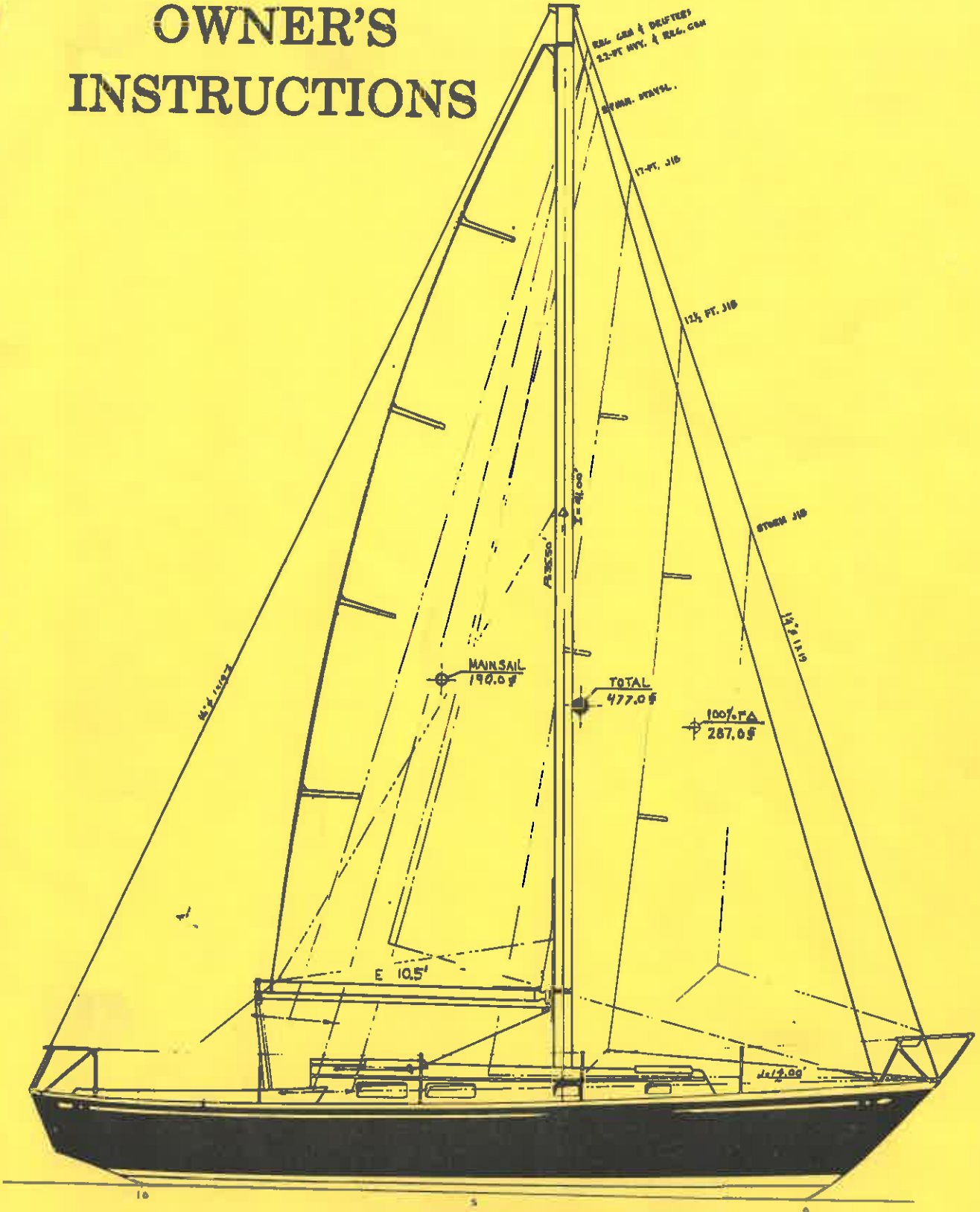
TARTAN 34

OWNER'S INSTRUCTIONS



TARTAN Marine Company

P.O. BOX 27 — 320 RIVER STREET
GRAND RIVER, OHIO 44045

9-77

T-34 STANDARD RUNNING RIGGING

A. Main Halyard
- 1 - Wire/Rope Splice
- 1 - 3/16" Nicro Press
- 1 - 3/16" Thimble
- 1 - Main Halyard Shackle

B. Jib Halyard
- 1 - Wire/Rope Splice
- 1 - 1000-S Shackle
- 1 - 3/16" Nicro Press
- 1 - 3/16" Thimble

C. Main Sheet
- 1 - 7/16" x 90' S.Y.B.
- 2 - 7/16" Whips
- 1 - FG 431 Block
- 3 - FG 428 Blocks
- 1 - Twist Shackle
- 2 - FG 365 Shackle

D. Boom Down Haul
- 1 - 3/8" x 8' S.Y.B.
- 2 - 3/8" Whips
- 1 - FG 110 Block
- 1 - Shackle

E. Genoa Sheets
- 2 - 1/2" x 52' S.Y.B.
- 4 - 1/2" Whips

F. Topping Lift Tackle
- 1 - 1/4" x 8' S.Y.B.
- 2 - 1/4" Whips
- 1 - FG 463 Jamb Block
- 1 - Shackle

G. Boom Topping Lift
- 1 - 3/8" x 36" S.Y.B.
- 2 - 3/8" Whips
- 1 - FG 48/1 Block
- 1 - Shackle

H. Mast Head Flag Halyard
- 1 - 1/8" x 82' Nylon

I. Spreader Flag Halyard
- 1 - 1/8" x 46' Nylon

Ret to Phil Craig

T-34 MIZZEN RUNNING RIGGING

A. Main Halyard
- 1 - 3/8" x 32' S.Y.B.
- 1 - 1/8" x 30' S.S. Wire
- 1 - T-27 Main Halyard Shackle
- 1 - 1/8" Thimble
- 1 - 1/8" Shackle
- 2 - 1/8" Nicro Press
- 2 - 3/8" Whips

