

# Tanzer 22 Owner's Guide



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## LAUNCHING AND RIGGING

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### ***RUDDER AND TILLER***

The tiller should be bolted to the rudder with the bolt and lock nut provided as shown in Figure 1. The lock nut should be tightened so that the friction between the fibreglass rudder head and the aluminium cheeks of the tiller is sufficient to retain the tiller at any angle in the vertical plane. To facilitate the insertion of the rudder pintles in the gudgeons on the transom, the bottom pintle is slightly longer than the upper. This allows partial insertion of the bottom pintle without precisely lining up the upper pintle with the upper gudgeon. After installation the rudder retaining clip (87) (Figure 1) on the transom should be turned so as to prevent inadvertent removal of the pintles by wave action. The bolt of the retaining clip should be tightened periodically as necessary.

The rudder retaining clip (87) shown in Figure 1 is not installed on later models. Instead, the top rudder pintle is drilled to accept a split pin, which is supplied with the rudder. After the rudder is installed, insert the split pin and open slightly.

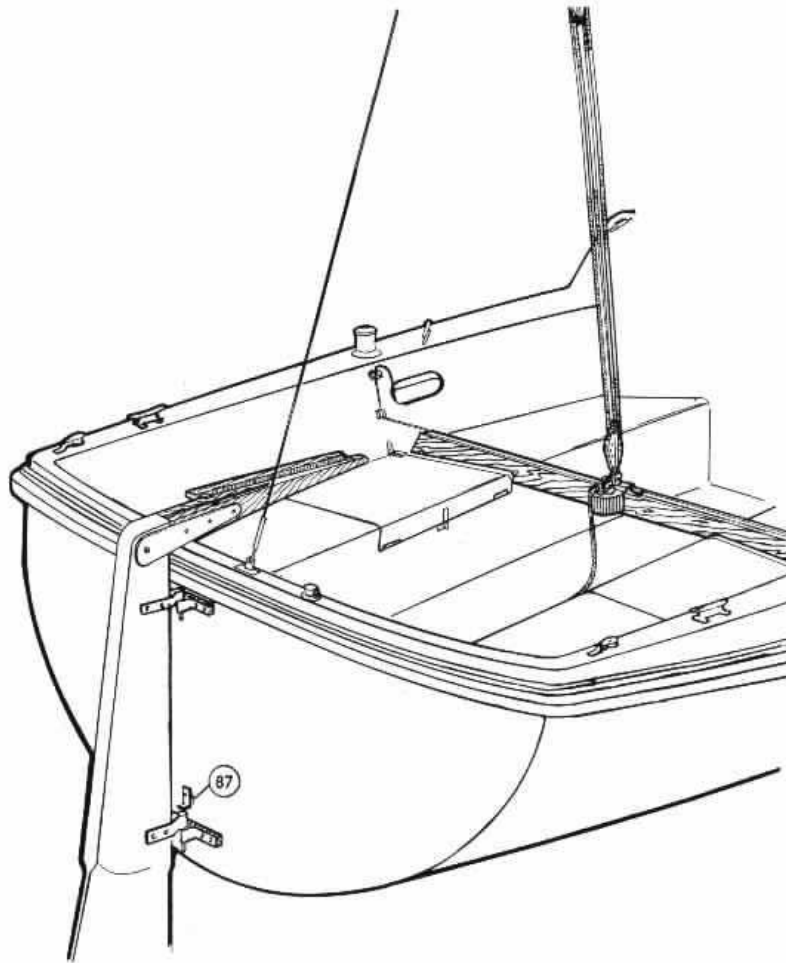


Fig. 1

## **OUTBOARD MOTOR AND BRACKET**

A 6 H.P. long shaft outboard motor will provide adequate power for most conditions. A more powerful 7.5 or 9.9 H.P., long shaft motor should only be considered if the boat is to be manoeuvred under power regularly and often in a very swift tidal stream or current where the possibility of encountering a strong headwind at the same time is likely. Although the outboard motor bracket is engineered to accept motors up to 18 H.P. it is not recommended that a motor of this capacity be installed.

The outboard motor should be operated and maintained in accordance with the manufacturer's instructions.

The outboard bracket is spring loaded to facilitate the lifting and lowering of the motor. It locks in both the up and down position. To release the lock in either position a strong downward pressure should be applied simultaneously to the motor and the lock latch situated on the base of the bracket. When in the up position, the motor should be tilted forward so that the propeller is clear of the water for sailing.

The motor should be aligned so that the helm is balanced when under power. When manoeuvring under power, steer with the tiller and not the motor so as to avoid the possibility of the propeller blades damaging the rudder. The clearance between the propeller blades and the rudder is adequate for propellers of up to 8" dia. when the motor is correctly aligned as above. Some European motors, such as the "Seagull" have larger propellers and will foul the rudder. Excessive weight forward of the mast will obviously raise the stern and consequently lift the propeller out of the water. This should be avoided when under power.

## **CRANE LAUNCH**

To launch your boat using a crane, proceed as follows:

1. Remove all tie down lines.
2. Secure mooring lines to the bow and stern mooring cleats to control the boat while it is being lifted and when it is in the water.
3. Place fenders on the side of the boat that will be alongside a dock when afloat.
4. Secure the outboard motor to the motor bracket. Place the gas tank in either the port cockpit locker, or in the stern locker. Pass the gas line from inside the boat through the small ventilator in the transom, and connected to the motor. Gas should be pumped to the motor by squeezing the rubber bulb in the gas line. The manufacturer's instructions pertinent to the motor should be followed.
5. Installed the rudder and tiller.

6. Check that the valves on all through hull fittings are closed; namely, the sink drain and marine toilet intake and outlet, if one is installed. Check that all hose clamps are tight.
7. If the boat is being launched by a hoist with slings, it should be positioned under the hoist. One sling should be placed forward of the keel, and the other aft. It is good practice to tie the slings together to avoid the possibility of these slipping apart. If wire in the slings is likely to damage the vinyl rub rail or the hull, these areas should be protected with rags or any suitable materials.
8. Lift the boat well clear of the cradle or trailer. If it appears that the slings are badly placed so that the boat tilts either fore or aft to any marked degree, it should be lowered and the slings repositioned.
9. If necessary, apply anti-fouling paint to the areas covered by the cradle pads. It is not necessary for these small newly painted areas to be dry before launching.
10. Lower into water, release slings and tie up alongside.
11. Open through hull valves and check for leaks.
12. Proceed with rigging.

## **TRAILER LAUNCH**

The procedure to launch from a trailer is as follows:

1. Ascertain the length of the ramp that you intend to use and the maximum depth of water at its lowest point. You will require about 3'6" of water to launch your Tanzer 22 keel/centerboard model; this will vary with the height of the trailer bed. If it appears that this depth of water will not be available, or that the wheels of the trailer will run off the end of the ramp before the boat floats, do not attempt launching.
2. If the ramp appears suitable, remove mast and mast racks.
3. Follow steps 2 through 6 above.
4. Back the loaded trailer into the water as far as is possible without immersing any part of the towing vehicle.
5. Place chocks under trailer wheels and install dolly wheel. Unhitch trailer and drive vehicle up ramp a few feet. Secure a strong rope to trailer and take one or two turns around the trailer ball hitch and the vehicle.
6. Remove chocks and allow trailer to proceed down the ramp by surging rope around hitch until the boat is afloat. If your trailer is equipped with a launching tongue extension, this should be used; in which case the trailer may be backed into the water with the towing vehicle until the boat is afloat.
7. When afloat, the boat may be controlled either with the lines from the bow and stern or by the motor. In the latter case a person should be in the cockpit prior to launching.
8. Open through hull valves and check for leaks.

9. Recover trailer, proceed to dock and rig mast.

## **RIGGING KIT**

To rig your boat you will require the following tools:

- A pair of Vise-grips
- An adjustable wrench
- A pair of long nose pliers
- A marlin spike or awl
- A roll of vinyl adhesive tape (white electrical tape available at Canadian Tire)
- A screwdriver

The parenthesized numbers (1) in the text correspond with the numbers shown in the drawings.

The standard rigging kit for a Tanzer 22 consists of the following items:

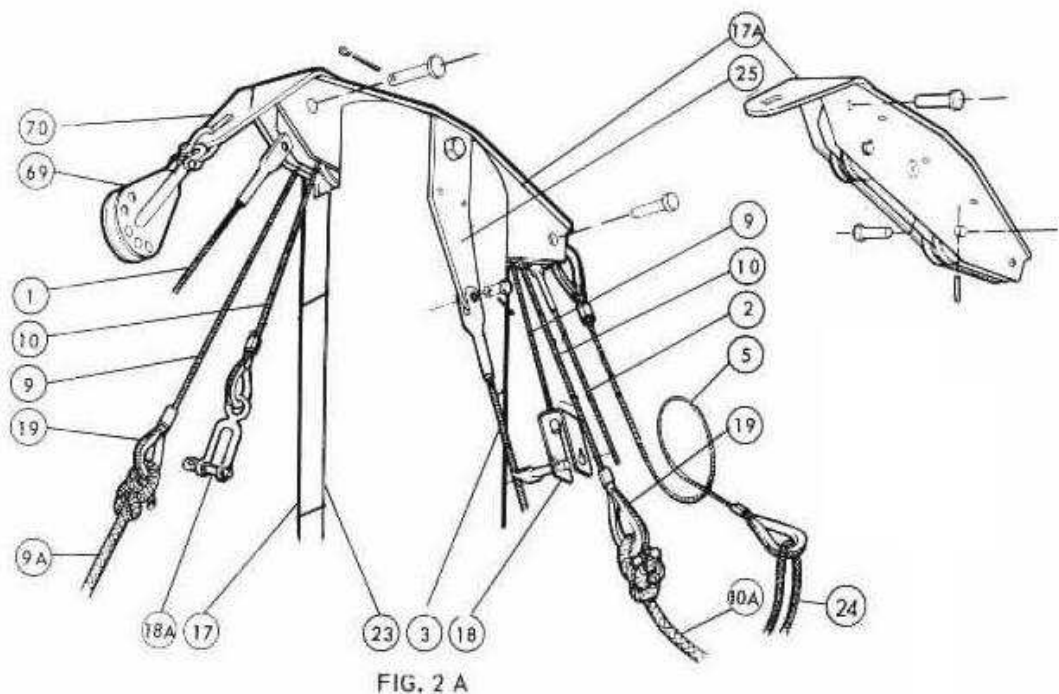
Ref.	Figure	Description
-1	2A	Forestay (5/32 1 x 19) fitted with a swaged eye at each end.
-2	2A	Backstay (5/32 1 x 19) fitted with a swayed eye at each end.
-3	2A	Two upper shrouds (5/32 1 x 19) Each shroud is fitted with a swaged eye at one end and a swayed fork at the other.
-4	2B	Two lower shrouds (5/32 1 x 19) Each shroud is fitted with a swaged eye at one end and a swaged fork at the other.
-5	2A	Topping lift (3/32 1 x 19).This is fitted with a thimble at both ends. Also includes a short length of dacron line.
(6) & (6A)	3E	Six turnbuckles each fitted with a toggle
-7	5	Main sheet: (3/8 dia. braided dacron line).
-8	8	Jib sheet: (3/8 dia. braided dacron line).
(9A)	2C	Main halyard rope tail: (5/16" dia. twisted dacron line). The wire portion of the main halyard (3/32" 7 x 7) should already be on the mast.
(10A)	2C	Jib halyard rope tail: 5/16" dia. twisted dacron line). The wire, portion of this halyard (1/8" 7 x 19) (%) should already be on the mast.
(11) & (12)	5	Main sheet blocks. There are two; one is a fiddle block fitted with a beaked swivel and a cam action jamb cleat (11) and the other is a fiddle block (12) with a beak. If your Tanzer 22 is



Ref.	Figure	Description
		fitted with a traveller, different blocks are supplied, and these are described in the section dealing with the mainsheet traveller.
-13	2B	Two aluminum spreaders.
-14	7	Jib tack shackle.
(22A)	2C	Jib Halyard winch handle. Roller-Reefing handle. Low profile ventilator insert.

