel may be required. Follow technical manual instructions to avoid safety violations.

NOTE: The WH-400 weighs approximately 500 pounds. Lift and move the heater only with material handling equipment.

Preventive Maintenance: Check for structural damage and proper operation of unit. Refer to T.O. for maintenance guidance.

Environmental Limitations: Can operate between -25° to +125°F. If operated in temperatures below 32°F, drain the water to ensure the heater and hose assemblies do not freeze.

Special Warning: Ensure exhaust fumes are properly vented, do not operate indoors. Ensure carbon dioxide fire extinguishers are available. Do not operate above 190°F.

Fuel: JP-8; DF-A, JP-5; DF-1; DF-2

Associated UTCs: XF_LC, XF_LD, XF_KC

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BEAR Cold Weather Heater 130K BTU

Figure 10: Cold Weather Heater

Manufacturer:	**POLARTHERM**
Storage & Shipment Configuration:	**12 per 463L pallet (air)** **12 per Bicon ISO container (surface)**
Dimensions:	**47” x 34” x 29”**
Weight:	**275 lbs.**
Cost:	**$3,200**
National Stock Number:	**4520-01-521-2076**
Technical Order Number:	**35E7-3-4-1**
Associated Equipment:	**4K Forklift or larger**

130 K-Heater Description

Purpose and Use: Provides heated air for personnel sleeping and working quarters. Heater can also provide forced fresh air ventilation without heat. Heating range:

- High: 120-180°F
- Medium: 100-160°F
- Low: 80-140°F

Electrical Data: 120VAC, 50/60 Hz, 8.0 Amps

Site Preparation & Setup: Site should be relatively level and unit should be set away from tent fabric and other heat-sensitive materials.

Preventive Maintenance: Inspect for obstructions or sediment, clean soot from components as needed. Refer to 35E7-3-4-1 Table 5-1 for preventive maintenance.

Environmental Limitations: N/A

Special Warning: Carbon monoxide poisoning hazard. Ensure proper ventilation and exhaust. Ensure a fire extinguisher is readily available.

Fuel: Multi-Fuel; JP-8, JP-8+100, DL-1, DL-2, JP-4, JP-5, Jet A, Jet A-1

Associated UTCs: XF_CW, various shelter UTCs.

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Reverse Osmosis Water Purification Unit (ROWPU) 1500 GPH

Figure 11: ROWPU 1500

Manufacturer:	**Highland Engineering Inc.**
Storage & Shipment Configuration:	**Unit is skid mounted, ships on one 463L pallet (air) or in one Bicon ISO container (surface)**
Dimensions:	**104” x 88” x 84”**
Weight:	**8,000 lbs.**
Cost:	**$284,534**
National Stock Number:	**4610-01-565-5686**
Technical Order Number:	**TO 40W4-20-1**
Associated Equipment:	**10K all-terrain forklift or larger, three 3K water bladders required (brine, potable and waste)**

ROWPU 1500 Description

Purpose and Use: The ROWPU produces potable water by pumping sea water, brackish or fresh water through semi-permeable filters to remove dissolved solids. Unit can produce 1500 gallons per hour minimum, or greater depending upon quality of water source.

Electrical Data: 208VAC, 3-phase, 5-wire, 60 Hz, 104 amp max

Site Preparation & Setup: ROWPU should be set up as close to camp as possible. Site should be level and free of debris. Set up requires a minimum of four personnel approximately 3-4 hours.

Preventive Maintenance: Check oil levels of RO pump and chemical feed pump. Check pumps for noise and/or vibration. Change cotton filter and RO elements as required. Keep unit clean.

Environmental Limitations: If operating in temperatures of 32 degrees F or less, operate in heated shelter to prevent freezing. In temperatures over 90 degrees F, keep shaded and operate with unit cover removed to prevent overheating and shut down.

Special Warning: Unit should operate a maximum of 20-hours per day with 4 hours of down time for maintenance. Prior to maintenance, use shut down procedures in accordance with T.O., disconnect power.

Fuel: N/A

Associated UTCs: XF_MP

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35 GPM Electric Pump Assembly

Figure 12: 35 GPM Electric Pump Assembly

Manufacturer:	**JGB Enterprises**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**27-1/2 X 31-3/4 X 25-3/4**
Weight:	**155 lbs.**
Cost:	**$4,400**
National Stock Number:	**4320-01-558-6502**
Technical Order Number:	**TO 40W4-21-1**
Associated Equipment:	**2” dia hoses**

35 GPM Electric Pump Description

Purpose and Use: The electric pump assembly is used with two BEAR water subsystems; (1) Industrial Operations and Flightline Extension subsystem and (2) Water Production (ROWPU) Subsystem. The pump assembly is powered by an electric motor coupled to a centrifugal, self-priming pump. An accumulator tank and pressure switch at the pump outlet is set to control pump operation for output flow regulated between 20 and 40 PSI. When used to support the Industrial Operation and Flightline Extension Subsystem, the pump is color coded white and is used to pump potable water distribution for a distance of 2500 feet to fill the outlet potable water storage tank. In the ROWPU application, the pump assembly is color coded purple, is used to pump ROWPU waste product to a waste disposal area. The electric pump operation is manually regulated for waste disposal operation.

Electrical Data: 208VAC, 1-phase, 60 Hz

Site Preparation & Setup: Site should be level and free of debris.

Preventive Maintenance: Maintenance of the 35 GPM electric pump assembly consists of removal and replacement of the pump, pressure switch, and accumulator.

Environmental Limitations: Environmental conditions for the BEAR water system range from +33°F to +150°F for normal operation.

Special Warning: Always disconnect power before performing maintenance.

Fuel: N/A

Associated UTCs: XF_MP, XF_MX

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Diesel Driven Pump Assembly, Trailer Mounted, 400 GPM

Figure 13: Diesel Driven Pump Assembly, Trailer Mounted, 400 GPM

Manufacturer:	**JGB Enterprises**
Storage & Shipment Configuration:	**Store/Ship on one 463L pallet (air) or in one Bicon ISO container (surface)**
Dimensions:	**97" x 87" x 77 ¾"**
Weight:	**3,200 lbs.**
Cost:	**$60,000**
National Stock Number:	**4320-01-551-9776**
Technical Order Number:	**TO 40W4-21-11**
Associated Equipment:	**Tow vehicle is required; 4"Hose**

400 GPM Diesel Pump Description

Purpose and Use: The 400 GPM Pump is a trailer mounted, diesel-driven, centrifugal, self-priming pump. The primary purpose is to transfer water from a source to a camp water storage system. The pump is utilized in the Source Run water subsystem in conjunction with 6000 feet of hose. It can pump 400 GPM at a 300 foot maximum head.

Electrical Data: N/A

Site Preparation & Setup: Site should be level and free of debris.

Preventive Maintenance: TO 40W4-21-1 contains a list of maintenance items which should be completed every 500 hours or 12 months. The fire extinguisher should be inspected every 500 hours or 6 months of engine operation.

Environmental Limitations: If operated in temperatures below 32°F, take steps to ensure the pump and hose assemblies do not freeze.

Special Warning: Hearing protection should be worn at all times while pump is in operation. Rotating devices can cause serious injury or death. Wear close fitting clothing. Stop engine and be sure rotating devices are stopped before making adjustments. Engine exhaust fumes can cause sickness or death. If engine is running it should always be in a well-ventilated area.

Fuel: Diesel fuel

Associated UTCs: XF_MS

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Dual Pump Station

Figure 14: Dual Pump

Manufacturer:	**Highland Engineering Inc.**
Storage & Shipment Configuration:	**Unit is skid mounted on one 463L pallet (air) or in one Bicon ISO container (surface)**
Dimensions:	**84” x 60” x 74”**
Weight:	**2,538 lbs.**
Cost:	**$79,732**
National Stock Number:	**PN#-3030140-1**
Technical Order Number:	**TO 40W4-21-11**
Associated Equipment:	**3” x 15’ hose and HTH Chlorine 10K all-terrain forklift or larger**

Dual Pump Description

Purpose and Use: The Dual Pump Station is used to pressurize potable water distribution lines and maintain chlorination of the water. The unit can operate in either dual or single pump mode to support maintenance and/or repair actions. The pump can operate with variable flow rates to maintain pressure in the distribution feed lines.

Electrical Data: 208VAC, 3-phase, 60 Hz.

Site Preparation & Setup: Site should be level and free of debris.

Preventive Maintenance: The components of the Dual Pump Station are non-field repairable. Maintenance of the dual pump station consists of the removal and replacement of pump seal, pump, accumulator tank, and tubing repair/re-placement. Clean all components during visual inspection.

Environmental Limitations: If operated in temperatures below 32°F, operate in heated shelter to prevent freezing. Take steps to ensure the pump and hose assemblies do not freeze.

Special Warning: Always disconnect power before performing maintenance. Face and eye protection should be worn at all times when working with chemicals such as chlorine.

Fuel: N/A

Associated UTCs: XF_17

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Shower Facility

Figure 15: Shower Facility

Manufacturer:	**Southeast Machine Company & Highland Engineering Inc.**
Storage & Shipment Configuration:	**Store/Ship in ISU-90 containers (air) No shower stand assemblies are utilized in surface UTCs**
Dimensions:	**72" X 43" X 86"**
Weight:	**100 lbs.**
Cost:	**$16,391.30**
National Stock Number:	**4510011636775**
Technical Order Number:	**35E35-4-1**
Associated Equipment:	**Shave Stand Assembly**

Shower Description

Purpose and Use: Each BEAR Base shower consists of six two-man stalls, a top frame assembly with 12 shower heads, attached side supports and a fabric cover. The shower system is housed in a Small Shelter system (SSS). Showers are combined in the shelter with the Shave Stand system. Hot water is provided by the M-80 or WH 400 Boiler.

Electrical Data: 115 volts, AC, 60 Hz

Site Preparation & Setup: Site should be level and free of debris. The shower system can be setup either before or after the SSS is erected. If the SSS is setup first, interior lighting is required to accomplish the shower system setup. Assembly time is determined by skill level, experience and number of personnel. Contact 635 MMG for more information

Preventive Maintenance: Daily and weekly maintenance checks are provided in T.O. 35E35-4-1 Ch. 5

Environmental Limitations: N/A

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_LC

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Shave Stand

Figure 16: Shave Stand

Manufacturer:	**Skarnes, Inc., Ver-Val Enterprises Inc., & Highland Engineering Inc.**
Storage & Shipment Configuration:	**Stores/Ships with Shower Facility**
Dimensions:	**60” X 21” X 76”**
Weight:	**150 lbs.**
Cost:	**$13,226.65**
National Stock Number:	**4510-01-163-6776**
Technical Order Number:	**35E35-3-1**
Associated Equipment:	**Shower Assembly**

Shave Stand Description

Purpose and Use: Each system consists of four shave stands with three sinks each, complete with all fixtures and plumbing, mirror & light assembly and folding legs secured by hinge and pin. The legs are equipped with screw type leveling pads. One unit is provided for each BEAR Base shower-shave facility providing 12 sinks. Hot water is provided using the M-80 or WH 400 Boiler.

Electrical Data: 115 volts, AC, 60 Hz

Site Preparation & Setup: Shave stands are setup in conjunction with shower and placed in a SSS. Assembly time is determined by skill level, experience and number of personnel. Contact 635 MMG for more information

Preventive Maintenance: Accomplish IAW T.O. 35E35-3-1 Tables 5.1 through 5.6

Environmental Limitations: N/A

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_LC

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Latrine, Field Deployable (LFD)

Figure 17: Field Deployable Latrine

Manufacturer:	**Engineered Air Systems Inc. & Highland Engineering Inc.**
Storage & Shipment Configuration:	**Ship/store on one 463L pallet (air)** **No LFDs are utilized in surface UTCs, see EBS Hygiene**
Dimensions:	**84” X 96” X 42”**
Weight:	**1,600 lbs.**
Cost:	**$23,629.23**
National Stock Number:	**4500-01-264-0432**
Technical Order Number:	**35E35-5-1**
Associated Equipment:	**10K forklift**

Latrine System Description

Purpose and Use: The Field Deployable Latrine consists of two latrine units consisting of 6 toilets each, a pump unit, and a collapsible water tank. Each unit includes a urinal trough, two and the tank and base assembly which includes the waste storage tank. Sink faucets, urinal push valves, and toilet flush valves used on the latrine units are timed devices, dispensing only a measured amount of water with each activation of the faucets/valves.

Electrical Data: 115 volts, AC, 60 Hz

Site Preparation & Setup: The Field Deployable Latrine is designed for field use and can be set up, ready for use in less than 30 minutes. The latrine is intended to be set up inside a small shelter. Assembly time is determined by skill level, experience and number of personnel. Contact 635 MMG for more information.

Preventive Maintenance: Accomplish IAW T.O. 35E35-5-1 Tables 5.1 and 5.2

Environmental Limitations: N/A

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_LC

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Latrine Water Pump

Figure 18: Latrine Pump

Manufacturer:	**Engineered Air Systems**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**28 x 15-1/2" x 16-1/2"**
Weight:	**75 lbs.**
Cost:	**$6,491**
National Stock Number:	**4510-01-313-5290**
Technical Order Number:	**35E35-5-1**
Associated Equipment:	**LFDs, hoses, electrical cables**

Water Pump Description

Purpose and Use: Maintains pressure and supplies water to Field Deployable Latrine.

Electrical Data: 120VAC, single phase, 3 hp. 5 amp.

Site Preparation & Setup: Site should be level and free of debris.

Preventive Maintenance: Inspect daily for leaks and ensure pressure is maintained between 20-40 psi.

Environmental Limitations: Protect from extreme weather conditions

Special Warning: Always disconnect power before performing maintenance.

Fuel: N/A

Associated UTCs: XF_LC

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3,000 Gallon Collapsible Fabric Tank

Figure 19: 3,000 Gallon Collapsible Fabric Tank

Manufacturer:	**Numerous**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**13.75' X 13.75' (empty)**
Weight:	**197 lbs. (empty)**
Cost:	**$7,916**
National Stock Number:	**5430-01-562-1281**
Technical Order Number:	**40W4-21-11**
Associated Equipment:	**10K forklift, valves, fitting, distribution hoses**

Water Bladder Description

Purpose and Use: 3,000 gallon collapsible fabric tanks are color coded white and are used for potable water storage for the user facilities. The bladder provides potable drinking water storage capability when quick storage facilities are needed and where permanent potable water storage facilities are not available or when the storage or potable water is needed only on temporary basis.

There is also a red stripe coded bladder used in the Water Production subsystem for ROWPU maintenance.

Electrical Data: N/A

Site Preparation & Setup: Ground should be level and free of sharp objects.

Preventive Maintenance: Clean tank with detergent and water as required. Inspect tank for cuts, rips, and stripped threads on fittings, corrosion, and other physical defects.

Environmental Limitations: Protect from extreme weather conditions.

Special Warnings: N/A

Fuel: N/A

Associated UTCs: XF_17, XF_18, XF_MX, XF_MP, XF_LC, XF_LS, and XF_KC.

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20,000 Gallon Collapsible Fabric Tank

Figure 20: 20,000 Gallon Collapsible Fabric Tank

Manufacturer:	**Numerous**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**24' X 28' (empty)**
Weight:	**1,120 lbs. (empty)**
Cost:	**$6,525**
National Stock Number:	**5430-01-106-9678**
Technical Order Number:	**40W4-21-11**
Associated Equipment:	**10K forklift**

20,000 Gallon Tank Description

Purpose and Use: The 20,000 gallon water tank is a collapsible fabric container designed to store water. They are color coded for their specified use and are not interchangeable. White is for potable water, green for non-potable (raw) water, and purple for waste water.

Electrical Data: N/A

Site Preparation & Setup: Self-supporting with no more than a 10% slope.

Preventive Maintenance: Clean tank with detergent and water as required. Inspect tank for cuts, rips, and stripped threads on fittings, corrosion, and other physical defects.

Environmental Limitations: Protect from extreme weather conditions.

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_17, XF_18, XF_MP, XF_MS

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Expandable Bicon Hygiene System

Figure 21: Hygiene System

Manufacturer:	**Seabox**
Storage & Shipment Configuration:	**Store/Ship two showers and two latrines in self-contained Expandable Bicons and one cargo Bicon for the connectivity kit (surface only)**
Dimensions:	**117.75" x 96" x 96" (Transport Mode) 90 ft. x 60 ft. (Deployed)**
Weight:	**Total (All) = 36,200 lbs.**
Cost:	**$500,000**
National Stock Number:	**NSN: 4510-01-617-2063 Part #: SB841.0.3S1.9415**
Technical Order Number:	**35E4-164-1**
Associated Equipment:	**M-80/WH-400, 2K water bladders, AKS 10' x 10' privacy shelter, 10K forklift**

Hygiene System Description

Purpose and Use: The hygiene system consists of four expandable Bicons (two shower and two latrine) plus one cargo Bicon to accommodate associated equipment. Each shower Bicon contains six showers and six sinks. It interfaces with two 10' X 10' Alaska Shelters (privacy shelter). Each Latrine Bicon contains six toilets, four urinals and two sinks.

Electrical Data: Requires 208VAC, 3-phase, 60 Hz power.

Site Preparation & Setup: An area as close to level as possible is preferable. Each shelter is equipped with four leveling jacks to allow users to deploy on a site that has a maximum grade of 6.5% (~4 degrees) though other system components may not function properly on such grades. The footprint of the system is approximately 90 x 60 feet. These dimensions should be considered when selecting a site to ensure no obstructions hinder the proper layout. Assembly time is determined by skill level, experience and number of personnel. Contact 635 MMG for more information.

Preventative Maintenance: Perform in accordance with TO 35E4-164-1.

Environmental Limitations: If operated in temperatures below 32°F, take steps to ensure the facilities do not freeze. A purge fitting is included with each system and purge instructions are in the TO.

Special Warnings: N/A

Fuel: N/A

Associated UTC: XF_LD

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Self-Help Laundry

Figure 22: Laundry

Manufacturer	**Porter Manufacturing Corp. & JGB Enterprises Inc.**
Storage & Shipment Configuration	**Store/Ship four ISU-90 containers (air) or one Tricon ISO container and two Bicon ISO containers (surface)**
Dimensions:	**Will fit in a SSS**
Weight:	**3,700 lbs.**
Cost:	**$26,780**
National Stock Number:	**3510-01-440-9167**
Technical Order Number:	**50D1-4-11**
Associated Equipment:	**10K forklift**

Self-Help Laundry Description

Purpose and Use: The system provides facilities for deployed personnel to launder their clothing in self-help fashion. Each system consists of 5 washers and 10 (5 double stacked) dryers, a 60-amp water heater, a 3,000-gal water tank and supply and waste pumps. The BEAR Laundry UTC contains two systems so everything is doubled. The Self-Help Laundry may be set up to operate with or without the water heated.

Electrical Data: 208 VAC, 3 phase, 60 Hz

Site Preparation & Setup: Assembled and housed in a single Small Shelter System.

Preventive Maintenance: Accomplish IAW T.O. 50D1-4-1 WP 7 Table 1.

Environmental Limitations: Temperature Ranges; Operating: Up to +125 degrees F. Storage: -50 to +150 degrees F.

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_LS

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Latrine Sewage Ejector System

Figure 23: Latrine Sewage Ejector System

Manufacturer:	**JGB Enterprises**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**36” X 30”**
Weight:	**130 lbs.**
Cost:	**$6,001**
National Stock Number:	**4630-01-558-9592**
Technical Order Number:	**TO 40W4-21-11**
Associated Equipment:	**Backhoe or similar digging equipment for excavation and backfill operation.**

Latrine Sewage Ejector System Description

Purpose and Use: The Sewage Ejector System (Latrine) is a wet pit sump pump, used to pump raw sewage from the latrines for output distribution to the BEAR waste water loop.

Electrical Data: 208 VAC, 1-phase, 60 Hz.

Site Preparation & Setup: Lift station should be level and partially recessed in the ground for set-up.

Preventive Maintenance: N/A

Environmental Limitations: Protect from extreme weather conditions.

Special Warning: Always disconnect power before performing maintenance. Need suitable lifting device.

Fuel: N/A

Associated UTCs: XF_17, XF_18

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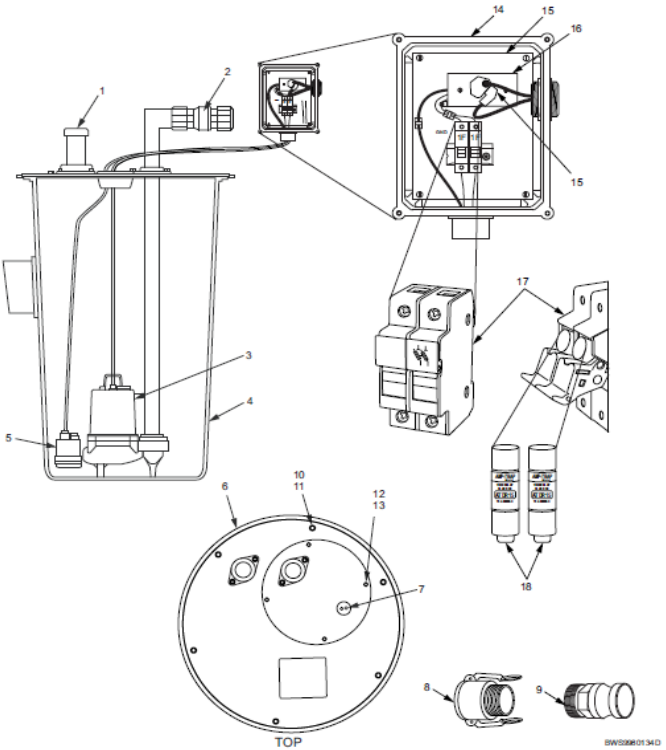

Kitchen Sewage Ejector Lift Station

Figure 24: Kitchen Sewage pump

Manufacturer:	**JGB Enterprises**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**30" X 22"**
Weight:	**102 lbs.**
Cost:	**$3,989**
National Stock Number:	**4630-01-558-8091**
Technical Order Number:	**40W4-21-11**
Associated Equipment:	**Backhoe or similar digging equipment is necessary for excavation and backfill operation.**

Sewage Ejector Lift Station (Kitchen) Description

Purpose and Use: This pump is a wet pit sump type pump used to pump kitchen waste to the wastewater collection system.

Electrical Data: 115 VAC, single-phase, 60 Hz.

Site Preparation & Setup: Lift station should be level and partially recessed in the ground for set-up.

Preventive Maintenance: N/A

Environmental Limitations: Protect from extreme weather conditions.

Special Warning: Always disconnect power before performing maintenance. Need suitable lifting device.

Fuel: N/A

Associated UTCs: XF_18

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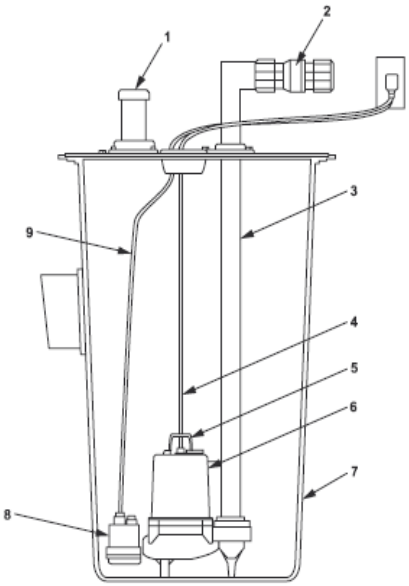

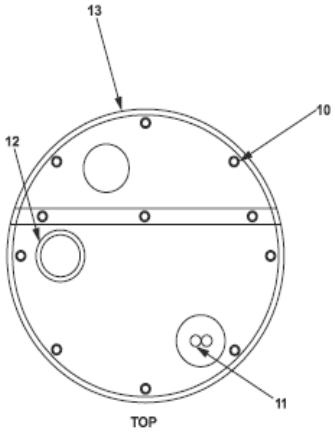

Macerator Pump Lift Station

Figure 25: Macerator Pump Lift Station

Manufacturer:	**JGB Enterprises**
Storage & Shipment Configuration:	**Skid mounted on one 463L pallet (air) or In a Bicon ISO container (surface)**
Dimensions:	**36” x 84”**
Weight:	**750 lbs.**
Cost:	**$28,865**
National Stock Number:	**4320-01-606-8080**
Part Number	**3030190-3**
Technical Order Number:	**TO 40W4-21-11**
Associated Equipment:	**Backhoe or similar digging equipment is necessary for excavation and backfill operation.**

Macerator Description

Purpose and Use: The Macerator Pump Lift Station is used for wet pit sump, pre-digestion of raw sewage, and pumping of wastewater to the Dual Pump Lift Station.

Electrical Data: 208VAC, 3-phase, 60 Hz, 5hp.

Site Preparation & Setup: The Macerator should be level and partially recessed in the ground for set-up.

Preventive Maintenance: Maintenance of the assembly consists of removal, cleaning, and replacement.

Environmental Limitations: Protect from extreme weather conditions.

Special Warning: Always disconnect power before performing maintenance. Placement of tank or pump removal requires suitable lifting device. Must support 750 lbs. and have a lifting height of 8'.

Fuel: N/A

Associated UTCs: XF_17, XF_18

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Dual Pump Lift Station

Figure 26: Dual Pump Lift Station

Manufacturer:	**AK Industries, Inc.**
Storage & Shipment Configuration:	**Store/Ship on one 463L pallet (air) or in Bicon ISO container (surface)**
Dimensions:	**60" X 60"**
Weight:	**1,820 lbs.**
Cost:	**$21,834**
National Stock Number:	**4630-01-558-8536**
Technical Order Number:	**TO 40W4-21-11**
Associated Equipment:	**Backhoe or similar digging equipment is necessary for excavation and backfill operation.**

Lift Station Description

Purpose and Use: Pumps waste water coming from the macerator lift station to the collection tank. Operates in either dual or single pump mode, depending on waste level.

Electrical Data: 208V, 3-phase, 60 Hz

Site Preparation & Setup: Lift station should be level and partially recessed below ground when set-up.

Preventive Maintenance: The Dual pump sewage lift station is a non-field repairable assembly. Maintenance is limited to replacement of the pump, float switch, check valve and tank assembly.

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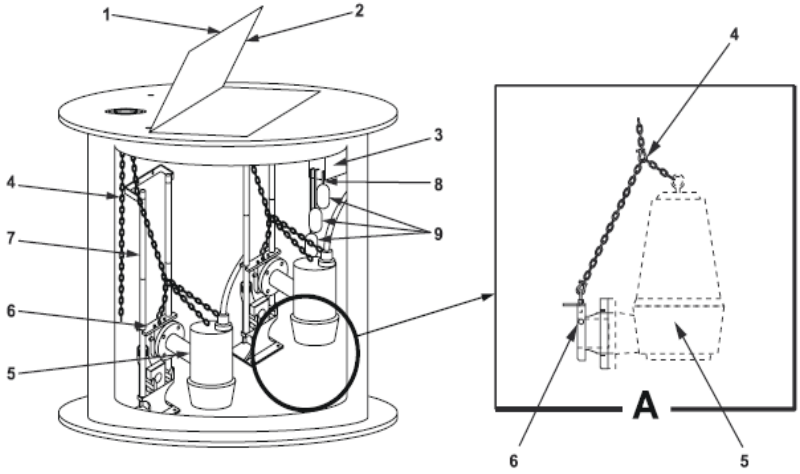
Environmental Limitations Protect from extreme weather conditions.

