S A B R E 20 .... O W N E R ' S M A N U A L

Sabre 20 Trailer Yachts are frequently sold in a semi-completed form with kit sets of components for owner completion. The following instructions are intended as a guide to assist the owner in the assembly and finishing of his Sabre 20.

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DECK FITTINGS

All deck fittings should ideally be set down on a bedding compound to ensure a watertight seal where fastenings go into or through fibreglass laminate, we recommend Dow Corning Silastic R.T.V. or similar for this purpose.

WINCHES

Cockpit sheet winches should be through fastened with 1½" x 3/16" countersunk machine screws, whilst halyard winches which don't carry as great a load may be secured with large self-tapping screws approximately 1" x 12 gauge.

GENOA AND SPINNAKER QUARTER BLOCKS

These may be fastened on the reinforced moulded pads provided either using self-tapping screws or by pop-riveting.

GENOA SHEET BLOCKS AND 'TACK DOWN' POINTS

For racing purposes the Sabre 20 is designed to use the 'Barber Hauler' system of adjusting the set of the headsails. Racing enthusiasts will already be familiar with this system and as it is not necessary for cruising purposes we won't go into details here but rather say that a simplified form of this system is recommended for cruising purposes which can be converted to the full racing system later if desired.
The cruising version is simply this:-
An S.S stainless steel saddle is either pop-riveted or P.K'd to the deck at each of the outer 'tack down' points moulded into the deck, to which a sheave with snap hook is attached for the jib or genoa sheet to pass through on its way to the turning block mounted on the quarter.

MAINSHEET TRACK AND TRAVELLERS

This is offered in two forms, the simple cruising version without control lines, simply using a stop on the car and the more sophisticated racing version with control lines running out into the cockpit coamings to provide instant control of mainsail whilst racing. The mainsheet track should be fastened down with 3/16"

countersunk machine screws, with nuts and washers below the deck.

MAINSHEET BLOCKS AND TACKLE

These merely consist of a pair of blocks with jamb cleats attached, one being hung on the boom using a 3/16" shackle, the other being mounted on the mainsheet traveller.

MAIN BOOM KICKER SET

This is used mainly for racing and consists of a matched pair of blocks, one with a jammer attached mounted on the rear of the tabernacle, the other block hung from the boom on a 3/16" shackle.

DECK MOUNTED HALYARD TURNING BLOCKS

These components are exclusive to the Sabre 20. They consist of two banks of three sheaves, mounted one each side of the mast port and starboard. They may be fastened to the cabin top either with self tapping screws or pop-rivets. The purpose of these turning blocks is to enable all halyards and reefing lines to be run along the deck and passed back to the cockpit where they fall naturally into the four halyard and reefing line jamb cleats.

HALYARD AND REEFING LINE JAMB CLEATS

These may be mounted on the cabin top in proximity of the halyard and reefing line winches as detailed in Deck Layout drawing. Countersunk P.K. screws or pop-rivets may be used for fastening.

REEFING LINES

It is recommended that the Sabre 20 be fitted with slab reefing lines rather than roller reefing. The reasons for this are simplicity, speed and efficiency.

The system works as follows:-

An S.5 saddle is riveted or P.K'd to the boom a little aft of the reefing cringle in the leach of the mainsail. A light reefing line is tied to this saddle with a bowline then passed through the cringle in the leach of the mainsail and back down to a cheek mounted turning block No.R.23A positioned on the opposite side of the boom to the saddle. The line is then led forward to a small Rudling block hung from the boom in close proximity to the gooseneck, thence to another Rudling block mounted on the base of the mast, then through the turning block back to the cockpit. A similar line is passed through the cringle on the luff of the mainsail and can be either taken to a Rudling block at the base of the mast and eventually led off to the cockpit or may be simply terminated on the mast in a J.C.2 jamb cleat.

The procedure for reefing is as follows:-

The main halyard is released to a point where the cringle in the luff of the mainsail can be pulled down to the level of the boom, the halyard is then tightened, the reefing line fitted through the leach of the mainsail is now tightened until the cringle in the leach is also pulled down to the boom, thus the reefing procedure is completed in a very short time and can be done entirely from the cockpit.

CENTRE PLATE WINCH

The remote control centre plate winch is manufactured exclusively for the Sabre 20. It is mounted beneath the table and consists of a drum on to which the wire from the centre plate is led and fastened with a cable clamp and a shaft running back to the aft end of the table where the handle and pawl plate can be operated easily from the cockpit by leaning through the main hatch.