## RIGGING AND STEPPING THE MAST

- Support the mast (17) at either end between two blocks or other suitable supports. There should be two wires already rove through the mast head fitting; the thinner one is the main halyard (9) and the thicker wire the jib halyard (10). Both have quick release halyard shackles (18) and (18A) at one end and a thimble (19) at the other. (see Figure 2a)



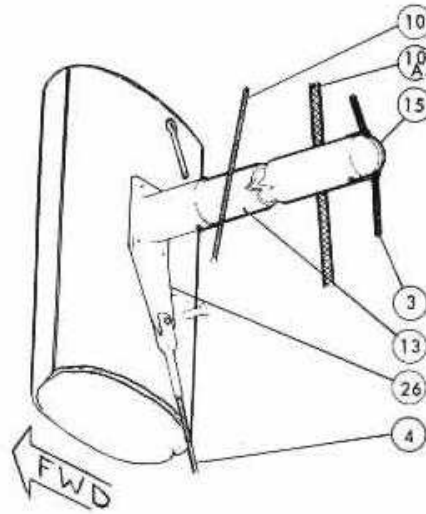
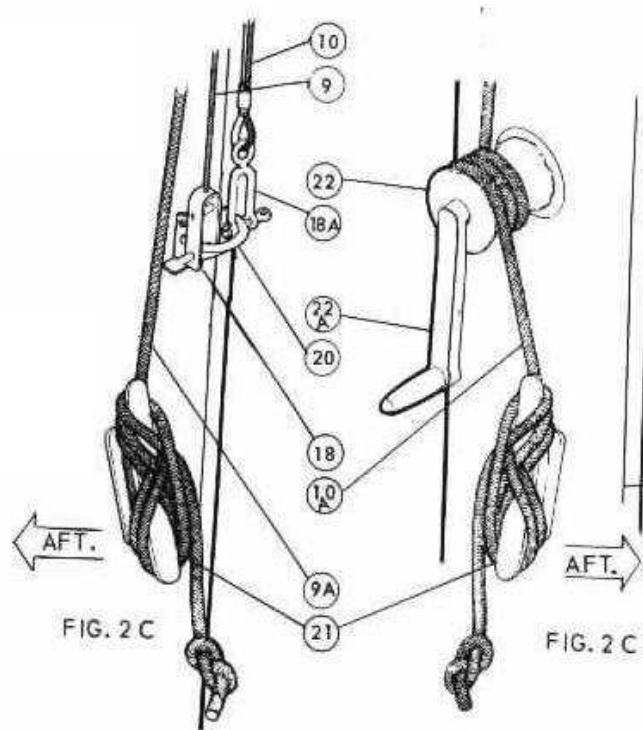


FIG. 2 B

2. Select one of the rope tails and secure one end to the thimble (19) at the end of the main halyard (9) (the thinner wire) with a bowline knot or eye space. Fasten the quick release shackle (18) to the large horizontal eye (20) on the foreside of the mast, take up the slack and make up rope tail on the cleat (21) on the starboard side of the mast (see Figure 2c).

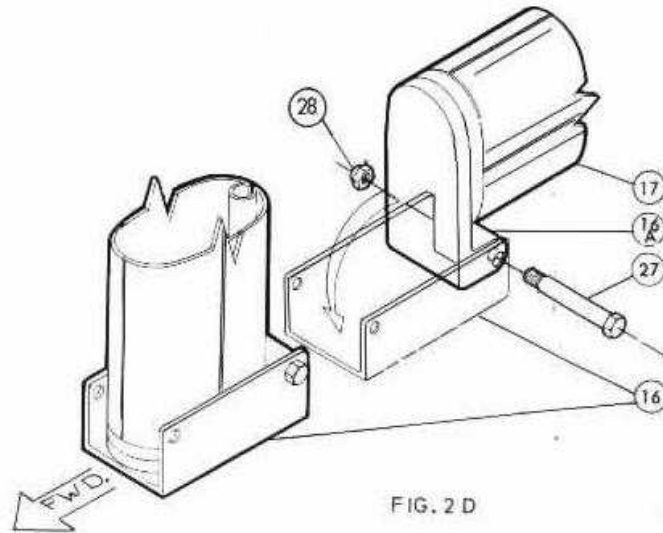


3. The remaining rope tail should be similarly secured to the jib halyard (10) (the thicker wire). Fasten the quick release shackle (18A) to the horizontal

eye (20) and make up rope tail on the other mast cleat (21) after taking two or three clockwise turns around the winch (22) mounted above the cleat. (see Figure 2c)

4. Select forestay (1), backstay (2) and topping lift (5). The swaged eyes on the ends of the forestay and backstay should be secured to the masthead fitting as shown in Figure 2a, using the clevis pins and split pins provided. Make sure that the main and jib wire halyards are not allowed to run over or above these clevis pins. There are two slots on the forward underside of the mast head fitting (17A) . The forestay eye (1) should be placed in the slot directly above the mast centreline groove (23) on the forward face of the mast, leaving the other slot vacant. The backstay eye (2) should be placed in the slot directly above the sail luff groove on the aft side of the mast and one of the thimbles of the topping lift (5) should be placed in the other slot. After inserting the clevis pins and split pins to secure these eyes, make sure that the ends of the split pins are bent over. The length of light dacron line (24) should be secured to the thimble (19) at the other end of the topping lift with a bowline knot (see Figure 2a) and made up loosely on one of the mast cleats (21).
5. Select the two upper shrouds (3) and attach the swaged fork of each to the upper shroud tangs (25) on either side of the mast as shown in Figure 2a, using the clevis pins and split pins supplied. Bend over the ends of the split pins.
6. Select the lower shrouds (4) and attach the swaged fork of each to the lower shroud tangs (26) as shown in Figure 2b. Bend over the ends of the split pins.
7. Select the six turnbuckles (6) with toggles (6A) . Loosen the lock nuts and open the turnbuckles to the fullest extent possible. The turnbuckle, with toggles on the lower ends, should then be secured to the swaged eyes on the unsecured ends of the forestay (1), backstay (2), upper shrouds (3) and lower shrouds (4) using the clevis pins or split rings provided. Bend over the ends of split pins and re-tighten lock nuts so as to avoid the loss of any portion of the turnbuckles during the rigging process.
8. Select spreaders (13), and after removing the large split pins, insert the smaller turned ends into the spreader sockets. Both the spreaders and the bases are marked P or S and these should be matched. Make sure that the port spreader is inserted between the wire and rope tail of the jib halyard (10) in such a way that when the mast is stepped the wire portion will be forward and the rope tail aft of the spreader (see Figure 2b). Similarly ensure that the wire portion of the main halyard (the thinner wire) will be aft of the starboard spreader and the rope tail forward, when the mast is stepped. Insert split pins from the upper side and bend over ends. These should then be taped over with strong vinyl adhesive tape. Each upper shroud (3) should be wired to the outer slotted end (15) of each

spreader as shown in Figure 2b, using the brass wire provided. The outer ends of the spreaders and the wire should also be covered with adhesive tape. Remove mast hinge bolt (27) taking care not to lose it or the lock nut (28) (Figure 2d).



9. Secure the toggle of the turnbuckle (6) on the backstay (2) to the backstay chainplate (29) in the cockpit coaming at the transom, using the clevis pin, split pins or split rings provided, (see Figure 3e ). If split pins are used, the ends should be bent over.

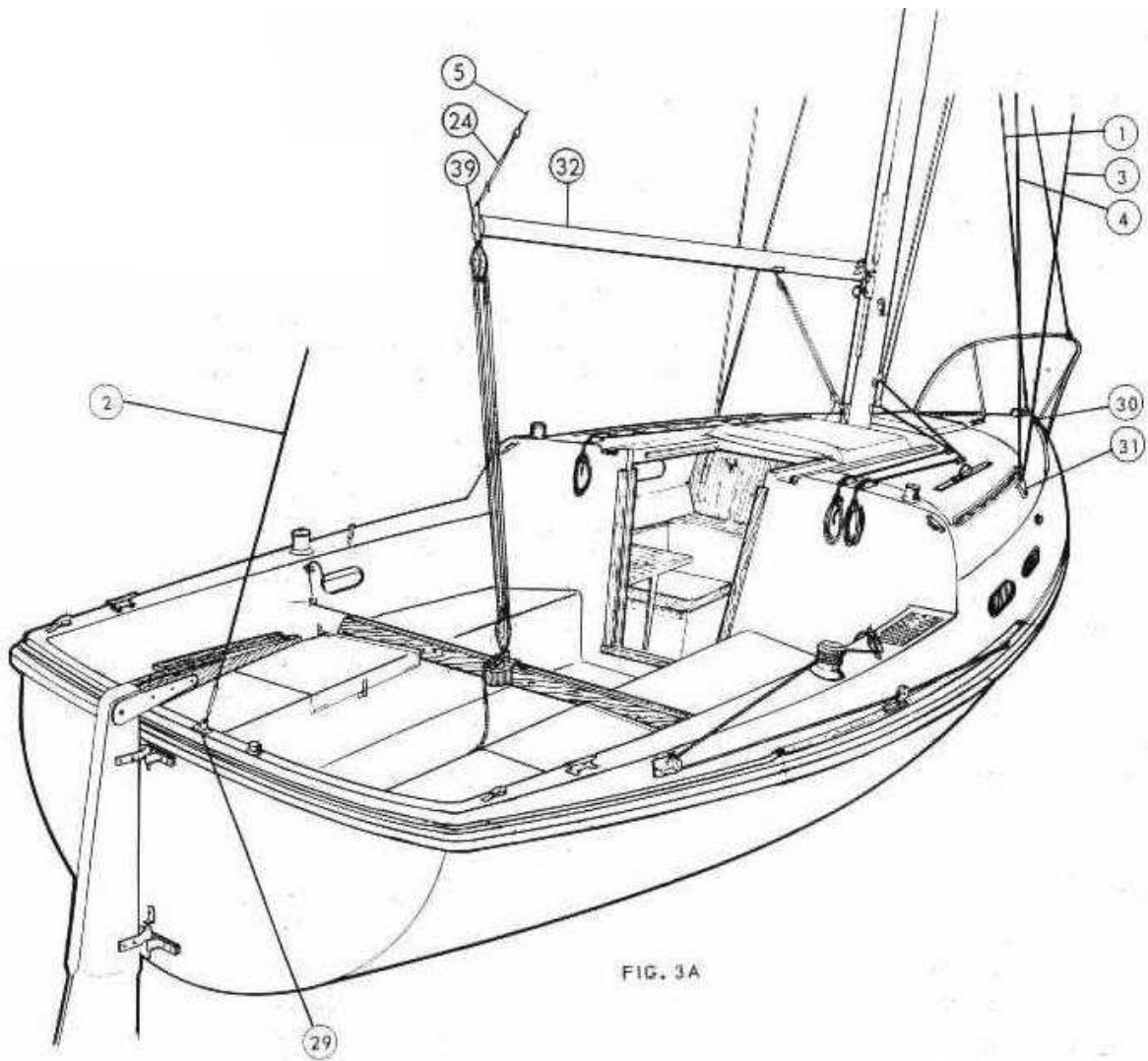
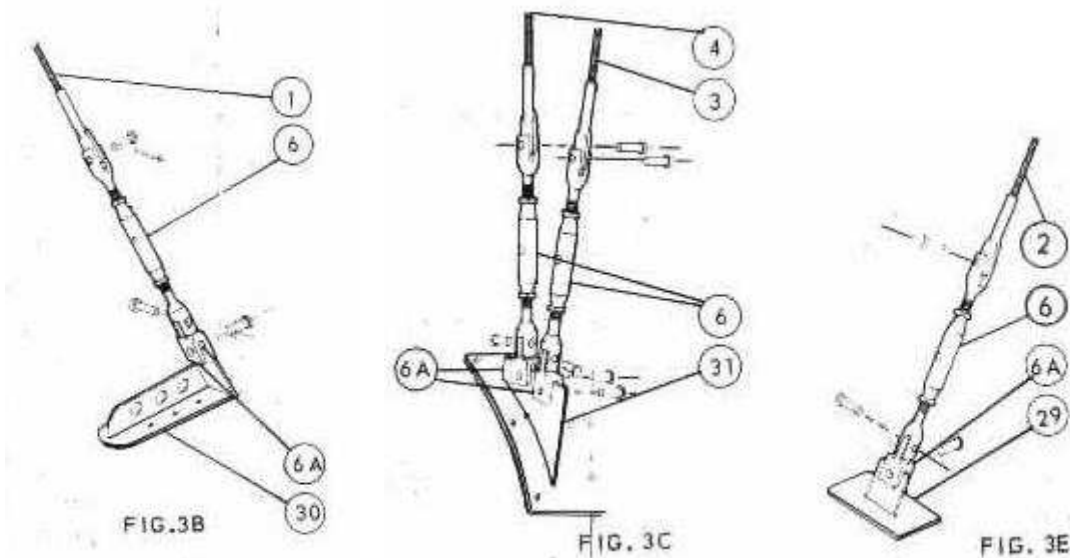


FIG. 3A

10. The mast is now ready for stepping with the help of another person, place the heel of the mast on the mast step (16). Fasten the mast hinge (16A) to the mast step as shown in Figure 2d. Make sure that the self locking nut (28) is tightened.
11. The mast should then be raised to a vertical position by simultaneously lifting and walking towards the mast step. Care should be taken that the mast does not fall sideways. With the mast vertical, one person should hold it in that position while the other fastens the toggle on the forestay turnbuckle (6) to the stem head fitting (30) as shown in Figure 3b. Turn the barrel of the turnbuckle until the forestay is under slight tension. Both lower shrouds (4) should then be fastened to the inner holes of the shroud chainplates (31) on each side of the cabin top and the upper shrouds (3) to the outer holes (see Figure 3c).