Special Warning: Always disconnect power before performing maintenance. Placement of tank or pump removal requires suitable lifting device. Must support 1820 lbs. and have a lifting height of 8'.

Fuel: N/A

Associated UTCs: XF_17



1. Screw
2. Cover
3. Junction Box Cover
4. Lift Chain
5. Pump
6. Slide Assembly
7. Liftout Rails
8. Float Wires
9. Floats

Aeration Station Pump

Figure 27: Aeration Station Pump

Manufacturer:	**Highland Engineering, Inc. (Baldor Motor)**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**37” X 21.6” X 44”**
Weight:	**540 lbs.**
Cost:	**$14,784**
National Stock Number:	**4320-01-558-9318**
Technical Order Number:	**TO 40W4-21-11**
Associated Equipment:	**Tank, Hoses, Power Cord**

Aeration Station Pump Description

Purpose and Use: To circulate the sewage through aeration mixing system inside the waste tank to maintain waste in a liquid state for disposal.

Electrical Data: 208VAC, 3-phase, 60 HZ

Site Preparation & Setup: Site should be level and free of debris.

Preventive Maintenance: N/A

Environmental Limitations: Protect from extreme weather conditions.

Special Warning: Always disconnect power before performing maintenance.

Fuel: N/A

Associated UTCs: XF_17

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25,000 Gallon Waste Tank with Aeration System

Figure 28: 25,000 Gallon Waste Tank w/Aeration System

Manufacturer:	**JGB Enterprises**
Storage & Shipment Configuration:	**Store/Ship on one 463L pallet (air) or in one Bicon ISO container (surface)**
Dimensions:	**31'x5'**
Weight:	**2,335 lbs. (empty)**
Cost:	**$14,515.20**
National Stock Number:	**4540-01-558-8503**
Technical Order Number:	**TO 40W4-21-11**
Associated Equipment:	**Waste water tank pump and aeration system**

25,000 Gallon Waste Tank Description

Purpose and Use: Provides a 25,000-gallon storage reservoir for waste water. An aerator and pump assembly are used to mix and aerate wastewater to maintain a liquid state for disposal.

Electrical Data: 208 VAC, 3-Phase, 60 Hz

Site Preparation & Setup: Site should be level and free of debris.

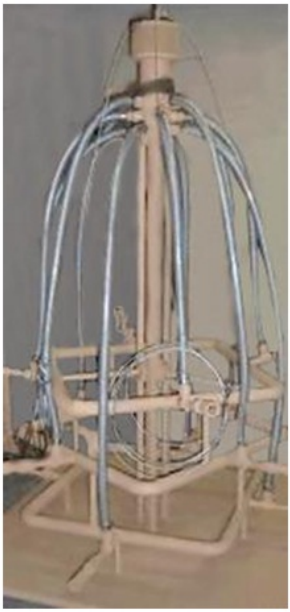
Preventive Maintenance: Inspect the rigid tank walls for damage and the liner for leaks. Maintenance consists of removal and replacement of the aeration station pump/motor.

Environmental Limitations: Protect from extreme weather conditions.

Special Warning: Caution should be taken when installing or removing mixing system to prevent damage to the tank liner. Ensure all hose assemblies are connected properly, connections are tight, components are color coded purple, and the circulation pump assembly is connected to adequate power source.

Fuel: N/A

Associated UTCs: XF_17



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Bladder Water Level Controller

Figure 29: Bladder Water Level Controller

Manufacturer:	**Porter Manufacturer Corp**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**20” X 20” X 20”**
Weight:	**66 lbs.**
Cost:	**$3,378**
National Stock Number:	**4820-01-558-8883**
Technical Order Number:	**TO 40W4-21-11**
Associated Equipment:	**3000 Gal Water Bladder/2” Hoses**

Bladder Water Level Control Description

Purpose and Use: The Bladder Water Level Controllers are used to maintain a preset maximum and minimum volume of water in the 3,000 gallon collapsible fabric tanks.

Electrical Data: 120VAC connection (standard household/tent receptacle), 60 Hz, 1-phase.

Site Preparation & Setup: Site should be level and free of debris.

Preventive Maintenance: The components of the bladder water level control assembly are non-field repairable. Maintenance of the bladder water level control assembly consists of removal and replacement of the entire control assembly and adjustments of the flow control cams.

Environmental Limitations: Conditions for the BEAR water system range from +33°F to +150°F for normal operation. Protect from extreme weather conditions.

Special Warning: In the event of a power failure, the valve may be opened or closed by manually turning shaft to desired position with a wrench.

Fuel: N/A

Associated UTCs: XF_17, XF_18, XF_MX, XF_LC, XF_LS, and XF_KC

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Flaking Box System

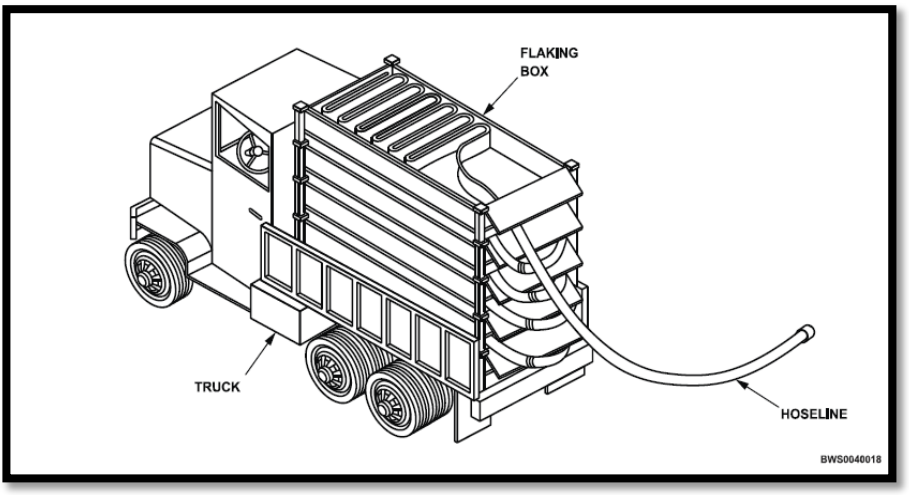

Figure 30: Flaking Box System

Manufacturer:	**JGB Enterprises**
Storage & Shipment Configuration:	**Store/Ship on 463L pallet (air) or in Bicon ISO container (surface)**
Dimensions:	**92.5” X 81.5” X 18”**
Weight:	**1,650 lbs. w/ 600 ft. of hose**
Cost:	**$7,712**
National Stock Number:	**4630-01-558-9227**
Technical Order Number:	**TO 40W4-21-11**
Associated Equipment:	**Forklift and/or truck**

Flaking Box Description

Purpose and Use: Flaking boxes contain four 150 ft. lengths of six inch hose. The flaking boxes serve as a storage space for the hoses when not in use and allow for deployment during system installation.

Electrical Data: N/A

Site Preparation & Setup: Site should be level and free of debris.

Preventive Maintenance: Ensure legs are not bent and check for cracks in welds. Ensure door is functional and will latch closed.

Environmental Limitations: Protect from extreme weather conditions.

Special Warning: To prevent injury to personnel and/or damage to equipment, ensure adequate personnel, lifting equipment, and transport equipment are available to deploy 6 inch hose.

Fuel: N/A

Associated UTCs: XF_MS

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Section 3 Electrical, AGE, & Power Production Assets

Emergency Airfield Lighting System (EALS)

Figure 31: EALS

Manufacturer:	**Multi Electric Manufacturing**
Storage & Shipment Configuration:	**Six separate trailers (air) or Six trailers in three Bicons plus 1 Bicon for PAPIs, Strobes, DTG Marker Kit and Spares (surface)**
Dimensions:	**Trailer #1: 81L x 48W x 95H; Trailer #2 & #3: 81L x 48W x 96H Trailer #4: 81L x 48W x 93.5H; Trailers #5 & #6: 81L x 48W x 85H**
Weight:	**28,820 lbs. w/wheel kit**
Cost:	**$499,998**
National Stock Number:	**6230-01-335-5078**
Technical Order Number:	**35F5-3-17-1**
Associated Equipment:	**Two general purpose vehicles w/pintle hook**

EALS Description

Purpose and Use: Complete lighting kit for runways up to 10,000 ft. long and 150 ft. wide. Includes runway edge, threshold, precision approach path indicator, incandescent and strobe approach lights. Also includes distance-to-go marker lamps, airfield arresting system marker lamps, taxiway lights and battery-operated obstruction lights. Includes all associated equipment needed to operate it, i.e. generators, cables, control panels, transformers and regulators.

Electrical Data: Generators provide 240/416 VAC, 3-phase to the EALS regulators. Regulators power the lighting systems at variable amperage levels: High – 6.6, Med – 5.5, Low – 4.8.

Site Preparation & Setup: The EALS can be installed on just about any type of surface including sand, frozen earth, mud, ice, asphalt, and concrete. Also, the EALS can be installed while wearing chemical defense gear or arctic weather clothing. A minimum of a six person crew and two general purpose vehicles are required. At least 2 task certified Electrical Systems personnel, one on Team A and one on Team B, will be required to safely install the EALS. Set-up/Install of the EALS will be dependent on multiple factors, including: size of useable runway, environmental considerations, chemical defense (MOPP) attire, and experience of personnel.

Preventive Maintenance: Ensure all lights are operating properly (replace broken lamps). Ensure trailers are properly lubricated. See TO data on generators, 35C2-3-446-11 thru 35C2-3-446-14.

Environmental Limitations: Temperature Range: -25° F to +125° F

Special Warning: To ensure proper operation, electrically ground all generators, regulators and Series Circuit Adapter (SCA) before operating. Hearing protection is needed within the vicinity of the generators. **Danger**: operates at high voltage level; electric shock hazard present.

Fuel: Diesel DF1, DF2 primary grades. JP-8, FP-5 and DFA alternate grades for generator.

Associated UTCs: XF_YC

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Mobile Aircraft Arresting System (MAAS)

Figure 32: MAAS

Manufacturer:	**Engineered Arresting Systems Corporation**
Storage & Shipment Configuration:	**Stored and shipped as is, trailer configuration for both air & surface**
Dimensions:	**20 '. 10" X 8'. Height: RAISED - 7 ft. 8" LOWERED - 6 ft. 8"**
Weight:	**Gas engine unidirectional model: 17,400 lbs. Diesel engine bidirectional model: 18,790 lbs.**
Cost:	**Gas engine unidirectional model: $867,915 Diesel engine bidirectional model: $867,915**
National Stock Number:	**Gas engine unidirectional model: 1710-01-223-2235 Use above NSN until exhausted. Replaced by: Diesel engine bidirectional model: 1710-01-549-9539**
Technical Order Number:	**35E8-2-10-1 thru 35E8-2-10-4**
Associated Equipment:	**tow vehicle, 2 ea. – Mobile Runway Edge Sheath (MRES) trailers**

MAAS Description

Purpose and Use: The MAAS consists of two identical mobile units (trailers). Each unit houses one BAK-12 rotary friction energy absorber. The trailers contain all the basic components of a fixed base arresting system including all tools and hardware necessary for installation and removal. The device is surface and air transportable.

Electrical Data: N/A

Site Preparation & Setup: Personnel familiar with operational requirements will dictate the location of MAAS sites. Site preparation consists of selecting an existing site or transforming existing topography to suit MAAS requirements. Foundations required for immediate use should be constructed from materials conforming to ASTM C150, Type III (high-early strength) Portland Cement Concrete (PCC). All soil installations must be in ground that has minimum California Bearing Ratio (CBR) of 7.

Preventive Maintenance: Structural and operational inspections should be carried out IAW the applicable Technical Order. The BAK-12 energy absorber requires a complete overhaul every 10 years or 500 arrestments.

Environmental Limitations: Operating range -40° to +125° F.

Special Warning: At least one person must have a 5 or 7-skill level rating to perform certifications. Only qualified Power Production (3E0X2) personnel can install a MAAS unit for arresting purposes (Electrical Systems (3E0X1) personnel can assist). Hearing protection must be used while installing. Prior to operating hydraulic raise/lower system, chock one rear wheel and apply parking brake.

Fuel: Gasoline or Diesel (based on model) to operate rewind engine.

Associated UTCs: XF_R4

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Mobile Runway Edge Sheave (MRES)

Figure 33: MRES

Manufacturer:	**Engineered Arresting Systems Corporation**
Storage & Shipment Configuration:	**Stored and shipped as a trailer (air), one trailer in each of two 20ft ISO containers (surface)**
Dimensions:	**191" X 52" X 89"**
Weight:	**5,200 lbs.**
Cost:	**$131,670**
National Stock Number:	**1710-01-502-7169**
Technical Order Number:	**35E8-2-3-1 & LL-1 Manual**
Associated Equipment:	**Supplements the MAAS**

MRES Description

Purpose and Use: The MRES system consists of two identical assemblies and installation hardware. The MRES provides a low profile runway edge sheave, which allows the aircraft arresting gear to be set back from the runway. In addition, the runway edge sheave is designed with metal covers that turn the profile of the MRES into a low ramp, which allows aircraft to safely roll over the MRES if they stray from the surface of the runway or overrun.

Electrical Data: N/A

Site Preparation & Setup: When Sighting for installation you must consider the following. Foot print: there can be no obstructions above or below ground for the following. Concrete: Pad will be minimum 13' X 13', 12" thick. Soil: a minimum area of 30' X 17', 6' deep. Personnel familiar with operational requirements must accomplish selection of the system arrangement. Concrete installations may be performed on the runway itself, on concrete pads or on a concrete surface with an asphalt overlay of one inch (25.4 mm) or less in thickness. Site should be checked to verify that all positioning requirements are met before installation is attempted. Soil installations are performed in undisturbed soil, immediately adjacent to the sides of the runway or overrun.

Preventive Maintenance: TO 35E8-2-3-1 Perform inspections IAW table 5-1, preventive maintenance IAW table 5-2, and lubrication IAW table 5-3, of

Environmental Limitations: Operating range -40° to 125° F

Special Warning: Site selection must ensure there will be no tape interference with obstructions during arrestment and rewind. In addition, the surface of the runway in the tape sweep area must be in a condition that will not cause damage to the aircraft during landing. Due to the weight of the covers, it is recommended to lift and lower the covers using three workers. Using only two workers may result in injury, minimize movement of the covers.

Fuel: N/A

Associated UTCs: XF_R4

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BEAR Power Unit (BPU) Generator, 800 kW

Figure 34: BPU

Manufacturer:	**Cummins, Inc.**
Storage & Shipment Configuration:	**Unit is a trailer; Indoor/Outdoor storage (must be towed w/ 6x4 tractor w/pintle hook height between 22 and 30" w/minimum 80K lb. GCWR)**
Dimensions:	**322" x 96" x 116"**
Weight:	**41,118 lbs.**
Cost:	**$575,000**
National Stock Number:	**6115-01-536-4373**
Technical Order Number:	**35C2-3-474-11**
Associated Equipment:	**Tow vehicle, 10K gallon fuel kit (fuel bladder, manifold, & associated hoses), Expandable Shelter Container, grounding rods**

BPU Description

Purpose: As part of the BEAR base Contingency Electrical Power System, provides high voltage power to BEAR electrical distribution.

Electrical Data: The BPU can operate as a standalone unit providing 800kW of power at 60 Hz, 2400/4160 VAC (3 phase, 4 wire configuration) and 435kW at 50 Hz, 2230/3800 VAC (3 phase 4 wire configuration).

Site Preparation & Setup: Site must be level and free of debris. Position BPU to provide a minimum of 15' of clearance for maintenance on all sides, ensure there are no overhead obstructions around exhaust outlets and ensure vents are not blocked.

10K Bladder Layout dimensions: Bladders 259" x 259", Ground Cloth 278" x 292", and Berm Liner 635" x 634".

Preventive Maintenance: Use T.O. 35C2-3-474-11 WP 007 00 for maintenance schedule.

Environmental Limitations: Temperature range: -25°F to +122° F

Special Warning: Generator must be grounded using #2 AWG copper wire before operating. Hearing protection must be used near generators.

**Danger: Operates at high voltage level; electric shock hazard present.

Fuel: JP-8, JP-5, Diesel: 1-D S15, 1-D S500, 1-D S5000, 2-D S15, 2-D S500 and 2-D S5000. Jet A, Jet A1. 85 Gallon fuel tank.

Associated UTCs: XF_BP

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AMMPS 1060 Generator, 30kW

Figure 35: AMMPS 1060

Manufacturer:	**Cummins Power Generation.**
Storage & Shipment Configuration:	**Shipped on 463L Pallet or as a trailer w/wheel kit (Air) or Shipped in Bicon for surface, 1 per Bicon.**
Dimensions:	**75”L x 36”W x 53H**
Weight:	**2068 lbs**
Cost:	**$22,046**
National Stock Number:	**6115-01-561-7718**
Technical Order Number:	**35C2-3-534-1**
Associated Equipment:	**Sledge Hammer, 200 amp cable, ground rod, fuel hose**

AMMPS 1060 Description

Purpose: Designed to provide tactical, quite AC power in a combat setting. Also designed for ease of transportation, operation and maintenance. Connects to the Secondary Distribution Center to provide power to critical facilities before a primary power plant and distribution system are installed, and afterwards to provide emergency backup power to critical facilities or primary power to remote facilities.

Electrical Data: Provides 120/208 VAC or 240/416 VAC, 3-phase, four-wire. The generator amperage capacity is 104-amps (30 kW) at full load.

Site Preparation & Setup: The selected site terrain should be level, firm, well-drained and relatively free of surface rock and debris.

Preventive Maintenance: Perform all required preventative maintenance in accordance with Technical Order guidance 35C2-3-534-1, Chapter 4).

Environmental Limitations: Batteries are capable of starting the generator under all conditions between -50°F and 135°F.

Special Warning: Generator must be grounded before operating. Hearing protection must be worn when working near the generator set while running. **Danger: Electric shock hazard present.

Fuel: JP-8, JP-4, DF-1, DF-2, DF-A. 16.7 gallon fuel tank.

Associated UTCs: XF_PL and XF_YC

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AMMPS 1070 Generator, 60kW

Figure 36: AMMPS 1070

Manufacturer:	**Cummins Power Generation.**
Storage & Shipment Configuration:	**Shipped on 463L Pallet or as a trailer w/wheel kit (Air) or Shipped in Bicon for surface, 1 per Bicon.**
Dimensions:	**82”L x 36”W x 53H**
Weight:	**2932 lbs**
Cost:	**$26,956**
National Stock Number:	**6115-01-561-7788**
Technical Order Number:	**35C2-3-535-1**
Associated Equipment:	**Sledge Hammer, 200 amp cable, ground rod, fuel hose**

AMMPS 1070 Description

Purpose: Designed to provide tactical, quite AC power in a combat setting. Also designed for ease of transportation, operation and maintenance. Connects to the Secondary Distribution Center to provide power to critical facilities before a primary power plant and distribution system are installed, and afterwards to provide emergency backup power to critical facilities or primary power to remote facilities.

Electrical Data: Provides 120/208 VAC or 240/416 VAC, 3-phase, four-wire. The generator amperage capacity is 208-amps (60 kW) at full load.

Site Preparation & Setup: The selected site terrain should be level, firm, well-drained and relatively free of surface rock and debris.

Preventive Maintenance: Perform all required preventative maintenance in accordance with Technical Order guidance 35C2-3-535-1, Chapter 4).

Environmental Limitations: Batteries are capable of starting the generator under all conditions between -50°F and 135°F.

Special Warning: Generator must be grounded before operating. Hearing protection must be worn when working near the generator set while running. **Danger: Electric shock hazard present.

Fuel: JP-8, JP-4, DF-1, DF-2, DF-A. 35 gallon fuel tank.

Associated UTCs: XF_16 and XF_PL

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Mobile Electric Power (MEP) 805B Generator 30kW Tactical Quiet Generator (TQG)

Figure 37: MEP-805B

Manufacturer:	**Libby Corp.**
Storage & Shipment Configuration:	**Indoor/Outdoor storage – can be fork lifted or towed (wheel kit required) as trailer (air) or ship in one Bicon ISO container (surface)**
Dimensions:	**79.7” X 35.7” X 55”**
Weight:	**3,040 lbs.**
Cost:	**$26,705**
National Stock Number:	**6115-01-274-7389**
Technical Order Number:	**35C2-3-446-11 thru 35C2-3-446-14**
Associated Equipment:	**Sledge Hammer, 200-amp cable, ground rod, fuel hose**

MEP-805B Description

Purpose and Use: The generator set provides tactical quiet AC power. It is easily transported, operated and maintained. Connects to the Secondary Distribution Center to provide power to critical facilities before a primary power plant and distribution system are constructed, and afterwards to provide emergency backup power to critical and remote facilities.

Electrical Data: 120/208 VAC or 240/416 VAC, 3-phase, four-wire. The generator amperage capacity is 104-amps (30 kW) at full load. Connects to load using 200-amp bulkhead (NSN 6150-01-495-7673), installed on unit, and cable (NSN 6150-00-178-9159)

Site Preparation & Setup: The site's slope angle cannot be greater than 15°, and must be free of debris. For safety reasons, setup requires a two-person team and takes approximately 1 man-hour.

Preventive Maintenance: During operation, generator must be checked at least every 2-hours and the oil and filters changed every 300 hours. If not used daily, run for at least 1 hour once a month under load. Consult technical manual for additional preventive maintenance steps.

Environmental Limitations: Temperature range: -25° F to +125° F. Cold-weather start aid recommended at 40° F (4° C) or below. At elevations greater than 4000 feet, the kilowatt rating is reduced 3.5% for each additional 1000 feet.

Special Warning: Generator must be grounded before operating. Hearing protection must be worn when working near the generator set while running. **Danger: Electric shock hazard present.

Fuel: Diesel DF1, DF2 primary grades. JP-8, FP-5 and DFA alternate grades. 23-gallon fuel tank.

Associated UTCs: XF_PL

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Mobile Electric Power (MEP) 806B Generator, 60kW Tactical Quiet Generator (TQG)

Figure 38: MEP-806B

Manufacturer:	**MCII Electric Division**
Storage & Shipment Configuration:	**Indoor/Outdoor storage – can be fork lifted or towed (wheel kit required) as trailer (air) or ship in one Bicon ISO container (surface)**
Dimensions:	**87” X 35.7” X 59”**
Weight:	**4,200 lbs.**
Cost:	**$25,073**
National Stock Number:	**6115-01-462-0291**
Technical Order Number:	**35C2-3-444-32**
Associated Equipment:	**Sledge Hammer, 200-amp cable, ground rod, fuel hose**

MEP-806B Description

Purpose and Use: The generator set provides tactical quiet AC power. It is easily transported, operated and maintained. Connects to the Secondary Distribution Center to provide power to critical facilities before a primary power plant and distribution system are constructed, and afterwards to provide emergency backup power to critical and remote facilities.

Electrical Data: 120/208 VAC or 240/416 VAC, 3-phase, four-wire. It produces 208-amps/60 kW at full load. Connects to load using 200-amp bulkhead (NSN 6150-01-495-7673), installed on unit, and cable (NSN 6150-00-178-9159)

Site Preparation & Setup: The site's slope angle cannot be greater than 15°, and must be free of debris. For safety reasons, setup requires a two-person team and takes approximately 1 man-hour.

Preventive Maintenance: During operation generator must be checked at least every 2-hours and the oil and filters changed every 300 hours. If not used daily, run for at least 1 hour once a month under load. Consult technical manual for additional preventive maintenance steps.

Environmental Limitations: Temperature range: -25° F to +125° F. Cold weather starting aid recommended at 40° F (4° C) or below. At elevations greater than 4000 feet, the kilowatt rating is reduced 3.5% for each additional 1000 feet.

Special Warning: Generator must be grounded before operating. Hearing protection must be worn when working near the generator set while running. **Danger: Electric shock hazard present.

Fuel: Diesel DF1, DF2 primary grades. JP-8, FP-5 and DFA alternate grades. 43-gallon fuel tank.

Associated UTCs: XF_16 and XF_PL

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Cable Reel Pallet Assembly (CRPA)

Figure 39: CRPA

Manufacturer:	**Radian, Inc.**
Storage & Shipment Configuration:	**Ship one per 463L pallet (air) or one per Bicon ISO container (surface)**
Dimensions:	**99”L x 54”W x 80”H (50”H without reels)**
Weight:	**7,686 lbs. with reels and cables**
Cost:	**$18,128**
National Stock Number:	**NSN 3895-01-495-4464 (2EA) with the cable installed is a suitable substitute for 3895-00-511-0286**
Technical Order Number:	**35CA3-18-1**
Associated Equipment:	**10/13K adverse-terrain forklift**

CRPA Description

Purpose and Use: System is used to store, transport and dispense reels of primary cable used to distribute 4160VAC power.

Electrical Data: 1/0, 5KV aluminum cable with concentric neutral. 3750 feet per reel, X 3 reels.

Site Preparation & Setup: The selected site terrain should be level, firm, well-drained and relatively free of surface rock and debris.

Preventive Maintenance: Inspect moving parts of the assembly for stiffness or binding. Lubricate as necessary. Inspect components for damage and repair/ replace as required.

Environmental Limitations: N/A

Special Warning: Ensure only trained and qualified personnel install, operate and maintain equipment. 2 persons minimum required for operation/installation of cable and/or reels.

Fuel: N/A

Associated UTCs: XF_EG, XF_BP, and XF_SD.

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Primary Switching Center (PSC) / Primary Switch (PS)

Figure 40: PSC

Manufacturer:	**Various**
Storage & Shipment Configuration:	**Skid mounted, stored in/outdoors, one per 463L pallet (air) or one per Bicon ISO container (surface)**
Dimensions:	**104” X 72” X 48”**
Weight:	**4,000 lbs.**
Cost:	**$57,000**
National Stock Number:	**6110-01-493-3391**
Technical Order Number:	**35F-14-1-1**
Associated Equipment:	**10K forklift or larger**

PSC Description

Purpose and Use: Receives 4,160 VAC, 3-phase electric power from BEAR prime power units or commercial means through two high voltage load interrupting switch inputs. The PSC has 4 feeder circuits; each circuit is capable of feeding multiple SDC's (dependent on PSC power source and individual SDC load). Has ability to connect to other PSCs through one of the high voltage fault interrupting switches, reducing outputs to three from each PSC.

Electrical Data: Input: 4,160 VAC, 3-phase 60 HZ, or 3,800 VAC, 50 HZ. Output: 4,160 VAC, 3-phase, Main Bus: Rated 15.5 KV & 600 amps.

Site Preparation & Setup: Site must be relatively level (1 degree slope over base is desired) and free of debris. For safety reasons, setup requires a two-person team. Takes approximately 1 man-hour (assembly of load break elbows excluded).