FUEL TANK DECK FILLER

The Sabre 20 differs from most other trailer yachts in that it boasts a moulded-in 25 litre fuel tank. The filler for this tank is mounted on top of the cockpit coaming in approximately the position shown on the Deck Fitting drawing. It need only be bedded down on mastic and secured with four self tapping screws (P.K's).

FUEL LINE CONNECTION

These are available for Evinrude, Johnston, Mercury, Mariner and Chrysler outboards and are mounted at the aft end of the cockpit coaming and secured by drilling a hole through the fibre-glass then tapping the hole to the same thread as the filler connection, (usually ¼" B.S.P.) A short length of nylon tube long enough to reach the bottom of the tank is inserted into the base of the fitting and held in place with glue, (Power Glue or similar).

MOORING BOLLARD

This is mounted in the centre of the fore-deck forward of the anchor well and should be substantially through bolted.

BOW FAIRLEADS

These are mounted in the place provided in the tow rail close to the bow and should be secured with 3/16" stainless steel screws and nuts.

DORADE VENTILATORS

The Sabre 20 once again differs from most other trailer yachts in that it has ventilator boxes moulded into the cabin sides. A 2½" hole may be cut in the forward end of the ventilator boxes and a matching plastic ventilator cowl mounted on top. These will allow air to pass into the cabin without water entering also. Two small holes are drilled at the positions shown on the side of the cabin, these will allow water to drain out of the ventilator.

OUTBOARD BRACKET

This is mounted on the transom and positioned to match the plywood reinforcing glassed on to the inside of the transom to support the bracket. The height of the bracket will vary according to the make of outboard used and whether it is of long or short shaft variety. The bracket must be securely fastened with ⅜" bolts and the angle of the bracket will need to be adjusted with mahogany blocks to suit the angle of the transom. Most outboards require the faceboard of the bracket to slope in by approximately 5 degrees however this will vary with different outboards, so no firm instructions can be given here.

ALLOY RUDDER CASE

This is mounted on the transom with the pintles supplied, one pin pointing up and one pin pointing down to eliminate the possibility of the rudder frame lifting off the pintles. The pintles should be mounted on mahogany blocks supplied in the furniture kit and through bolted into the transom timbers using ¼" stainless steel bolts.

PULPIT, QUARTER RAILS, STANCHIONS AND LIFE LINES

These are all supplied with bolts already fitted. Each component should be placed on the deck and the feet matched up to the pads moulded into the deck in readiness to take the fittings. Holes should then be drilled through the deck to allow the ¼" bolts to pass through and nuts and washers to be fitted underneath. Care should be taken to bed these components down adequately with mastic. Before the stanchions are tightened home, the life lines should be threaded and fastened fore and aft sufficiently tight so that when the stanchions are finally tightened home the life lines take up to the correct tension.

BACKSTAY TWEAKER

This is a very simple means of tensioning the three quarter rig of the Sabre. It consists merely of a backstay split at the lower end to run out towards the quarter in the form of a bridle. On each side of the bridle is fitted a sheave. These two sheaves are fastened together with a third sheave through which is run a light line down to the transom. When the line is tightened the sheaves are pulled down the bridle, thus tensioning the rig.

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SUGGESTIONS FOR THE LAUNCHING, RETRIEVING AND SAILING OF THE SABRE 20 TRAILER YACHT

The Sabre 20 is marketed with a very simple and extremely efficient tailer-made trailer. This is of the float-on, float-off type, thereby eliminating the necessity for rollers and trailer winch etc. The trailer is fitted with a telescopic draw bar which when extended allows the trailer to be totally immersed without being uncoupled from the towing vehicle. Once the trailer has been totally immersed the Sabre will float within the confines of the trailer thus enabling kiddies and crew to be loaded aboard and for the outboard to be started at leisure. When everyone is aboard, the 'S' hook on the over-centre lever arrangement on the snubbing block of the trailer can be released, the boat then being free to be reversed out of its trailer. This system eliminates the problems so often seen on launching ramps where Mum and the kids are up to their waists in water trying to prevent their pride and joy being washed up on to the ramp or nearby rocks.