The mast is now stepped. The barrels of all turnbuckles should be turned to tighten the standing rigging appropriately. The lower shrouds should be taut but not so tight that they twang; nor floppy.

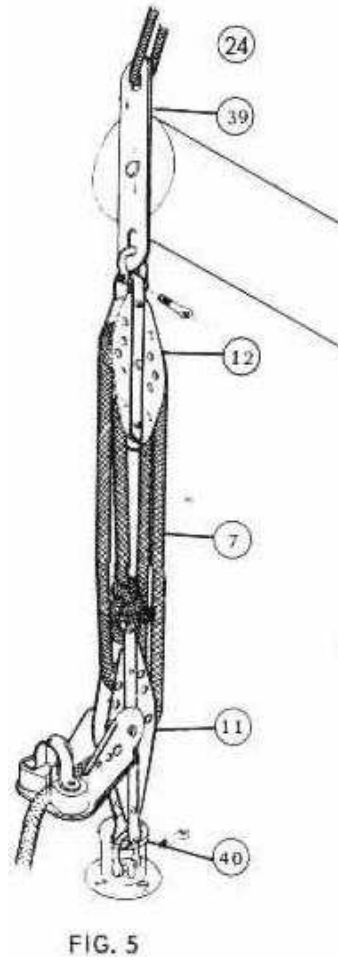
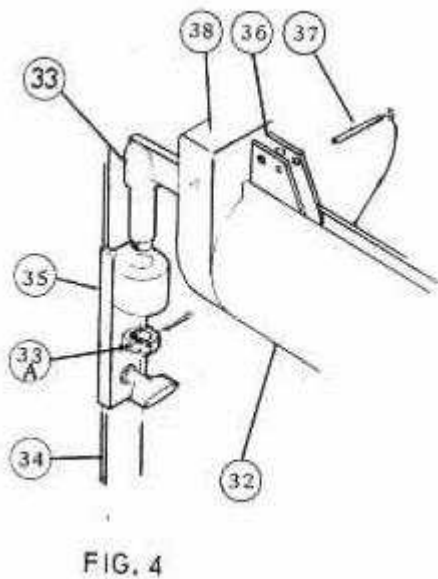
The forestay, backstay and upper shrouds should be somewhat tighter than the lowers. It should be kept in mind that all standing rigging will stretch after sailing and will require re-adjustment. If you have a Loos tension gauge, the rigging should be set to the following tension: <sup>1</sup>

Shroud tension should be more or less equal between the upper and lower shrouds, and based on a standard of 10-12% of breaking strength, around 400 pounds, or a scale reading of 41-42 on a Standard Loos Gauge. Sailing tests may show that this is a little soft, requiring one more turn of the screw which should bring you up to about 500 lb or 43-44 on the Loos. This is enough tension for these rigs, and more would not ordinarily be justified. Tensioning the uppers significantly greater than the lowers does not make much sense in these rigs, given that there is no means to prevent the spar from being forced into an "S" curve. I would not tension the uppers more than about 10% over the lowers at the mast, if I felt that the masthead was sagging off too much. The mast, by its robustness, will only let you compensate so much, before it begins to collapse downward. Have a problem with leaking chainplates? Like 700 lbs of tension on the shrouds? Hmm.

<sup>1</sup> This information was missing from the original copy, so I've included an excerpt from Paul Coppin's Tuning Guide on the Tanzer 22 Class Association website.

*Fore and back stay tension is typically set at 15% of breaking strength of the wire, or 495 pounds, to start. Sailing tests can result in this increasing, but in no case should it ever exceed 825 lbs. or 47 on the Loos, and for most boats a maximum of 600 lbs. (45 Loos) would be reasonable. The stated load of 900 lbs in one of the T22 tuning guides is way out of line, and puts undue strain on the rig, excess compression on the mast base and is guaranteed to put a fore and aft serpentine bend in the spar. Equally, undue load on the shrouds will result in a transverse serpentine in the mast which can be clearly seen by sighting up the sail track. By pulling on each shroud individually while sighting the track, the effect of tightening that particular shroud can easily be seen. Remember that once the shrouds are approaching proper tension, when you tighten up on one shroud, you may have to loosen its opposite by the same amount.*

12. After setting up the standing rigging, the two lock nuts of all turnbuckles should be tightened hard. The ends of all split pins should be bent over and finally all split rings and/or split pins should be taped.
13. The dacron line on the topping lift (24) should be rove through the hole in the strap (39) on the after end of the boom as shown in Figure 3a. The length of the topping lift should be adjusted by means of this line after the mainsail has been hoisted, so that the sail and not the topping lift support the boom. When sailing, the topping lift should be slack at all times in order that the tension of the leech of the mainsail can be controlled with the main sheet.
14. Select the boom (32) . Remove the split pin and nut (33A) from the gooseneck fitting (33) and fit to slide (35) on the gooseneck track (34), making sure that the nut and locking split pin are replaced (see Figure 4).

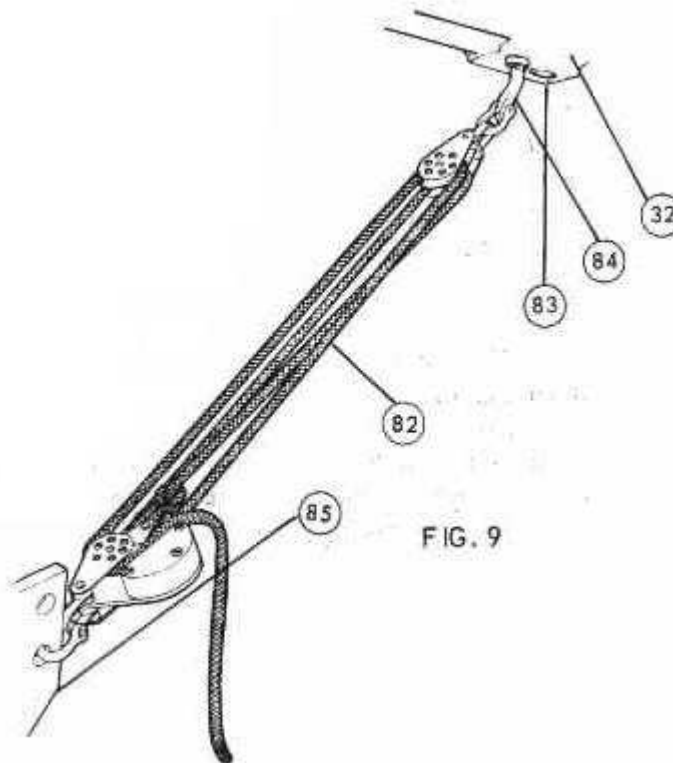


15. Select the main sheet blocks. The fiddle block (12) should be secured to the slot in the strop at the after end of the boom using the shackle provided. The swivel fiddle block (11) with the jamb cleat should be secured to the shackle in the small black rubber cap (40) on the cockpit sole, (see Figure 5). All shackles should be tightened with pliers; that on (11) with a screwdriver. If your boat is fitted with a mainsheet traveller, refer to the section dealing with this.
16. Select main sheet (7). This should be rove as shown in Figure 5. Tie a figure of eight knot in the loose end of the main sheet. Take up slack and secure in swivel jamb cleat.
17. On later models of the Tanzer 22, a small stainless steel eye strop is installed below each halyard cleat. The ends of the main and jib halyard rope tails should be inserted in these straps and then knotted with a figure of eight knot. This permanently secures the halyard rope tails and prevents them from inadvertently going aloft.



## **BOOM VANG**

A boom vang (82) may be installed on the Tanzer 22 as shown in Figure 9. If you have a boom vang plate (83), then the double block of the boom vang assembly is fitted with a small stainless steel key (84) and this should be inserted in the boom vang plate. The other double block of the boom vang, incorporating a jamb cleat, should be secured to the lower of the two holes in the aluminum plate (85) protruding from the sail groove at the base of the mast.



## **MAINSAIL**

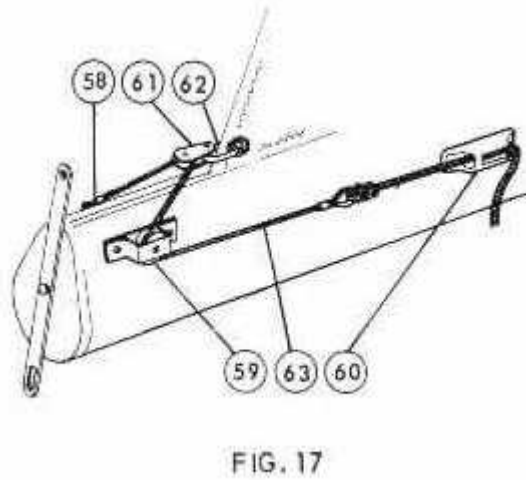
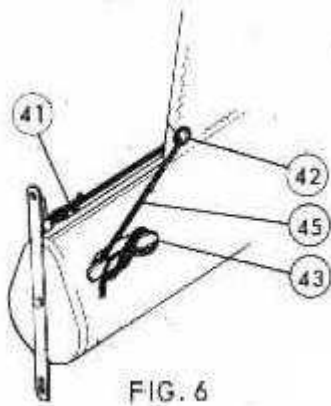
The bolt rope on the foot of the mainsail should be slid into the sail groove on the boom. The tack of the sail is then secured to the tack plate (36) with the large tack pin (37) supplied (see Figure 4). This pin may be opened slightly so as to ensure that it does not fall out of the tack plate.

The battens supplied (two x 24" and two x 18") should be inserted in the batten pockets in the mainsail. Do not fail to push the end of each batten well into each pocket and then downwards so that they are retained by the closed outer end of each pocket. Care should be taken when folding and/or stowing the mainsail on the boom to avoid breaking the battens.

## **OUTHAUL**

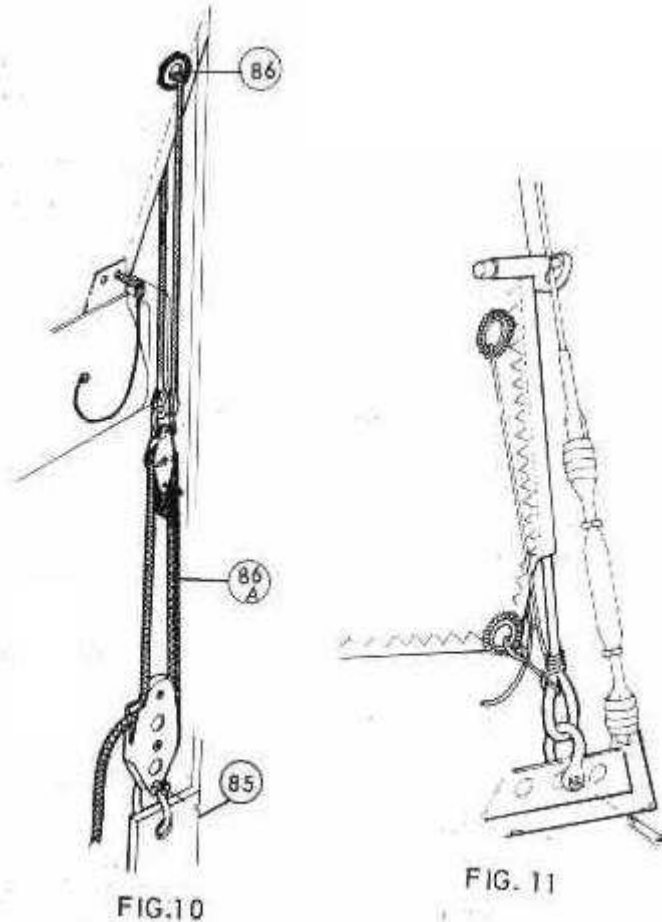
The outhaul should be secured to the strap (41) on the port side of the boom. The other end should be passed through the cringle in the clew of the mainsail (42) and then made up on the cleat (43) (see Figure 6).