Preventive Maintenance: No mechanical maintenance is required. However, occasional inspection of the switchgear (checking for corrosion and/or damage), plus exercising of the load-interrupter switches and fault interrupters is recommended.

Environmental Limitations: Operating temperature range: -25° to +125°. Storage temperature range: -65° to +150°.

Special Warning: The primary switch contains sf6 gas. The unit is a sealed unit. Should the integrity of the seal fail, gas may be released, creating an inhalation hazard to personnel. Use extreme caution in this circumstance. Refer to the material safety data sheet for hazards identification. Ensure all equipment is grounded before operating. Hearing protection must be used near generators. **Danger: operates at high voltage level; electric shock hazard present.

Fuel: N/A

Associated UTCs: XF_BP, XF_EG

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Secondary Distribution Center (SDC)

Figure 41: SDC

Manufacturer:	**Various**
Storage & Shipment Configuration:	**Stored indoors/outdoors, two per 463L pallet (air) or two per Bicon ISO container (surface)**
Dimensions:	**60.56” X 47.63” X 71.88” (76.16” w/lifting rings)**
Weight:	**2,085 lbs.**
Cost:	**$50,719**
National Stock Number:	**6110-01-168-8077**
Technical Order Number:	**35CA2-17-1**
Associated Equipment:	**10K forklift or larger**

SDC Description

Purpose and Use: Accepts primary power and reduces the voltage for distribution. Primary power can be from commercial power plants, engine driven prime power generator sets or from another SDC. It's designed to accept prime power rated at 2400/4160 VAC, 3-phase and reduce voltage to 120/208 VAC, 3-phase. The SDC can also accept power from a Mobile Electric Power (MEP) generator set. The generators feed through a circuit breaker to a secondary bus. The breaker is interlocked to prevent inadvertently feeding the secondary bus from two sources.

Electrical Data: Capacity: 150KVA transformer. Input: 2400/4160VAC 3-phase, 60 Hz. Output: 120/208VAC 3-phase, 60 Hz, via 16, 60A output circuits.

Site Preparation & Setup: While not critical for the site to be level, the unit should be as level as possible for convenience. The site should be clear of brush, large rocks and other obstacles which might make the unit unstable. For safety, setup will involve two personnel and take about 1 man-hour. (Assembly of load break elbows excluded).

Preventive Maintenance: Visually inspect asset weekly for damage and corrosion. Ensure fuses and load break elbows are functioning properly.

Environmental Limitations: Operating temperature range: -25° to +125°.

Special Warning: Ensure generator and SDC are grounded to 25 ohms or less before operating. Hearing protection must be used near generators. **Danger: operates at high voltage level: electric shock hazard present.

Fuel: N/A

Associated UTCs: XF_SD, XF_EG, XF_16 and XF_PL.

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Power Distribution Panel (PDP), 25 kW

Figure 42: PDP

Manufacturer:	**Various**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimension:	**22” X 18” X 18”**
Weight:	**40 lbs.**
Cost:	**$3,188**
National Stock Number:	**6110-01-244-3209**
Technical Order Number:	**35CA6-1-101**
Associated Equipment:	**BEAR electrical distribution system**

PDP Description

Purpose and Use: The PDP is designed to transfer 60-amp 3-phase power to single phase to power various shelters in the BEAR inventory. It has an additional 60-amp 3-phase output to power additional assets like the Environmental Control Unit.

Electrical Data: Input: One 3-Phase 60-Amp. Output: One 3-phase 60-Amp, four 20-Amp and one 15-Amp.

Site Preparation & Setup: There are no special requirements for site prep and setup. No energized equipment should be placed in locations susceptible to flooding.

Preventive Maintenance: Before operation the unit should be inspected for loose connectors and inoperable circuit breakers. During operation the unit should be inspected every 6 months. De-energize the unit and inspect the breakers for proper movement. Check for corrosion and ensure the three indicator lights are operational.

Environmental Limitations: Do not store the PDP in outdoor areas with temperatures below -10° F or above 110° F. No damage should occur to the PDP if exposed to temperature and humidity extremes for short periods of time (less than 24 hours)

Special Warning: The dead front panel should never be removed while input power is connected. Always disconnect input power before removing or servicing circuit breakers.

Fuel: N/A

Associated UTCs: XF_16, XF_19, XF_21, XF_3C, XF_BL, XF_C6, XF_CB, XF_CC, XF_CF, XF_CS, XF_CX, XF_EC, XF_GC, XF_LC, XF_LD, XF_LS, XF_MF, XF_MU, XF_TF, XF_VC, XF_WC, and XF_XN.

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Power Distribution Panel (A-Panel) 60 kW

Figure 43: A-Panel

Manufacturer:	**Various**
Storage & Shipment Configuration:	**Store/Ship with supporting UTCs**
Dimensions:	**28” X 20”X 18”**
Weight:	**68 lbs.**
Cost:	**$2,715**
National Stock Number:	**6110-01-237-4637**
Technical Order Number:	**35CA6-1-101**
Associated Equipment:	**BEAR electrical distribution system**

A-Panel Description

Purpose and Use: This equipment is designed to facilitate the safe distribution of electric power in an outdoor field environment. Distributes 120/208 200 Amp 3-phase power to four 120/208 60 Amp 3-phase circuits.

Electrical Data: Input: 200 Amp - 120/208 VAC 3-phase, 60 Hz, Output: 4, 60 Amp - 120/208 VAC 3-phase, 60 Hz receptacles.

Site Preparation & Setup: Site must be relatively level and free of debris. Setup requires one person, 30 min.

Preventive Maintenance: Inspections will be carried out IAW the technical order. Inspect circuit breakers, cabinet and interior at intervals no greater than 180 days. Inspect for damage and corrosion weekly.

Environmental Limitations: Store between 50-75 degrees F. Avoid storage in especially humid areas. Do not store outdoors in temperatures below -10° F or above 110° F. Limit exposure to temp/humidity extremes for less than 24 hours. Operating temperature range: -25° to +125°.

Special Warning: The dead front panel should never be removed while input power is connected. Always disconnect input power before removing or servicing circuit breakers.

Fuel: N/A

Associated UTCs: XF_16, XF_PL

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Remote Area Lighting System (RALS)

Figure 44: RALS

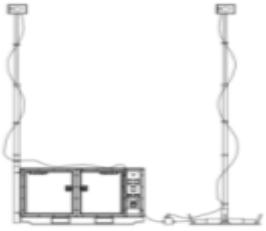
Manufacture:	**Various**
Storage & Shipment Configuration:	**Self-contained box, store outside undercover recommended two per 463L pallet (air) or two per Bicon ISO container (surface)**
Erected Configuration:	**Two 750ft electrical light loops**
Weight:	**1,500 lbs.**
Cost:	**$40,003**
National Stock Number:	**6230-01-498-4223**
Technical Order Number:	**35F5-5-22-1**
Associated Equipment:	**BEAR electrical distribution system**

RALS Description

Purpose and Use: The RALS is used for general area lighting. Its primary uses include flight-line, POL, LOX, Power Plants, and Billets, but can be used anywhere area lighting is needed. The system consists of two-750 ft. electrical loops with twelve, 15 ft. telescoping lights. Each loop consists of two 375 ft. sections with 3 lights per section. Each light assembly has one, 150-watt, high pressure sodium bulb (16,000 lumens) and 1 telescoping pole. There is one additional assembly attached to the container. Light poles are staked into the ground. Each one is placed up to 125 ft. apart.

Electrical Data: The RALS receives 120/208VAC 3-phase power from 60-amp cable.

Site Preparation & Setup: While it is not critical that the unit be level, it should be as nearly level as possible for convenience. The selected site should be clear of brush, large rocks and other obstacles. The site surface should be firm and well drained to prevent the supporting area from washing out underneath.



When assembling the light assemblies, do not handle bulb with bare hands. Oil and dirt causes damage to the bulb. When connecting cables during set-up, ensure the cables are completely plugged into each other to ensure a water tight seal. Refer to technical order for proper operation. Setup time is 1-manhour with 2-man team.

Preventive Maintenance: The unit should be inspected for corrosion and structural damage. Lubricate hinges. Exercise circuit breakers. Inspect cabling for tears, cracks, corrosion, bent connectors.

Environmental Limitations: N/A

Special Warning: Do not connect the cable to the power source until the entire system has been installed and post-installation checks have been made. Powered cables represent a shock hazard to personnel.

Fuel: N/A

Associated UTCs: XF_ZC

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TF-2 Floodlight Set

Figure 45: TF-2

Manufacturer:	**UNICOR**
Storage & Shipment Configuration:	**Trailer, two per UTC (air)** **Two per UTC in single 20 ISO container(surface)**
Dimensions:	**149” x 67” x 73”**
Weight:	**2,000 lbs. (dry)**
Cost:	**$15,000**
National Stock Number:	**6230-01-466-5315**
Technical Order Number:	**35F5-5-21-1**
Associated Equipment:	**Tow Vehicle Required**

TF-2 Floodlight Description

Purpose and Use: Designed for use as a mobile floodlight unit for large area lighting. Primarily used for initial camp bed-down, perimeter lighting and flight-line use. Also provides low voltage power source.

Electrical Data: 6 kW output, 120/240 VAC, three 120 VAC outlets, two 120/240 VAC outlets.

Site Preparation & Setup: Unit must be placed on level ground to operate (do not exceed a 5 degree angle). Setup requires one person approximately 30 minutes.

Preventive Maintenance: Check engine fluids daily or prior to use. Change engine oil and oil filter every 200 hours. Change air filter as required or at least every 500 hours. If not used daily, operate unit for 1 hour every two weeks.

Environmental Limitations: Operating temperature range: -25° F to + 125°F

Special Warning: Do Not Service Or Adjust Alone. Under no circumstances should any person reach into or enter the enclosure for the purpose of servicing or adjusting the equipment except in the presence of someone who is capable of rendering aid. Always check for overhead obstructions before raising the mast on the light cart. Never attempt to move the light cart with the mast raised in the vertical position. Always chock the trailer wheels and set the parking brake when setting up the light cart. Do not raise the mast on the light cart if electrical storms or lightning are occurring or expected. Always connect the light cart to a good earthen ground before erecting the mast or starting the engine.

Fuel: No. 2 Diesel Fuel, DF-1, DF-2, DF-A, JP-5 or JP-8

Associated UTCs: XF_23

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Two Wheel Light Cart

Figure 46: Light cart

Manufacturer:	**Magnum Products, LLC**
Storage & Shipment Configuration:	**Trailers, two per UTC (air) Two per UTC in single 20 ISO container(surface)**
Dimensions:	**150” x 67” x 70”**
Weight:	**1,982 lbs. (dry) 2,195 lbs. (wet)**
Cost:	**$15,000**
National Stock Number:	**6230-01-551-2663**
Technical Order Number:	**35F5-5-21-11**
Associated Equipment:	**Tow Vehicle Required**

Light Cart Description

Purpose and Use: Designed for use as a mobile floodlight unit for large area lighting. Primarily used for initial camp bed-down, perimeter lighting and flight-line use. Also provides low voltage power source.

Electrical Data: 6 kW output, 120/240 VAC, (120 VAC) two pairs of 5-20R duplex outlets, one L5-30R twist-lock, (240 VAC) one L6-20 twist-lock and one L14-30R twist-lock.

Site Preparation & Setup: Unit must be placed on level ground to operate (do not exceed a 5 degree angle). Setup requires one person approximately 30 minutes.

Preventive Maintenance: Check engine fluids daily or prior to use. Change engine oil and filter every 200 hours. Change air filter as required or at least every 500 hours. If not used daily, operate unit for 1 hour every two weeks. Refer to 35F5-5-21-11 Chapter 5 Maintenance Instructions.

Environmental Limitations: Operating temperature range: -25°F to +125°F.

Special Warning: Do Not Service Or Adjust Alone. Under no circumstances should any person reach into or enter the enclosure for the purpose of servicing or adjusting the equipment except in the presence of someone who is capable of rendering aid. Always check for overhead obstructions before raising the mast on the light cart. Never attempt to move the light cart with the mast raised in the vertical position. Always chock the trailer wheels and set the parking brake when setting up the light cart. Do not raise the mast on the light cart if electrical storms or lightning are occurring or expected. Always connect the light cart to a good earthen ground before erecting the mast or starting the engine.

Fuel: JP-8 or ASTM D975 No-2 diesel fuel

Associated UTCs: XF_23

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Welder

Figure 47: Welder

Manufacturer:	**Miller**
Storage & Shipment Configuration:	**Trailer (one per UTC)** **Store/Ship Millermatic 250 on 463L pallet (air) or in Bicon ISO container (surface)**
Dimensions:	**350D: 59.5” x 24” x 30”** **325D: 40.5” x 20” x 32.75”** **302D: 45.375” x 20” x 33.5”** **Millermatic 250: 40” x 19” x 30”**
Weight:	**350D: 998 lbs.** **325D: 460 lbs.** **302D: 580 lbs.** **Millermatic 250: 207 lbs.**
Cost:	**(350D, 325D, 302D): $8,197** **(Millermatic 250): $3,584**
National Stock Number:	**(350D, 325D, 302D): 3431-01-518-0306** **(Millermatic 250): 3431-01-424-9398**
Technical Order Number:	**Commercial Owner’s Manual**
Associated Equipment:	**Tow Vehicle Required**

Welder Description

Purpose and Use: The trailer-mounted welders (350D, 325D, and 302D) are used by CE personnel for site maintenance. Provides for arc, stable AC TIG, MIG and flux-cored (FCAW) welding. Equipped with 120/240 VAC power to run tools.

The Millermatic 250 is a small, portable, electrically powered welder that is used by vehicle maintenance personnel to support vehicle maintenance operations. Provides MIG and flux-cored (FCAW) welding.

Electrical Data: Generator Power Output Rating for 350D-12kW, 325D-10.5kW, 302D-9.5Kw; 120/240 VAC, 60 Hz, single-phase.

Input voltage for the Millermatic 250 welder is 208V, single-phase, 60 Hz.

Max Weld Output Range: 350D – 350 Amps; 325D – 325 Amps; 302D – 300 Amps; Millermatic 250 – 250 Amps.

Site Preparation & Setup: Ensure surface is flat. Do not move or operate unit where it could tip. Install unit where air flow is not restricted to avoid overheating the welder.

Preventive Maintenance: See Owner's Manual—Maintenance Chart.

Environmental Limitations: N/A

Special Warning: Danger: electrical shock, toxic fumes, hot surfaces, noise hazard, moving parts, fire hazards and pressurized gas. Arc Rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin.

Fuel: Diesel Fuel (350D, 325D, and 302D); N/A (Millermatic 250)

Associated UTCs: XF_EC, XF_VC

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MB-8 Air Compressor

Figure 48: MB-8

Manufacturer:	**Rotaryaire Compressor Corp. & Ingersoll-Rand Company**
Storage & Shipment Configuration:	**Skid mounted; palletized on 463L pallet (air) or in one Bicon ISO container (surface)**
Dimensions:	**74” x 31” x 58”**
Weight:	**1,050 lbs.**
Cost:	**$18,020**
National Stock Number:	**4310-00-693-2653**
Technical Order Number:	**34Y1-90-31; 34Y1-90-42**
Associated Equipment:	**4K Forklift or larger**

MB-8 Description

Purpose and Use: Provides compressed air for hangars, garages, paint shops, or any installation needing a similar air source.

Electrical Data: Requires 230/460VAC, 60 Hz, 3-phase power.

Site Preparation & Setup: Choose a clean, relatively cool location to house the MB-8 air compressor. Allow for ample space beyond the unit's dimensions for cooling and general accessibility. To prevent vibration and possible movement by the MB-8 unit during operations, it is important that the unit be positioned on a level surface or anchored to the floor. The site chosen must also be near a floor drain and within easy access of air lines and electrical services.

Preventive Maintenance: Refer to 34Y1-90-31 and 34Y1-90-42 Chapter 5 Maintenance Instructions.

Environmental Limitations: -20°F to 125°F

Special Warning: Do not attempt any repair with air pressure in the system. Do not use air for human breathing purposes. Electrical and high temperature hazards are present. Do not service or adjust unit alone. Warning: Moving parts and pinch point hazards. Stay clear of live circuits.

Fuel: N/A

Associated UTCs: XF_14

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MC-2A Air Compressor

Figure 49: MC-2A

Manufacturer:	**Davey Compressor Co. Division, KECO Industries, Inc.**
	Trailer (air)
Storage & Shipment Configuration:	**Packed in ISO containers (surface)**
Dimensions:	**88.25” x 47” x 38”**
Weight:	**875 lbs. (dry)**
Cost:	**$17,459**
National Stock Number:	**4310-01-560-8709**
Technical Order Number:	**34Y1-87-71**
Associated Equipment:	**Tow Vehicle Required**

MC-2A Description

Purpose and Use: Diesel driven unit provides compressed air at 15 CFM and 200 psi. The unit is designed for operation of small pneumatic tools, paint spray guns, greasing equipment, tire inflation, and other similar uses where the use of electrical driven compressors would be impractical.

Electrical Data: 12V DC on-board battery and starter system (negative ground).

Site Preparation & Setup: One person approximately 10 minutes set-up time.

Preventive Maintenance: Refer to 34Y1-87-71 Chapter 5 Maintenance Instructions.

Environmental Limitations: N/A

Special Warning: Do not attempt any repair with air pressure in the system.

Fuel: Diesel DF1, DF 2, or JP-8 primary grades (six gallon fuel tank).

Associated UTCs: XF_EC, XF_VC

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MC-5 Air Compressor

Figure 50: MC-5

Manufacturer:	**Ingersoll-Rand Co.**
Storage & Shipment Configuration:	**Store indoors/outdoors. Unit is trailer configured (air) or in 20 ft. ISO container (surface)**
Dimensions:	**149” x 74” x 71”**
Weight:	**3,500 lbs.**
Cost:	**$12,025**
National Stock Number:	**4310-01-149-6530**
Technical Order Number:	**34Y1-184-21**
Associated Equipment:	**Tow vehicle required**

MC-5 Description

Purpose and Use: Diesel driven air compressor designed to supply compressed air at 250 CFM and 100 psi for use in general construction work in conjunction with pneumatic tools and other equipment.

Electrical Data: N/A

Site Preparation & Setup: One person approximately 30 minutes.

Preventive Maintenance: Refer to 34Y1-184-21 Chapter 5 Maintenance Instructions.

Environmental Limitations: N/A

Special Warning: Do not attempt any repair with air pressure in the system.

Fuel: Diesel DF 1, DF 2, or JP-8 primary grades (33 gallon fuel capacity).

Associated UTCs: XF_EC

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MC-20 Air Compressor

Figure 51: MC-20

Manufacturer:	**Doosan Int USA, Inc.**
Storage & Shipment Configuration:	**Store indoors/outdoors. Unit is trailer configured (air) or in Tricon ISO container (surface)**
Dimensions:	**82” x 54” x 39”**
Weight:	**973 lbs. (dry) 1012 lbs. (wet)**
Cost:	**$22,061**
National Stock Number:	**4310-01-577-3040**
Technical Order Number:	**34Y1-274-1**
Associated Equipment:	**Tow vehicle required**

MC-20 Description

Purpose and Use: The air compressor is used to support vehicle operation maintenance. The diesel driven compressor is a single-stage, oil filled, screw type, air-oil cooled compressor that is designed for portable application. This unit may be used for any compressed air application requiring air from 0 to 150 PSI with a delivery of 20 CFM.

Electrical Data: A sealed, maintenance-free 12 VDC battery mounts in a tray secured to the top of the receiver tank.

Site Preparation & Setup: The air compressor is designed to operate in a maximum out-of-level condition, 15 degrees from horizontal, in any direction. All fluid levels (engine oil, air compressor oil, etc.) should be checked and topped off while unit is in a level position. The unit should not be placed less than 15 inches from any wall or other equipment.

Preventive Maintenance: Refer to 34Y1-274-1 Chapter 5 Inspections and Preventive Instructions.

Environmental Limitations: The ambient air temperature for unit operation should be less than 130 °F and more than -50 °F.

Special Warning: Do not attempt any repair with air pressure in the system. Severe shock and injury can result if electrical parts are energized while performing repair procedures, disconnect negative cable from battery. Failure to comply may cause severe burns, injury or death.

Fuel: Diesel or JP-8 jet fuel (5 gallon fuel capacity).

Associated UTCs: XF_VC

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Section 4 Fuels Operations








R-18 Trailer-Mounted Pumping Unit

Figure 52: R-18

Manufacturer:	**Entwhistle**
Storage & Shipment Configuration:	**Air and Surface transportable**
Dimensions:	**146” x 58” x 91”**
Weight:	**4,800 lbs.**
Cost:	**$55,000**
National Stock Number:	**4320-01-544-2959**
Technical Order Number:	**37A9-3-5-61, 37A9-3-5-71, 37A9-3-5-74**
Associated Equipment:	**R-19, R-20, R-21, 50K/210K collapsible fabric tank**

R-18 Trailer-Mounted Pumping Unit Description

Purpose and Use: The R-18 is a pumping system powered by a multi-fuel engine capable of moving 900 GPM of jet fuel at an output pressure of 150 psi. System pressure is no more than 150 psi and is protected by a pressure relief valve. The design of the pump automatically prevents vapor locks when offloading tank trucks. The inlet connections are two six-inch female, four-ear camlock fittings. The outlet is a six-inch male camlock fitting. An eight-inch basket strainer is upstream of the pump impellers to prevent impeller damage. A telescoping hoist provides area lighting from four halogen flood lights. It consists of a remote control system. The hand held unit can be either tethered or use Radio Frequency. There is also a wired communications capability, so that the R-18 can work in concert with other R-18s and R-20s.

Electrical: Diesel engine operates on 12 volt battery/starter system.

Site Preparations and Setup: Unit is operated on airfield runway surfaces. Always set parking brakes before operation. Perform grounding and bonding procedures IAW TO 00-25-172.

Preventive Maintenance: Inspections will be carried out IAW the technical order. PM procedures can be found in SWP 005 02

Environmental Limitations: N/A

Special Warnings: Do not smoke or carry any device capable of igniting jet fuel vapors within 50 ft. of any system components.

Fuel: Diesel engine - DF-2

Associated UTCs: JFDFS, JFDSC, JFDRC

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R-19 Trailer Mounted Filter System

Figure 53: R-19

Manufacturer:	**Entwhistle**
Storage & Shipment Configuration:	**Air and Surface Transportable**
Dimensions:	**133” x 90” x 65”**
Weight:	**3,000 lbs.**
Cost:	**$45,000**
National Stock Number:	**4930-01-543-6231**
Technical Order Number:	**37A9-3-5-61, 37A9-3-5-71, 37A9-3-5-74**
Associated Equipment:	**R-20, R-21, 50K/210K collapsible fabric tank**

R-19 Trailer Mounted Filter System Description

Purpose and Use: Designed to filter and separate particulate and water from fuel and consists of two 600-gpm aluminum alloy filter separators, which are fully qualified to the requirements of API/IP 1581, Fifth Edition. The separators are configured to run in parallel at 1200 GPM or individually at 600 GPM. Each 600 GPM filter separator is qualified to the M100 requirements with the additional military requirements for reduced effluent-free water limit. Each vessel is fitted with a pressure relief valve and an air eliminator that have discharge ports connected to a sump tank. Each vessel has a four-inch isolation valve/evacuation system so that the filter elements can be changed in either vessel while maintaining flow through the other.

Electrical: N/A

Site Preparation and Setup: Unit is operated on airfield runway surfaces. Always set parking brakes before operation. Perform grounding and bonding procedures IAW TO 00-25-172.

Preventive Maintenance: Inspections will be carried out IAW the technical order. PM procedures can be found in SWP 006 02. Refer to table 1 for Periodic Inspection and Maintenance.

Environmental Limitations: N/A

Special Warnings: N/A

Fuel: N/A

Associated UTCs: JFDFS, JFDSC, JFDRC

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R-20 Multi-Aircraft Servicing Platform

Figure 54: R-20

Manufacturer:	**Entwhistle**
Storage & Shipment Configuration:	**Air and Surface Transportable**
Dimensions:	**176” x 106” x 108”**
Weight:	**5,330 lbs.**
Cost:	**$116,000**
National Stock Number:	**4930-01-543-4717**
Technical Order Number:	**37A9-3-5-61, 37A9-3-5-71, 37A9-3-5-74**
Associated Equipment:	**R-19, R-21, 50K/210K collapsible fabric tank**

R-20 Multi-Aircraft Servicing Platform Description

Purpose and Use: The R-20 supplies up to 900 GPM of fuel to two aircraft and limits nozzle pressure to 50 +/- 5 psi. The fuel inlet to the platform is a six-inch, four-ear, female camlock. Fuel flow is separated through a manifold into two separate circuits capable of providing up to 600 GPM individually through one hose or 900 GPM through two hoses, each with its own positive displacement flow meter, pressure and flow control system, automated data capture (ADC) for collection of billing data, and discharge hose and reel. Electrically operated hose reels with 60 feet of API 1529 hose are provided for each circuit to provide hot pit refueling capability. For fueling of wide body aircraft, two 120-foot lengths of collapsible hose are stored on manually operated reels. The remote control system includes a hand-held controller (tethered or RF), which is used to open and close the fueling valves. There is also a wired communications capability, so that the R-20 can work in concert with other R-18s and R-20s. Programmable logic controllers (PLCs) are used to control the unit's functions based on communications received from the hand-held and/or other R-18s and R-20s.

Electrical: Unit operates on a 12-volt system.

Site Preparation and Setup: Unit is operated on airfield runway surfaces. Always set parking brakes before operation. Perform grounding and bonding procedures IAW TO 00-25-172.

Preventive Maintenance: Inspections will be carried out IAW the technical order. PM procedures can be found in SWP 007 02. Refer to table 1 for Periodic Inspection and Maintenance.

Environmental Limitations: N/A

Special Warnings: Do not smoke or carry any devices capable of igniting jet fuel vapors within 50 ft. of any system components.

Fuel: N/A

Associated UTCs: JFDFS, JFDSC, JFDRC

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R-21 Portable Hydrant Mission Support Plumbing Assembly

Figure 55: R-21

Manufacturer:	**Entwhistle**
Storage & Shipment Configuration:	**Air and Surface transportable**
Dimensions:	**96” x 77.5” x 96”**
Weight:	**81,253 lbs.**
Cost:	**JFDFS $274,00** **JFDRC $109,126** **JFDSC $206,639**
National Stock Number:	**JFDFS 4930-01-573-1370** **JFDRC 4930-01-573-4818** **JFDSC 4930-01-573-4819**
Technical Order Number:	**37A9-3-5-61, 37A9-3-5-71, 37A9-3-5-74**
Associated Equipment:	**R-18, R-19, R-20, 50K/210K collapsible fabric tank**

R-21 Portable Hydrant Mission Support Plumbing Assembly Description

Purpose and Use: The R-21 Plumbing assembly consists of a large assortment of loose equipment, including hoses, valves, adapters and fittings, which are used to connect the FORCE subsystems into operational configurations. The R-21 also includes special-purpose, skid-mounted assemblies which perform specific functions in the overall FORCE concept. All of the items making up the plumbing assembly are stored and shipped in Tricon ISO containers. Refer to technical order for the complete list of R-21 equipment.

