

CAUTION: Read these instructions carefully before starting work.

This work may prove to be more difficult than it at first appears. Therefore, it should be done by experienced marine service personnel. All work should be carried out in accordance with applicable U.S. Coast Guard and American Boat and Yacht Council Standards.

A. REMOVAL OF EXISTING TANK

CAUTION: Pump all gasoline out of the existing tank before proceeding with removal. Gasoline vapors are explosive. Do not use any electrical equipment or other tools which could create a spark during tank removal operation. A fan should be used to provide a constant exchange of air in the engine and fuel tank compartments during tank removal process. Position the fan to blow air into the engine compartment. Do not set fan to exhaust air from the engine compartment as this would draw explosive gas fumes through the fan.

1. Remove the starboard cockpit hatch cover by unbolting it from the deck.
2. Disconnect the exhaust and blower hoses and stuff them into the lazarette area aft.
3. Remove the battery(s) and plywood baffle to expose the fuel tank. It may also be helpful to remove the starboard cockpit locker shelf.
4. Disconnect all the fittings on the fuel tank. These include:
 - Fuel fill to tank
 - Fuel feed to engine
 - Fuel vent hose
 - Fuel tank ground wire
 - Fuel fill ground wire
5. Pry the fiberglass tapes off the fuel tank at the forward and aft bulkheads.
6. Using a wooden mallet to avoid sparks and a chisel, cut the fiberglass tapes holding the aft fuel tank bulkhead to the hull and quarterberth bulkhead. Remove and save this bulkhead for re-installation.
7. Remove the fuel tank from the boat. It may be necessary to widen the hatch opening by having someone pull on the inboard edge. The outboard edge of the opening may also be widened by cutting, if necessary.

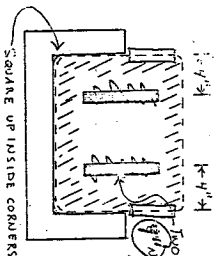


FIG. 1
EXISTING FUEL TANK
SUPPORT BRACKETS -
BOTH ENDS OF TANK

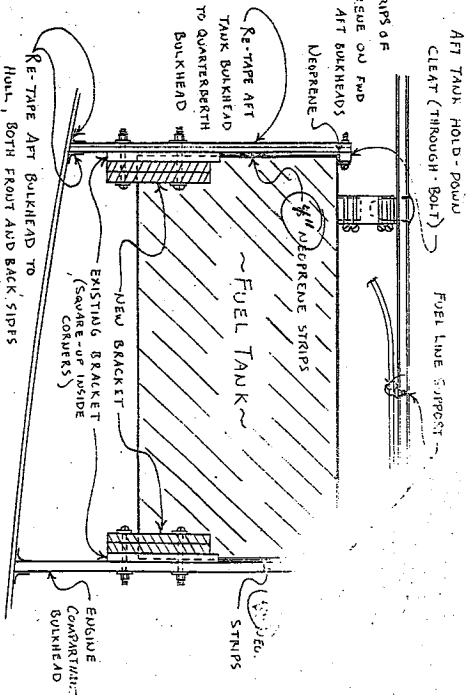


FIG. 2
(STBD SIDE VIEW)

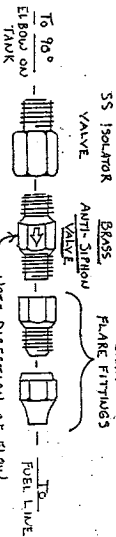


FIG. 3
DETAIL OF FITTINGS
RETURNED FUEL TANK AND FUEL LINE

S-28 FUEL TANK REPLACEMENT

Moore-Nichols

50, CASCO, MAINE

SCALE: _____

DATE: _____

BY: _____

DWG NO _____

SABRE YACHTS
SUGGESTED PARTS FOR SABRE 28
FUEL TANK REPLACEMENT

Includes the following items:

- 1 - 20 Gal. aluminum fuel tank
- 8'- 1½" I.D. fuel fill hose
- 1 - Stainless steel isolation fitting
- 1 - Anti-siphon valve
- 1 - 5/16" x ¼" FPT Adapter
- 1 - 5/16" flair nut
- 6 - ½" stainless steel self-tapping screws
- 6 - Insulated metal fuel line clamps
- 12 - 2½" x 10-24 Stainless steel round head machine bolts with nuts and 2 washers per bolt
- 16"- #14 AWG black wire for fuel fill ground
- 8'- 4" fiberglass mat tape
- 8'- 4" fiberglass cloth tape
- 4 - 1/8" x 1" x 4" adhesive backed neoprene strips
- 2 - Mahogany ply fuel tank brackets
- 1 - 3/4" x 1½" x 12" forward fuel tank hold-down cleat
- 1 - 3/4" x 7/8" x 12" forward fuel tank hold-down cleat
- 8 - 1 3/4" x 10-24 stainless steel round head machine bolts with nuts and 2 washers per bolt.

Possible Replacement Tanks: (Owners should first measure to be sure replacement tank will fit in their Sabre.)

Mirax #AH-18. 11@5/8" high X 16@1/8" wide X 26@1/4" long.
18 gallon, .090 gauge aluminum, rectangular tank

FOR REPLACEMENT
TANK CONTACT RDS
MANUFACTURING
(850) 584-6898

s.)