An adjustable clew outhaul permits adjustment of the tension in the foot of the mainsail while sailing. If an adjustable outhaul is fitted to your boat, the clew of the mainsail should be secured with the small shackle and block as shown in Figure 17.



## **CUNNINGHAM**

Most Tanzer22 mainsails are fitted with a cringle (86) in the luff a few inches above the tack . This cringle allows the installation of a mainsail cunningham if desired as shown in Figure 10. The cunningham tackle (86A), should be secured to the upper hole in the aluminum plate (85) protruding from the sail groove at the base of the mast. The bottom hole should be used for a boom vang if installed.



The luffs of some No. 1 and No. 2 genoas are also fitted with a cringle and line to permit the fitting of a simple cunningham as shown in Figure 11. A more sophisticated arrangement involving a purchase tackle and control line to the cockpit may be installed if preferred .

## ***MAINSHEET TRAVELLER***

A full cockpit-width mainsheet traveller may be fitted to the Tanzer 22 as illustrated in Figure 3a and Figure 16. If the mainsheet traveller is already installed on your boat, the mainsheet must be rove as shown and not as illustrated earlier for the standard mainsheet arrangement.

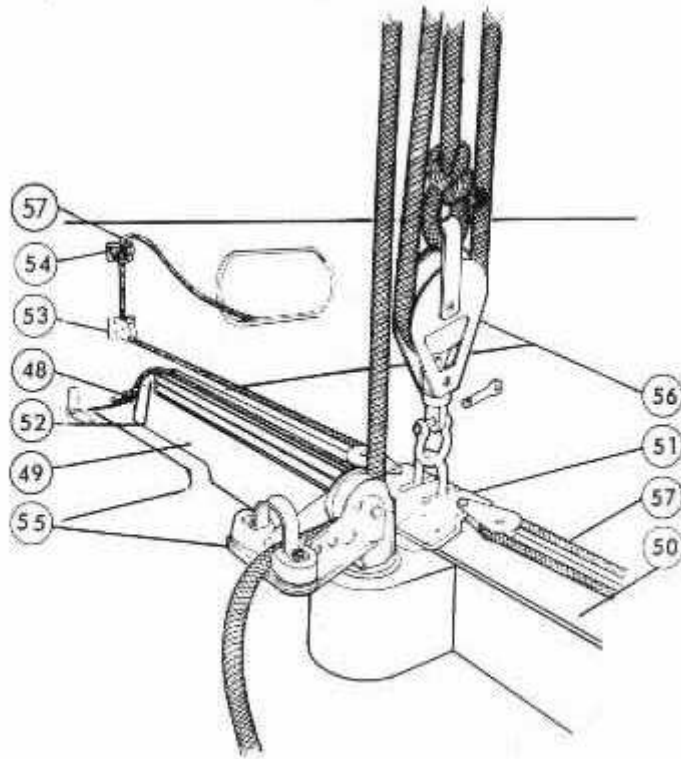


FIG. 16

## ***MAIN SAIL COVER***

Figure 20 illustrates the way in which the mainsail cover should be laced together around the mast.

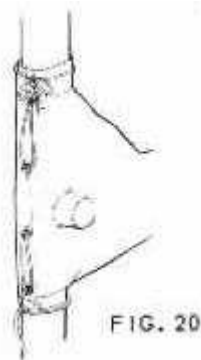


FIG. 20

## SPINNAKER GEAR

If your boat is rigged for a spinnaker, the lines comprising the spinnaker halyard (64), topping lift (65) fore guy (66) , after guy (67) , and sheet (68) should be rove through the fittings provided as shown in Figs. 18, 19 & 19A.

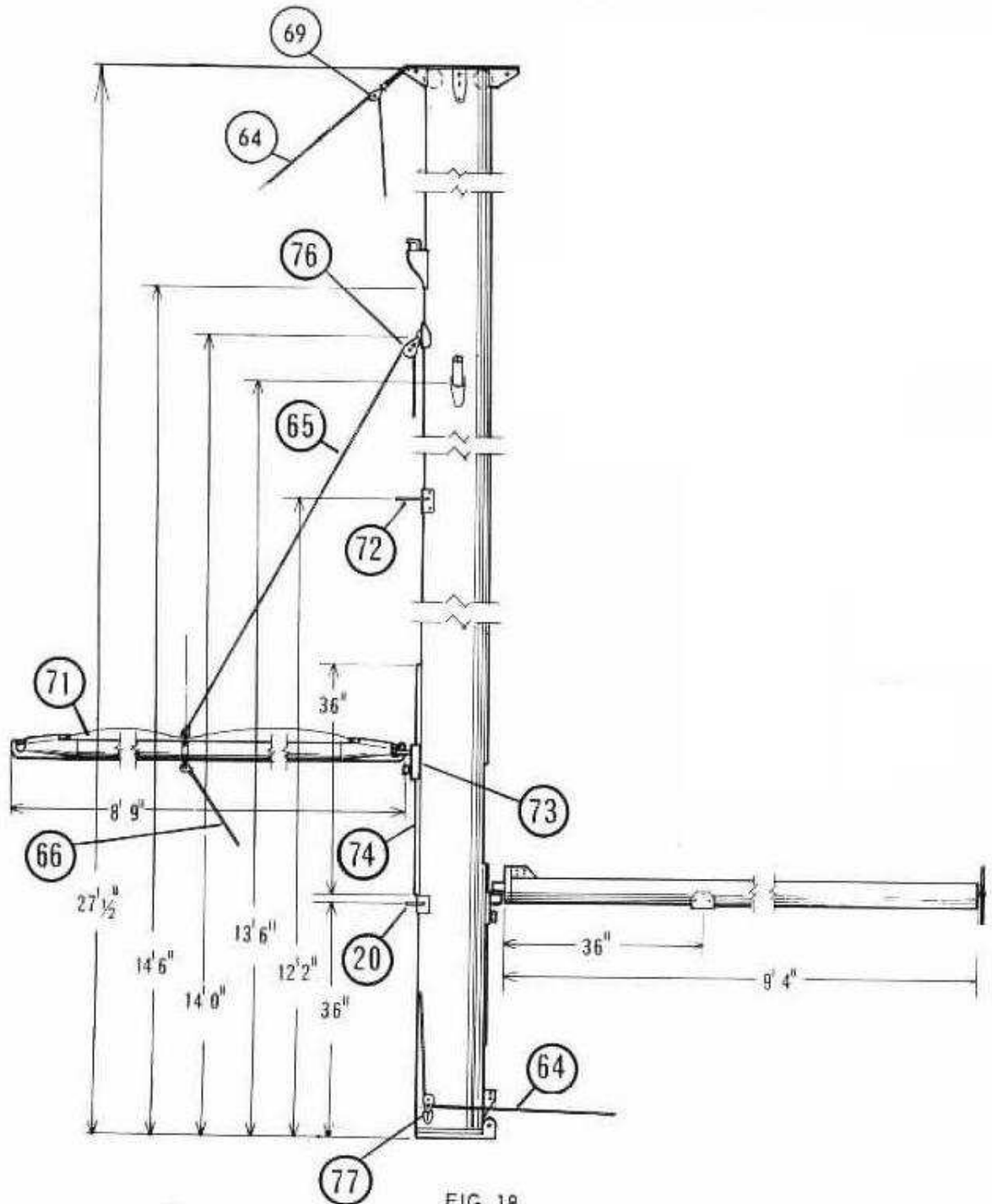


FIG. 18

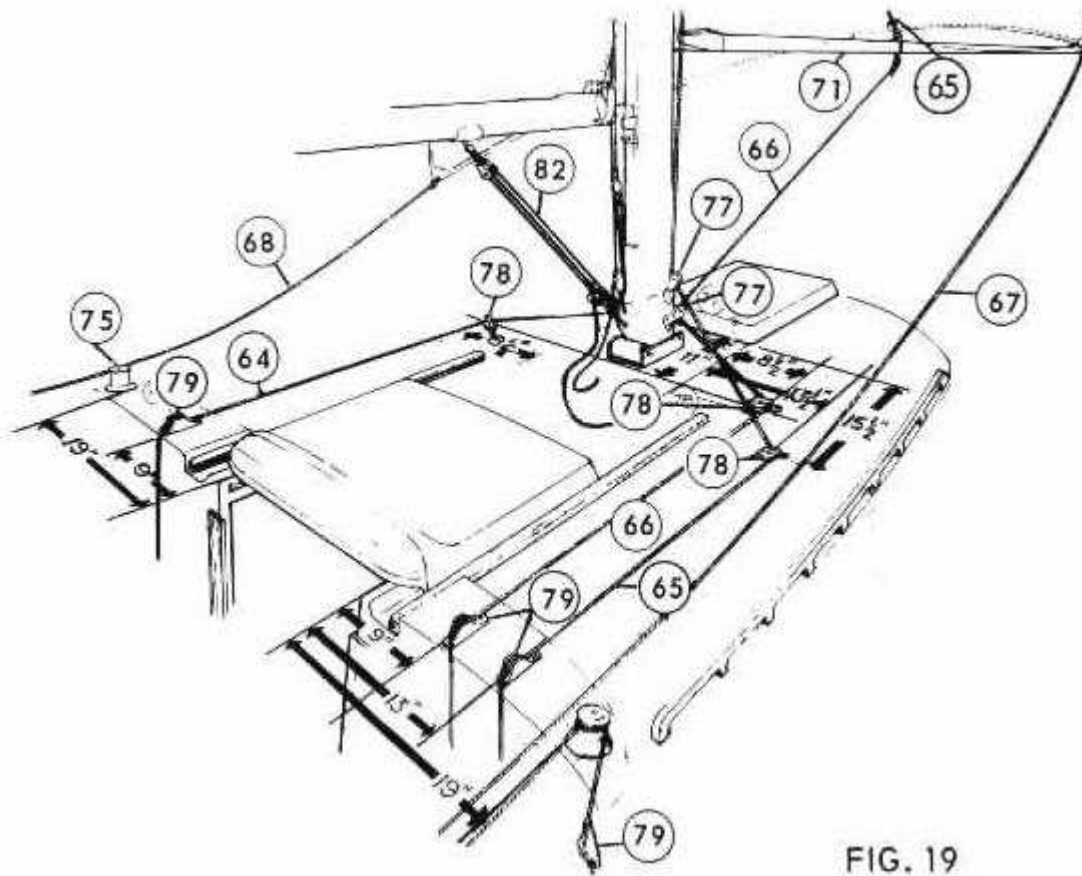


FIG. 19

The spinnaker halyard block (69) must be secured to the crane (70) provided on the foreside of the masthead fitting, (see Figure 2a) and the spinnaker halyard (64) and the topping lift (65) should be rove through the respective blocks, before stepping the most. The shackle securing the halyard block should be fastened very tightly with pliers. It is also important that this block be placed so that the sheave is in line with the centreline of the boat as shown in Figure 2a.

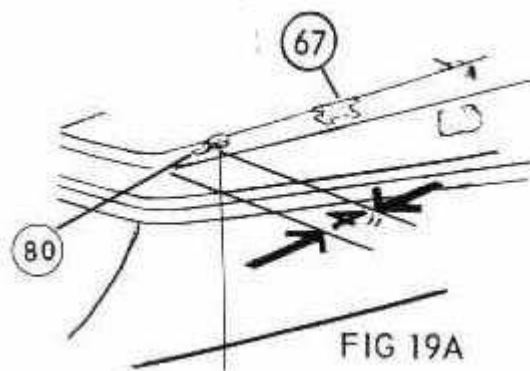


FIG 19A

When not in use, the spinnaker pole (71) is stowed vertically on the foreside of the mast in the stowage ring (72) provided. Clip one end of the pole to the slide (73) on the spinnaker track (74), attach topping lift (65) and foreguy (66) release the slide and guide the pole into the ring or clip it to it. Any tendency for the pole to rattle can be avoided by clipping the pole to the stowage ring and tightening both topping lift and foreguy lines.

### ***BOW PULPIT, LIFELINES & STERN RAIL***

These should be assembled and installed in the appropriate stanchion bases. Care must be taken to ensure that the correct stanchion is placed in each base in accordance with the markings. Each stanchion base and T-joint has been drilled to accept securing screws in addition to the set screws, and these holes should match those in the stanchion tube.