Electrical: N/A

Site Preparation & Setup: The R-21 needs no preparation for use. All components are ready to be used, as is, when removed from the Tricon ISO containers.

Preventive Maintenance: Follow maintenance requirements found in T.O. 37A9-3-5-61 - WP 008 00.

Environmental Limitations: Only limited by temperature range requirements of the fuels being serviced.

Special Warning: N/A

Associated UTCs: JFDFS, JFDSC, JFDRC

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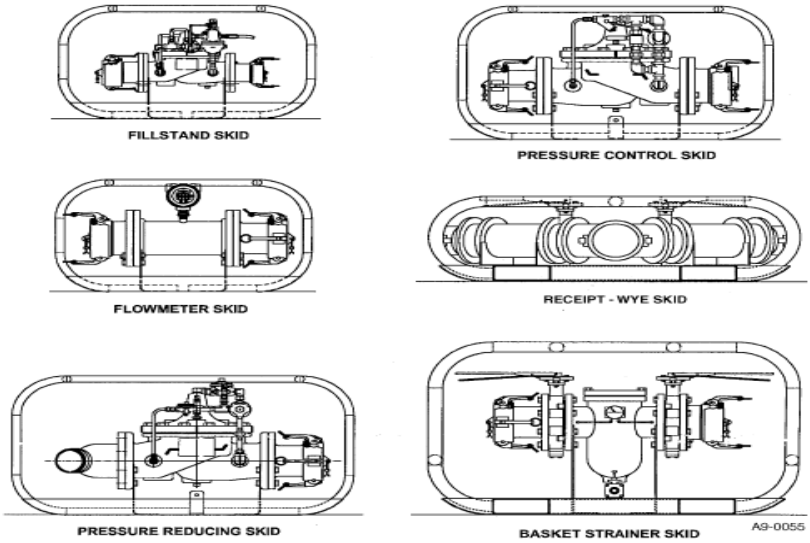

PMU-27M Pumping Assembly

Figure 56: PMU-27M

Manufacturer:	**Multiple**
Storage & Shipment Configuration:	**Air and Surface Transportable**
Dimensions:	**100” x 45.5” x 42.5”**
Weight:	**1,180 lbs.**
Cost:	**$3,851**
National Stock Number:	**4320-00-754-7573**
Technical Order Number:	**35E13-73-21**
Associated Equipment:	**Accessory Support MRSP kit - 4 each, 500g seal drums, 2 each, ¾ inch service nozzles, 24’, ¾ inch discharge hose, 100’, 2 inch suction hose, 1 each, 10 GPM hand pump with stand, and 2 tow yokes for filled 500g seal drums.**

PMU-27M Pumping Assembly Description

Purpose and Use: The primary function is the refueling of small aircraft and transferring small quantities of fuel. An alternate function is as a ground fuels dispensing unit and aircraft defueling. The PMU-27M is a trailer mounted, engine powered unit consisting of a 50 GPM pump, filter separator, meter, hoses, connections, and nozzles. It is also capable of defueling four 55-gallon drums simultaneously, pumping from an external source and defueling aircraft auxiliary tanks. The PMU-27M is converted to a service station, for vehicles and equipment when an accessory Mobility Readiness Spares Package kit (MRSP) is added.

Electrical: N/A

Site Preparation & Setup: Designed for installation in 6 inch pipeline sections when operating pressures of 150 PSI or less is required.

Preventive Maintenance: Refer to 35E13-73-21, chapter 2

Environmental Limitations: N/A

Special Warning: N/A

Fuel: N/A

Associated UTCs: JFDEK

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500 Gallon Liquid Oxygen and Nitrogen Storage and Transfer Trailer

Figure 57: 500 Gal LOX/Nitrogen Trailer

Manufacturer:	**Essex Industries**
Storage & Shipment Configuration:	**Air and Surface Transportable**
Dimensions:	**126” x 84” x 96”**
Weight:	**4,600 lbs. (empty)/9,600 lbs. (full)**
Cost:	**$84,984**
National Stock Number:	**LIN - 3655-01-626-3553** **LOX – 3655-01-626-3554**
Technical Order Number:	**37C2-8-42-1**
Associated Equipment:	**Overboard Vent Kit**

500 Gallon LOX/LIN Description

Purpose and Use: This equipment I used for the storage and transferring of aviator's LOX or LIN. The Trailer is capable of storing 500 gallons of LOX or LIN product. The Trailer is designed for the air transport of a full tank to the point of use and for the transfer of the LOX or LIN into aircraft converters/containers into smaller servicing carts (e.g., 50 gallon servicing carts), or into other servicing tanks. Also the Trailer is portable and can be towed by flight line towing vehicles with the tank full of product. The Trailer is equipped with a servicing hose and can be used to refill aircraft LOX or LIN systems.

Electrical: N/A

Site Preparation and Setup: Prior to designated operations, the tank shall be grounded against the effects of static electricity. Perform grounding and bonding procedures IAW TO 00-25-172.

Preventive Maintenance: Inspections will be carried out IAW the technical order. Periodic inspections as well as preventive maintenance procedures and requirements can be found in T.O. 37C2-8-42-1.

Environmental Limitations: When tanks contain product, a covered roof must be provided to ensure cryogenic conservation and maintenance support equipment are protected from the elements. Adequate ventilation must be provided.

Special Warnings: Personnel operating and performing maintenance on this equipment shall wear protective clothing and equipment as directed in T.O. 00-25-172 and AFMAN 91-203.

Fuel: N/A

Associated UTCs: JFD02, JFDN2

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ABFDS-AERIAL BULK FUEL DELIVERY SYSTEM (WITH OPTIONAL ACE PACKAGE)

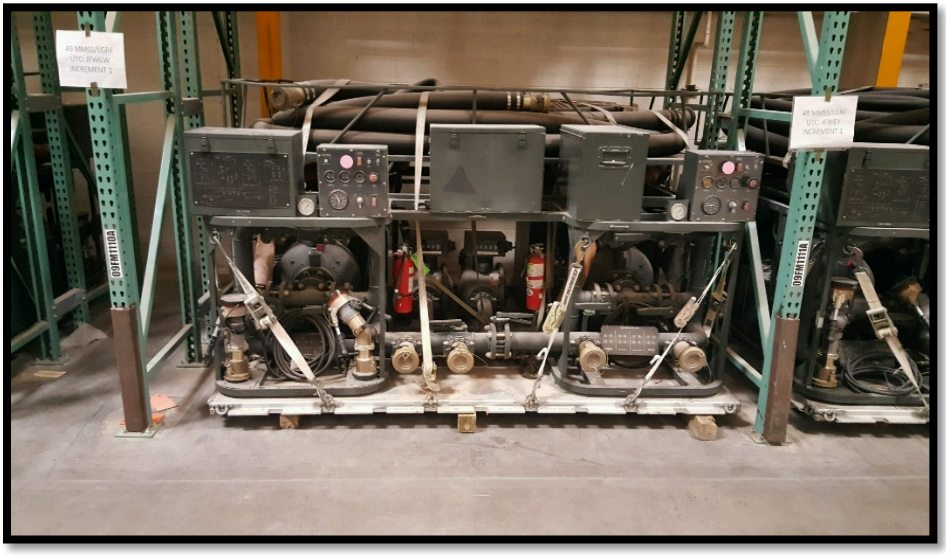

Figure 58: ABFDS

Manufacturer:	**Air Logistics/Engineered Air Systems**
Storage & Shipment Configuration:	**Air Transportable**
Dimensions:	**84” x 108” x 67”**
Weight:	**4,544 lbs.**
Cost:	**$157,000**
National Stock Number:	**4930-01-388-9490**
Technical Order Number:	**37A9-3-7-1** **37A9-3-16-1**
Associated Equipment:	**Alternate Capabilities Equipment (ACE)**

ABFDS-Description

Purpose and Use: The ABFDS is designed for aerial delivery of fuel to locations where other methods of transportation are impractical. It has been particularly successful delivering fuel to forward locations under austere conditions. The system has been qualified for bulk transport of all types of liquid fuel, including special fuels, such as JPTS (thermally stable jet fuel). The system can carry from 3,000 to 24,000 gallons per sortie. The ABFDS is equipped with two 600 GPM and may be operated separately or concurrently. Some ABFDS have been modified with Alternate Capabilities Equipment (ACE) to provide a capability to refuel aircraft direct from the ABFDS. With the addition of ACE, a 350 GPM filter separator is installed. Commanders may authorize the one-time use of non-ACE equipped ABFDS for aircraft servicing when an emergency situation develops and support cannot be provided by other means. Under these circumstances, it must again be remembered that the normal ABFDS has no filter separator capability. If ACE is used the maximum issue rate is 350 GPM and only one pump is operated at a time. Two AFSC 2F0X1 Special Experience Identifier (SEI) 369 qualified ABFDS operators are required for operation of the ABFDS or ABFDS with ACE.

Electrical: Diesel engine operates on 24 volt battery system.

Site Preparation and Setup: ABFDS will be flown on aircraft. The pump module must be located on the aft ramp during engine operation to permit engine exhaust hoses to extend outboard of the cargo compartment.

Preventive Maintenance: Inspections will be carried out IAW the technical order. PM procedures can be found in SWP 007 01.

Environmental Limitations: Restricted to be loaded only on C-17/C-5 aircraft.

Special Warnings: To prevent injury to personnel, do not operate the internal combustion engines in an explosive or closed atmosphere. When operating the pump engines in an enclosed area, make certain that the exhaust fumes are piped to the outside. These fumes contain carbon monoxide, a deadly gas that is colorless, tasteless, and odorless.

Fuel: Diesel, Mogas, JP-8

Associated UTCs: JFDEW, JFDEY

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Tactical Automated Service Station (TASS)

Figure 59: TASS

Manufacturer:	**Porter Manufacturing**
Storage & Shipment Configuration:	**Air and Surface Transportable**
Dimensions:	**138” x 95” x 91”**
Weight:	**3,500 lbs.**
Cost:	**$40,000**
National Stock Number:	**4930-01-552-2412**
Technical Order Number:	**37A9-7-2-2**
Associated Equipment:	**N/A**

TASS-Description

Purpose and Use: The TASS is a deployable tactical fueling station used to service vehicles and equipment at austere locations throughout the world. The TASS consists of two 10-gpm electric service station pumps, a generator to supply power for their operation or capability to connect to a power unit, two dispensing nozzles with hose reels, AFSS card reader automation, and self-contained lighting. The TASS provides a "self-serve," automated interface with equipment requiring ground fuel. The TASS can service to different types of fuels or have two nozzles for a single fuel. The TASS is designed to connect to multiple type fuels source ranging from bladders, portable tanks to 6K gallon trucks via multiple adapters.

Electrical: Diesel engine operates on 12 volt battery system.

Site Preparation and Setup: The TASS should be located on firm, level surface and located within convenient reach of the fuel supply. Unit should be located in such a position that vehicles being refueled have easy, unobstructed access to the side of the TASS with the fueling nozzles. If TASS is being powered using the on-board diesel generator, care should be taken to allow for proper ventilation of exhaust fumes. If TASS is being powered with external (Grid) power, unit should be located within 50 ft. of the power outlet. Always set parking brakes before operation. Perform grounding and bonding procedures IAW TO 00-25-172.

Preventive Maintenance: Inspections will be carried out IAW the technical order. PM procedures can be found in WP 008 00.

Environmental Limitations: Unit should be located so that any overhead wires, trees, or structures do not interfere with erecting light tower.

Special Warnings: Do not smoke or carry any device capable of igniting jet fuel vapors within 50 ft. of any system components.

Fuel: Diesel, Mogas, JP-8

Associated UTCs: JFDSS

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TPI-4T-4 Additive Injector

Figure 60: TPI-4T-4 Additive Injector

Manufacturer:	**Hammonds**
Storage & Shipment Configuration:	**Air and Surface Transportable**
Dimensions:	**49”x23”x34”**
Weight:	**355 lbs.**
Cost:	**$13,947**
National Stock Number:	**4930-01-213-3014**
Technical Order Number:	**37A9-3-15-1**
Associated Equipment:	**N/A**

TPI-4T-4-Description

Purpose and Use: The additive injector is used for the injection of fuel additives into bulk fuel storage. The additive injector is a skid-mounted module equipped with two 6 gallon blending tanks. It is capable of injecting three (3) separate additives simultaneously using three separate injector pumps driven by a common turbine. The additive injection rates are proportional to the fuel flow rates. The inlet is equipped with one 3 inch or 4 inch female camlock fitting, and outlet is equipped with one 3 inch or 4 inch male camlock fitting.

Electrical: N/A

Site Preparation and Setup: Unit can be installed in-line to a fixed bulk petroleum system or used in conjunction with truck fillstands, an R-14, or R-22 system or two systems can be used with the FORCE receiving system but must be used in conjunction with a pressure reducing valve supplied in the R-21. Fuel System Icing Inhibitor is drawn from 55 gallon drums and injected in the jet fuel stream along with corrosion inhibitor and static dissipater additive which are simultaneously drawn from the two blend tanks.

Preventive Maintenance: Inspections will be carried out IAW the technical order. PM procedures can be found in T.O. 37A9-3-15-1.

Environmental Limitations: N/A

Special Warnings: Do not smoke or carry any device capable of igniting jet fuel vapors within 50 ft. of any system components.

Fuel: N/A

Associated UTCs: JFWGE

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Collapsible Coated Fabric Tanks

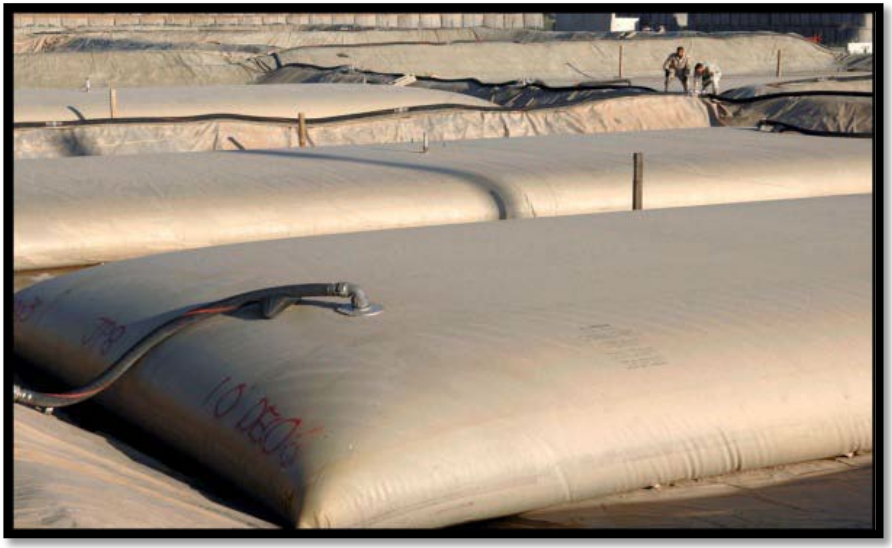

Figure 61: 50,000 Gallon Collapsible Fabric Tank

The following dimensions, weight, cost and NSN are for the 50,000 gallon collapsible fabric tank.

Manufacturer:	**Multiple**
Storage & Shipment Configuration:	**Air or Surface shipment**
Dimensions:	**Rolled: 136” x 40” x 40”**
Weight:	**1,500 lbs. (dry)**
Cost:	**$15,000**
National Stock Number:	**Multiple NSNs: a representation of one is 5430-01-517-8580**
Technical Order Number:	**37A12-15-1**
Associated Equipment:	**FORCE**

Collapsible Coated Fabric Tank Description

Purpose and Use: Collapsible fuel tanks are normally provided in either 10,000, 50,000 or 210,000 gallon capacity. Tanks are constructed of a single ply, nylon fabric material with reinforced corners. The interior of the tank is coated with polyester, while the exterior is of nylon, or equivalent fabric, impregnated with urethane or nitrile. The weight of a 210,000 gallon tank is approximately 5,000 pounds. The weight of a 50,000 gallon tank is approximately 1,500 pounds, while the 10,000 gallon tank weighs approximately 375 pounds. Dimensions of an empty 210K bladder are 70 feet by 70 feet. Dimensions of an empty 50K bladder are 68' 2" feet by 28' 1" feet. Dimensions of an empty 10K bladder may be 12 feet by 42 feet, or 22 feet by 22 feet. Fabric tanks are tested from -40 degrees Fahrenheit to 160 degrees Fahrenheit to prove reliability in any climate. Tanks can be connected by a manifold and are capable of being repaired in the field.

Electrical: N/A

Site Preparation & Setup: If plans are to use bladders, a suitable site must be selected. Overall area should be approximately 100 feet wide by 160 feet long, be free of rocks and obstructions, and provide adequate drainage. Dike should be placed as close to the aircraft apron as practically possible.

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The ground should be as level as possible with maximum slope of three degrees to prevent the tank from creeping. Avoid low areas to prevent accumulation of trapped vapors. Careful attention should be given to receiving capabilities, such as rail cars, taxiways, and roads. If the site is dependent on aerial bulk fuel delivery system for resupply, the tank area must be placed 100 feet from a parking apron. Do not place the site uphill or upstream from other installations because of possible contamination or fires due to bladder rupture. Where possible, a dike or berm should be constructed with a capacity of at least 1 ½ times the capacity of the tanks within.

Preventive Maintenance: Inspections will be carried out IAW the technical order. Use tables 2-3 & 2-4 for inspection and repair standards plus minimum periodic inspections

Environmental Limitations: N/A

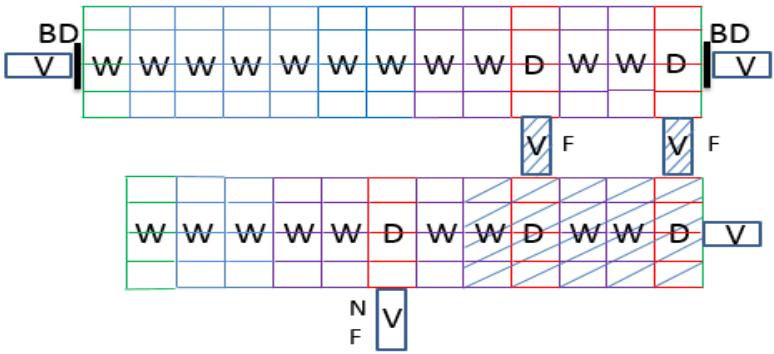
Special Warning: Follow technical order procedures when filling bladders for the first time. ***No one will enter the bermed area without a harness and a spotter if bladder is filled more than 50% of its capacity (AFOSH STD 91-501)

Associated UTCs: JFDLB, JFDEM, JFDEL

Capacity (Gallons)	Bladder Dimensions										Weight Dry (Approx.)[2]
	Full (Approximate)[1]						Empty				
	Length		Width		Height		Length		Width		
	Ft	In	Ft	In	Ft	In	Ft	In	Ft	In	Pounds
500	13	5	9	0	5	8	5	1	4	4	250
3,000	12	6	12	6	4	0	14	0	14	0	210
10,000	20	6	20	6	4	0	22	0	22	0	375
20,000	26	6	22	6	5	2	28	0	24	0	680
50,000	66	0	22	6	5	5	68	2	28	1	1,500
50,000[3]	62	8	22	7	5	2	65	0	24	6	1,026
210,000	68	5	68	5	6	5	70	0	70	0	5,000
210,000[3]	72	5	73	4	5	6	74	4	73	2	4,217

1-After settling (height is greater on initial fill)
2-Tank only. no accessories
3-Tanks produced by MPC Containment Systems after October 2008

Section 5 Services



Single Pallet Expeditionary Kitchen (SPEK)

Figure 62: SPEK

Manufacturer:	**AAR Corp.**
Storage & Shipment Configuration:	**Ship/store in closed configuration Uses one pallet position (air) Ships as is (surface)**
Erected Configuration:	**Closed: 88" X 108" X 91" Open: 245" X 108" X 91"**
Weight:	**4,000 lbs.**
Cost:	**$75,000**
National Stock Number:	**7360-01-513-7311**
Technical Order Number:	**35E4-235-1**
Associated Equipment:	**2 kW tactical generator, Medium Shelter System, Babington Field Sanitation units, Tray ration heater, 20 Tables & 40 Benches**

SPEK Description

Purpose and Use: The Single Pallet Expeditionary Kitchen (SPEK) is a complete food service facility capable of providing hot meals to 300 personnel at a time. The SPEK provides the Air Force the capability to rapidly field feed Airmen for a period of up to 30 days. The SPEK is used until an expanded Air Force BEAR Kitchen can be set-up.

Electrical Data: System comes with 2kW generator for its power needs but can also be powered through other means. It operates on 120VAC.

Site Preparation & Setup: The SPEK requires a minimum of 4 personnel to unpack, assemble, operate, and repack. The SPEK requires a clear level area. Once deployed the SPEK can be unpacked and assembled in one and one half hours. An additional two and one half hours are required to prepare a meal for 300 persons, using Unitized Group Rations-Heat and Serve (UGR-H & S)

Preventive Maintenance: The 2kW tactical generator must be inspected IAW 35C2-3-512-1. Prior to use, check systems for cleanliness and leaks. Check water levels, inspect gaskets/latches. During post use, drain water, clean and sanitize the systems. Weekly, check fuel level, inspect for cracks along the weld seams and fuel lines for leaks.

Environmental Limitations: 2kW Generator Limitations: -51° to 122° F operating range, 15° max incline angle.

Special Warning: DO NOT USE GASOLINE IN ANY COMPONENTS OF THE SPEK. Do not operate the 2kW generator without proper grounding. Do not turn the power on the Field Sanitation Unit until water is filled above the low water sensor, or it may cause damage to the equipment Tray Ration Heater. Use boil mode for short periods of time. Extended use of the boil mode produces excessive steam through the pressure relief hole in the back of the lid and causes excessive pressure to accumulate in canned food. Personnel can be burned by vented steam or pressurized, scalding can contents.

Fuel: Generator & Babington Burner use Diesel fuel DF1, DF2 primary grades. JP-8, FP-5 and DFA alternate grades.

Associated UTCs: XF_TF

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Portable Electric Kitchen System (PEKS)

Figure 63: PEKS

Manufacturer:	**ADS, Inc. utilizing Berg Manufacturing, Inc. & Celina Tent**
Storage & Shipment Configuration:	**Store/Ship in seven Bicon ISO containers (surface)**
Erected Configuration:	**140 ft. by 100 ft.**
Weight:	**Surface: 57,303 lbs.**
Cost:	**$371,067**
National Stock Number:	**7360-01-643-2949**
Technical Order Number:	**35E4-248-1**
Associated Equipment:	**13K forklift to move shipping containers and small forklift to move appliances**

PEKS Description

Purpose and Use: The Portable Electric Kitchen System is all electric and provides an austere base with the messing capability to feed up to 550 personnel. All tools, components and equipment, except electrical and water sources, that are required to unpack, set up, operate, maintain, strike, and repack the facility are supplied in the shipping containers.

Electrical Data: Power distribution panels, fed from 60A cables from an SDC, distribute power to lights, outlets, and some small appliances. Most large appliances are fed directly from an SDC. Electrical power can be supplied through prime power via 2 SDCs or through 2 MEP 806 tactical generators. The PEKS requires 120/208 VAC 3 phase 60 Hz power.

Site Preparation & Setup: Assembly time is determined by skill level, experience and number of personnel. Contact 635 MMG for more information. Refer to Subordinate Work Package (SWP) 006 01, T.O. 35E4-248-1. Select a site approximately 140 feet by 100 feet that is relatively level, has good drainage, is free of rocks and underbrush, is sheltered from high winds, and accessible to the rest of the installation.

Preventive Maintenance: Refer to WP 010, T.O. 35E4-248-1 for information regarding inspection schedules. There are numerous appliances that require inspection prior to, during and after use. Refer to technical order for a checklist of items to inspect.

Environmental Limitations: All appliances in the PEKS operate in an environmentally controlled location.

Special Warning: Each appliance has specific warnings, refer to T.O. 35E4-248-1 and 40R7-6-1 for specific cautions and warnings.

Fuel: N/A

Associated UTCs: XF_KP

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9-2 Kitchen

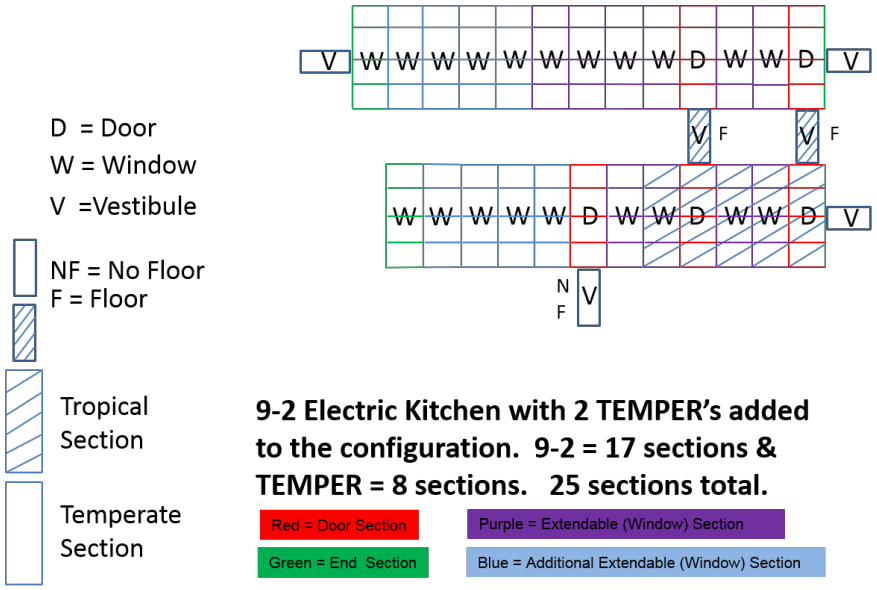

Figure 64: 9-2 Kitchen

Manufacturer:	**Various**
Storage & Shipment Configuration:	**Store/Ship in six ISU-90 containers (air) or six Bicon ISO containers (surface)**
Erected Configuration:	**200 ft. by 100 ft.**
Weight:	**Air: 34,450 lbs. Surface: 62,230 lbs.**
Cost:	**$624,575**
National Stock Number:	**7360-01-628-2596**
Technical Order Number:	**35E4-169-31**
Associated Equipment:	**13K forklift to move shipping containers and small forklift to move appliances**

9-2 Kitchen Description

Purpose and Use: The 9-2 kitchen is a complete portable food preparation and serving complex. It is designed to serve up to 550 personnel and seat 120. All tools, components and equipment, (except electrical and water sources), required to unpack, set up, operate, maintain, strike, and repack the facility, are supplied in the shipping containers.

Electrical Data: The power distribution system takes electrical power from an external source and distributes it to the various electric appliances and lights. The major components of the Power Distribution system include secondary distribution boxes, cable assemblies and lighting harnesses. DATA: Primary panel-boards: 1) 120/208VAC, 3-phase, 200-Amp, 60 Hz. Secondary panel-board: 120/208VAC, 3-phase, 60-Amp.

