

Summary Report for Individual Task
551-88L-1024
Identify Fueling Procedures
Status: Approved

Distribution Restriction: Approved for public release; distribution is unlimited.

Destruction Notice: None

Foreign Disclosure: FD5 - This product/publication has been reviewed by the product developers in coordination with the installation/activity name foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

Condition: Assigned as a Marine Watercraft Engineer, given a complete risk assessment, a vessel in port or at sea, all applicable publications, forms, and records, tools, materials, personnel, equipment in all weather conditions day or night and all MOPP levels in an operational environment scenario

Standard: On orders, Soldier will perform refueling operations as a part of a refueling team that will transfer fuel within the vessel and from an off hull source; IAW applicable technical publication's procedures and specifications. Comply with all warnings, cautions, and notes listed in all references. Soldier must perform this task without errors.

Special Condition: None

Safety Risk: Low

MOPP 4:

Task Statements

Cue: None

DANGER
None

WARNING
None

CAUTION
None

Remarks: None

Notes: None

Performance Steps

1. Align the electrical system for fuel transfer operations to fuel an Army Vessel Internal Transfer.

a. In the engine room, set the circuit breakers to ON:

(1) Set up filtration system or fuel filter/water separator filter.

(2) Set up the TLI system.

b. Set the FUEL OIL XFER PUMP circuit breaker to ON.

c. Set the FUEL OIL TRANSFER PUMP ON.

d. Energize and test the high level alarm panel:

(1) Set (or verify) the FUEL OIL DAY TANKS (P&S) HIGH LEVEL ALARM circuit breaker to ON.

(2) Test the port and starboard day tank high level alarm panel by momentarily placing each TEST switch in the ON position.

(3) Secure the tested alarm.

e. Set the ON-OFF switch on the master tank level indicator panel to ON.

f. Compare the STBD DAY TK Tank Level Indicator (TLI) gauge and the PORT DAY TK TLI gauge in the EOS with the STARBOARD DAY TANK TLI gauge and the PORT DAY TANK TLI gauge above the fuel oil transfer manifold.

Note: Watercraft engineers (88L) are required to perform fuel oil fill, transfer and supply system tasks under normal conditions, supervised by 88L40 or Warrant Officer.

2. Fill the day tanks.

a. Align the fuel oil transfer piping system.

Knowledge the Soldier must have:

K-1: Identify the fuel oil fill and transfer piping system. The fuel oil fill and transfer piping system replenishes the fuel oil tanks from deck discharge/fill connections. The system also replenishes fuel oil day tank for the main engines and the generator diesel engine, by transferring fuel oil from the storage tanks. System control is maintained through manifold transfer pump and a combination of valves. Fuel oil can be transferred from either storage tank(s) to the day tank(s) as required. Power to the fuel oil pump is supplied from the power panel and controlled by a START/STOP push button and an emergency STOP switch located in the engine room. An emergency fuel shutoff valve pull cable is provided in the event of an emergency. Fuel oil purification is provided by the fuel oil filters/coalesce and/or centrifugal purifier.

(1) Close the Fuel Oil Day Tank Fill Valves.

(2) Operate the fuel filter/water separator.

(3) Place one fuel oil transfer pump online.

WARNING

CAUTION

- (4) Place fuel oil transfer pump 1 online.

WARNING

Fueling operations present a serious fire hazard. Verify that NO SMOKING signs are placed at designated locations. Make routine announcements that fueling operations are in progress. Take all necessary precautions as required by FM 55-502. Failure to comply can result in damaged equipment and serious injury or death to personnel.

CAUTION

While operating the fuel filter/water separator, use only one pump to accomplish the fuel transfer. The use of both fuel oil transfer pumps will exceed the rated capacity of the fuel filter/water separator.

- b. Select the day tank to be filled.

- (1) Fill the emergency diesel generator day tank.

- (2) Fill the starboard fuel oil day tank.

- (3) Fill the port fuel oil day tank.

- (4) Open the suction valve for the selected fuel oil supply tank on the fuel oil manifold.

Note: Do not operate the fuel oil transfer pumps against a closed fill valve as damage to the pump and/or piping could occur. Prior to transferring fuel to the starboard or port day tank, verify that the fuel transfer pump alarm panel is energized and tested.

WARNING

Avoid overfilling any tank. Overfilling may result in a fuel spill and fire hazard. Ensure that the vent caps are OPEN on oil fuel vents. Failure to comply may result in damaged equipment and serious injury or death to personnel.

CAUTION

Do not operate the fuel oil transfer pumps against a closed fill valve as damage to the pump and/or piping could occur. Prior to transferring fuel to the starboard or port day tank, verify that the fuel transfer pump alarm panel is energized and tested.

c. Transfer the fuel.

(1) Set the ON-OFF switch(es) to ON

(2) Verify that the POWER AVAILABLE indicator(s) energizes.

(3) Start the pump(s) by pressing the START pushbutton(s).

(4) Verify that the MOTOR RUN indicator(s).

(5) Observe that the TLIs at the fuel oil station.

(6) Observe the readings on the inlet pressure gauge and the discharge pressure gauge on the fuel filter/water separator.

(7) Drain water from the fuel filter/water separator.

(8) Secure from fuel transfer.

(9) Close the inlet valve.

(10) Open the drain valve.

(11) Close the drain valve after draining the water.

(12) Open the inlet valve.

(13) Resume fuel transfer.

(14) Stop the fuel oil transfer pump(s), and secure the fuel oil transfer piping system when the TLIs (or sounding tape levels) for the selected day tank indicate the desired level.

d. Secure the fuel oil transfer piping system pressing the stop pushbutton, at the fuel oil transfer pump motor controllers.