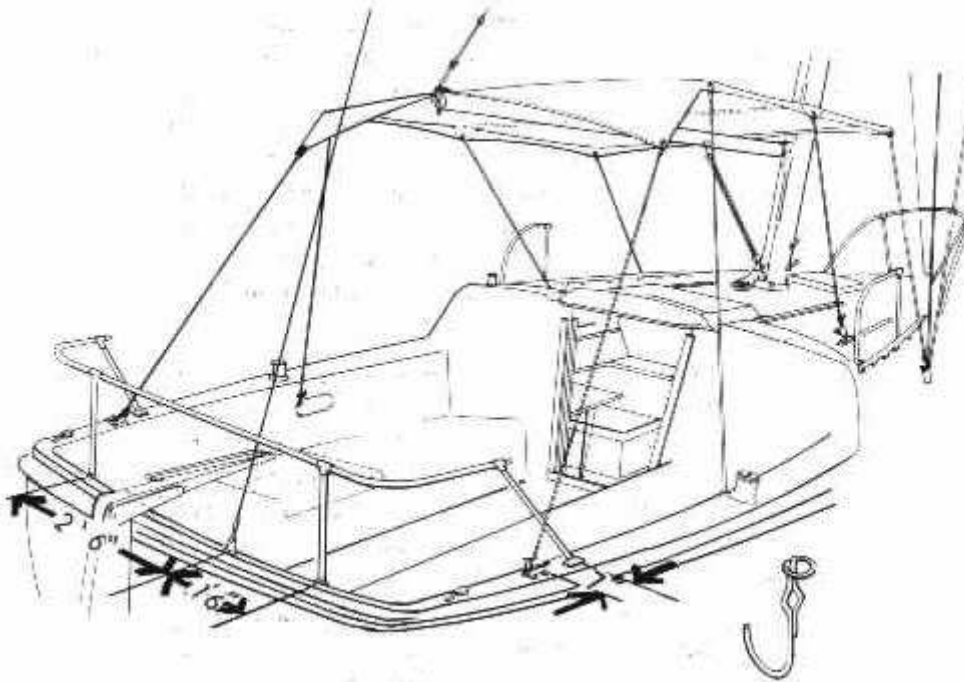
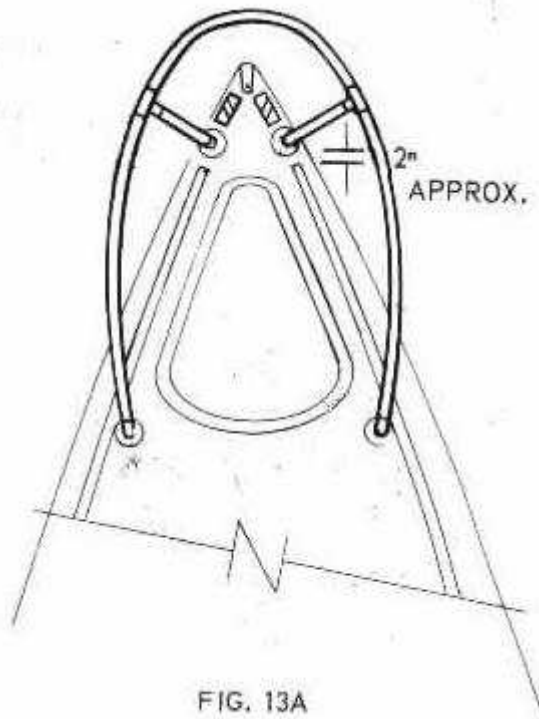


FIG. 13

The turnbuckles on the lifelines and stern rail should be tightened until the lines are tight and both lock nuts fastened very securely with a spike and wrench. These lines will stretch slightly and will require re-tightening periodically. It is also important to check and tighten all the securing screws and set screws regularly.



The bow pulpit, lifelines and stern rail may be purchased from the factory for owner installation . Figs 13 and 13A show the position in which the stanchion bases should be installed. All bases should be through bolted and all holes caulked. Those bolts visible below decks should be finished with cap nuts. The vinyl covered lifelines will require to be cut to length and crimped with a micropress swaging tool.

### ***ANCHOR WELL HATCH***

This covers the self draining anchor well in the foredeck. It serves to extend the working deck area and also prevents debris from accumulating in the well and blocking the drain. If this hatch is not already fitted to your Tanzer 22, it maybe purchased separately for owner installation as follows

1. Place hatch in well and install the two teak turn-buttons with the screws provided. These should be installed in the deck close to the outer edge of the hatch. The larger teak stop, retained with two screws, should be installed near the forward edge.
2. The stainless steel eye strap to secure the safety line should be thru bolted to the port side of the well with the bolts provided
3. All holes should be caulked.



## HOISTING SAIL

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Unless the wind is light, sails should not be hoisted until the boat can be maneuvered head to wind.

### ***MAINSAIL***

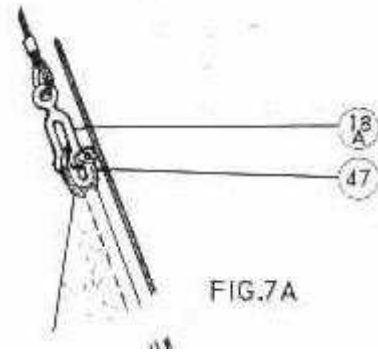
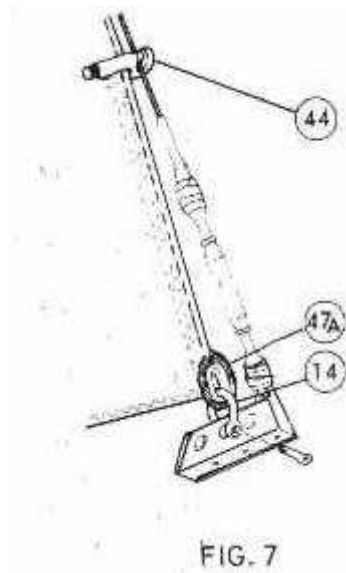
The quick release shackle in the main halyard (18) should be secured to the cringle in the head of the mainsail. Before hoisting the sail, release the main sheet from its jamb cleat and check that it is free to run. Also release the boom vang if one is fitted. The sail is hoisted by feeding the bolt rope on the luff into the sail groove in the mast, and simultaneously pulling on the main halyard rope tail. Make sure that the thumb screw of the gooseneck slide is loosened so that the sail is hoisted to the point at which the headboard clears the backstay. After the sail is hoisted, coil and make up rope tail on the cleat on the starboard side of mast.

Pull down gooseneck until the tension in the luff of the sail is appropriate to the wind strength; follow same guidelines as for the foot of the sail.

The tension in the foot of the sail should be appropriate to the wind strength. Tighten the foot for stronger winds, but not so tight that horizontal creases appear in the sail parallel to the boom. In lighter winds this tension should be less, but not so that small vertical wrinkles appear. If your boat is fitted with an adjustable clew outhaul refer to the section dealing with this.

### ***JIB***

The tack (47A) of the jib should be secured to the middle hole in the stem head fitting with the shackle (14) provided (Figure 7). The sail is then hanked to the forestay with the sail hanks (44) fitted to the luff of the sail. The jib sheet (8) should be secured to the cringle (45) in the clew of the sail as shown in Figure 8. Each end should then be taken between the upper and lower shrouds and rove through the adjustable jib sheet blocks (46) mounted on short tracks on either side of the cabin top. Tie a figure of eight knot in the end of each sheet.



The quick release shackle (18A) is fastened to the cringle (47) at the head of the sail (Figure 7A). Hoist the sail by pulling on the jib halyard. When fully hoisted, three to four clockwise turns of the rope tail should then be taken around the jib halyard winch (Figure 2c). By holding the rope tail so that the turns bind on the winch drum and at the same time operating the winch handle, the luff of the jib can be set up very tightly. Coil and make up rope tail on the cleat below the winch. Remove winch handle .

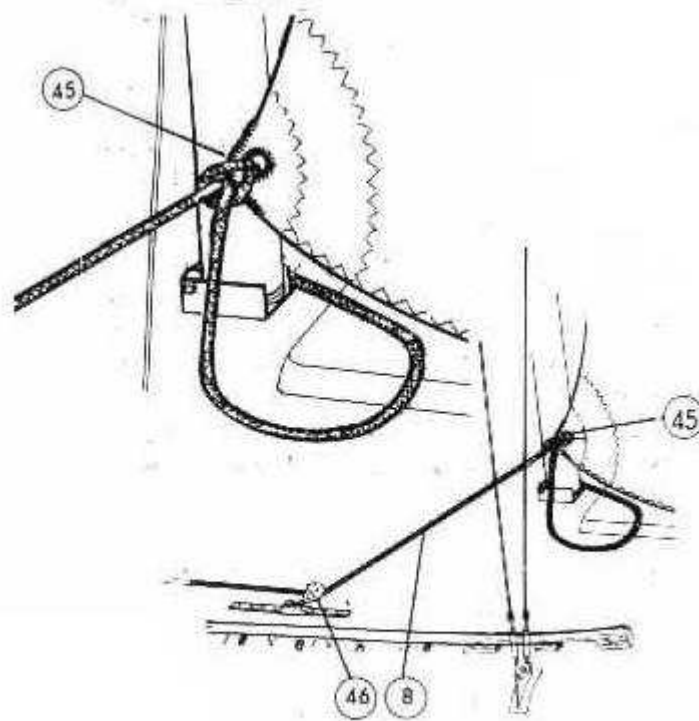


FIG. 8

The tension in the luff of the jib (or genoa) should be considerably more than that given to the luff of the mainsail; that is why a winch is supplied as standard equipment. Nevertheless tension should be appropriate to the wind strength - very tight for strong winds and less tight for light airs.

Guidelines are:

- a. The luff of the jib should never be allowed to fall off to leeward .
- b. Scallops should never appear in the luff of the jib .
- c. In lighter winds, the tension should be such that the small wrinkles in the sail luff disappear, but not sufficient to form creases running parallel to the luff.

The position of the jib sheet blocks (46) affects the tension in the foot and leech of the jib. Generally speaking, the tension in each should be approximately equal. Moving the blocks forward tightens the leech and eases the foot. Moving them aft has the reverse effect.

## **GENOA**

The genoa sheets (P/S) (89) should be rove as shown, namely outside the shrouds, through the genoa sheet blocks (90) and the cheek blocks (91),

clockwise around the winch (92) to the cleat (93) . The position of the genoa sheet blocks will require adjustment to suit either the No. 1 or No. 2 genoas. These blocks provide the means with which to adjust the tension in the foot and leech of the genoas.

Some No. 1 and No. 2 Genoas are fitted with leech lines. These are used to control the tension in the leech of the sails. If, on any point of sailing, the leech flutters and you find that you cannot prevent this by adjustment of the position of the genoa blocks, suitable tension should be applied to the leech line. However, excessive tension will tend to cause the leech to hook inboard, and this should be avoided

## ***SPINNAKER***

Winches are essential to control the spinnaker sheet and after guy in anything but very light winds. Snubbing winches (75) mounted on the after end of the cabin top as shown in Figure 19 are the most convenient. By using these winches rather than the genoa winches, the sheet and guy may be controlled from the foredeck or bow pulpit, thus allowing sight of the luff of the spinnaker sail when reaching with the working jib or a genoa set. Use of the snubbing winches for this purpose leaves the genoa winches free for the genoa when reaching.

## **REEFING**

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### ***ROLLER REEFING***

Your Tanzer 22 may be equipped with a geared roller reefing gooseneck (81) (see Figure 4). In order to rotate the boom, the roller reefing handle should be inserted in one of the square holes in either side of the mechanism and turned. To reef the mainsail while sailing:

1. Steer a course slightly above close hauled and ease the main sheet so that the sail is luffing .
2. Remove boom vang if one is fitted.
3. Tighten the topping lift to ease the tension on the leech of the soil.
4. Insert roller reefing handle.
5. Slacken main halyard and simultaneously turn handle so that the sail is rolled around the boom, making sure that each roll of sail is pulled aft along the boom and it is as free of wrinkles as it is possible to make it.
6. Battens should be removed if necessary.
7. When the sail is sufficiently reefed, tighten main halyard, ease topping lift and sheet in sail.
8. Because the leech of the mainsail is longer than the luff, very deep reefs involving many rolls will cause the after end of the boom to droop. This can be prevented to some extent by inserting some form of padding, such as sailbags, in the after end of the rolls.

The same procedure should be followed when reefing while at anchor, or on a mooring. If tied up at a dock, the reefs should be rolled down prior to hoisting sail, unless the boat is lying head to wind.