Site Preparation & Setup: Refer to Work Package (WP)-005 00, T.O. 35E4-169-31. Select a site approximately 200 feet by 100 feet that is relatively level, has good drainage, is free of rocks and underbrush, is sheltered from high winds, and accessible to the rest of the installation. Assembly time is determined by skill level, experience and number of personnel. Contact 635 MMG for more information.

TEMPer Tent: The basic 9-2 shelter is augmented by two standard TEMPer tents to provide additional space. Dimensions: 32 ft. x 20 ft. x 10.5 ft. (640 sq. ft.); NSN: 8340-01-185-2628; TO: 35E5-6-1

Preventive Maintenance: Refer to WP 012, T.O. 35E4-169-31 for information regarding inspection schedules. There are numerous appliances that require inspection prior to, during and after use. Refer to technical order for a checklist of items to inspect.

Environmental Limitations: All appliances in the 9-2 Kitchen operate in an environmentally controlled location.

Special Warning: Each appliance has specific warnings, refer to T.O. 35E4-169-31 and 40R7-6-1 for specific cautions and warnings.

Fuel: The M-80/WH 400 Water Heaters will require Diesel DF1, DF2 primary grades. JP-8, FP-5 and DFA alternate grades.

Associated UTCs: XF_KC

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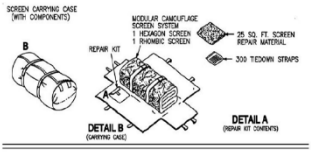
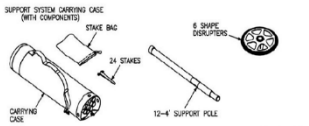
Section 6 Miscellaneous BEAR Items





Ultra-Lightweight Camouflage Net System (ULCANS)

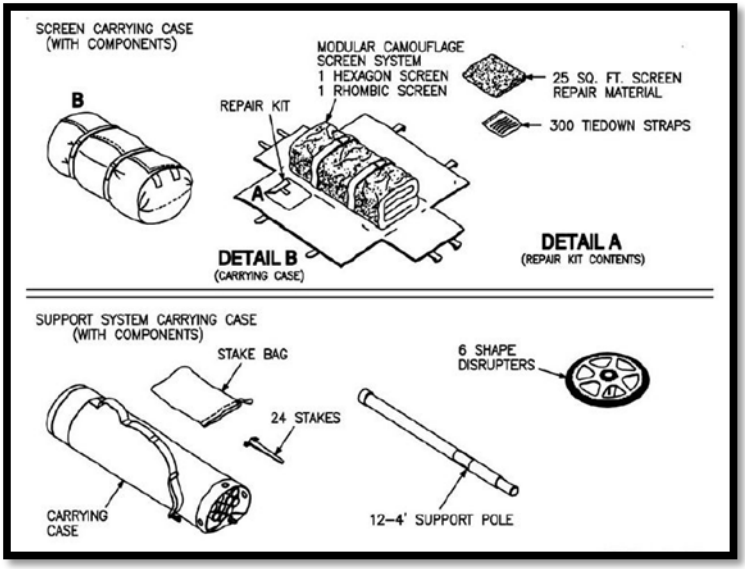


Figure 65: ULCANS

Manufacturer:	**Various**
Storage & Shipment Configuration:	**Shipped in ISU 90s for Air (3 increments). Shipped in Bicons for surface (3 increments).**
Dimensions:	**1 Diamond - 27.9'L x 16.1'W 1 Hexagon – 32.3'L x 27.9'W (refer to T.O., page 1-8 for full configuration dimensions)**
Weight:	**1 system total weight – 105lbs**
Cost:	**$1,072.00**
National Stock Number:	**1080-01-475-0696**
Technical Order Number:	**TM 5-1080-250-12&P**
Associated Equipment:	**N/A**

ULCANS Description

Purpose and Use: The ULCANS, commonly called "Camo Netting", is designed to improve survivability of military hardware as an all-weather modular concealment system that provides visual, near infrared, and radar signature reduction. The screens are made of a synthetic, ultralight, water resistant material. It is of snag resistant construction and is field repairable and maintainable. It is designed for easy, rapid deployment and recovery by a minimum of two personnel.

Electrical Data: N/A

Site Preparation & Setup: When prepping the ULCANS for installation, spread the screens to be joined over a level ground site free from large rocks, sharp objects and debris.

Preventive Maintenance: All maintenance functions can be performed at the user level and no special tools are required for maintaining and/or repairing the ULCANS. See the T.O., chapter 3, section 2 for preventative maintenance information and procedures.

Environmental Limitations: N/A

Special Warning: Support poles will conduct electricity. Do not allow support poles to contact overhead power lines of other sources of electricity. The radar scattering ULCANS must not be placed over active radar equipment as it will interfere with the operation of the radar equipment underneath it.

Fuel: N/A

Associated UTCs: XF_NC

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Barbed Tape, Concertina

Figure 66: Barbed Tape, Concertina

Manufacturer:	**Various**
Storage & Shipment Configuration:	**Shipped on 2 463L Pallets for Air. 240 rolls/pallet. Shipped in 2 Bicons for surface. 240 rolls/Bicon.**
Dimensions:	**Length per roll extended - 50' Diameter of coils - 40"**
Weight:	**8.1 lbs per roll 3,888 lbs per UTC**
Cost:	**$54.19 per Roll**
National Stock Number:	**5660-00-921-5516**
Technical Order Number:	**N/A**
Associated Equipment:	**Gloves, Barbed Tape**

Barbed Tape, Concertina Description

Purpose and Use: Barbed tape, concertina wire or commonly called "Concertina Wire", is a mesh of metal strips with extremely sharp edges whose purpose is to prevent passage by humans. They may also serve as a tactical personnel obstacle for temporary military positions.

Electrical Data: N/A

Site Preparation & Setup: Wire is designed to be installed on a variety of surfaces and terrains.

Preventive Maintenance: Inspect wire for rust, broken pieces or creases in the metal. Replace as necessary.

Environmental Limitations: N/A

Special Warning: Wire is extremely sharp and dangerous. Ensure barbed tape gloves are used during the installation and reconstitution processes.

Fuel: N/A

Associated UTCs: XF_WR

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AM-2 Matting

Figure 67: AM-2 Matting

Manufacturer:	**Numerous**
Storage & Shipment Configuration:	**Ship on two-pallet train (two 463L pallets connected) (air) or transported individually to and from port by truck; shipping configuration created by servicing port (surface)**
Dimensions:	**L 177" W 108" H 65" for C-5 L 217" W 88" H 65" for C-17 (LRS floor configuration)**
Weight:	**2,700 lbs. (one bundle)**
Cost:	**$14,368**
National Stock Number:	**5680-01-176-9076**
Technical Order Number:	**35E2-2-7**
Associated Equipment:	**10K forklift**

AM-2 Matting Description

Purpose and Use: AM-2 matting has been used by the Air Force for over 40 years. At one time it was the primary rapid runway crater repair, but now has been relegated to the repair and expansion of taxiways and parking aprons. In the BEAR system, it's also used as flooring in large shelters.

Features: Panels come in two sizes, a full-length 12' x 2' panel and a 6' x 2' half-length panel; all are 1 ½" thick. Panels are painted Marine Corps green; the top surface is coated with nonskid of the same color. Panels weigh 6 lbs. /sq. ft. Installation requires at least a 16-person crew consisting of a supervisor, alignment leader, 2 pry bar handlers and 6 2-person mat installation teams. Several types of key locks, connector bars, locking bars and associated hardware are needed for full assembly

Site Preparation & Setup: Area must be cleared of all debris before the matting is assembled. Areas should be swept to remove small objects. Removal of small objects keeps debris from accumulating in the matting grooves.

Preventive Maintenance: Contents should be inspected for the following; flatness, condition of interconnecting edges, cracks in welds, holes in matting, extra coatings, and missing components. As each component is inspected, each should be tagged and classified into one of the categories; AS IS – requiring cleaning and touch-up painting only. REWORK – requiring straightening and/or welding and cleaning and refinishing.

Environmental Limitations: Where there is heavy rainfall, water collects under the matting unless there is adequate drainage. When this happens water eventually pumps through the matting and erodes the base.

Special Warning: N/A

Fuel: N/A

Associated UTCs: XF_AM

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Expandable Light Air Mobile Shelter (ELAMS)

Figure 68: ELAMS

Manufacturer:	**AAR Corp.**
Storage & Shipment Configuration:	**Self-contained/fits on 463L pallet**
Dimensions:	**Closed – 178” x 96” x 91.38”** **Expanded – 174.3” x 266” x 91.38”**
Weight:	**3,840 lbs.**
Cost:	**Tan: $110,133** **Green: $95,442**
National Stock Number:	**Tan: 8145-01-468-5926** **Green: 8145-01-494-5922**
Technical Order Number:	**Commercial Owner’s Manual (P/N 58200-0XX)**
Associated Equipment:	**13K adverse-terrain forklift**

ELAMS Description

Purpose and Use: All-purpose soft-walled shelter used as maintenance shops, control centers, storage, office area, etc.

Electrical Data: 120/208VAC, 60 Hz, 3-phase, 5 wire input

Site Preparation & Setup: The location should be vehicle-accessible. The selected site terrain should be level (recommended slope of 18 inches or less along projected floor area), firm, well-drained and relatively free of surface rock and debris. A minimum of 5 personnel is required to safely assemble the structure. Assembly time is approximately 10 man hours.

Preventive Maintenance: Check floor, walls, ceiling, door and jacks for general condition and security. Ensure electrical cabling attachments and circuit breakers are secure and operational.

Environmental Limitations: Temp: -25° - 125°. Solar Load: 200°. Wind Load: 60-knots sustained winds and gusts to 90-knots. Snow Load: 40 lbs. per square foot. Floor Load: Center – 120 PSI; Expanded – 80 PSI. Humidity: N/A

Special Warning: N/A

Fuel: N/A

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Internal Slingable Unit (ISU) 90

Figure 69: ISU-90

Manufacturer:	**AAR Corp.**
Storage & Shipment Configuration:	**Indoor/Outdoor storage, ships as is**
Dimensions:	**88” x 108” x 90”**
Weight:	**1,720 lbs.**
Cost:	**$14,664**
National Stock Number:	**8145- 01-512-1201**
Technical Order Number:	**TM 86075-043**
Associated Equipment:	**N/A**

ISU-90 Description

Purpose and Use: The ISU-90 is used as a transport/storage unit. This allows for containerized shipping IAW air configuration requirements. It is multi-modal, 463L certified for standard pallet sized 108 x 88 handling. It is 4 way forkliftable with a 10,000 lb. payload capacity and can be stacked two high either loaded or empty.

Electrical Data: N/A

Features: All aluminum extruded base with lower corner winching rings, stackable, weather seals provide rain sand and dust resistance. Exterior dimensions: 108" x 88" x 90". Interior capacity: 396 cubic feet.

Preventive Maintenance: Visually inspect for broken or torn rubber seals, corrosion, damaged shelf supports, broken latches or lashing rings.

Environmental Limitations: N/A

Special Warning: N/A

Fuel: N/A

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Bicon (Storage/Shipping Container)

Figure 70: BICON

Manufacturer:	**Sea Box Inc.**
Storage & Shipment Configuration:	**Outdoor storage, ships as is**
Dimensions:	**117.75” x 96” x 96”**
Weight:	**3,370 lbs.**
Cost:	**$8,573**
National Stock Number:	**8150-01-573-7424**
Technical Order Number:	**Commercial Owner’s Manual**
Associated Equipment:	**Sea-Lock Connectors (2 ea.)**

Bicon Description

Purpose and Use: Steel container, sized for surface shipping used as a transport/storage unit. This allows for containerized shipping IAW ISO configuration requirements. Two Bicons can be coupled together to form a 20-foot equivalent unit.

Electrical Data: N/A

Features: The container is 10 ft. L x 8 ft. W x 8 ft. H and features steel construction, is forklift capable with 28 internal lashing points: 4 places on the floor, 6 on both top and bottom of each sidewall. There are also 6 vertical, welded logistics tracks on each sidewall to accommodate shelving or A & E series straps. It has 530 cubic feet of internal storage capacity.

Preventive Maintenance: Visually inspect for broken or torn rubber seals, rust & corrosion, broken latches or lashing rings. Only certified personal can de-certify the container. DOD Certifiers must complete the Intermodal Dry Cargo Container/CSC Re-inspection Course.

Environmental Limitations: None

Special Warning: Lifting the container empty can be accomplished on all sides. Lifting a loaded container requires lifting from the long side.

Fuel: N/A

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Tricon (Storage/Shipping Container)

Figure 71: Tricon

Manufacturer:	**Charleston Marine Containers, Inc. (CMCI)**
Storage & Shipment Configuration:	**Outdoor storage, ships as is**
Dimensions:	**77.5” x 96” x 96”**
Weight:	**2,877 lbs.**
Cost:	**$9,326**
National Stock Number:	**8150-01-574-1682**
Technical Order Number:	**Commercial Owner’s Manual**
Associated Equipment:	**Sea-Lock Connectors (3 ea.)**

Tricon Description

Purpose and Use: Steel container, sized for surface shipping used as a transport/storage unit. This allows for containerized shipping IAW ISO configuration requirements. Three Tricons can be coupled together to form a 20-foot equivalent unit.

Electrical Data: N/A

Features: The container is 6.5 ft. L x 8 ft. W x 8 ft. H. It features steel construction, is forklift capable with 54 internal lashing points: 8 places on the floor, 5 on both top and bottom of each sidewall, 3 over each door header and 5 in each vertical corner. There are also 3 vertical, welded logistics tracks to accommodate shelving or A & E series straps on each sidewall. It has 346 cubic feet of internal storage capacity.

Preventive Maintenance: Visually inspect for broken or torn rubber seals, rust & corrosion, broken latches or lashing rings. Only certified personal can de-certify the container. DOD Certifiers must complete the Intermodal Dry Cargo Container/CSC Re-inspection Course.

Environmental Limitations: None

Special Warning: Lifting the container empty can be accomplished on all sides. Lifting a loaded container requires lifting from the long side.

Fuel: N/A

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20 Foot (Storage/Shipping Container)

Figure 72: 20' ISO Container

Manufacturer:	**Multiple companies**
Storage & Shipment Configuration:	**Outdoor storage, ship as is**
Dimensions:	**238.5” x 96” x 96”**
Weight:	**6,430 lbs.**
Cost:	**$7,541 (20’ Side Open Container)**
National Stock Number:	**8150-01-501-2741**
Technical Order Number:	**Commercial Owner’s Manual**
Associated Equipment:	**13K/25K forklift or larger**

20 ft. ISO Description

Purpose and Use: Steel container, sized for surface shipping, used as a transport/storage unit. This allows for containerized shipping IAW ISO configuration requirements.

Electrical Data: N/A

Features: The container is 20 ft. L x 8 ft. W x 8.5 ft. H. Although many styles are available, BEAR predominately uses the design with 2 Bi-fold swing doors on one long side, (2) sets of forklift pockets (wide for laden and narrow for un-laden). There are internal lashing points: floor has 4 in the front, 2 on each side and 5 at the rear. The top has 5 at the rear and 2 on each side. Additionally, there are 4 at the top and bottom of the door itself.

Preventive Maintenance: Visually inspect for broken or torn rubber seals, rust & corrosion, broken latches or lashing rings. Only certified personal can de-certify the container. DOD Certifiers must complete the Intermodal Dry Cargo Container/CSC Re-inspection Course.

Environmental Limitations: None

Special Warning: N/A

Fuel: N/A

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100K Material Handling Lift

Figure 73: 100K MHL

Manufacturer:	**Hyster**
Storage & Shipment Configuration:	**N/A**
Dimensions:	**N/A**
Weight:	**152,935 lbs.**
Cost:	**$415,701**
National Stock Number:	**3930-01-557-4933**
Technical Order Number:	**Commercial Owner's Manual**
Associated Equipment:	**N/A**

100K MHL Description

Purpose and Use: The 100K lift is design to transport and stack 20' or 40' ISO configured containers. It can also handle Bicons and Tricons which are configured as twenty foot equivalent units.

Electrical Data: N/A

Features: The Hyster has a tight turning radius of approximately 26'. It has the capability to stack 9'6" or 8'6" containers 5-high in the first row. Joystick controls boom functions.

Preventive Maintenance: Consult manual for checklists.

Environmental Limitations: N/A

Special Warning: When in operation, hard hats must be worn. Only the spotter is authorized to be close-by when operating.

Fuel: Diesel

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Section 7 Legacy Assets












Mobile Electric Power (MEP) 005A Generator, 30kW

Figure 74: MEP-005A

Manufacturer:	**Libby Welding Company Promulgated by Military (Project Manager, Mobile Electric Power)**
Storage & Shipment Configuration:	**Indoor/Outdoor storage – Can be fork lifted or towed (wheel kit required) as a trailer. Can be palletized (air) or shipped in BICON (surface)**
Dimensions:	**80” X 36” X 55” w/o wheel kit 90” X 68” X 70” w/ wheel kit**
Weight:	**Dry weight: 2,850 lbs. w/o wheel kit 3,940 lbs. w/ wheel kit**
Cost:	**$14,891**
National Stock Number:	**6115-00-118-1240**
Technical Order Number:	**35C2-3-446-1 thru 35C2-3-446-4**
Associated Equipment:	**Sledge Hammer, 200-amp cable, ground rod, fuel hose**

MEP-5 Description

Purpose and Use: Fully enclosed, self-contained, skid mounted portable unit. It can operate as a single unit or in parallel with one or more units of the same class and mode. Connects to the Secondary Distribution Center to provide power to critical facilities before a primary power plant and distribution system are constructed, and afterwards to provide emergency backup power to critical and remote facilities.

Electrical Data:

120/208VAC or 240/416VAC, 3-phase, four-wire. The generator amperage (kW) capacity is 104-amps (30 kW) at full load.

Site Preparation & Setup: The site's slope angle cannot be greater than 15°, and must be free of debris. Connects to load using 200-amp bulkhead (NSN 6150-01-495-7673), installed on unit, and cable (NSN 6150-00-178-9159). For safety reasons, setup requires a two-person team and approximately one man-hour.

Preventive Maintenance: During operation, generator must be checked at least every 2-hours and the oil and filters changed every 300 hours. If not used daily, run for at least 1 hour, once a month, under load.

Environmental Limitations:

Temperature range: -25° to +125°.F. Altitude degradation from 5000 ft. to 8000 ft.; 3% per 1000 ft.

Special Warning: Generator must be grounded before operating. Hearing protection will be used near generator. **Danger: Electric shock hazard present.

Fuel: Diesel DF1, DF2 primary grades. JP-8, FP-5 and DFA alternate grades. 26-gallon fuel tank.

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Mobile Electric Power (MEP) 006A Generator, 60kW

Figure 75: MEP-006A

Manufacturer:	**Promulgated by Military (Project Manager, Mobile Electric Power)**
Storage & Shipment Configuration:	**Indoor/Outdoor storage – Can be fork lifted or towed (wheel kit required) as a trailer. Can be palletized (air) or shipped in BICON (surface)**
Dimensions:	**87” x 36” x 59” w/o Wheel kit 98” x 68” x 73” w/ Wheel kit**
Weight:	**4,240 lbs. (dry)**
Cost:	**$16,722**
National Stock Number:	**6115-00-118-1243**
Technical Order Number:	**35C2-3-444-1 thru 35C2-3-444-4**
Associated Equipment:	**Sledge Hammer, 200-amp cable, ground rod, fuel hose**

MEP-6 Description

Purpose and Use: Fully enclosed, self-contained, skid mounted portable unit. It can operate as a single unit or in parallel with one or more units of the same class and mode. Connects to the Secondary Distribution Center to provide power to critical facilities before a primary power plant and distribution system are constructed, and afterwards to provide emergency backup power to critical and remote facilities.

Electrical Data: 120/208VAC or 240/416VAC, 3-phase, four-wire. The generator capacity is 208-amps (60 kW) at full load.

Site Preparation & Setup: The site's slope angle cannot be greater than 15°, and must be free of debris. Connects to load using 200-amp bulkhead (NSN 6150-01-495-7673), installed on unit, and cable (NSN 6150-00-178-9159). For safety reasons, setup requires a two-person team, and should take approximately one man-hour.

Preventive Maintenance: During operation, generator must be checked at least every 2-hours and the oil and filters changed every 300 hours. If not used daily, run for at least 1 hour once a month under load.

Environmental Limitations:

Temperature range: -25° F to +125° F, (-25° F to -65° F with winterization systems).

Special Warning: Generator must be grounded before operating. Hearing protection will be used near generator. **Danger: Electric shock hazard present.

Fuel: Diesel DF1, DF2 primary grades. JP-8, FP-5 and DFA alternate grades. 55-gallon (208.2 liters) fuel tank (50 gal useable)

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Mobile Electric Power (MEP) 007B Generator, 100kW

Figure 76: MEP-007B

Manufacturer:	**Fermont Division, Dynamic Corp. Promulgated by Military (Project Manager, Mobile Electric Power)**
Storage & Shipment Configuration:	**Indoor/Outdoor storage – Can be fork lifted or towed (wheel kit required) as a trailer. Can be palletized (air) or shipped in BICON (surface)**
Dimensions:	**106” x 40” x 65”**
Weight:	**7,500 lbs.**
Cost:	**$35,140**
National Stock Number:	**6115-01-036-6374**
Technical Order Number:	**35C2-3-442-11 thru 35C2-3-444-14**
Associated Equipment:	**Sledge Hammer, 200-amp cable, ground rod, fuel hose**

MEP-7 Description

Purpose and Use: Fully enclosed, self-contained, skid mounted portable unit. It can operate as a single unit or in parallel with one or more units of the same class and mode. Connects to the Secondary Distribution Center to provide power to critical facilities before a primary power plant and distribution system are constructed, and afterwards to provide emergency backup power for remote facilities.

Electrical Data: 120/208VAC or 240/416VAC, 3-phase, four-wire. Produces 346-amps/100 kW at full load.

Site Preparation & Setup: The site's slope angle cannot be greater than 15°, and must be free of debris. It connects to load using 200-amp bulkhead (NSN 6150-01-495-7673), installed on unit and a 200-amp cable (NSN 6150-00-178-9159). For safety reasons, setup requires a two-person team and takes approximately one man-hour.

Preventive Maintenance: During operation, generator must be checked at least every 2-hours and the oil and filters changed every 300 hours. If not used daily, run for at least 1 hour once a month under load.

Environmental Limitations:

Temperature range: -25° F to +125° F, (-25° F to -65° F with winterization kit).

Special Warning: Generator must be grounded before operating. Hearing protection will be used near generator. **Danger: Electric shock hazard present.

Fuel: Diesel DF1, DF2 primary grades. JP-8, FP-5 and DFA alternate grades. 91-gallon (344.4 liters) fuel tank

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Mobile Electric Power (MEP) 012A Generator, 750kW

Figure 77: MEP-12A

Manufacturer:	**Fermont & MCII (serial #s start at AW00001) Promulgated by Military (Project Manager, Mobile Electric Power)**
Storage & Shipment Configuration:	**Indoor/Outdoor storage (must be towed w/ vehicle rated at 25,000 lb. towing capacity)**
Dimensions:	**241" x 96" x 101"**
Weight:	**25,373 lbs.**
Cost:	**$250,000**
National Stock Number:	**6115-01-143-3850**
Technical Order Number:	**35C2-3-474-1 thru 35C2-3-474-4**
Associated Equipment:	**Tow vehicle, 10K gallon fuel kit (fuel bladder, manifold, & associated hoses), Expandable Shelter Container, battery start cart, grounding rods**

MEP-12 Description

Purpose: As part of the BEAR base Contingency Electrical Power System, provides high voltage power to BEAR electrical distribution.

Electrical Data: 2400/4160VAC, 3-phase, 750 Kilowatts.

Site Preparation & Setup: Site must be level and free of debris. It is best to place fuel bladders uphill (but level) from the generator to allow gravity feed, as there is only a small transfer pump on the unit. A containment dike must be constructed and lined before setting up fuel bladders (DO NOT PLACE BLADDERS IN A HOLE). Place units no less than 5 ft. and no more than 20 ft. apart. A crew of six can set up a power plant with two to four generators in approximately eight hours.

Preventive Maintenance: Generators are checked hourly and annotated on AF Form 1167 (or locally generated form). Change oil and filters every 300 hours of operation. If not used daily, run for two hours once a month under load. Consult technical order for additional preventive maintenance steps.

Environmental Limitations: Temperature range: -25° F to +125° F

Special Warning: Generator must be grounded using either, #2 or #4 AWG copper wire, before operating. Hearing protection must be used near generators. The radiator-end of the generators is positioned downwind of the prevailing winds. However, in extremely dusty climates, the units can be oriented with the radiators toward the prevailing winds to allow the radiator fan exhaust to blow the drifting dust away from the radiators. **Danger: Operates at high voltage level; electric shock hazard present.

Fuel: Diesel DF1, DF2 primary grades. JP-8, FP-5 and DFA alternate grades. 26-gallon fuel tank.

Associated UTCs: XF_PH

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Secondary Distribution Center (SDC)

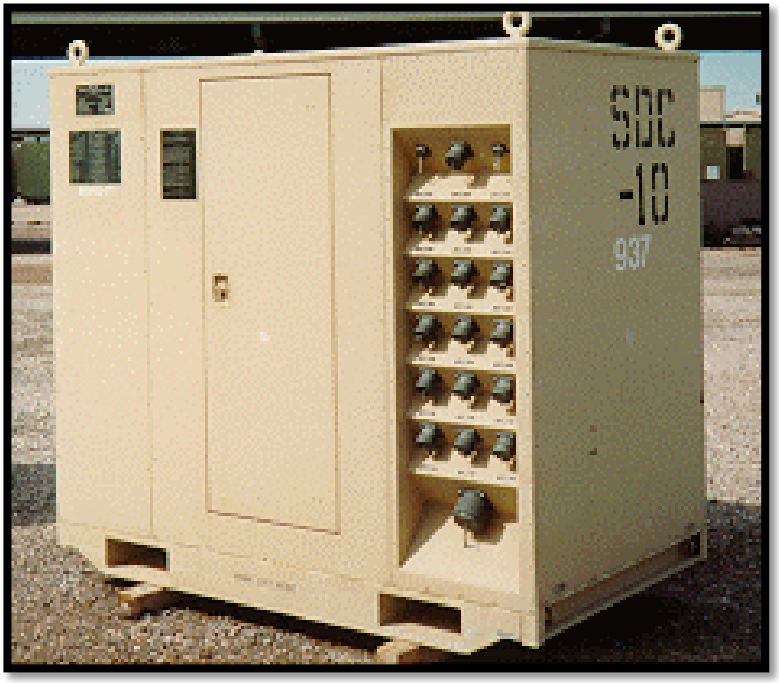

Figure 78: SDC

Manufacturer:	**John R Hollingsworth**
Storage & Shipment Configuration:	**indoor/outdoor Store/Ship on two per 463L pallet (air) or in one Bicon ISO container (surface)**
Erected Configuration:	**81" X 48" X 77"**
Weight:	**3700 lbs.**
Cost:	**$50,719**
National Stock Number:	**6110-01-168-8077**
Technical Order Number:	**35CA2-2-10-1**
Associated Equipment:	**10K All terrain fork lift, Crane**

SDC Description

Purpose and Use: Accepts primary power and reduces the voltage for distribution. Primary power can be either commercial power plants, engine driven prime power generator sets or from another SDC. It's designed to accept prime power rated at 2400/4160 VAC 3-phase and reduce voltage to 120/208 VAC 3-phase. The SDC can also accept power from a tactical generator. The generators feed through a circuit breaker to a secondary bus. The breaker is interlocked to prevent inadvertently feeding the secondary bus from two sources.