3. Transfer the fuel between storage tanks.

a. Align the fuel oil transfer piping system:

(1) Open the suction valve on the fuel oil manifold for the selected fuel oil supply tank the fuel oil is being pumped from.

(2) Open the fill valve on fuel oil manifold for the selected fuel oil supply tank the fuel oil is being pumped to.

b. Commence transferring fuel using the fuel oil transfer pump motor controllers:

(1) Verify that the level for the tank being pumped to increases, and the level for the tank being pumped from decreases at the fuel oil station TLIs

(2) Stop the fuel oil transfer pumps when the TLI (or sounding tape levels) indicates the desired level.

c. Secure the fuel oil transfer pumps at the fuel oil pump motor controllers.

d. Secure the fuel oil transfer.

Note: The fuel filter/water separator is not needed when transferring fuel between storage tanks.

WARNING

Avoid overfilling any tank. Overfilling may result in a fuel spill and fire hazard. Ensure that vent caps are OPEN on oil fuel vents. Failure to comply may result in damaged equipment and serious injury or death to personnel.

CAUTION

Do not operate the fuel oil transfer pumps against a CLOSED discharge valve as damage to the pump and/or piping could occur.

4. Refuel from an off hull source.

a. Align the fuel oil fill piping to receive fuel from an off hull source

b. Align the tank to be fueled:

(1) Fill a day tank directly from the shore connection.

(2) Fill the fuel oil storage tanks from the shore connection.

c. Select the fuel supply line.

d. Open fuel oil connection.

Note: The fuel filter/water separator is not needed when transferring fuel between storage tanks.

5. Begin fueling.

a. Direct the supplier to begin sending fuel oil to the vessel.

b. Monitor the tank levels at the TLIs (or sounding tape levels) vigilantly.

c. Open the supply valve for the next tank to be filled as the tank reaches approximately 3/4 full.

- d. Throttle down the supply valve of tank that is almost full.
 - e. Close the fill valve, on the fuel oil manifold, for the selected supply tank.
 - f. Repeat these steps until all of the selected storage tanks are full.
 - g. Direct the supplier on the pier to cease pumping when the final tank to be filled is near full.
6. Stop the fueling operation.
- a. Verify that pumping has ceased.
 - b. Allow all hoses to drain before closing the last fill valve on the fuel oil manifold.
7. Secure the fuel oil supply piping system.
- a. Disconnect the shore connection.
 - b. Cap the hose connection fitting.
 - c. Close and cap the deck fill connection valve.
 - d. Close the last fill valve on the fuel oil manifold.
 - e. Verify that all valves are in the closed position.

Note: The maximum fueling rate is 250 gal/min. The port and starboard fill connections join before reaching the fuel oil header. If both external fuel oil connections are used to fuel the ship, verify that the total fueling rate does not exceed 250 gallons per minute (gal/min).

Static electricity can cause a spark when connecting hose from fuel source to Vessel. Verify that all grounding connections are made prior to connecting fuel hose. The wake of passing watercraft can cause the Vessels to move sufficiently to part fuel hose.

(Asterisks indicates a leader performance step.)

Evaluation Guidance: None

Evaluation Preparation: None

PERFORMANCE MEASURES	GO	NO-GO	N/A
1. Align the electrical system for fuel transfer operations to fuel an Army Vessel Internal Transfer?			
2. Fill the day tanks?			
3. Transfer the fuel between storage tanks?			
4. Refuel from an off hull source?			
5. Begin fueling?			
6. Stop the fueling operation?			
7. Secure the fuel oil supply piping system?			

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary
	TB 55-1900-206-14	CONTROL AND ABATEMENT OF POLLUTION BY ARMY WATERCRAFT	No	No
	TM 55-1905-223-10	Operator's Manual for Landing Craft, Utility (LCU 2000 CLASS) (NSN 1905-01-154-1191) (Reprinted W/Basic Incl C1-9) (This item is included on EM 0273)	No	No
	TM 55-1915-200-10	Operators Manual for Logistics Support Vessel (LSV)	No	No
	TM 55-1925-236-12	OPERATOR AND UNIT MAINTENANCE MANUAL FOR SMALL TUG (ST) (NSN 1925-01-435-1713)	No	No
	TM 55-1925-273-10-1	Operator's Manual For Inland Coastal Large Tug (LT) (NSN 1925-01-509-7013)(EIC XAG) (This item is included on EM 0272)	No	No

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to FM 3-34.5 Environmental Considerations and GTA 05-08-002 ENVIRONMENTAL-RELATED RISK ASSESSMENT.

Safety: In a training environment, leaders must perform a risk assessment in accordance with ATP 5-19, Risk Management. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW FM 3-11.4, Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection, FM 3-11.5, Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination.

Prerequisite Individual Tasks : None

Supporting Individual Tasks : None

Supported Individual Tasks :

Task Number	Title	Proponent	Status
551-88L-1023	Perform Engine Room Watch	551 - Transportation (Individual)	Approved

Supported Collective Tasks :

Task Number	Title	Proponent	Status
55-2-0080	Provide Operational Control for Vessels	55 - Transportation (Collective)	Approved
55-2-1508	Conduct Vessel Operations	55 - Transportation (Collective)	Approved

ICTL Data :

ICTL Title	Personnel Type	MOS Data
88L30 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL3, Duty Pos: TFR, LIC: EN
88L10 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL1, Duty Pos: TFM, LIC: EN
88L40 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL4, Duty Pos: TGB, LIC: EN, SQI: O
88L20 Watercraft Engineer	Enlisted	MOS: 88L, Skill Level: SL2, Duty Pos: TFS, LIC: EN