From time to time, a few drops of light oil should be placed in the aperture provided for this purpose on the roller reefing mechanism.

### ***JIFFY REEFING***

## ACCESSORIES

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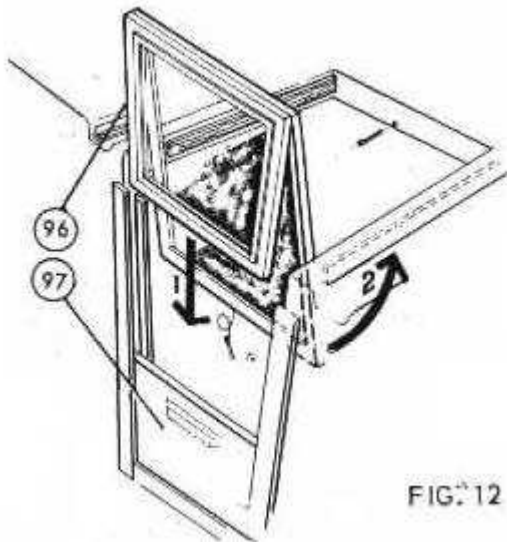
### **FOREHATCH VENTILATOR**

The forehatch of your Tanzer 22 may be fitted with a circular watertight opaque deck light with a screened opening. This deck light may be removed by inserting a screwdriver in the slot provided. A low profile ventilator may then be inserted. Maximum airflow when underway results when the open end of the ventilator faces forward. If in this position excessive spray enters the ventilator, it may be turned to face aft. If conditions are such that waves are breaking over the foredeck, the ventilator should be replaced with the watertight deck light. When leaving the boat on moorings, however, the ventilator should be replaced.

### **SCREENS**

You may have teak framed, non-corrosive screens for both the main companionway and forehatch. When not in use, the main companionway screen is stored on the deck head of the fore cabin; and the forehatch screen on the forward, port side of the main bulkhead.

To fit the main companionway screen (96) install the bottom dropboard (97) in the companionway. The screen assembly is then inserted as shown in Figure 12. The forehatch screen rests on the small teak shelves fitted to both sides of the hatch opening.



The design of the main companionway screen was changed with hull no. 271 to a single teak frame screen fitting vertically into the grooves provided for the main companionway drop boards.

## **COCKPIT AWNING**

Figure 13 illustrates the optional Tanzer 22 cockpit awning. No additional deck fittings are required in order to install this awning:

1. Unroll and place over boom; battens should be on the underside and the small flaps should be aft.
2. The awning is fitted with four lengths of elastic shock cord on each side. Each of these has a galvanized steel hook, the position of which can be moved to adjust the tension on the shock cord.
3. The two forward hooks should be inserted in the toggles on either the upper or lower shrouds. The next pair should be hooked to the jib blocks. The next pair should be hooked in the winch handle pockets in the cockpit coaming and the after pair are hooked to the stern mooring cleats.
4. The short length of dacron line is used to secure the after end of the awning to the strap on the boom end.
5. The position of the hooks should be adjusted so as to provide sufficient tension on all shock cord lines to maintain the awning in a level plane on the boom but not so that the battens are bent excessively.

## **MARINE TOILET**

If you have a marine toilet, it may be a "Brydon Boy" (B-9127) manufactured by Brydon Manufacturing Co. Ltd., in Rexdale, Ontario, Canada. The operation of this toilet is as follows:

1. Open the sea cocks or gate valves on the two through hull fittings. The larger hose is the discharge pipe, and the smaller hose, the water inlet.
2. Move the lever on top of the pump to "flush" and operate pump until bowl is clean.
3. Return lever to "dry bowl" and continue pumping until bowl is dry. Pumping will be more difficult in the "dry bowl" position.
4. It is important that the lever be in the "dry bowl" position when the toilet is not in use.
5. In heavy seas or when leaving the boat, the valves should be closed.

Periodically check that the hose clamps are tight at both ends of each hose. Occasionally place a few drops of oil on the pump rod. When laying up for the winter, the toilet should be drained by removing one of the drain plugs in the base and operating the pump. In salt water areas, a thorough flushing with fresh water will remove salt from the system. Bleach, antifreeze, acids and harsh alkalis should not be used as these can damage hoses and rubber gaskets.

If your boat has a holding tank, the discharge hose from the toilet leads into the tank, and no through hull fitting or valve is installed on this line. The holding tank has a capacity of approximately 15 gallons and is located immediately forward of the toilet under the berth cushions. The tank is fitted with an air vent, which is located on the port bow just above the rub rail. A pump out hose leads from the bottom of the tank to a deck fitting (1 ½" I.D. pipe size) located in the anchor well.

Before using the marine toilet/holding tank system, open the water inlet valve, place the lever on "flush" and operate the pump until approximately one gallon of clean water has been discharged into the tank. Remove the inspection cover and charge the tank with a proprietary chemical deodorizer-sanitizer fluid, of which a number are available. The instructions of the manufacturer of this sanitary fluid, relating to the quantity to be used, should be followed. Replace inspection cover. The system is now ready for use.

The level in the tank may be checked by the sight gauge if fitted, or by removing the inspection cover. When full, the tank must be emptied by a pump out station at a yacht club or marina. As the tank is emptied, pump clean water into it to flush the system. The tank should then be re-charged with sanitary fluid.

All hose clamps and other fittings should be tightened periodically. When laying up for the winter, the tank should be emptied and the toilet drained. In salt water areas, a thorough flushing with fresh water will remove salt from the system.

## **PORTABLE TOILETS**

A variety of portable toilets are available that are suitable for a Tanzer22. The limiting factors are the dimensions of the toilet well. These are 20" wide x 28" deep x 15" high. The manufacturer's instructions concerning operation and maintenance should be followed.

## **ICE BOX**

Your Tanzer 22 is fitted with a self draining 23/2 cu. ft. ice box as standard equipment. The ice box drains into a one gallon container below the starboard quarter berth. Prior to use make sure that the drain hose is fitted to the nipple on the bottom of the icetray, and that the hose is inserted in the container.

An ice block or cubes should be placed in the ice tray. The container should be emptied regularly, otherwise it will overflow and flood the stowage area beneath the quarter berth. If clean ice is purchased, the ice water may be used to top up the fresh water tank.



## ELECTRICAL SYSTEM

The standard Tanzer 22 electrical system is a 12 volt D.C. system powered by a 40 amp./hr. wet cell battery. The circuit diagram and location of the battery, switch and fuse panel, conduit, wiring and electrical fixtures are shown in Figure 15.

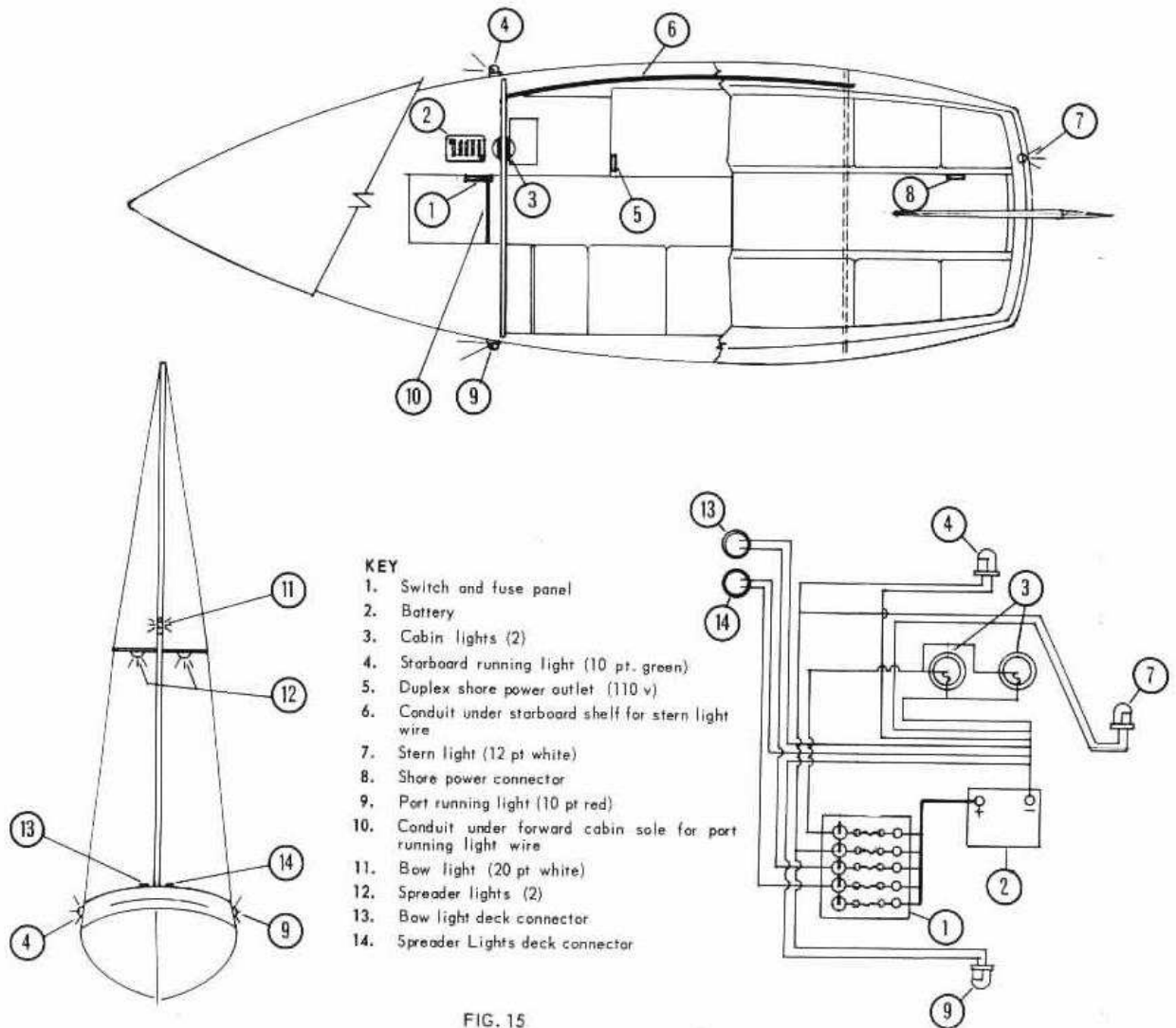


FIG. 15

The terminals should be connected to the battery with the thumbscrews provided. The circuits in the electrical system are labeled on the switch panel as follows:

- **Running Lights:** This switch operates the 10 point (112M2 degrees) port (red) and starboard (green) navigation lights; and the white 12 point (135 degree) stern light.
- **Cabin Lights:** This switch operates the circuit carrying the two cabin lights; one in the forecabin and one in the main cabin. Both are mounted on either side of the main bulkhead on the starboard side. Each cabin light is provided with a separate switch.
- **Bow Light:** If this has been installed, this switch operates the white, 20 point (225 degrees) bow light mounted on the foreside of the mast just above the spreaders. A deck plug and socket is included in this circuit to facilitate unstepping of the mast.
- **Spreader Lights:** If these have been installed, this switch operates the two lights located under the spreaders. A separate deck plug and socket is provided to allow disconnection when unstepping the mast. There are also two separate wire connectors at the spreaders so that the spreaders may be removed from the mast.
- **Miscellaneous:** This is a spare switch and fuse to allow the installation of an additional circuit.

The wiring used is No. 16 two conductor, vinyl coated. All circuits are provided with a fuse; for replacements specify 5 amp. 1/4" dia. x 1 1/4" long, cartridge fuse. Higher amperage fuses up to 20 amp. would also be satisfactory.

The bulbs in the navigation lights are No. 68, (4 C.P), those in the cabin lights No. 90 (6 C.P), and those in the spreader lights No. 94 (15 C.P). All are double contact, bayonet base bulbs.

A No. 68 bulb uses 0.6 amps. Thus with the port, starboard and stern navigation lights turned on, consumption would be 1.8 amps. The 40 amp./hr battery when fully charged would thus provide approximately 20 hours continuous running after which the battery would require recharging. The bow light and each of the cabin lights require 0.6 amps. to operate and the spreader lights 1.0 amp. Use of these lights will shorten the recharge period proportionally. The battery may be recharged in the same way as an automobile battery and the level of electrolyte should be similarly maintained.

If any electrical fixture fails to operate when turned on, the fuse should be checked and if blown the circuit should be checked for short circuits. Replace if blown. If, after replacing the fuse, the circuit still fails to operate, check the bulbs and replace if necessary. If this does not cure the problem, check for loose connections or a faulty switch and repair or replace defective part. In the case

of the bow light and spreader lights, check that the deck plugs are properly connected.

