MODERN BURNER UNIT (MBU) | DoD CFD

PURPOSE:

The Modern Burner Unit is the backbone of the food service equipment in the field. It is utilized as the sole heating component in the MKT and CK and is a component of the Assault Kitchen. The MB is also the heat source for the Food Sanitation Center. The MBU was first fielded in 1999 as a replacement to the older M2 burner. The MBU uses JP-8, a kerosene-based fuel that burns more cleanly and is less volatile than gasoline used by the M2, thereby increasing safety and preventing pollution. The MBU tank also takes less time to fill than the M2 tank.

CHARACTERISTICS:

The MBU can be inserted beneath cooking racks in MKTs and CKs to prepare meals. It features a closed-circuit fuel system, which reduces the safety hazard of the M2 Burner by eliminating possible fuel spillage and reduces maintenance. The MBU has an integral pump that draws fuel through a quick disconnect fitting located on the front of the unit. It is self-priming and can fill its 2-gal tank in 2 min. The unit ignites with the touch of button, and shuts down just as easily, with a firing range comparable to the M2. Because the new MBU can be lit in place within an MKT, there is no need for Warfighters to carry the burner (as they did with the M2 burner), thus eliminating the chance of fuel spillage. Additionally, the MBU produces fewer emissions than the M2 burner.

CAPABILITIES & BENEFITS:

- Has same dimensions as M2 with lightweight construction and modular assembly.
- Has infra-red burner capabilities.
- Generates 18,000 to 60,000 BTU/hr operating in -25°F (-32°C) to 125°F (52°C) in remote locations.
- Operates approximately 4 hrs on full tank of fuel.
- Has powered ignition and powered refueling.
- Has fully adjustable burner temperature.
- Has fault detection and fuel level indicators.

COMMENTS:

Warfighters in the field are able to perform three key maintenance procedures on the MBU: controller assembly, compressor assembly, and fuel delivery block assembly. They can replace these components in the field instead of turning the unserviceable unit in to unit level maintenance or having to order a new one. With the user performing these limited replacements, the MBU can be placed back in service quickly, thus improving the MBU mission-capability rates. To aid in these repairs, an MBU tool kit consisting of common hand tools was developed to allow operators to successfully perform these maintenance functions. PM-FSS purchased an initial amount of tool kits to support already fielded CKs and MKTs.

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AT A GLANCE:

- **WEIGHT:** 58 lbs (26 kg) fully fueled; 41.5 lbs (19 kg) without fuel
- **DIMENSIONS:** Height 9.75 inches (25 cm); Depth 23 inches (58 cm); Width 19 inches (48 cm)
- **FUEL CAPACITY (Usable):** 2 gallons (7.6 lt)
- **FUEL CONSUMPTION:** Operating at maximum firing rate: 2.8 lbs (1.27 kg)/hr; Operating at minimum firing rate is 1.2 lbs (.54 kg)/hr
- **OPERATION TIME:** (Full fuel tank) up to 4 hrs
- **OUTPUTS:**
  - Heat (setting dependent) 18,000 to 60,000 BTU/hr
  - Carbon monoxide (setting dependent) .50 to 120 ppm
- **FUEL REQUIREMENTS:** JP-8
- **ELECTRICAL REQUIREMENTS:** 22 to 29.5 V DC
- **OPERATING TEMPERATURES:** -25°F to 125°F (-32°C to +52°C) w/ operating elevations up to 10,000 ft (3,048 m) above sea level
- **BATTERY PACK:** Two sealed lead acid batteries w/input voltage range 22 to 29.5 V

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