SABRE YACHTS

SABRE 28 FUEL TANK REPLACEMENT INSTRUCTIONS

3. Connect the fuel line to the anti-siphon valve. Be sure to use pipe thread compound on all threads.
4. Support the entire fuel line between the tank and the engine at intervals of not more than 14".
5. Electrical wiring passing over the tank should also be supported by clamping at intervals of not more than 18".
6. Install the fuel fill hose, being sure to use ample pipe compound for a positive seal. The fuel fill to tank ground wire must be installed at the same time by inserting the stripped end between the fill hose and the deck fill pipe. Secure the end with the terminal to the ground tab on the tank. The fuel fill hose must be double clamped at each end of the hose.
7. Reconnect the fuel vent hose with a hose clamp and pipe compound.
8. Reconnect the fuel tank ground wire from the tank to a shaft strut bolt.
9. Run a continuity test to assure good ground contact between the fuel fill and fuel tank, and the fuel tank to the keel.

D. FUEL SYSTEM PRESSURE TEST

1. When the new fuel tank has been installed and all the fittings and hoses connected, the fuel system must be pressure tested at 3 psi for 5 minutes to assure there are no leaks.
2. Attach a pump, such as a bicycle pump, to the fuel vent hose in the lazarette. A pressure gauge must be connected in-line between the pump and the vent hose.
3. Open the fuel shut-off valve.
4. Pump the system up to 3 psi.
5. After 5 minutes there should be no evidence of leakage.
6. With the system still pressurized, all fittings and joints between the tank and the engine should be tested for leakage by applying a mild soapy water mixture to each joint and watching for bubbles.
7. Reconnect the exhaust and blower hoses and install the starboard cockpit locker baffle, shelf and battery(s).

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SABRE 28 FUEL TANK REPLACEMENT INSTRUCTIONS

10. Remove the tank from the forward bracket and through-bolt the forward fuel tank hold-down cleat (3/4" x 1 1/2" x 12" mahogany) to the bulhead as shown in Fig. 2. Use four 1 3/4" x 10-24 stainless steel round head machine bolts. Be sure to make allowance for the neoprene padding on the cleat.
 11. Lower the aft fuel tank bulkhead into the locker.
 12. Place the fuel tank in position on the forward bracket and temporarily brace the aft bulkhead and bracket assembly in the same location it was removed from.
 13. Verify that the tank is resting squarely and level on both the forward and aft brackets.
 14. Verify that the fuel tank fill fitting is in line with the fill fitting on the cockpit sole.
 15. With the fuel tank and aft bulkhead securely braced in position, tape the aft bulkhead to the hull and quarterberth bulkhead with fiberglass tapes. Install fiberglass mat first and then cloth over it.
- NOTE: This part of the installation is very critical and it is strongly recommended that it be done by experienced fiberglass personnel.
16. When the fiberglass tapes have dried, remove the bracing from the tank and aft bulkhead.
 17. Check that the tank and bulkhead are securely in place. It should not be possible to move the tank in any direction.

C. CONNECTION OF FITTINGS TO THE NEW FUEL TANK

CAUTION: To prevent galvanic corrosion, it is necessary to separate the aluminum and copper alloys in the fuel system. Also, a pipe sealant intended for use with gasoline must be used on all threaded and hose connections.

1. Install the stainless steel isolation fitting to the fuel feed elbow on the tank with pipe thread compound. See Fig. 3 for detail of fittings between the tank and fuel line.
2. Connect the anti-siphon valve to the isolation fitting using pipe thread compound.

NOTE: The anti-siphon valve has an arrow indicating direction of fuel flow.

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SABRE 28 FUEL TANK REPLACEMENT INSTRUCTIONS

INSTALLATION OF THE NEW TANK

Note that the existing fuel tank support brackets have rounded inside corners to conform to the shape of the old tank. These have to be routed or chiseled out to fit the square sides of the new tank. See Fig. 1.

1. Square up the inside corners of the existing fuel tank support on the engine compartment bulkhead and the aft fuel tank bulkhead.
2. Through-bolt one of the fuel tank brackets to the existing bracket on the engine compartment bulkhead. See Fig. 2. Use six 2½" x 10-24 bolts.
3. Through-bolt the other fuel tank bracket to the existing bracket on the aft fuel bulkhead in the same manner. See Fig. 2.
4. Draw a line indicating the top edge of the fuel tank on the aft fuel tank bulkhead. Through-bolt the aft fuel tank hold-down (7/8" x 3/4" x 12" mahogany) to the aft fuel tank bulkhead as shown in Fig. 2. Use four 1 3/4" x 10-24 stainless steel round head machine bolts. Be sure to make allowance for the neoprene padding on the cleat.
5. Install two 4" strips of adhesive backed neoprene to the aft fuel tank bulkhead as shown in Fig. 1. Install two 4" neoprene strips to the engine compartment bulkhead in the same manner. This is necessary to provide abrasion resistance for the new fuel tank in accordance with U.S. Coast Guard Regulations.
6. Prepare the aft fuel tank bulkhead for re-installation by removing all loose fiberglass tapes and sanding as noted below.

CAUTION: Fiberglass will not bond to painted or rough surfaces.

It is imperative that all surfaces to be fiberglassed are properly prepared. This includes removing all paints, varnish, loose tapes and rough edges. Acetone works best for removing paint and varnish.

7. Prepare hull and quarterberth bulkhead for re-fiberglassing the aft fuel tank bulkhead.
8. Lower the new fuel tank into the cockpit locker and rest the tank on the forward bracket assembly.
9. With the tank in position on the forward bracket draw a line on the engine bulkhead indicating the top edge of the tank.