Electrical Data: Input: 2400/4160VAC 3-phase, 60 Hz, Output: 120/208VAC 3-phase, 60 Hz.

Site Preparation & Setup: While not critical for the site to be level, the unit should be as level as possible for convenience. The site should be clear of brush, large rocks and other obstacles which might make the unit unstable. For safety, setup will involve two personnel and take about one-half man-hour.

Preventive Maintenance: Visually inspect asset weekly for damage and corrosion. Ensure fuses and load break elbows are functioning properly.

Environmental Limitations: Operating temperature range: -25° to +125°.

Special Warning: Ensure generators connected to the SDC are grounded before operating. Hearing protection must be used near generators. **Danger: operates at high voltage level; electric shock hazard present.

Fuel: N/A

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TF-1 Floodlight Set

Figure 79: TF-1

Manufacturer:	**Over-Lowe Company**
Storage & Shipment Configuration:	**Trailer**
Dimensions:	**127” x 71” x 30’ 6”**
Weight:	**2020 lbs.**
Cost:	**$10,795.31**
National Stock Number:	**6230-01-096-3508**
Technical Order Number:	**TO 35F5-5-16-1**
Associated Equipment:	**Tow Vehicle Required**

TF-1 Description

Purpose and Use: Designed as a mobile floodlight unit for large-area lighting. Primarily used for initial camp bed-down, perimeter lighting and flight-line use. Provides a low voltage power source. Equipped with four 1000-watt metal halide flood lights. The total lighting capacity is 483,800 lumens. Capable of illuminating over 7½ acres.

Electrical Data: Capable of 7 kW total output. 120/240VAC (four 120VAC outlets and two 240VAC outlets)

Site Preparation & Setup: Unit must be placed on level ground to operate (do not exceed a 5 degree angle). Setup requires one person approximately 30 minutes.

Preventive Maintenance: Check engine oil every 8 hours of use or prior to use. If not used daily, operate unit for 1 hour every two weeks.

Environmental Limitations:

Temperature: -25°F to + 125°F.
Wind: Never extend tower in winds exceeding 40 MPH.
Special Warning: Do not exceed 25 psi while extending the telescoping mast. Ensure the tower power cable is removed from the cable storage box before extending mast.

Fuel: DF1, DF2, primary grades or JP-4, JP-5, JP-8 alternate grades.

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Miller Welder 44D

Figure 80: Welder 44D

Manufacturer:	**Miller**
Storage & Shipment Configuration:	**Unit is trailer mounted**
Dimensions:	**164” x 75” x 77”**
Weight:	**2,860 lbs.**
Cost:	**$12,489.79**
National Stock Number:	**3431-00-846-9636**
Technical Order Number:	**TO 34W4-134-1; 34W4-153-21; 1-1A-15**
Associated Equipment:	**Tow vehicle required, welding cable and accessories**

Welder-44D Description

Purpose and Use: The 44D is capable of SMAW (Shielded Metal Arc Welding) or "stick" welding as well as GTAW (Gas Tungsten Arc Welding). The welder uses a diesel-powered engine and is mounted on a tandem axle wheel kit.

Electrical Data: 100% duty cycle: 300 amps/32VAC and DC 1-phase AUX power: 7.5 KVA, 60 Hz, Two 120VAC receptacles.

Site Preparation & Setup: One person approximately 30 minutes.

Preventive Maintenance: Check engine oil every 8 hours or prior to use. Change engine oil and filter every 150 hours of operation. If not used daily, operate for 1 hour every 2 weeks.

Environmental Limitations: N/A

Special Warning: Danger: electrical shock, toxic fumes, hot surfaces, fire and pressurized gas. Arc welding can burn eyes and skin.

Fuel: Diesel DF 1, DF 2 primary grades (17.5 gallon capacity).

Associated UTCs: N/A

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MC-7 Air Compressor

Figure 81: MC-7 Air Compressor

Manufacturer:	**Davey Compressor Co. Div. of KECO Industries, Inc.**
Storage & Shipment Configuration:	**Unit is a wheel mounted trailer**
Dimensions:	**125” x 71” x 74”**
Weight:	**2,182 lbs.**
Cost:	**$8,327.07**
National Stock Number:	**4310-01-212-8930**
Technical Order Number:	**TO 34Y1-134-51; 34Y1-244-1; 34Y1-253-1**
Associated Equipment:	**Tow vehicle required**

MC-7 Description

Purpose and Use: 125 CFM, 100 psi, diesel driven, trailer mounted air compressor. Designed to supply compressed air for use in general construction with pneumatic tools and other equipment.

Electrical Data: N/A

Site Preparation & Setup: One person approximately 30 minutes set-up time.

Preventive Maintenance: Check engine oil every 8 hours or prior to use. Change engine oil and filter every 250 hours of operation and compressor oil every 150 hours. If not used daily, operate for 1 hour every 2 weeks.

Environmental Limitations: N/A

Special Warning: Do not attempt any air system repair with air pressure in the system.

Fuel: Diesel DF 1, DF 2, primary fuel

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1,200 Cubic Foot Refrigerator

Figure 82: 1200 CF Refrigerator

Manufacturer:	**RSP Industries Inc.**
Storage & Shipment Configuration:	**Store/Ship on two 463L pallets w/ condensers on a separate 463L pallet**
Dimensions:	**199" x 154" x 90" (assembled)**
Weight:	**4,140 lbs.**
Cost:	**$12,398.00**
National Stock Number:	**4110-01-239-9200; 4110-01-167-5320**
Technical Order Number:	**40R7-5-10-4; TM9-4110-241-23P**
Associated Equipment:	**Two 10K condenser units; 10K All-terrain forklift or larger**

1,200 CU FT Refer Description

Purpose and Use: The unit is a secure, insulated, field refrigerated container supplied with refrigeration equipment. The unit is skid mounted and equipped with lifting loops. It can serve as food storage or a field morgue. Operating temperature of 0° to 40° F

Electrical Data: 120/208VAC, 50/60 Hz, 3-phase power, 120VAC power for operation of lights.

Site Preparation & Setup: The site should be as level as possible to ensure proper operation and drainage. Installing the condensers and setting up the boxes for operation will require a minimum of 8 personnel. Total time is approximately thirty two man-hours.

Preventive Maintenance: Check for structural damage and proper operation of condenser unit. Check floor strainers for accumulated dirt, clogging or damage. Ensure internal pushrod door opens properly from inside. Ensure thermometer is functioning properly.

Environmental Limitations: N/A

Special Warning: Condenser unit needs free access to outside air to operate properly. Dust will shorten life and cause operational problems with condenser. Before positioning panel, ensure cam-locks are fully retracted to prevent damage to locking mechanisms. Avoid damaging gaskets. **Danger: Phosgene gas may be present.

Fuel: N/A

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150 Cubic Foot Refrigerator

Figure 83: 150 CF Refrigerator

Manufacturer:	**Mid-South Industries Inc. or Military Specifications**
Storage & Shipment Configuration:	**Unit is self-contained in one 463L pallet position**
Dimensions:	**88" x 78" x 78"**
Weight:	**800 lbs.**
Cost:	**$7,047.00**
National Stock Number:	**4110-01-143-0056; 4110-01-092-3912; 4110-00-274-6342**
Technical Order Number:	**TM5-4110-240-13&P; DGSC-4110-5W; TM-DGSC-4110-5(1)**
Associated Equipment:	**5K condenser unit, 10K or 13K All-terrain forklift**

150 FT Refer Description

Purpose and Use: The unit is a secure, insulated field refrigerated container supplied with refrigeration equipment. The unit is skid mounted and equipped with lifting loops. It can serve as food storage or a field morgue. Operating temperature of 0° to 40° F, uses R-134A refrigerant.

Electrical Data: 208VAC, 50/60 Hz, 3-phase power, 120VAC single phase power source for operation of lights.

Site Preparation & Setup: The site should be as level as possible to ensure proper operation and drainage.

Preventive Maintenance: Check for structural damage and proper operation of condenser unit. Refer to the T.O.

Environmental Limitations: N/A

Special Warning: Condenser unit needs free access to outside air to operate properly. Dust and debris will shorten life and cause operational problems with condenser.

Danger:** The old 5K refer unit was manufactured for use with R-12 and R-22 refrigerant. R-12 and R-22 contain chlorine and are not ozone friendly. They are both ozone depleting refrigerants. Caution: If exposed to heat or an open flame, Phosgene gas/vapors will be present (Phosgene is an insidious poison as the odor may not be noticed and symptoms may be slow to appear). Refer to Material Safety Data Sheet for proper safety controls.

Fuel: N/A

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Environmental Control Unit (ECU) -39

Figure 84: ECU-39

Manufacturer:	**Engineered Air Systems Inc.**
Storage & Shipment Configuration:	**Store/Ship in groups of six per 463L pallet**
Dimensions:	**71” x 48” x 32”**
Weight:	**920 lbs.**
Cost:	**$3,762.18**
National Stock Number:	**4120-01-150-8112 4120-00-075-4498 ($7,195.58); 4120-01-283-4096 ($4,250.00)**
Technical Order Number:	**35E9-163-1; 35E9-195-5; 35E9-267-1**
Associated Equipment:	**4K forklift or larger**

ECU-39 Description

Purpose and Use: The –39 ECU (commonly referred to as the dash 39) is intended for use in heating, cooling, dehumidifying, filtering and circulating air in portable shelters and vans to meet the controlled environmental requirements of personnel and electronic equipment. A means is provided for admitting fresh air at a controlled rate. In typical application, the unit is located external to the controlled space and the conditioned air is circulated through supply and return ducts. Approximate cooling capacity is 4 ½ tons. Approximate heating capacity is 9.6 kilowatts (down to approximately 30° F). This unit uses ozone depleting R-22 refrigerant.

Electrical Data: 208VAC, 50/60 Hz, 3-phase power, 10 kilowatt draw

Site Preparation & Setup: Allow forklift access to unit. Site should be relatively level and free of debris with good drainage. Approximate setup time is 30 minutes.

Preventive Maintenance: Check for structural damage and proper operation of unit. Ensure fresh air is able to circulate to and from unit. Ensure fan is not blocked or covered

Environmental Limitations: Cooling capacity is 54,000 BTU/hr. at 115 degrees F. Maximum BTU is 60,000-BTU/hr. Heating capacity is 32,785-BTU/hr.

Special Warning: Wear protective gear when charging or recovering refrigerant. **Danger: If refrigerant is exposed to heat or an open flame, phosgene gas/vapors will be present (Phosgene is an insidious poison as the odor may not be noticed and symptoms may be slow to appear). Refer to Material Safety Data Sheet for proper safety controls.

Fuel: N/A

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Yanmar Diesel Pump, 2", 125 GPM

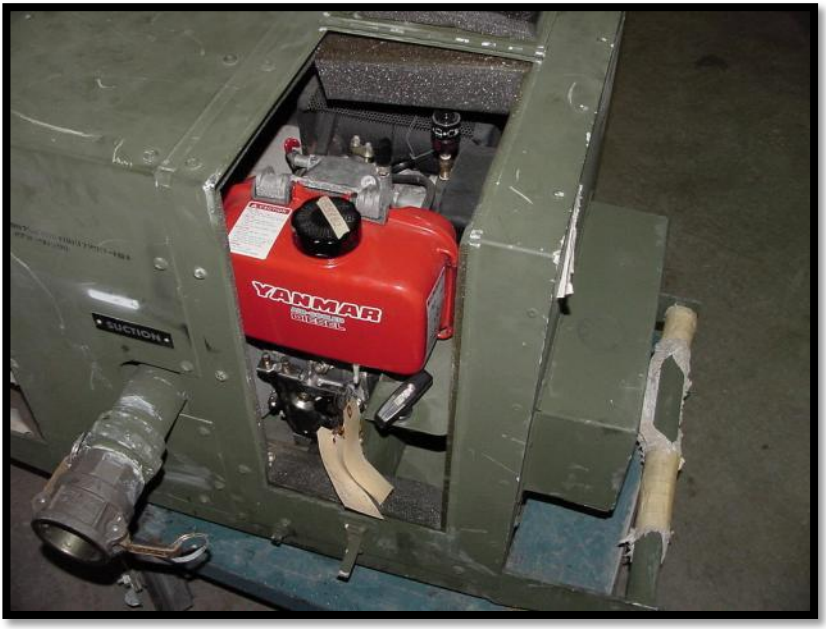

Figure 85: 125 GPM Pump

Manufacturer:	**Yanmar Diesel**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**22" x 26" x 19"**
Weight:	**160 lbs.**
Cost:	**$6,308.00**
National Stock Number:	**4320-01-538-4652**
Technical Order Number:	**T.M. 10-4320-325-14**
Associated Equipment:	**2" Hoses**

Yanmar Description

Purpose and Use: Single cylinder air cooled diesel engine driven pump. Capable of pumping 125 GPM. Connections require 2" input and output hose assembly.

Electrical Data: N/A

Site Preparation & Setup: Site should be level and free of debris.

Preventive Maintenance: Maintenance includes replacing, cleaning or adjustment of: air cleaner element, fuel filter, lube oil, exhaust mesh inlet, air in-take area, cooling area, recoil starter, and the valve head.

Environmental Limitations: Protect from extreme weather conditions. Ensure proper ventilation when in operation.

Special Warning: Do not operate pump dry to avoid seal damage. Turn off engine prior to refueling.

Fuel: Diesel Fuel

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H-1 Heater

Figure 86: H-1 Heater

Manufacturer:	**Hunter Manufacturing Company**
Storage & Shipment Configuration:	**Unit is wheel mounted, can be palletized or shipped in ISO container**
Dimensions:	**68.5” x 51.5” x 44”**
Weight:	**800 lbs. (empty)**
Cost:	**$2,734.42**
National Stock Number:	**4520-01-135-2770**
Technical Order Number:	**TO 35E7-2-11-11**
Associated Equipment:	**Tow Vehicle, two 12” ducts, three 6” ducts and adapter**

H-1 Heater Description

Purpose and Use: Provides fresh, uncontaminated, heated air for pre-heating aircraft engines, fuselage and ground vehicles. Also provides heat to facilities and structures. It can also be used for forced ventilation without heating.

Electrical Data: N/A

Site Preparation & Setup: Allow tow vehicle access to unit. Site should be relatively level and free of debris.

Preventive Maintenance: Preventive maintenance checks, inspections and service are listed in Table 1-6, Table 1-7 and 38G1-89-3.

Environmental Limitations: N/A

Special Warning: Ensure exhaust gases are not drawn into the inlet air stream.

Fuel: Diesel DF1, DF2 or JP-8 (35 gallon fuel capacity).

Associated UTCs: N/A

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H-45 Heater

Figure 87: H-45

Manufacturer:	**Hunter Manufacturing Co. Inc.**
Storage & Shipment Configuration:	**Store/Ship with supported UTCs**
Dimensions:	**24” x 18”**
Weight:	**70 lbs.**
Cost:	**$927.89**
National Stock Number:	**4520-01-329-3451**
Technical Order Number:	**TM 9-4520-257-12&P**
Associated Equipment:	**Fuel containers**

H-45 Description

Purpose and Use: This is a 45K BTU heater designed to operate safely with Diesel, wood or coal as fuel. Used to heat general purpose shelters, personnel tents and structures. Operates without the use of electricity.

Electrical Data: N/A

Site Preparation & Setup: Site should be relatively level and unit should be set away from tent fabric and other materials.

Preventive Maintenance: Quarterly inspections should be conducted to ensure obstructions from dirt or sediment are not present. Clean soot from components as needed.

Environmental Limitations: N/A

Special Warning: Carbon monoxide poisoning hazard. Ensure proper ventilation and exhaust. Ensure a fire extinguisher is readily available.

Fuel: Coal, wood, Diesel (Type I) DF1, DF2 or JP-5 (Type II)

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Reverse Osmosis Water Purification Unit (ROWPU) 600 GPH

Figure 88: ROWPU 600 GPH

Manufacturer:	**Highland Engineering Inc.**
Storage & Shipment Configuration:	**Skid mounted, ships on one 463L pallet with overhang or in 20' ISO container**
Dimensions:	**115" x 85" x 76"**
Weight:	**6,057-7,825 lbs. depending on model**
Cost:	**Varies depending on model**
National Stock Number:	**WPES-20 (4610-01-341-6288)-$80,000 H-9518-1 (4610-01-420-7547)-$86,200 H-9518-2 (4610-01-420-7546)-$86,200**
Technical Order Number:	**TO 40W4-13-41**
Associated Equipment:	**10K all-terrain forklift or larger, 3K water bladder or larger**

ROWPU-600 Description

Purpose and Use: The ROWPU produces potable water by pumping sea water, brackish water or fresh water through semi-permeable filters to remove dissolved solids. Each unit produces 600 gallons per hour minimum or greater depending upon quality of water source.

Electrical Data: Requires 120/208VAC, single/3-phase, 5-wire, 60 Hz, 104 amp max.

Site Preparation & Setup: The ROWPU should be set up as close to camp as possible. Site should be level and free of debris. Set up requires a minimum of four personnel approximately 3-4 hours.

Preventive Maintenance: Check oil levels of RO pump and chemical feed pump. Check pumps for noise and/or vibration. Change cotton filter and RO elements as required. Keep unit clean.

Environmental Limitations: If operating in temperatures of 32 degrees F or less, operate in heated shelter to prevent freezing. In temperatures over 90 degrees F, keep shaded and operate with unit cover removed to prevent overheating and shut down.

Special Warning: Unit should operate a maximum of 20 hours per day with 4 hours of down time for maintenance. Prior to maintenance, disconnect power and shut down unit using shut down procedures in accordance with T.O.

Fuel: N/A

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Frame Supported Tensioned Fabric Shelter (FSTFS)

Figure 89: Frame Supported Tensioned Fabric Shelter (FSTFS)

Manufacturer:	**Seaman Corporation**
Storage & Shipment Configuration:	**Store/Ship in 463L pallet-based containers, four per A model, three per B model**
Dimensions:	**A – 140 ft. x 60 ft. x 26 ft. (8,400 sq. ft.)** **B – 70 ft. x 60 ft. x 26 ft. (4,200 sq. ft.)**
Weight:	**A – 37,700 lbs.** **B – 28,000 lbs.**
Cost:	**Varies depending on model**
National Stock Number:	**A – 5410-01-224-8876EJ-$83,560.00** **B – 5410-01-224-8877EJ-$64,088.66**
Technical Order Number:	**35E4-183-1**
Associated Equipment:	**13K adverse-terrain forklift**

FSTFS Description

Purpose and Use: All-purpose large shelter used as a maintenance area or warehouse.

Electrical Data: Requires 120/208VAC, 60 Hz, 3-phase, 5 wire input

Site Preparation & Setup: The area needed to erect the shelter is: A, 60 ft. x 144 ft.; B, 60 ft. x 72 ft. The location should be vehicle-accessible. The selected site terrain should be level (maximum slope is 18 inches across floor area), firm, well-drained and relatively free of surface rock and debris. When installing on concrete, secure with expansion anchors. A minimum of 8 personnel is required to safely assemble the structure. Assembly time is approximately 384 man hours for structure A and 256 man-hours for structure B. Multiple buildings can be interconnected as the two A-models are in the photo above.

Preventive Maintenance: Check for damage to fabric. Repair fabric with like patch material and fabric welder if feasible. Ensure shear stakes are solid. Ensure perimeter seals are tight. Ensure side-wall tensioning belts are tight. Lubricate threads of adjusting brackets on personnel doors. Lubricate power winch and check brake. Test ventilators for functionality. Check x-bracing for tightness. Ensure weather seal turnbuckles are tight.

Environmental Limitations: Temp: -25° - 125°. Solar Load: 200°. Wind Load: 60 knots sustained gusts to 90 knots. Humidity: N/A

Special Warning: N/A

Fuel: N/A

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General Purpose Shelter (GP)

Figure 90: General Purpose Shelter (GP)

Manufacturer:	**Goodyear Aerospace, Brunswick, Lockheed Martin**
Storage & Shipment Configuration:	**Store/Ship in unique 463L compatible container**
Dimensions:	**48 ft. x 31.2 ft. x 11.75 ft. (1,488 sq. ft.)**
Weight:	**10,897 lbs.**
Cost:	**$108,981.21**
National Stock Number:	**5410-00-365-5017; Part # 50126097**
Technical Order Number:	**35E4-132-1**
Associated Equipment:	**13K adverse-terrain forklift**

GP Description

Purpose and Use: All-purpose mid-sized shelter used as a maintenance area, warehouse, fitness center, chapel, command post, dining hall, etc.

Electrical Data: Requires 120/208VAC, 60 Hz, 3-phase, 5-wire input.

Site Preparation & Setup: The area needed to erect the shelter is 110 ft. x 90 ft. The location should be vehicle-accessible. The selected site terrain should be level (maximum slope is 18 inches across floor area), firm, well-drained and relatively free of surface rock and debris. When installing on concrete, secure with expansion anchors. A minimum of seven personnel are required to safely assemble the structure. Assembly time is approximately 80 man hours. Multiple buildings can be interconnected.

Preventive Maintenance: Check that all electrical cables are properly connected. Check for proper position of circuit breakers. Check retainers for damage and security. Check all flashing for damage and security. Ensure shelter anchor cables are tight.

Environmental Limitations: Temp: -25° - 125°. Solar Load: 200°. Wind Load: 60 knots sustained gusts to 90 knots. Humidity: N/A

Special Warning: N/A

Fuel: N/A

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Aircraft Hangar (ACH)

Figure 91: Aircraft Hanger (ACH)

Manufacturer:	**Goodyear Aerospace, Brunswick, Lockheed Martin Corp.**
Storage & Shipment Configuration:	**Store/Ship in four integrated containers with expandable, integrated 463L rail system in base**
Dimensions:	**125.6 ft. x 77 ft. x 25 ft. (8225 sq. ft. bldg.)**
Weight:	**35,955 lbs.**
Cost:	**$1,500,000**
National Stock Number:	**5411-00-152-9160EJ**
Technical Order Number:	**35E4-133-1**
Associated Equipment:	**13K adverse-terrain (AT) forklift**

ACH Description

Purpose and Use: Large shelter intended for use as an aircraft maintenance shelter.

Electrical Data: Requires 120/208VAC, 3-phase, 5 wire input for each of four containers.

Site Preparation & Setup: The overall area required to erect the hangar is approximately 125 feet x 150 feet. The selected site terrain should be level (maximum allowable slope of 18 inches over projected floor area), firm, well-drained and relatively free of surface rock and debris. A minimum of 10 personnel is required to safely assemble the structure. Assembly time is approximately 400 man hours. Multiple buildings can be interconnected.

Preventive Maintenance: Check the condition of all cables and connectors. Check condition of static grounding wire line and clamps. Ensure all flashing and straps are secure on end walls. Lubricate winch and associated cables. D-rings at top of end wall must be secure. Pins on all arch beams must be secure. Ensure anchor cables on base pads are tight. Inspect base pads and stakes for corrosion.

Environmental Limitations: Temp: -25° – 125°F. Solar Load: 200°. Wind Load: 60 knots sustained gusts to 90 knots. Humidity: No published limits.

Special Warning: A vertical load test must be applied to an anchor buried six ft. into the ground. The vertical stress must be at least 5000 lbs. of tension. If soil conditions prevent driving the anchor to a depth of six ft., the vertical load test must be 5000 lbs. of tension at the depth the anchors are driven.

Fuel: N/A

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Expandable Shelter/Container (ES/C)

Figure 92: Expandable Shelter/Container (ES/C)

Manufacturer:	**Goodyear Aerospace, Lockheed Martin Corp.**
Storage & Shipment Configuration:	**Store/Ship in own container, expandable, integrated 463L rail system in base**
Dimensions:	**Closed - 13 ft. x 8 ft. x 8 ft. Expanded – 13 ft. x 21.58 ft. x 8 ft. (280.6 sq. ft.)**
Weight:	**4,220 lbs.**
Cost:	**$59,765**
National Stock Number:	**5411-00-009-9852; Part # 5820-4002**
Technical Order Number:	**35E4-122-1**
Associated Equipment:	**10K adverse-terrain (AT) forklift or larger**

ESC Description

Purpose and Use: All-purpose hard-walled shelter used as maintenance shops, control centers, storage, office area, etc. Currently used as BEAR base power plant when available.

Electrical Data: Requires 120/208VAC, 60 Hz, 3-phase, 5-wire input.

Site Preparation & Setup: The location should be vehicle-accessible. The selected site terrain should be level (recommended slope of 10 inches or less along projected floor area), firm, well-drained and relatively free of surface rock and debris. A minimum of 5 personnel is required to safely assemble the structure. Assembly time is approximately 10 man hours.

Preventive Maintenance: Check floor, walls, ceiling, door and jacks for general condition and security. Ensure electrical cabling attachments and circuit breakers are secure and operational.

Environmental Limitations: Temp: -25° - 125°. Solar Load: 200°. Wind Load: 60 knots sustained gusts to 90 knots. Snow Load: 40 lbs. per square foot. Floor Load: Center – 120 PSI; Expanded – 80 PSI. Humidity: N/A

Special Warning: N/A

Fuel: N/A

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Section 8 Mission Capability (MISCAP) Statements

The MISCAP statement is a short paragraph, which describes the mission the Unit Type Code (UTC) is capable of accomplishing and describes significant employment information and may or may not be classified. The MISCAP contains:

1) A Brief explanation of mission capabilities.
2) The type and amount of workload the UTC is capable of performing.
3) A Statement concerning the types of bases to which the unit can be deployed (e.g., bare base, collocated operating base and main operating base etc.)
4) Response Capability.
5) Other UTCs which are required to support the defined capability.