Before launching however it will obviously be necessary to step the mast. The Sabre 20 is fitted with a three quarter rig thus enabling a lighter mast to be fitted than would normally be the case with a full masthead rig. This, and the fact that the cap-shrouds and side stays fall aft of the base of the mast, makes stepping of the mast on the Sabre a very simple, even a one man affair. The procedure is as follows:-

Unlash the mast from the pulpit and mast crutch, free the shrouds and halyards so that the mast may be lifted back until the pin of the tabernacle can be inserted into the tabernacle base, thus completing the hinge effect. Ascertain that all side shrouds. backstay and halyards are clear of all obstructions, (winches, cleats, outboard, dorade ventilators etc., etc.), then standing at

the aft end of the cabin top, lift the mast to head height and push forward. Then take hold of the forestay and keeping tension on it, walk forward and clip the pelican hook on the end of the forestay through the 'U' bolt mounted on the bow. To ensure that the pelican hook does not accidentally come undone, it is advisable to wrap a couple of turns of masking tape or similar around the locking slide. Next attach the boom to the mast by means of the gooseneck pin. Couple up mainsheet and fit mainsail to boom and mast track. It is always advisable to sail with at least the lower reefing lines reeved, now is the time to do it rather than later when the boat is being over-pressed. Attach jib to forestay, run jib sheets, shackle on halyards and your Sabre is ready for launching. The rudder blade should not be lowered until the boat has been reversed well clear of the ramp.

The procedure for retrieving your Sabre 20 and lowering the mast are basically a reversal of the setting up procedures outlined above.

HINTS ON SAILING YOUR SABRE 20

The three quarter rig is basically a very simple and efficient rig which over recent years has gained great popularity in racing circles. Its advantages however are also very applicable to the cruising boat, particularly of the trailer sailer type where a lightweight mast and easy rigging already mentioned are of paramount importance. The flexible or 'bendy' rig, as three quarter rigs are often known, allow for a great deal of control over the shape of the mainsail. If conditions are light then the mast would be sailed with very little bend in it at all, however in fresher, on the wind conditions where it is important to reduce heeling moment as much as possible, the backstay tweaker can be brought into action pulling back the top of the mast and pushing forward the middle of the mast to take out most of the fullness in the mainsail. The mainsail thus becomes a very efficient air foil shape producing a minimum amount of heeling moment. When the backstay is tensioned in to take out the fullness from the mainsail it also tightens up the forestay taking the draught of the jib or genoa further forward and thus reducing the fullness of these sails so that they too become very efficient air foils and likewise produce a minimum amount of heeling moment.

It is always advisable for maximum performance and comfort to sail a wide beam, light displacement boat as upright as possible without obviously under-canvassing the boat. It is therefore advisable to reef the main at a fairly early stage. For on the wind sailing and for optimum performance, it would be advisable

to change from No.1 to No.2 genoa at 12 to 14 knots apparent wind strength, put a reef in the main at about 18 knots, change from No2 genoa to a working jib at about 24 knots, put a second reef in the main at around 28 knots. Over 30 knots it is time to change down to a smaller jib and head for home, although the Sabre demonstration boat has been sailed quite satisfactorily in 40 knots plus, it is not the best of sailing conditions and is certainly not the way to encourage Mum and the kids to enjoy their new trailer yacht.

The Sabre 20 can be sailed with the centre plate either fully lowered or fully retracted or at any point in between, there being an optimum position for each individual set of circumstance. For instance, for fresh windward work the centre plate would be fully lowered, (approximately five or six turns on the centre plate winch). On the other hand in light reaching or running conditions, the centre plate can be fully retracted thereby reducing wetted surface area. In fresh reaching conditions it may be found that the boat sails best with the plate only partially retracted. The best position for a particular set of circumstances will soon be found as experience is gained in sailing your Sabre.

Likewise the rudder can be partially retracted to advantage in certain circumstances. For instance light weather running where it is preferable to reduce wetted surface area as much as possible. It will also be found that moving the crew weight forward to depress the bow and lift the broad stern sections clear of the water will also assist in this reducing of wetted surface area.

BUOYANCY

The New Zealand Trailer Yachting Association is very keen for all trailer yachts to be fitted with positive buoyancy. Although buoyancy is not fitted during the manufacture of the Sabre, it is a comparatively simple affair for the owner to fit his own buoyancy. There are several ways of doing this, probably the simplest and certainly the cheapest method would be to seal the lids on the quarter berths and forward berths by securing the lids on a gasket and screwing firmly in place. It is claimed in some circles that air chambers of this type are inadvisable because they could be punctured in collision, however it is unlikely that all three, or even two of the three would be punctured at one time.