The conduit and battery box shown in Figure 15 are installed in all boots as a standard feature, irrespective of whether the electrical system has been fitted. This conduit allows the installation of electrical wiring after the boat is built. The ice-box should be removed to obtain access to the forward end of the conduit running along the starboard side of the boat.

Shore Power Connector: if a 110-volt shore power connector has been installed in your boat, the watertight receptacle in the cockpit and the duplex outlet in the main cabin will be installed as shown in Figure 15. The deck receptacle is male to which a female shore power cable can be attached when alongside a dock providing such service. 110-volt lights or appliances may then be plugged into the duplex receptacle in the side of the galley counter

#### **KEY**

1. Switch and fuse panel
2. Battery
3. Cabin lights (2)
4. Starboard running light (10 pt. green)
5. Duplex shore power outlet (110 v)
6. Conduit under starboard shelf for stern light wire
7. Stern light (12 pt white)
8. Shore power connector
9. Port running light (10 pt red)
10. Conduit under forward cabin sole for port running light wire
11. Bow light (20 pt white)
12. Spreader lights (2)
13. Bow light deck connector
14. Spreader Lights deck connector

## **MAINTENANCE**

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A fiberglass boat requires much less effort to maintain than one built of wood. However, attention should be given to the following:

### ***ANTI-FOULING***

Anti-fouling paint should be applied to the bottom of your Tanzer 22 if it is to be moored in either fresh or salt water for any length of time. There are many brands available. Anti-fouling paint prevents the growth of algae, barnacles and other fouling organisms on underwater surfaces.

The original anti-fouling paint used by Tanze is Vinelast Racing Finish, manufactured by Woolsey Marine Industries Ltd.

The frequency of repainting depends on local conditions; there are wide variations in the rate of fouling, but in most areas the anti-fouling paint will require to be renewed each year. The manufacturer's instructions relating to repainting should be followed.

For those owners who apply anti-fouling paint themselves, it should be noted that most brands require all underwater fiberglass surfaces to be very carefully sanded immediately prior to the first application on a new boat. In any event, the instructions of the manufacturer of the brand of paint used should be followed.

Should your boat be a keel/centerboard model for which you have a launching trailer, and you do not intend to keep the boat in the water for more than a few days at a time, no anti-fouling paint should be necessary. However, in such a case you will probably find it necessary to scrub the bottom each time the boat is removed from the water. In no case allow any growth of fouling organisms to dry out on the bottom, since when dry these can be very difficult to remove.

### ***FIBERGLASS SURFACES***

Your boat should be thoroughly cleaned periodically. All external fiberglass areas; the hull, deck and cockpit, should be washed with clean water, a mild detergent, and then hosed down. The non-skid surfaces should be scrubbed with a stiff brush. Persistent stains, scratches or abrasions containing dirt may be removed or cleaned with a proprietary cleaner such as "Fantastik". Any fine grade rubbing compound may be used to re-polish very small scratches or abrasions. A proprietary fiberglass polish such as "Trewax" should be used to maintain the finish on all high gloss areas. Regular polishing will protect the Gelcoat surface and enhance the appearance of your boat. This should be done at least once per year.

The interior, including all lockers, ice box, and the bilge, should be washed with warm water and a mild detergent. The bilge in particular should be kept free of dust, fluff and other debris that accumulates there.

## **GELCOAT REPAIRS**

Gelcoat is the pigmented layer of polyester resin that forms the outer skin of all molded fiberglass components of your boat. To repair minor scratches, chips and abrasions in this Gelcoat, the procedure is:

1. Ideally, all such repairs should be carried out in dry conditions with the air temperature between 65°F and 70°F.
2. Thoroughly sand the damaged area with No. 80 dry sandpaper.
3. Clean with acetone. This is highly flammable and usually obtainable from a drug store. It should be used and stored with appropriate caution.
4. Place an appropriate quantity of Gelcoat on a clean piece of wood or cardboard. Catalyst should then be added. At 65°- 70° F. a teaspoonful of Gelcoat requires 3-4 drops of catalyst to effect a reasonably rapid cure. Mix together until it is apparent that the Gelcoat is thickening.
5. The Gelcoat should then be laid into the scratch or chip and smoothed. The surface of the repair should be slightly higher than the surrounding Gelcoat. This should be left to cure until it is quite hard. If a clean piece of polyethylene is laid over wet Gelcoat to exclude air, this will hasten the curing. In the case of deep scratches, it may be necessary to build up successive layers of Gelcoat. If working on a vertical surface, allow the Gelcoat to thicken sufficiently to prevent running before applying.
6. When completely cured, the repaired, raised surface should be sanded initially with No. 100 dry sandpaper using a sanding block until it is almost level with the surrounding gelcoat. It should then be sanded with No. 400 waterproof Sandpaper, using plenty of water until it is level. Great care should be taken not to rub away the Gelcoat around the repair.
7. When all is level, sand again with No. 600 waterproof sandpaper and plenty of water.
8. The repaired area should then be buffed with a fine rubbing compound. When buffing, apply considerable pressure. Polishing with a proprietary fiberglass polish such as "Trewax" will produce a high gloss.

## ***TEAK***

All external teak woodwork should be well oiled at frequent intervals; say twice a month during the sailing season. Use one of the proprietary teak oils that are available for teak furniture. If teak is not oiled regularly, it will, after exposure to sun and rain, weather to a gray colour.

To restore it to its original appearance requires sanding with fine sandpaper prior to oiling. Internal teak should be similarly oiled, but less often; once a year should be adequate.

## ***STANDING AND RUNNING RIGGING***

All wire rigging, both standing and running, should be carefully examined when laying up for the winter or when fitting out in the spring. Look for broken strands in the wire, badly worn terminal fittings, clevis pins and shackles. Any wire with a broken strand or worn fittings should be replaced as should worn pins and shackles. Check all turnbuckles and toggles. If bent or worn at the holes, replace them.

Examine all rope running rigging regularly, particularly when fitting out, and replace if worn.

Split pins and rings should be renewed each year when fitting out.

## ***FITTINGS***

Periodically check the fastenings of all the fittings on the mast and boom as well as those on deck. In particular make sure that all fastenings are secure on the mast whenever this is unstepped. At the same time examine the masthead fitting for worn sheaves, pins and shackles and replace if necessary. The rudder gudgeons and pintles should be checked for wear at least once a year.

## ***THROUGH HULL FITTINGS***

These should be examined from time to time, and certainly prior to launching in the spring. Check that each through hull is securely fastened and that the valve works easily. In salt water areas particularly, the valves of through hull fittings should be checked and lubricated. Make sure that the hose clamps are tight. Check also that the nylon through hull fitting of the anchor well drain is secure.

## **CARE OF SAILS**

The sails supplied with your boat by the factory are made of synthetic fibres; all except the spinnaker are of polyester fibre called Dacron in North America, and Terylene in England. The spinnaker is made of nylon. Contrary to cotton sails, they do not require careful stretching and breaking in when new. They do, however, require proper care and maintenance.

Because of the nature of the cloth, the stitching on synthetic sails protrudes slightly above the surface of the sailcloth. This exposed stitching is vulnerable to chafe, particularly in certain areas. The head and clew, batten pockets, luff and foot, and that part of the mainsail that lies against the shrouds and spreaders when running, the headsails where these make contact with the spreaders; are all subject to chafe. Therefore all stitching in these areas should be checked periodically and renewed as necessary.

Excessive flogging i.e. flapping from side to side, will spoil the shape of a sail, and in extreme conditions, will tear it.

Wet sails should be dried as soon as is practical. Synthetic fibres will not rot due to moisture, but this will cause mildew if sails are stored for long periods when damp. Do not furl a wet sail; stow it as loosely as possible so air can circulate. When storing sails, make certain that they are completely dry.

Sails can become soaked with salt spray. When this dries a deposit of salt is left in the cloth. This not only stiffens the sail and prevents its setting correctly, the salt, being hygroscopic, will absorb moisture whenever there is any in the atmosphere, and the sail will become damp. Consequently it is essential to wash salt encrusted sails periodically, particularly before storing them. They should be washed with copious amounts of fresh water and scrubbed gently with a soft brush. Dirty sails may require lukewarm water and a mild detergent. Dry in the sun. Grease and oil stains should be removed with carbon tetrachloride or trichlorethylene.

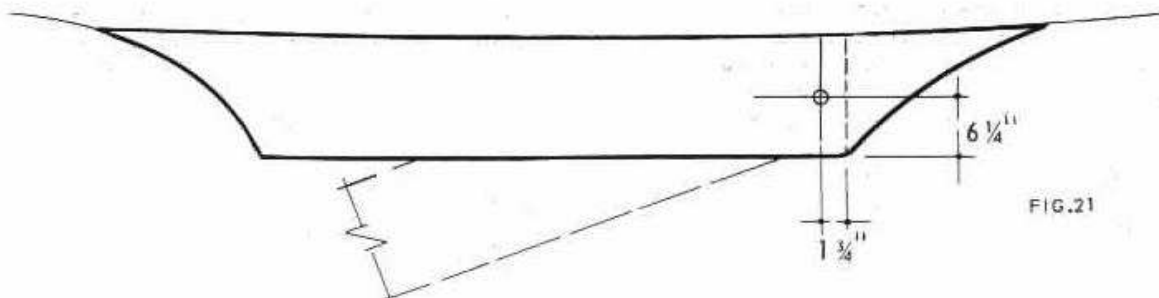
Wrinkles and crease marks render a sail less efficient. Consequently when furling a mainsail on the boom it should be flaked down carefully. When bagging a sail, it should be folded parallel to the foot, using existing folds if possible, and then rolled loosely around the luff.

Continuous exposure to sunlight over a long period will cause polyester and nylon fibres to deteriorate, and ultimately to disintegrate. Since sails will be exposed to sunlight a good deal during normal use it is prudent to reduce such exposure when not sailing. Therefore use a cover on the mainsail or remove it. Headsails should be removed and stowed below decks.

## **CENTERBOARD ASSEMBLY**

On keel/centerboard models, those parts of the centerboard assembly subject to wear should be checked once a year. The stainless steel wire of the centerboard pennant is subject to chafe at the points at which it passes through the cockpit floor and the hull. The upper portion of the pennant may be checked by examining the wire on the winch, whilst the centerboard is in the up position. The lower portion can only be checked by lifting the boat in slings and lowering the centerboard. Look for broken wire strands and if a strand is broken, replace the centerboard pennant immediately.

The centerboard pin is also subject to wear, but should not need replacement for some years. The position of the pin is shown in Figure 21.



To remove it, locate the hole by removing any anti-fouling paint. You will find that the hole on one side of the keel is smaller (1/4" dia.) than that on the other (3/8" dia.) The pin may be driven out by hammering a suitable sized punch in the small hole.

With the approval of the Tanzer 22 Class Association, the design of the centreboard in the keel centreboard model was modified with hull no. 291. This resulted in a change in the position and diameter of the centreboard pin. This is now located 33S" further aft of the position shown in Figure 21. The centreboard pin is 1" in diameter and is retained by wooden dowels on both sides. When these dowels are removed the pin may be driven out with a suitable punch.

## **WINCHES**

Regular lubrication of all winches is essential for trouble-free operation. The roller bearings of Barlow winches should be cleaned and re-greased with a light grease every three months. Do not use an excessive quantity of grease since this will tend to clog the ratchet mechanism.

Grease, however, should not be used on Gibb winches. These should be lubricated every three months at least with a light oil.



At least once every year all winches should be completely dismantled, cleaned and re-lubricated throughout.

When not in use, it is recommended that all winches be covered.

## **ADDITIONS**

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### ***ADJUSTABLE CLEW OUTHAUL***

An adjustable clew outhaul may be installed as follows:

1. The aluminum cleat and stainless steel deck strap for the standard clew line should be removed, and the holes plugged with rivets.
2. Nicropress eye and thimble (58) in wire. Secure to boom with rivet.
3. Turning block (59) Secure to boom with rivets.
4. Clamcleat (60) Secure to boom with self-tapping screws or rivets.
5. Bullet block (61) and shackle (62). Secure to clew cringle in mainsail.
6. Dacron line (3/16" dia.) (63). Should be rove through clamcleat. Tie a figure of eight knot in end.