FUELS OPERATIONAL READINESS CAPABILITY EQUIPMENT (FORCE) & FUELS SUPPORT EQUIPMENT (FSE) SECTION

JFDEK (PMU 27 50 GPM PUMP SERVICING)

PROVIDES 1 EA PMU-27 50 GPM PUMP MODULE USED FOR GROUND PRODUCT ISSUE TO SUPPORT SERVICING AT AUSTERE LOCATIONS. NOTE: DURING ACTUAL CONTINGENCIES ALL 4 SEALED DRUMS MUST BE FILLED WITH REQUIRED GROUND PRODUCT AND SYSTEM CONFIGURED/PREPARED TO ISSUE PRODUCT UPON ARRIVAL. CONTAINS MRSP. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDEL (10K FUEL BLADDER)

PROVIDES 1 EA l0K GALLON FUEL STORAGE BLADDER TO INCREASE STORAGE CAPACITY AT AUSTERE LOCATIONS WHEN ADDITIONAL STORAGE IS REQUIRED. NOTE: BLADDER WILL BE SHIPPED IN ORIGINAL CONTAINER. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDEM (50K FUEL BLADDER)

PROVIDES 1 EA 50K GALLON FUEL STORAGE BLADDER TO INCREASE STORAGE CAPACITY AT AUSTERE LOCATIONS WHEN ADDITIONAL STORAGE IS REQUIRED. NOTE: BLADDER WILL BE SHIPPED IN ORIGINAL CONTAINER. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDEQ (400 GAL LOX STORAGE TANK)

PROVIDES 1 EA TMU24E 400 GALLON LIQUID OXYGEN (LOX) STORAGE TANK W/400 GALLONS LOX AND AIRCRAFT OVERBOARD VENT TO AUGMENT AUSTERE LOCATIONS. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDEW (ABFDS SYSTEM)

PROVIDES FUEL PRODUCT SUPPORT BY AERIAL BULK FUEL DELIVERY SYSTEM (ABFDS) ABOARD C-130 AND C-17 AIRCRAFT TO AUSTERE LOCATIONS. UTC CONFIGURATION PROVIDES TWO 3K GAL FUEL BLADDERS; HOWEVER, CAPACITY IS DRIVEN BY AIRCRAFT MISSION PROFILE. UTC DOES NOT SUPPORT AIRCRAFT-TO-AIRCRAFT SERVICING CAPABILITY. CONTAINS MRSP. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDEY (ABFDS W/ACE)

AERIAL BULK FUEL DELIVERY SYSTEM (ABFDS) WITH ALTERNATE CAPABILITY EQUIPMENT (ACE) PACKAGE UTILIZES A 300 GPM RATED FILTER/SEPERATOR FOR DIRECT AIRCRAFT-TO-AIRCRAFT SERVICING AT AUSTERE LOCATIONS. UTC CAN BE UTILIZED ABOARD C-130 AND C-17 AIRCRAFT. UTC CONFIGURATION PROVIDES TWO 3K GAL FUEL BLADDERS; HOWEVER, CAPACITY IS DRIVEN BY AIRCRAFT MISSION PROFILE. CONTAINS MRSP. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDFS (FORCE STARTER)

SUPPORTS 'ESTABLISH THE BASE' FORCE MODULE. PROVIDES AIRCRAFT REFUELING REQUIREMENTS UP TO 100K GALLONS PER DAY THROUGH TWO AIRCRAFT REFUELING POINTS. INCLUDES TRUCK FILL STAND CAPABILITY. REQUIRES UTC JFDRC (RECEIPT CAPABILITY). CONTAINS MRSP. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDGE (FUEL ADDITIVE INJECTOR)

PROVIDES 1 EA TPI-4T-4 HAMMONDS FUEL ADDITIVE INJECTOR DESIGNED TO INJECT 1 OR MORE FUEL ADDITIVES (FSII, SDA, CI/LI) INTO COMMERCIAL JET FUEL WHEN REQUIRED AT AUSTERE LOCATIONS. CONTAINS MRSP. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDLB (210K FUEL STORAGE BLADDER)

PROVIDES ONE 210K GALLON FUEL STORAGE BLADDER TO INCREASE CAPACITY AT AUSTERE LOCATIONS WHEN ADDITIONAL STORAGE IS REQUIRED. NOTE: BLADDER WILL BE SHIPPED IN ORIGINAL CONTAINER. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDRC (FORCE RECEIPT CAPABILTY)

PROVIDES TANK TRUCK RECEIPT CAPABILITY UTILIZING UP TO 4 OFF-LOAD POINTS TO SIMULTANEOUSLY OFFLOAD TANK TRUCKS AND TRANSFER FUEL UP TO 2K FT FROM THE PERIMETER. PROVIDES COUPLINGS AND HOSES TO BUILD A REMOTE RECEIVING AND TRANSFER AREA. AUGMENTS UTC JFDFS. NOTE: BLADDERS, BLADDER LINERS AND VALVES ARE NOT INCLUDED. FUEL STORAGE BLADDERS AND BLADDER LINERS HAVE TO BE SOURCED SEPARATELY. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDSC (FORCE AIRCRAFT SERVICING ADD ON)

PROVIDES SUSTAINED AIRCRAFT REFUELING CAPABILITY UP TO 400K GALLONS PER DAY THROUGH 4 REFUELING POINTS. AUGMENTS UTC JFDFS. NOTE: BLADDERS AND BLADDER LINERS ARE NOT INCLUDED. FUELS STORAGE BLADDERS AND BLADDER LINERS HAVE TO BE SOURCED SEPARATELY. CONTAINS MRSP. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

JFDSS (TACTICAL AUTO SERVICE STATION)

TACTICAL AUTOMATED SERVICE STATION (TASS} PROVIDES ABILITY TO RECEIVE, STORE AND SERVICE GROUND FUEL PRODUCTS FOR EQUIPMENT AND/OR VEHICLE SUPPORT AT AUSTERE LOCATIONS. TASS HAS 2 EA l0K GALLON FUEL BLADDERS, BERMS AND 2 EA SERVICING NOZZLES CAPABLE OF DISPENSING UP TO 2 DIFFERENT PRODUCTS SIMULTANEOUSLY. TASS MAY BE CONFIGURED TO ISSUE FUEL FROM OTHER SUPPLY SOURCES, E.G., FIXED FACILITIES, TANK TRUCK, STORAGE TANK, ETC. AUGMENTS UTC JFDAE. CONTAINS MRSP. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED FEB 17.

BEAR UTC MISCAPS

XFW14 (COMBAT AF INITIAL SUPPORT)

PROVIDES AUSTERE BASE WITH FACILITIES TO SUPPORT SORTIE GENERATION, EGRESS, NDI, POL, MX SUPERVISION, SUPPORT SECTION, OC, GCC, AIRCREW FLIGHT EQUIP, AND FLIGHT OPS FOR THE INITIAL BEDDOWN OF ONE SQUADRON OF COMBAT AIR FORCES (CAF) AIRCRAFT. TASK UTC JFDES TO PROVIDE FUNCTIONAL CAPABILITY FOR FUELS OPS. IF MORE THAN ONE SQ WILL BEDDOWN, TASK ONE CAF ADD-ON UTC, XFWC6, FOR EACH ADDITIONAL CAF SQ. IF ADDITIONAL HANGARS ARE REQUIRED, MAY TASK LARGE AREA MX SHELTER UTC, XFWCJ. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS THE 'GENERATE THE MISSION' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFW16 (LOW POWER INDUSTRIAL)

PROVIDES AUSTERE BASE WITH LOW POWER GENERATION CAPABILITY FOR REMOTE BASE OPERATONS. CAN SUPPORT CAF OR MAF FLYING OPERATIONS UP TO THREE SQUADRONS OR THE EQUIVALENT OF OTHER INDUSTRIAL TYPE MISSION REQUIREMENTS. INCLUDES 2 X AMMPS PRODUCING 60 KW GENERATORS EACH, 2 X 200 AMP POWER CABLES AND 2 X POWER DISTRIBUTION PANELS CONTAINING 8 X 60 AMP CONNECTIONS EACH. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS "ESTABLISH THE AIR BASE" AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFW17 (WATER DISTRIBUTION INITIAL)

PROVIDES AUSTERE BASE WITH POTABLE WATER STORAGE/DISTRIBUTION SUPPORTING 550 PERSONNEL. EACH SYSTEM PROVIDES 75,000 GALLONS OF STORAGE, 1 X ELECTRIC PUMP SKID & 1,500 FEET OF DISTRIBUTION HOSE. SYSTEM ALSO CONTAINS A WASTE COLLECTION/STORAGE SYSTEM WITH 1,000 FEET OF HOSE, 2 X LIFT STATIONS AND A 25,000 GALLON WASTE STORAGE TANK. WATER

DISTRIBUTION FOLLOW-ON UTC, XFW18, MUST BE DEPLOYED IN CONJUNCTION WITH THIS INITIAL UTC TO PROVIDE FOR LARGER DISTRIBUTION FOOTPRINT. GENERALLY, 1 X INITIAL AND 1 X FOLLOW-ON UTC ARE REQUIRED FOR EVERY 1,100 PERSONNEL. FOR OUTLYING AREAS, TASK WATER EXTENSION UTC, XFWMX. WATER PRODUCTION 1,500 GPH UTC, XFWMP, MUST BE TASKED IF NO POTABLE WATER SOURCE IS AVAILABLE. THESE SYSTEMS CAN ONLY BE USED IN CLIMATES WHERE SUSTAINED TEMPERATURES WILL NOT FALL BELOW FREEZING (32 DEGREES FAHRENHEIT). THERE IS CURRENTLY NO CAPABILTY TO OPERATE/SUPPORT THESE SYSTEMS INCLIMATES WITH SUSTAINED TEMPERATURES BELOW FREEZING. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC'S TO COMPLETE OPERATIONAL CAPABILITY: UFM2P, UFM2R, UFMJK, AND UFM2Q. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFW18 (WATER DISTRIBUTION FOLLOW-ON)

PROVIDES AUSTERE BASE WITH ADDED WATER STORAGE/DISTRIBUTIONCAPABILTY FOR AN ADDITIONAL 550 PERSONNEL ABOVE THE INITIALWATER DISTRIBUTION UTC. WATER DISTRIBUTION INITIAL UTC, XFW17, MUST BE TASKED TO ARRIVE BEFORE OR IN CONJUNCTION WITH THIS UTC TO SUPPORT UP TO 1,100 PERSONNEL. GENERALLY, ONE INITIAL AND ONE FOLLOW-ON UTC ARE REQUIRED FOR EVERY 1,100 PERSONNEL. THESE SYSTEMS CAN ONLY BE USED IN CLIMATES WHERE SUSTAINED TEMPERATURES WILL NOT FALL BELOW FREEZING (32 DEGREES FAHRENHEIT). THERE IS CURRENTLY NO CAPABILITY TO OPERATE/SUPPORT THESE SYSTEMS IN CLIMATES WITH SUSTAINED TEMPERATURES BELOW FREEZING. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM,DSN 576-6616. REVIEWED AUG 18.

XFW19 (ENGINEERING MANAGEMENT)

PROVIDES AUSTERE BASE WITH FACILITIES FOR CIVIL ENGINEERINGMANAGEMENT OPERATIONS. INCLUDES 2 X SMALL SHELTERS (640 SQ FT EACH), OFFICE EQUIPMENT, LIGHTING FIXTURES AND ELECTRICALCABLES/CONNECTORS FOR INTERFACE WITH POWER

DISTRIBUTION. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFW21 (CE POWER PRO ELECTRICAL SUPPLY)

PROVIDES AUSTERE BASE WITH CE SUPPLY, ELECTRIC AND POWER PRODUCTION FACILITIES. INCLUDES LOAD BANK, WORK LIGHTS AND ELECTRICAL CABLE CONNECTORS TO INTERFACE WITH BASE GENERATORS OR COMMERCIAL POWER. ALSO CONTAINS TOOLS, EQUIPMENT AND SUPPLIES NEEDED TO SUPPORT CIVIL ENGINEERING OPERATIONS SUPPORT INITIAL BEDDOWN THROUGH ON-GOING MAINTENANCE OF THE BASE. UNITS WITH EXPANDABLE SHELTER/CONTAINER (ES/C) WILL TAILOR UTC TO PUBLISHED ES/C PACKING PLAN AT TIME OF TASKING. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFW23 (TF-2 LIGHTCARTS)

PROVIDES AUSTERE BASE WITH MOBILE LIGHTING CAPABILITY THROUGH 2 X MOBILE DIESEL 6KW GENERATOR POWERED TELESCOPING FLOODLIGHT UNITS WITH 4 X 1,000 WATT FLOODLIGHTS EACH. CARTS ARE EQUIPPED WITH TOW BARS. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTSTHE 'ESTABLISH THE BASE' AETF FORCE MODULE. MAJCOM POC: 635SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFW3C (MOBILITY AF SUPPORT)

PROVIDES AUSTERE BASE WITH FACILITIES TO SUPPORT MAINTENANCE, OPERATIONS AND POL REQUIREMENTS FOR ONE MOBILITY AIR FORCES (MAF) SQUADRON. INCLUDES 8 X SMALL SHELTERS AND 6 X MEDIUM SHELTERS. TASK 1 X UTC PER MAF SQUADRON EQUIVALENT (6-16 ACFT DEPENDING ON TYPE). MUST TASK 1 X 8K DOME SHELTER UTC, XFWAD, TO SUPPORT AERIAL PORT INDOOR STORAGE. IF NO HARD SURFACE

OUTDOOR STORAGE IS AVAILABLE AT THE DEPLOYED LOCATION TOSUPPORT 7,000 SQ FT AERIAL PORT GRID YARD, TASK 3 X AM-2 MATTING UTC, XFWAM. MUST TASK 1 X 4K DOME SHELTER UTC, XFWAB, TO SUPPORT AGE MAINTENANCE. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS THE 'GENERATE THE MISSION' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWAB (4K DOME)

PROVIDES AUSTERE BASE WITH ONE 4,000 SQUARE FOOT DOME SHELTER FOR ADDED STORAGE AND/OR MAINTENANCE OPERATIONS. SHELTER CONSISTS OF ALUMINUM FRAMING, WEATHERPROOF FABRIC, AND 3 PHASE, 60 CYCLE, 120/208 VAC ELECTRICAL DISTRIBUTION SYSTEM. INTERIOR SYSTEM IS CLASS 1, DIVISION 1, GROUP C. DIMENSIONS ERECTED ARE 90 FEET LONG, 70 FT WIDE (59 FT AT EAVE LINE), 26 FT HIGH AT CENTERLINE (12 FT AT EAVE LINE). THIS UTC IS NORMALLY TASKED IN SUPPORT OF OTHER BEAR UTC'S IN WHICH THE REQUIREMENT FOR THIS TYPE OF SHELTER ARE SPECIFIED IN THEIR MISCAPS. MAY ALSO TASK LARGE STRUCTURE ERECTION TEAM UTC, XFWJ2,IF OTHER SUPPORT IS NOT AVAILABLE TO ERECT THIS STRUCTURE. TASK 2 X AM-2 MATTING UTC, XFWAM, TO PROVIDE INTERIOR FLOORING FOR THIS SHELTER. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC TO COMPLETE OPERATIONAL CAPABILITY: UFMPD UNLESS CAPABILITY IS AVAILABILE IN PLACE. NORMALLY SUPPORTS VARIOUS AETF FORCE MODULES. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWAC (ENVIRONMENTAL CONTROL UNITS)

PROVIDES AUSTERE BASE WITH 12 X FIELD DEPLOYABLE ENVIRONMENTAL CONTROL UNITS (FDECU) FOR CLIMATE CONTROLLED COOLING ANDHEATING CAPABILITY IN CLIMATES WITH SUSTAINED TEMPERATURES BETWEEN 35 DEGREES FAHRENHEIT AND 125 DEGREES FAHRENHEIT. EACH FDECU PROVIDES 60K BTU'S OF COOLING OR 50K NOMINAL BTU'S OF HEATING AND CAN MAINTAIN THE TEMPERATURE IN ONE SMALL SHELTER (640 SQUARE FEET). FOR SUSTAINED

TEMPERATURES BELOW 35 DEGREES FAHRENHEIT, 130K HEATER UTC, XFWCW, MUST BE TASKED. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWAD (8K DOME)

PROVIDES AUSTERE BASE WITH 8,000 SQUARE FOOT DOME SHELTER FOR ADDED STORAGE AND/OR MAINTENANCE OPERATIONS. SHELTER CONSISTS OF ALUMINUM FRAMING, WEATHERPROOF FABRIC, AND A 3 PHASE, 60 CYCLE, 120/208 VAC ELECTRICAL DISTRIBUTION SYSTEM. DIMENSIONS ERECTED ARE 120 FT LONG, 70 FT WIDE (59 FT AT EAVE LINE), 26 FT HIGH AT CENTERLINE (12 FT AT EAVE LINE), AND HAS ONE 18 FT WIDE X 14 FT HIGH ACCESS DOOR AT EITHER END. THIS UTC IS NORMALLY TASKED IN SUPPORT OF OTHER BEAR UTC'S IN WHICH THE REQUIREMENTS FOR THIS TYPE SHELTER ARE SPECIFIED IN THEIR MISCAPS. MAY ALSO TASK LARGE STRUCTURE ERECTION TEAM UTC, XFWJ2, IF OTHER SUPPORT IS NOT AVAILABLE TO ERECT THIS STRUCTURE. TASK 4 X AM-2 MATTING UTC, XFWAM, TO PROVIDE INTERIOR FLOORING FOR THIS SHELTER. UTC CAN BE DEPLOYED VIA AIR ORSURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC TO COMPLETE OPERATIONAL CAPABILITY: UFMPD UNLESS CAPABILITY IS AVAILABILE IN PLACE. SUPPORTS VARIOUS AETF FORCE MODULES. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWAM (AM-2 MATTING)

PROVIDES AUSTERE BASE WITH MATTING TO COVER 2,592 SQUARE FEET FOR FLOORING FOR SHELTERS AND OUTSIDE STORAGE WHERE A HARD SURFACE IS REQUIRED. CONTAINS SIX BUNDLES OF MATTING. NUMBER OF THESE UTC'S REQUIRED FOR VARIOUS SHELTERS ARE AS FOLLOWS: 4K DOME - 2 X XFWAM, 8K DOME - 4 X XFWAM, LAMS - 4 X XFWAM. T.O CONFIGURED FOR SHELTER FLOORING USE ONLY; DOES NOT INCLUDE EQUIPMENT, END-RAMPS, OR ANCHORS FOR USE ON AIRFIELDSAND PARKING RAMPS. TASK UTC 4FWAM FOR USE ON AIRFIELDS OR PARKING RAMPS. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. AT TIME OF TASKING,

DEPLOYING UNIT IS REQUIRED TO LEASE A FLAT RACK AT THE PORT OF DEBARKATION FOR PROPER SURFACE SHIPMENT. SUPPORTS VARIOUS AETF FORCE MODULES. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWBL (BILLETING)

PROVIDES BILLETING FOR 144 PERSONNEL, BASED ON 12 PERSONNELPER EACH OF THE 12 INCLUDED SHELTERS. UTC TO BE TASKED MULTIPLE TIMES TO REACH NEEDED BILLETING LEVEL FOR POPULATION. TASK EITHER FIELD DEPLOYABLE ENVIRONMENTAL CONTROL UNITS (FDECU) UTC, XFWAC, OR 130K HEATERS UTC, XFWCW, FOR CLIMATE CONTROL WITHIN SHELTERS. SEE THOSE UTC MISCAP'S TO CHOOSE THE APPROPRIATE UTC BASED ON THE CLIMATOLOGY OF THE BEDDOW LOCATION. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC TO COMPLETE OPERATIONAL CAPABILITY: UFMPT UNLESSCAPABILITY IS AVAILABILE IN PLACE. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWBP (BEAR HIGH VOLTAGE GENERATOR)

PROVIDES AN AUSTERE BASE WITH HIGH POWER GENERATION. INCLUDES 2 X TRAILER-MOUNTED, SINGLE DIESEL ENGINE-DRIVE, FULLY ENCLOSED MOBILE GENERATOR BEAR POWER UNITS (BPU) - PRODUCING 800KW EACH, 2 X 10K BLADDERS AND 1 X PRIMARY SWITCHING CENTER (PSC). DOES NOT INCLUDE CABLING TO BUILD SITE INFRASTRUCTURE. MUST TASK POWER DISTRIBUTION UTC, XFWEG, FOR CABLING. TASK THE SECONDARY DISTRIBUTION CENTER UTC, XFWSD, TO STEP DOWNTHE HIGH VOLTAGE TO LOW VOLTAGE. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. FLAT RACK MUST BE RENTED AT TIME OF EXECUTION FOR SURFACE MOVEMENT. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWC6 (COMBAT AF ADD-ON SUPPORT)

PROVIDES AUSTERE BASE WITH ADDITIONAL FACILITIES FOR SUPPORT OF SORTIE GENERATION, EGRESS, NDI, POL, MAINTENANCE SUPERVISION, SUPPORT SECTION, MOC, GCC, AIRCREW FLIGHT EQUIPMENT, AND FLIGHT OPERATIONS FOR THE BEDDOWN OF EACH ADDITIONAL SQUADRON (24 AIRCRAFT) OF COMBAT AIR FORCES (CAF) AIRCRAFT BEYOND THE FIRST INITIAL SQUADRON. THIS UTC MAY ONLY BE TASKED IN ORDER TO ADD ADDITIONAL CAF SQUADRONS OF NO MORE THAN 24 AIRCRAFT EACH TO A LOCATION WHERE ONE CAF INITIAL UTC, XFW14,IS ALREADY TASKED AND/OR IN PLACE SUPPORTING THE INITIAL BEDDOWN OF ONE SQUADRON OF 24 CAF AIRCRAFT. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FORTASKING. SUPPORTS THE 'GENERATE THE MISSION' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWCC (TACTICAL FIELD EXCHANGE)

PROVIDES AUSTERE BASE WITH FACILITY FOR A TACTICAL FIELD EXCHANGE (TFE). INCLUDES ELECTRICAL/LIGHTING FIXTURES, CABLE/CONNECTORS NECESSARY TO INTERFACE WITH POWER DISTRIBUTION ANDSMALL EQUIPMENT ITEMS SUPPORTING TFE OPERATION. TASK ONE REFRIGERATION UNIT UTC, XFWCH, IN CONJUNCTION WITH THIS UTC. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'OPERATE THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWCD (ENTOMOLOGY)

PROVIDES AUSTERE BASE WITH CAPABILITY TO SUPPORT CIVIL ENGINEERING ENTOMOLGY OPERATIONS. INCLUDES MOTOR DRIVEN FOG GENERATOR, INSECTICIDE SPRAYER, AND CHEMICALS USED TO CONTROL HEALTH HAZARDS AND DISEASE VECTORS, TO INCLUDE TREATING STRUCTURES, INFESTED AREAS, MOSQUITO BREEDING AREAS, AND FOOD SERVICE AREAS. AT EXECUTION USERS MUST VALIDATE THAT HAZARDOUS MATERIALS ARE AUTHORIZED AT DEPLOYED LOCATION. IF NOT, USER MUST PROCURE HAZARDOUS

MATERIALS THAT ARE AUTHORIZED AT DEPLOYED LOCATION THROUGH LOCAL PURCHASE. UTC CAN BE DEPLOYED VIAAIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWCF (FIRE OPERATIONS-CRASH RESCUE)

PROVIDES AUSTERE BASE WITH FACILITIES TO SUPPORT FIRE FIGHTING AND CRASH RESCUE OPERATIONS CAPABILITY SUPPORTING UP TO A POPULATION OF 3,300 PERSONNEL AND THREE FLYING SQUADRONS. INCLUDES FOUR SMALL SHELTERS (640 SQ FT) WITH LIGHTING FIXTURES AND ELECTRICAL CABLING/CONNECTORS TO INTERFACE WITH POWER DISTRIBUTION. THIS UTC IS DESIGNED TO BEDDOWN FIRE PROTECTION PERSONNEL ONLY. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWCH (ADR-300 REFRIGERATION)

SINGLE UNIT PROVIDES AUSTERE BASE WITH 270 CUBIC FEET OF REFRIGERATION OR FREEZER CAPABILTY DEPENDING ON UNIT TEMPERATURE SETTTING. NORMALLY TASKED IN CONJUNCTION WITH, AND IN SUPPORT OF OTHER BEAR UTC'S. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWCJ (LARGE AREA MAINTENANCE SHELTER)

PROVIDES AUSTERE BASE WITH AIRCRAFT HANGAR FACILITY WITH DIMENSIONS OF 129 FEET LONG X 75 FEET WIDE X 31 FEET HIGH. ELECTRICAL SYSTEM USES 208 VOLT, 3-PHASE, 60 HERTZ POWER. INTERIOR ELECTRICAL SYSTEM IS CLASS 1, DIVISION 1, GROUP C COMPLIANT. BOTH END DOORS ARE ELECTRICALLY OPERATED. CAN BE ERECTED ON CONCRETE, ASPHALT OR EARTH. MUST KEEP ALL WOODEN PACKING CONTAINERS AND ORIGINAL SHIPPING CONTAINERS TO ALLOW FOR RE-PACKING FOR REDEPLOYMENT. TASK 4 X AM-2 MATTING

UTC, XFWAM, TO PROVIDE INTERIOR FLOORING FOR THIS SHELTER. REQUIRES BUILD CREW OF 12 PERSONNEL, WITH SET-UP TIME DEPENDING ON THE SURFACE ON WHICH IT IS ERECTED. IF BUILD TEAM SUPPORT IS NOTAVAILABLE TO ERECT THIS STRUCTURE TASK LARGE STRUCTURE ERECTION TEAM UTC, XFWJ2. UTC CAN BE DEPLOYED VIA AIR OR SURFACEACCORDING TO MODE OF TRANSPORTATION FOR TASKING. DEPLOY THEFOLLOWING VEHICLE SUPPORT UTC TO COMPLETE OPERATIONAL CAPABILITY: UFMPD UNLESS CAPABILITY IS AVAILABILE IN PLACE. SUPPORTS THE 'GENERATE THE MISSION' AETF FORCE MODULE. SEE LOGDETREMARKS. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWCL (BARRIER MAINTENANCE)

PROVIDES AUSTERE BASE WITH CIVIL ENGINEERING BARRIER MAINTENANCE OPERATIONS FOR CAPABILITY. INCLUDED IN THIS SYSTEM ARE1 X MEDIUM SHELTER, 1 X MAAS DISK LOADER AND BATTERY MAINTENANCE EQUIPMENT THAT EXPEDITE MAAS SYSTEM INSTALLATION. THISUTC SUPPORTS MOBILE AIRCRAFT ARRESTING SYSTEM (MAAS) UTC, XFWR4. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'GENERATE THE MISSION' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWCW (130K HEATERS)

PROVIDES AUSTERE BASE WITH CLIMATE CONTROLLED HEATING CAPABILTY. INCLUDES 12 HEATERS. SUPPLEMENTS THE FIELD DEPLOYABLE ENVIRONMENTAL CONTROL UNIT UTC, XFWAC, IN CLIMATES WITH SUSTAINED TEMPERATURES BELOW 35 DEGREES FAHRENHEIT. EACH HEATER PROVIDES 130K BTU'S FOR HEAT ONLY AND CAN MAINTAIN THE TEMPERATURE IN ONE SMALL SHELTER (640 SQ FT) IN THE RANGE OF 25 -80 DEGREES FAHRENHEIT. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS'ESTABLISH THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWEC (CE INDUSTRIAL)