Another method would be to fill the same berths with poured polyurethane foam, however this is a rather expensive and extremely messy system and you would run the risk of creating excessive pressure within the buoyancy chamber with the danger of damaging the structure of the boat.

Another disadvantage with this system is the ability of some of these foams to absorb water over an extended period. Once this water has been absorbed it is very difficult to dry out. One could therefore end up adding considerable weight to one's boat. A third and possibly the most satisfactory method in our opinion would be to obtain some stoutly made pastic bags or tubes, fill them with polystyrene beans, heat seal the openings and secure them inside the berths previously mentioned. This method would prove time consuming but relatively inexpensive.

The New Zealand Trailer Yachting Association is also rather keen on centre boards being locked in the down position. This is a very good idea where ballasted centre boards are concerned i.e. where the stability of the yacht relies to a major extent upon the ballast within the keel or plate for its righting moment. The Sabre 20 however does not rely upon its centre plate for righting moment as all the lead ballast is encased in the stub keel and can never break loose. The centre plate merely provides directional stability to the boat and it was proved in self-righting tests that the centre plate did not affect the righting ability of the boat to any noticeable degree whatsoever. It can be argued that if the plate is locked down then the crew could stand upon the centre plate should the boat be knocked down to help in the righting of the boat. Our tests have proved however that it is very unlikely that the crew would even have time to climb on to the centre plate before the boat righted itself. Furthermore if the plate were locked down, one would lose the advantage of having a kick-up plate when striking a submerged object.

REGISTRATION

Although not yet mandatory, it is certainly advisable for all trailer yachts, and indeed for all pleasure craft to be registered with the appropriate body. A Sabre 20 owner should therefore register with The New Zealand Trailer Yachting Association. The Registrar is Mr. R. Grenfell, P.O. Box 100, Kaiapoi. The cost is $1.00 and Registration forms are available from the Sabre distributor or from the Trailer Yachting Association.

THE SABRE 20 OWNERS ASSOCIATION

The Sabre Owners Association was formed in Auckland in August 1977 with a view to providing an exchange of ideas amongst owners, to protect owners' interests, to provide club racing facilities for Sabre owners as well as organised cruising. There are other benefits including a group insurance scheme. Full details of the Owners Ass. are available from the Secretary, Mr. Rex Green, ~~24, Volcanic Street, Balmoral, Auckland 3~~. Phone No. ~~Auckland 685170~~. Pop 84378

24. McDonald Rd. Papatoetoe.

OSMOSIS

It is a recognised fact that all boat building materials are susceptible to some form of corrosion, or wood worm or similar types of failings and fibreglass is no exception - it suffers from osmosis. It would appear however that this particular problem only occurs in boats which are immersed in water, be it salt or fresh for extended periods.

The Sabre 20 is designed and built as a trailer yacht and when used as such very little maintenance will be required on the centre case and centre plate. For this reason no provision has been made for the centre case to be disassembled. If however the boat is left on a mooring for an extended period it would become necessary to maintain the inside of the centre case and some difficulties could be experienced. For this reason and for the earlier reason stated regarding osmosis, the manufacturers strongly recommend that the Sabre 20 be used as a trailer yacht only and not left on moorings for an extended period. If the owner wishes to leave his boat on a mooring then he must do so entirely at his own risk as the manufacturers will not be responsible for any problems which might arise.

MAINTENANCE OF FIBREGLASS BOATS

Several articles have been written on this subject in various books and yachting magazines etc., so we will not go into great detail here, but merely point out that contrary to popular opinion, fibreglass is not entirely maintenance free. Ultra violet rays can in time destroy the pigments in the gelcoat. It is recommended that the boat be waxed with a car polish perhaps twice yearly. If the gelcoat has started to fade it can be brought back to its original lustre with a mild cutter as used in automotive paint shops. It is inevitable that a boat is going to receive gelcoat chips, these may be caused by flying stones whilst trailing or they may be caused on the water through minor collision or something of that nature. It is strongly recommended that these chips are repaired as soon as possible as exposed raw fibreglass ends will absorb water very readily and eventually weaken the laminate within the vicinity of the damaged area.

MAINTENANCE OF TRAILER

The Sabre 20 trailer is designed to be as simple and as maintenance free as is possible. The only items requiring any maintenance are the duratorque hubs which should ideally be greased every time the trailer is used after immersion in water. On arriving at a