### ***MAINSHEET TRAVELLER***

A mainsheet traveller may be installed as shown in Figure 16 as follows:

1. Deck strap, (P/S) (48). Install at each end of teak traveller support.
2. Teak traveller support (49). Install 1" forward of the forward edge of the cockpit hatches. Drill teak support and cockpit seat simultaneously to ensure correct alignment of holes. Caulk cockpit seat holes before bolting in position.
3. Traveller track (50). Install on teak support with screws provided.
4. Traveller carriage (51). Fit to track before installing stops.
5. Track stops (P/S) (52) . Fasten to teak support with screws provided.
6. Turning block (P/S) (53). Install on inside of cockpit coaming with self-tapping screws supplied. Align with the top and forward edge of track before drilling. Caulk holes.
7. Cam action jamb cleats with fairlead(P/S) (54). Install high on inside of cockpit coaming with self-tapping screws, caulk holes.
8. Swiveling cam action jamb cleat (55). Install on teak support with screws provided.
9. Swivel single block with becket (56). Shackle to carriage.
10. Traveller control lines (P/S) (57), in ¼" braided dacron. These should be rove as shown. Tie a figure of eight knot in both ends of each.

The traveller support (49) shown in Figure 16 and elsewhere in the guide is now in fibreglass not teak. Installation details are similar except, the deck straps (48) and

track stops (52) should be secured to the cockpit seats (P/S) after the traveller track has been installed. Those portions of the track outboard of the fibreglass support should be bolted directly to the cockpit seats (P/S).

## GENOA GEAR

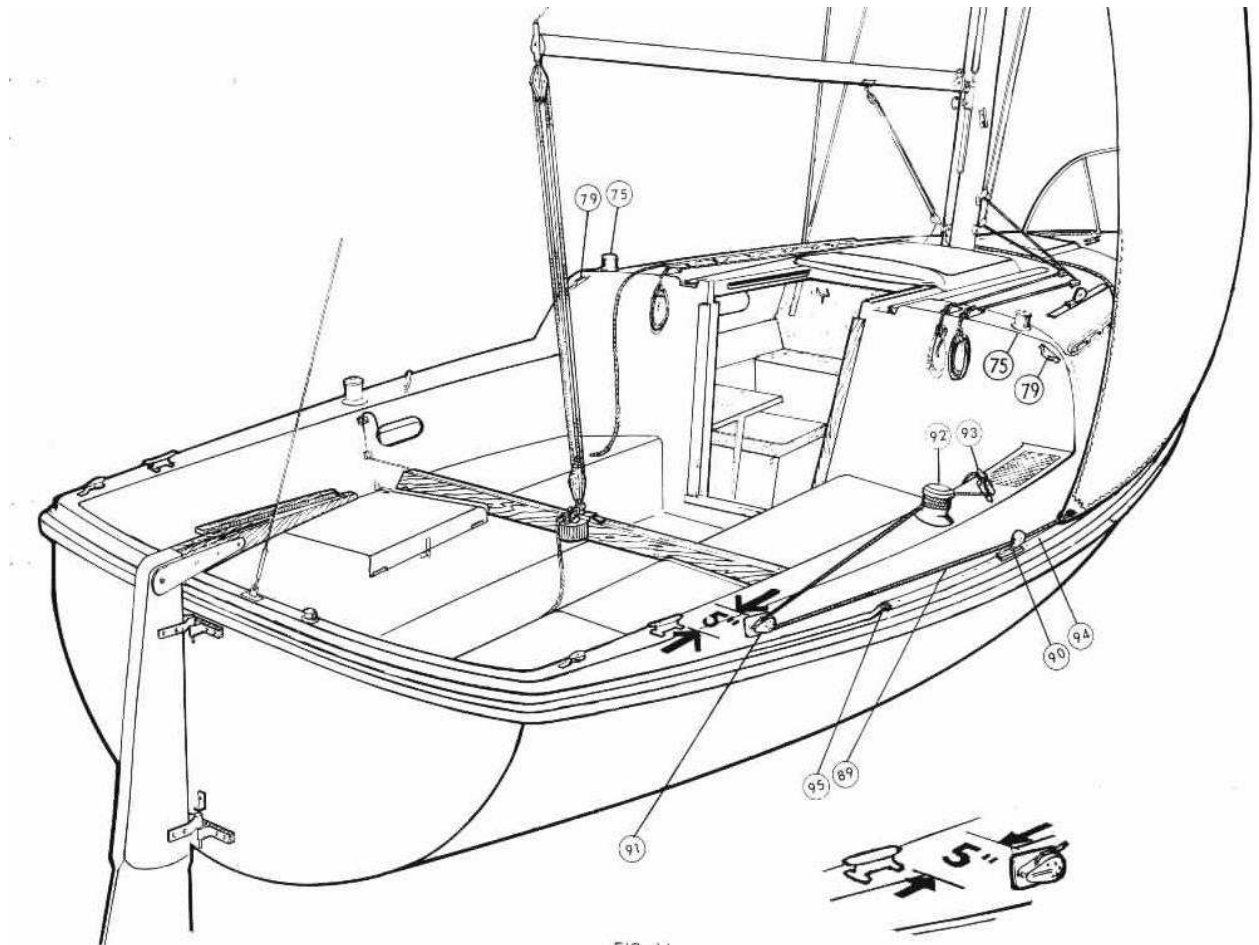


FIG. 14

19

The genoa gear as shown in Figure 14 may be installed as follows:

1. Genoa track (P/S) (94) . Each track is 60" long. Install on the beveled fiberglass molding at the gunwale with bolts. The after end of the track should be positioned 1 1/4" forward of the point at which the beveled molding commences, so as to allow space for the stop to be fitted. All holes should be carefully caulked before through bolting. Those bolts plainly visible in the main cabin should be finished with cap nuts.
2. Genoa block on slide (P/S) (90). Place on track.
3. Teak end stops (P/S) (95). Install one at each end of track with self tapping screw.

4. Cheek block (P/S) (91). Install with open end of block forward using bolts. Holes should be caulked.
5. Genoa winch (P/S) (92). Disassemble winches by removing the top retaining screw that is at the bottom of the handle socket. The drum and socket casting may then be fitted together and removed from the base. When lifting the winch drum take care not to lose the pawls and springs within.
6. The winch bases should be fastened to the cockpit coaming in the position shown, using the bolts provided. The holes should be caulked. Reassemble winches.
7. Genoa cleat (P/S) (93) . Through bolt to coaming. Caulk holes.

## **SPINNAKER GEAR**

The spinnaker gear shown in Figs. 18, 19 & 19A may be installed are as follows:

1. Spinnaker halyard block (69). Secure to crane (70) with shackle (see Figure 2a).
2. Topping lift block (76). Fasten to mast with rivets.
3. Spinnaker pole stowage ring (72) . Fasten to mast with rivets.
4. Spinnaker pole track (74) and slide (75). Install on foreside of mast with rivets and bolts. The round head bolts should be used to secure each end of the track, thus providing stops for the slide and the possibility of removing the slide. Drill 13/64" dia. holes for these bolts and then thread with 1/4" tap.
5. Swivel blocks (77). Install three at base of most with rivets; two on starboard side for spinnaker topping lift and foreguy, one to port for spinnaker halyard. These blocks allow the lines mentioned to be led aft to the cockpit.
6. Turning blocks (78). Install three on cabin top with bolts. Holes should be caulked.
7. Clam cleats (79) for halyard, topping lift and foreguy. Install three on winch shelf with self tapping screws .
8. Cheek or offset blocks (P/S) (80) for spinnaker sheet and after guy (Figure 19a). Install and through bolt. Holes should be caulked.
9. Spinnaker halyard (64). 68' x 5/16" dia. dacron line with snap shackle.
10. Spinnaker topping lift (65). 35' x 5/16" dia. dacron line with snap hook.
11. Spinnaker foreguy (66). 25' x 5/16" dia. dacron line with snap hook.
12. Spinnaker afterguy (67). 40' x 5/16" dia. dacron line with Brummel hook.
13. Spinnaker sheet (68). 40' x 5/16" dia. dacron line with Brummel hook.
14. Spinnaker pole (71). 8'9" overall.

## **SNUBBING WINCHES**

Snubbing winches (75) as shown in Figure 14. & Figure 19 make the handling of the working jib much easier in heavier winds, especially for a light-weight crew. They are also essential for spinnaker handling in anything but light winds.

Gibb Snubbing Winches (75) shown in Figure 14. & Figure 19 are now supplied as standard equipment. When installed at the factory, they are placed 12" outboard from the edge of the main companionway hatch coaming instead of 19" as shown in Figure 19..

If not already fitted to your Tanzer 22, they may be installed as follows

1. Remove the camb action jamb cleats or clam cleats presently installed.
2. The screw holes. should be plugged and the Gelcoat refinished as outlined in the section dealing with Gelcoat repairs;
3. Disassemble each winch by removing the top retaining screw that is at the bottom of the handle socket. The drum and socket casting should be lifted together and removed from the base. When removing the winch drum take care not to lose the pawls and springs in the base plate.
4. The winch bases should be fastened to the winch shelf on either side of the main companionway as shown with the self tapping screws provided. A 1 1/2" thick mahogany plank is located under each shelf to provide reinforcement and to obviate the need for through bolting.
5. If your boat is fitted with lifelines, or if you plan to fit these in the future, the winch bases should be placed inboard of the position shown so that there is sufficient clearance between the handrail to permit a winch handle to be used if required.
6. Reassemble winches.
7. Install clam cleats (79) on bulkhead as shown with the screws provided.
8. The fiberglass winch platforms on the cabin top were not molded into the decks of early models of the Tanzer 22. For such boats, teak pads are available from the factory. These should be fastened in position before the winches are installed.

## **BOW PULPIT, LIFELINES & STERN RAIL**

Figs 13 and 13A show the position in which the stanchion bases should be installed. All bases should be through bolted and all holes caulked. Those bolts visible below decks should be finished with cap nuts. The vinyl covered lifelines will require to be cut to length and crimped with a micropress swaging tool.

## **SCREENS**

Screens may be installed as follows:

1. The small teak shelves to support the forehatch screen should be cut to size. These should then be secured to the underside of the teak trim already installed around the hatch opening, with the screws provided.
2. It may also be necessary to cut a recess in the forward frame to accommodate the closing hatch .
3. A small hole should be drilled in the center of the forward edge of the fiberglass coaming of the main companionway. This should be drilled to accept the split pin attached to the screen which when inserted, supports the forward edge of the frame.

N.B. Early models of the Tanzer 22 were not fitted with teak trim around the forehatch and main companionway. Owners of such models wishing to install screens should request that this trim be supplied with the screens.

## SPECIFICATIONS

L O.A	22' 6"	<b>SAIL AREAS</b>	<b>sq. ft.</b>
L W.L	19' 9"	Main	112
Beam	7' 10"	Working jib	110
Draft		No. 1 genoa	200
Fin keel	3' 5"	No. 2 genoa	162.
Keel-c/b up	2' 0"	Spinnaker (approx)	375.
Keel-c/b down	4' 0"	Storm jib	50
Displacement			
Fin keel	2,900 lbs		
Keel - c/b	3,100 lbs		
Ballast			
Fin keel	1,250 lbs.	<b>DESIGNER:</b> Johann Tanzer	
Keel - c/b	1,500 lbs		
Vertical clearance	31' 0"		

Item	Dia.	Length
Forestay with turnbuckle 2/3 open + toggle	5/32" X 1x19	28'6 3/8"
Backstay with turnbuckle 1/3 open + toggle	5/32" X 1x19	30'7 1/4"
Upperstays with turnbuckle 2/3 open + toggle	5/32" X 1x19	27'1 7/8"
Lowerstays with turnbuckle 1/2 open + toggle	5/32" X 1x19	13'8 1/8"
Main halyard shackle to thimble	3/32" X 7x7	25'9"
Jib halyard shackle to thimble	1/8" X 7x19	25'9"
Topping lift thimble to thimble	3/32 X 1x19	25'
Main halyard rope tail	5/16"	28'
Jib halyard rope tail	5/16"	28'
Spinnaker halyard	5/16"	68'
Spinnaker pole uphaul	5/16"	35'
Spinnaker pole downhaul	5/16"	25'
Spinnaker sheets	5/16"	45'
Main sheet	3/8"	60'
Genoa sheet	7/16"	68'
Jib sheet	3/8"	50'
Boom Vang	5/16"	21'
Jiffy reefing line	1/4"	20'
Flag halyard to masthead	1/8"	40'
Flag halyard to spreaders	1/8"	28'
Spinnaker pole	n.a.	8'9"



All cordage should be pre-stressed Dacron, either three strand or braided with braided preferred for all sheets.