PROVIDES AUSTERE BASE WITH FACILITIES, TOOLS AND EQUIPMENT TO SUPPORT CIVIL ENGINEERING MAINTENANCE CAPABILITY FOR BASES OF UP TO ONE FLYING SQUADRON, A POPULATION OF 3,300 PERSONNEL, AND SUPPORT FOR CIVIL ENGINEERING BACK SHOP OPERATIONS.THIS INCLUDES A DIESEL POWERED WELDING MACHINE, PUMPS, PAVEMENTS, ELECTRICAL, PLUMBING, TOOL STORAGE, HVAC, LIQUID FUELS, SHEET METAL, LIGHTING FIXTURES AND VARIOUS SUPPORT SUPPLIES TO INCLUDE ELECTRICAL CABLING/CONNECTORS TO INTERFACE WITH ELECTRICAL POWER DISTRIBUTION. UTC CAN BE DEPLOYED VIA AIROR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING.SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOMPOC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWEG (POWER DISTRIBUTION)

PROVIDES AUSTERE BASE WITH ELECTRICAL DISTRIBUTION CAPABILITY FROM PRIMARY SWITCHING CENTER (PSC) TO SECONDARY DISTRIBUTION CENTERS (SDC). INCLUDES 2 X CABLE PALLET REEL ASSEMBLIES. EACH PALLET REEL ASSEMBLY CONTAINS 3 X REELS AND EACH REEL HAS 3,750 FEET OF CABLE. THIS UTC PROVIDES A TOTAL CAPABILITY OF 7,500 FEET OF 3 PHASE POWER DISTRIBUTION. THIS UTC ISREQUIRED TO CONNECT HIGH POWER UTC, XFWBP, TO SDC UTC, XFWSD. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS THE 'ESTABLISH THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWGC (CHAPLAIN SUPPORT)

ONE SMALL SHELTER WITH OFFICE EQUIPMENT, ADMINISTRATIVE SUPPLIES, CHAPEL FURNISHINGS (CHAIRS, TABLES, ALTER, FLAGS) AND CHAPEL SUPPLIES (BIBLES, COMMUNION SET, VESTMENTS) TO PROVIDE FOR CATHOLIC, PROTESTANT AND JEWISH WORSHIP SERVICES. INCLUDES DENOMINATIONALLY CONFIGURED CHAPLAIN KITS IN CARRY BAGS. ELECTRICAL/LIGHTING FIXTURES AND CABLES/CONNECTORS ARE PROVIDED FOR INTERFACE WITH POWER DISTRIBUTION. UTC CAN BE DEPLOYED VIA AIR OR SURFACE

ACCORDING TO MODE OF TRANSPORTATIONFOR TASKING. SUPPORTS THE 'OPERATE THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWHL (HIGHLINE DOCK)

PROVIDES AUSTERE BASE WITH 1 X HIGHLINE DOCK (NON-POWERED, MANUAL/GRAVITY FED) TO PROVIDE A STAGING AREA FOR PALLETS ORPALLET TRAINS IN SUPPORT OF AIRCRAFT LOADING OPERATIONS. THIS HIGHLINE DOCK IS CAPABLE OF HOLDING SIX PALLETS AT ONE TIME. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODEOF TRANSPORTATION FOR TASKING. MUST DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC TO COMPLETE OPERATIONAL CAPABILITY: UFMPD UNLESS CAPABILITY IS AVAILABILE IN PLACE. SUPPORTS 'OPERATE THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWJ1 (TECHNICAL/SUPERVISION TEAM)

PROVIDES BEAR EXPERTISE AND CAPABILITY TO AUGMENT AND/OR TRAIN DEPLOYED PRIME BEEF/RED HORSE (OR JOINT EQUIVALENT) PERSONNEL ON ERECTION, MAINTENANCE AND REDEPLOYMENT OF BEAR SETS. UTC IS WORLDWIDE DEPLOYABLE TO LOCATIONS SUPPORTING BEAR BASE SYSTEMS. DEPLOYED UNIT/HOST INSTALLATION WILL PROVIDE SITING, SITE PREPARATION AND TOOLS/EQUIPMENT. UTC SIZE AND SKILL SPECIALTIES ARE TAILORABLE TO MEET MISSION REQUIREMENTS. DURING EXECUTION AFSC 3EXXX CAN SUBSTITUTE ANY OTHER 3EXXX PROVIDED INDIVIDUAL IS QUALIFIED TO PERFORM PRIMARY REQUIRED AFSC DUTIES IN THE FUNCTIONAL AREA CODE (FAC). DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC'S TO COMPLETE OPERATIONAL CAPABILITY: UFMBJ AND UFMPS UNLESS CAPABILITY IS AVAILABILE IN PLACE. MAJCOM POC: 635 SCOW/WM, DSN 576-6608. REVIEWED AUG 18.

XFWJ2 (LARGE STRUCTURE ERECTION SUPPORT TEAM)

PROVIDES TECHNICAL EXPERTISE AND CAPABILITY FOR ERECTION, MAINTENANCE AND REDEPLOYMENT OF LARGE BEAR INDUSTRIAL SHELTERS SUCH AS LARGE AREA MAINTENANCE SHELTERS (LAMS) TO

SUPPORTING LOCATIONS. UTC IS WORLDWIDE DEPLOYABLE TO LOCATIONS SUPPORTING BEAR BASE SYSTEMS. DEPLOYED UNIT/HOST INSTALLATION WILL PROVIDE SITE PREPARATION, SITING AND TOOLS/EQUIPMENT. DURING EXECUTION AFSC 3EXXX CAN SUBSTITUTE ANY OTHER 3EXXX PROVIDED INDIVIDUAL IS QUALIFIED TO PERFORM PRIMARY REQUIRED AFSCDUTIES IN FUNCTIONAL AREA CODE (FAC). DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC'S TO COMPLETE OPERATIONAL CAPABILITY: UFMBJ AND UFMPS UNLESS CAPABILITY IS AVAILABILE IN PLACE. MAJCOM POC: 635 SCOW/WM, DSN 576-6608. REVIEWED AUG 18.

XFWKC (9-2 KITCHEN)

PROVIDES AUSTERE BASE WITH MESSING CAPABILITY TO FEED UP TO550 PERSONNEL. KITCHEN IS ALL ELECTRIC AND PROVIDES AREAS FOR FOOD STORAGE/PREPARATION, DINING FACILITY, MESS KIT LAUNDRIES AND M-80 WATER HEATER FOR SANITATION. INCLUDES EQUIPMENT, APPLIANCES, UTENSILS, TOOLS, SUPPLIES AND SPARE PARTS TO SUPPORT TYPE A/B RATIONS. MUST TASK 2 X SECONDARY DISTRIBUTION CENTER UTC, XFWSD, TO PROVIDE ELECTRICAL CONNECTIVITY AND3 X REFRIGERATION UNIT UTC, XFWCH, TO PROVIDE REFRIGERATIONSUPPORT FOR FOOD SERVICE OPERATION. MUST EVALUATE IF FIELD DEPLOYABLE ENVIRONMENTAL CONTROL UNITS WILL BE REQUIRED. IF REQUIRED TASK ENVIRONMENTAL CONTROL UNIT UTC, XFWAC. SUPPORTS 'OPERATE THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWKP (PORTABLE ELECTRIC KITCHEN SYSTEM)

PROVIDES AUSTERE BASE WITH MESSING CAPABILITY TO FEED UP TO550 PERSONNEL. KITCHEN IS ALL ELECTRIC AND PROVIDES AREAS FOR FOOD STORAGE/PREPARATION AND DINING FACILITY. INCLUDES EQUIPMENT, APPLIANCES, UTENSILS, TOOLS, SUPPLIES AND SPARE PARTS TO SUPPORT TYPE A/B RATIONS. MUST TASK 2 X SECONDARY DISTRIBUTION CENTER UTC, XFWSD, TO PROVIDE ELECTRICAL CONNECTIVITY AND 3 X REFRIGERATION UNIT UTC, XFWCH, TO PROVIDE REFRIGERATION SUPPORT FOR FOOD SERVICE OPERATION. MUST EVALUATE IF FIELD DEPLOYABLE ENVIRONMENTAL CONTROL UNITS WILL BE REQUIRED. IF REQUIRED, TASK ENVIRONMENTAL CONTROL UNIT UTC, XFWAC.

SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWLC (SHOWER SHAVE LATRINE)

PROVIDES AUSTERE BASE WITH SHOWER/SHAVE/LATRINE FACILITIES SUPPORTING UP TO 275 250 PERSONNEL FOR HOUSEKEEPING OR UP TO THREE FLYING SQUADRONS FOR FLIGHTLINE OPERATIONS. REQUIRES ACCESS TO A POTABLE WATER SOURCE, WASTE COLLECTION/DISPOSAL SYSTEM AND 120/208V POWER SUPPLY FROM AVAILABLE LOW POWER INDUSTRIAL UTC, XFW16. FOR HOUSEKEEPING, DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC'S TO COMPLETE OPERATIONAL CAPABILITY: UFMV2 & UFMBJ UNLESS CAPABILITY IS AVAILABILE IN PLACE. SUPPORTS THE 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. FOR FLIGHTLINE OPERATIONS, SUPPORTS THE 'GENERATE THE MISSION' AETF FORCEMODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG18.

XFWLD (EXPANDABLE BICON SHELTER HYGIENE SYSTEM)

EXPANDABLE BICON SYSTEM (EBS) SHOWER, SHAVE, LATRINE FACILITIES SUPPORTS UP TO 275 PERSONNEL FOR HOUSEKEEPING OPERATIONOR UP TO THREE FLYING SQUADRONS FOR FLIGHTLINE OPERATIONS. REQUIRES ACCESS TO A POTABLE WATER SOURCE AND WASTE COLLECTION/DISPOSAL. TASK WATER DISTRIBUTION INITIAL UTC, XFW17, TO PROVIDE NECESSARY CONNECTIONS TO WATER SOURCE. POWER SUPPLIED BY EITHER BEAR HIGH POWER UTC, XFWBP, OR BY LOW POWER UTC,XFW16. IT ALSO REQUIRES THE SECONDARY DISTRIBUTION CENTER (SDC) UTC, XFWSD. UTC CONTAINS TWO (2) SHOWER AND TWO (2) LATRINE EXPANDABLE BICON SHELTERS. EACH SHOWER CONSISTS OF ONE EXPANDABLE BICON AND CONTAINS SIX (6) SHOWER STALLS, SIX (6)SINKS WITH MIRRORS AND TWO (2) 10 X 10 ATTACHED PRIVACY SHELTERS. EACH LATRINE CONTAINS SIX (6) TOILETS, FOUR (4) URINALS AND TWO (2) SINKS WITH MIRRORS. THIS UTC CANNOT DEPLOY SEPARATE LATRINE AND SHOWER FUNCTIONS, MUST DEPLOY AS ONE UNIT. MUST EVALUATE IF FIELD DEPLOYABLE ENVIRONMENTAL CONTROL UNITS WILL BE REQUIRED. IF REQUIRED, TASK ENVIRONMENTAL CONTROL UNIT UTC, XFWAC. SUPPORTS THE 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. FOR FLIGHTLINE

OPERATIONS, SUPPORTS THE 'GENERATE THE MISSION' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWLS (SELF-HELP LAUNDRY)

PROVIDES AUSTERE BASE WITH SELF-HELP LAUNDRY CAPABILITY FORUP TO 550 PERSONNEL. INCLUDES 1 X SMALL SHELTER, 10 X WASHERS, 20 X DRYERS AND MRSP. PROVIDES CABLES/CONNECTORS FOR INTERFACE WITH POWER DISTRIBUTION. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWMP (WATER PRODUCTION 1500 ROWPU)

PROVIDES AUSTERE BASE WITH CAPABILITY TO PURIFY WATER FOR HUMAN CONSUMPTION AND USE. USES 2 X 1500 GALLON PER HOUR REVERSE OSMOSIS WATER PURIFICATION UNITS (ROWPU) CAPABLE OF PURIFYING UP TO 60,000 GALLONS OF WATER PER DAY. UTC CONTAINS 3 X 20,000 GALLON BLADDERS FOR RAW, POTABLE AND BRINE STORAGE.ALSO CONTAINS NECESSARY HOSES AND FITTINGS TO CONNECT BOTH ROWPU'S TO RAW WATER SOURCE AND POTABLE WATER STORAGE. TCTO CABLE MODIFICATION KIT IS REQUIRED TO OPERATE THE ROWPU FROMTHE SDC. SOURCE RUN UTC, XFWMS, MUST BE TASKED IF RAW WATERSOURCE IS LOCATED OVER 500 FEET FROM WATER PRODUCTION LOCATION. LOW POWER INDUSTRIAL UTC, XFW16, MUST BE TASKED TO ALLOW STAND ALONE OPERATION. THESE SYSTEMS CAN ONLY BE USED IN CLIMATES WHERE SUSTAINED TEMPERATURES WILL NOT FALL BELOW FREEZING (32 DEGREES FAHRENHEIT). THERE IS CURRENTLY NO CAPABILITY TO OPERATE/SUPPORT THESE SYSTEMS IN CLIMATES WITH SUSTAINED TEMPERATURES BELOW FREEZING. UTC CAN BE DEPLOYED VIA AIROR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING.SUPPORTS 'ESTABLISH THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWMS (WATER SOURCE RUN)

PROVIDES AUSTERE BASE WITH CAPABILITY TO OBTAIN RAW WATER FROM A SOURCE UP TO 6,000 FEET FROM WATER PRODUCTION 1,500 GPH ROWPU UTC, XFWMP. CAPABLE OF PUMPING WATER TO AN ELEVATIONOF 150 FEET AT A RATE OF 400 GALLONS PER MINUTE. TASK THIS UTC MULTIPLE TIMES TO COVER DISTANCES GREATER THAN 6,000 FEET. THESE SYSTEMS CAN ONLY BE USED IN CLIMATES WHERE SUSTAINED TEMPERATURES WILL NOT FALL BELOW FREEZING (32 DEGREES FAHRENHEIT). THERE IS CURRENTLY NO CAPABILITY TO OPERATE/SUPPORTTHESE SYSTEMS IN CLIMATES WITH SUSTAINED TEMPERATURES BELOWFREEZING. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS THE 'ESTABLISH THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN576-6616. REVIEWED AUG 18.

XFWMU (MUNITIONS SUPPORT)

PROVIDES AUSTERE BASE WITH FACILITIES FOR INITIAL MUNITIONSMAINTENANCE AND INSPECTION CAPABILITY. UTC MUST BE IN-PLACEPRIOR TO AIRCRAFT AND MUNITIONS PERSONNEL ARRIVAL. INCLUDESNECESSARY ELECTRICAL CABLE/CONNECTORS TO INTERFACE WITH POWER DISTRIBUTION. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'GENERATE THE MISSION' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM,DSN 576-6616. REVIEWED AUG 18.

XFWMX (WATER EXTENSION)

DISTRIBUTES WATER TO OUTLYING FACILITIES UP TO 2,500 FEET FROM THE MAIN DISTRIBUTION SYSTEM. TIES INTO EXISTING INITIALAND FOLLOW-ON WATER DISTRIBUTION SYSTEM UTC'S, XFW17 AND XFW18, RESPECTIVELY. CONTAINS COLLAPSIBLE HOSE, 2 X 3,000 GALLON WATER BLADDERS AND 1 X ELECTRIC PUMP. THESE SYSTEMS CAN ONLY BE USED IN CLIMATES WHERE SUSTAINED TEMPERATURES WILL NOT FALL BELOW FREEZING (32 DEGREES FAHRENHEIT). THERE IS CURRENTLY NO CAPABILITY TO OPERATE/SUPPORT THESE SYSTEMS IN CLIMATES WITH SUSTAINED TEMPERATURES BELOW FEEZING. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR

TASKING. SUPPORTS THE 'ESTABLISH THE BASE' AETF FORCEMODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG18.

XFWNC (CAMO SETS)

PROVIDES AUSTERE BASE WITH LIGHTWEIGHT RADAR SCATTERING CAMOUFLAGE NETS TO PROVIDE SCREENING AND SHADE FOR CRITICAL FACILITIES, ASSETS AND INFRASTRUCTURE. CONSISTS OF 200 NETS ANDSUPPORTING EQUIPMENT, WITH EACH NET CAPABLE OF COVERING APPROXIMATELY 200 SQUARE FEET. MODULES CAN BE CONNECTED IN A VARIETY OF COMBINATIONS TO COVER SINGLE OR CLUSTERED MULTIPLE STRUCTURES. UNITS WILL BE AUTHORIZED DESERT OR WOODLAND NETTING FOR EACH UTC, NOT BOTH. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWPL (LOW POWER HOUSEKEEPING)

PROVIDES AUSTERE BASE WITH LOW POWER GENERATION CAPABILITY FOR BASE HOUSEKEEPING BEDDOWN AREA SUPPORTING A POPULATION OF 500 PERSONNEL. INCLUDES 2 X AMMPS PRODUCING 30KW GENERATOR EACH AND 2 X 60KW PDP (POWER DISTRIBUTION PANEL) EACH WITH 8 X 60AMP CONNECTIONS. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWPS (POSTAL SUPPORT)

PROVIDES AUSTERE BASE WITH FACILITIES TO SUPPORT POSTAL OPERATIONS FOR A POPULATION UP TO 3,300 PERSONNEL. INCLUDES 1 XMEDIUM SHELTER. TASK ENVIRONMENTAL CONTROL UNIT UTC, XFWAC, FOR ENVIRONMENTAL CONTROL WITHIN SHELTER. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWR4 (MOBILITY AIRCRAFT ARRESTING SYSTEM)

PROVIDES AUSTERE BASE WITH BI-DIRECTIONAL ARRESTS OF AIRCRAFT WEIGHING UP TO 58,000 POUNDS AT 180 KNOTS WITH 1,200 FEET OF RUNOUT WHERE RUNWAY WIDTH IS 150 FEET OR LESS. RECYCLE CAPABILITY IS 20 ARRESTS PER HOUR. INCLUDES 1 X SET OF MAAS TRAILERS (2 TRAILERS) AND 2 X MOBILE ARRESTING EDGE SLEEVES. MUST BE TASKED TO SUPPORT BEDDOWN OF COMBAT AIR FORCES WHERENO IN-PLACE ARRESTING SYSTEM EXISTS. BARRIER MAINTENANCE UTC, XFWCL, IS REQUIRED TO EXPEDITE SYSTEM INSTALLATION. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC TO COMPLETE OPERATIONAL CAPABILITY: UFMT4 UNLESS CAPABILITY IS AVAILABLE IN PLACE. SUPPORTS 'ESTABLISH THE AIR BASE'AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWSC (COMBAT SUPPLY)

PROVIDES AUSTERE BASE WITH FACILITIES TO SUPPORT SUPPLY, DISTRIBUTION AND MATERIEL HANDLING CAPABILITIES SUPPORTING UP TO THREE FLYING SQUADRONS. TASK 1 X 8K DOME SHELTER UTC, XFWAD, IF WAREHOUSE SPACE IS REQUIRED. TASK ONE REFRIGERATION UNIT UTC, XFWCH, FOR COLD WAREHOUSE STORAGE REQUIREMENT. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWSD (SECONDARY DISTRIBUTION CENTER)

PROVIDES AUSTERE BASE WITH 2 X SECONDARY POWER DISTRIBUTIONCENTERS (SDC) THAT TRANSFORM HIGH VOLTAGE (4,160V) PROVIDEDBY HIGH POWER UTC, XFWBP, TO USABLE 120/208V. CAN ALSO BE CONNECTED TO A 4,160V COMMERCIAL POWER SOURCE OR LOW VOLTAGE MEP GENRATORS. EACH SDC HAS 16 X 60 AMP CONNECTIONS. PROVIDES FEED THROUGH CAPABILITY TO ALLOW CONNECTION OF ADDITIONAL SDCS. MUST TASK POWER DISTRIBUTION UTC, XFWEG, FOR HIGH VOLTAGE CONNECTION IF LOCAL SOURCE IS NOT

AVAILABLE. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS THE 'ESTABLISH THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWTF (SINGLE PALLET EXPEDITIONARY KITCHEN)

PROVIDES AUSTERE BASE WITH MESSING CAPABILITY TO FEED UP TO500 PERSONNEL USING UNITIZED GROUP RATIONS (UGR'S) IN THE ABSENCE OF OR AS INITIAL 14 DAYS OF CAPABILITY PRECEEDING DEPLOYMENT/EMPLOYMENT OF THE XFWKC UTC. PROVIDES ONE MEDIUM SHELTER WITH SEATING FOR DINING AREA AND EXPANDABLE INTEGRATED SHIPMENT UNIT WITH THE CAPABILITY TO PREPARE AND SERVE UGR'S. UGR'S ARE NOT INCLUDED AND MUST BE TASKED SEPARATELY FROM DLA/DSCP. TASK THE KITCHEN UTC, XFWKC, FOR OPERATIONS EXCEEDING 14 DAYS. THE XFWKC SHOULD BE DEPLOYED SO THAT IT CAN BE IN PLACE AND OPERATIONAL FOR MEAL PREPARATION AND SERVICE NOLATER THAN DAY 15. DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC'S TO COMPLETE OPERATIONAL CAPABILITY: UFMV2 & UFMBJ UNLESS CAPABILITY IS AVAILABLE IN PLACE. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWVC (VEHICLE OPERATIONS MAINTENANCE)

PROVIDES AUSTERE BASE WITH VEHICLE OPERATIONS/MAINTENANCE OFFICE EQUIPMENT, FACILITIES AND GENERAL VEHICLE MAINTENANCE EQUIPMENT TO SUPPORT MAINTENANCE OF UP TO 150 GENERAL PURPOSE VEHICLES. INCLUDES TOOL BOXES BUT NOT TOOLS, WHICH ARE BROUGHT IN AS PART OF THE VEHICLE MAINTENANCE UF* UTC'S. ADDITIONAL VEHICLE OPERATIONS CAPABILITY IS LIMITED ONLY BY THE NUMBER OF SUPPORTING VEHICLE OPERATIONS PERSONNEL UTC'S TASKED AND VEHICLES ON HAND. REQUIRES TASKING OF 4K DOME UTC, XFWAB. SPECIAL PURPOSE AND REFUELING MAINTENANCE CAPABILTIY CAN BE ADDED THROUGH THE ADDITION OF THOSE SPECIALIZED VEHICLE MAINTENANCE PERSONNEL/EQUIPMENT UF* UTC'S. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FORTASKING. SUPPORTS 'ESTABLISH THE AIR BASE'

AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWWC (ADMINISTRATIVE SUPPORT)

PROVIDES AUSTERE BASE WITH PERSCO, MANPOWER AND/OR EFSS GENERIC ADMINISTRATIVE WORKSPACE CONSISTING OF 4 X SMALL SHELTERS, EACH CONSISTS OF 640 SQUARE FEET OF USABLE INTERIOR SPACE. INCLUDES ONE FILINGCABINET, ELECTRICAL/LIGHTING FIXTURES AND CABLES/CONNECTORSNECESSARY FOR INTERFACE WITH BASE POWER DISTRIBUTION. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWWR (CONCERTINA WIRE)

PROVIDES AUSTERE BASE WITH PERSONNEL BARRIER INTERNAL TO THE BASE FOR AREAS SUCH AS INDUSTRIAL/FLIGHTLINE OPERATIONS OROTHER CRITICAL, HIGH VALUE FACILITIES, AREAS OR INFRASTRUCTURE. CONSISTS OF 480 ROLLS OF CONCERTINA WIRE (50 FT PER ROLL) PROVIDING 8,000 LINEAR FEET OF COVERAGE. THIS UTC IS NOT DESIGNED TO PROVIDE PERIMETER BARRIERS AROUND AN ENTIRE AUSTERE BASE. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS 'ESTABLISH THE AIR BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWXN (MORTUARY SUPPORT)

PROVIDES AUSTERE BASE WITH FACILITIES AND EQUIPMENT FOR INITIAL MORTUARY CAPABILITY SUPPORTING A POPULATION OF 500 PERSONNEL. INCLUDES ONE SMALL SHELTER, SPECIALIZED MORTUARY EQUIPMENT, 1 X REFRIGERATION UNIT, TRANSFER CASES FOR 15 CADAVERS AND BODY BAGS FOR 100. PROVIDES CAPABILITY FOR CADAVER PROCESSING, STORING AND PREPARATION FOR SHIPMENT. INTERNAL LIGHTING/FIXTURES AND CABLES/CONNECTORS ARE PROVIDED FOR INTERFACE WITH POWER DISTRIBUTION. TO INCREASE THIS UTC'S CAPABILITY TO SUPPORT A POPULATION UP TO 1,100

PERSONNEL, TASK 1 X REFRIGERATION UNIT UTC, XFWCH. UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. DEPLOY THE FOLLOWING VEHICLE SUPPORT UTC'S TO COMPLETE OPERATIONAL CAPABILITY: UFMV2 AND UFMBJ UNLESS CAPABILITY IS AVAILABILE IN PLACE. SUPPORTS 'ESTABLISH THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN: 576-6616. REVIEWED AUG 18.

XFWYC (EMERGENCE AIRFIELD LIGHTING SYSTEM)

PROVIDES AUSTERE BASE WITH EMERGENCY AIRFIELD LIGHTING SYSTEM (EALS) CONSISTING OF RUNWAY LIGHTING CAPABILITY FOR EITHER A 5,000 FOOT X 50 FOOT MINIMUM OPERATING STRIP OR A MAXIMUM 10,000 FOOT X 150 FOOT RUNWAY. INCLUDES DISTANCE TO GO MARKERS, RUNWAY EDGE LIGHTS, TAXIWAY LIGHTS, STROBE LIGHTS FOR APPROACH, THRESHOLD LIGHTS, OBSTRUCTION LIGHTS, AND PRECISION APPROACH PATH INDICATOR (PAPI) UNITS. ALSO INCLUDES 2 X GENERATORS TO POWER THE SYSTEM. UTC CAN BE DEPLOYED VIA AIR ORSURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS THE 'GENERATE THE MISSION' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.

XFWZC (REMOTE AREA LIGHTING SYSTEM)

PROVIDES AUSTERE BASE WITH REMOTE AREA LIGHTING SYSTEM (RALS) PROVIDING CAPABILITY TO LIGHT TWO REMOTE AREAS EACH WITH 4 X 375 FOOT LOOP CORD ASSEMBLIES AND A LIGHT FIXTURE MOUNTED ON 15 FOOT TELESCOPING POLES PLACED AT A MAXIMUM INTERVAL OF 125 FEET, INCLUDING ONE LIGHT FIXTURE MOUNTED ON THE RALSBASE UNIT. LIGHTS CAN BE SET FOR ON-AT-DARK/OFF-AT-DAWN OPERATION OR MANUAL SWITCH OVERRIDE. INCLUDES STAKES, PADS AND SPARE LAMPS, AS WELL AS POWER CABLES NEEDED TO CONNECT TO SECONDARY DISTRIBUTION CENTER (SDC). UTC CAN BE DEPLOYED VIA AIR OR SURFACE ACCORDING TO MODE OF TRANSPORTATION FOR TASKING. SUPPORTS THE 'ESTABLISH THE BASE' AETF FORCE MODULE. MAJCOM POC: 635 SCOW/WM, DSN 576-6616. REVIEWED AUG 18.