B. Mizzen Down Haul
- 1 - 3/8" x 6' S.Y.B.

C. Boom Sheet
- 1 - 3/8" x 25' S.Y.B.
- 1 - 3/8" Whip
- 1 - SQB-3 Block

D. Staysail
- 1 - 3/8" x 50' S.Y.B.
- 1 - 1000-S Shackle
- 1 - 3/8" Whip

E. Clew Outhaul
- 1 - 1/4" x 18" S.Y.B.
- 1 - 1/4" Whip
- 1 - 1000-S Shackle

F. Flag Outhaul
- 1 - 1/8" x 50' Nylon

G. Boom Topping Lift
- 1 - 5/16" x 34' S.Y.B.
- 1 - 5/16" Whip
- 1 - SB Shackle

TARTAN Marine Company

Congratulations on the purchase of your T-34. We hope that she gives you years of pleasurable sailing.

Included with this booklet is an owner registration form. Please fill it out and return to Tartan Marine so you can be enrolled in the ranks of Tartan owners.

If questions arise about your boat which your dealer cannot answer, call Bill Seifert here at the office (216) 354-5671. Comments about your dealer should be directed to me.

Happy Sailing!

Philip D. Craig
Vice President

Grand River, Ohio 44045 216/354-5671 Cable: TARTAN

****CONTENTS****

I. COMMISSIONING:

BEFORE LAUNCHING:

Check that the engine and head have been de-winterized and that all drain plugs are in place.

Inspect all thru hull connections, and close valves.

Mark propellor shaft with fixed prop vertical and folding prop with blades opening horizontally. For best sailing speed, set shaft to this position while sailing. Never leave engine out of gear and allow the shaft to rotate while sailing.

Install fully charged batteries.

Check engine and transmission oil level.

Note the location of the draft marks on the hull - refer to "Draft Marks" section.

When picking up boat, note proper location for straps, and mark rail so that the straps can be easily positioned upon haul out.

AFTER LAUNCHING:

Immediately check bilge for water.

Open all thru hull valves and inspect hose connections for leakage.

When the engine is initially started, check that water is coming out the exhaust. If water does not come out the exhaust, check that the engine water thru hull is open and not blocked, then check the water pump impellor.

After engine has run in gear for several hours, adjust the packing at the shaft stuffing box. Avoid over tightening - it may drip a little water, and a slight drip is better than a tight packing, which will burn out.

About a week after the spar has been stepped, and the rigging tensioned, it is wise to check engine alignment. Engine alignment should only be checked or changed by a qualified mechanic, familiar with the procedure.

RIGGING TIPS:

1. Always lubricate turnbuckle threads before tightening them. Rod Stephens likes Anhydrous Lanolin. If that is not

available, Lubriplate or similar grease works well. After adjustments are completed, remove excess lubricant.

2. In general, clevice pins should be inserted in toggles and turnbuckles so the cotter pin ends up either facing aft or inboard. This will result in less chance of snagging.

3. Cotter pins should only be opened up 10° so they can be pulled out readily in an emergency and re-used.

4. In stepping the mast, it is generally easier if the toggles and link plates are attached onto the deck, and the turnbuckles are opened evenly while attached on the ends of the rigging.

5. Spreader tips should be taped or covered with boots to avoid tearing headsails.

6. When attaching the rigging onto the mast, insert the clevice pins so the cotter pins are in against the spar, open the cotters, then apply a dab of silicone sealer to prevent the cotter pins from snagging sails.

7. During commissioning, the length of the genoa halyard should be checked with the headsails for the boat.

   Ideally, the head sails should have adequate luff length, or extending pennants, so there are three to four turns of wire on the genoa halyard winch with the sail fully hoisted.

   It is important that there always be at least two turns of wire on the genoa halyard winch, and sails which do not have adequate luff length to allow this condition must have head pennants added to them. Under no circumstances should genoa halyard tension be taken on the rope tail of the halyard.

8. All standing rigging is 1 x 19 stainless steel cable. The two equal length shortest pieces are the lower shrouds. The two equal length next longer pieces are the upper shrouds. The next longest single piece is the headstay. The longest piece is the backstay.

9. The shroud chainplates are installed at an angle which approximates the angle of the shroud when tensioned. Be certain that the lower shroud is on the chainplate with the most cant inboard, and the upper is on the near vertical chainplate.

10. The spreader bases are designed to hold the spreaders at an upward angle. Tightening the lower shrouds may pull the spreader tips downward. After tensioning upper shrouds, always check that the spreaders follow the degree of up angle established by the spreader bases. It may be necessary to loosen the tension on the upper shrouds a little, push the spreader tips upward, then re-tension the upper shrouds.

CHOCKING THE MAINMAST:

After the mast is in the boat, rig a line from the mast up to a snatch block held in the stemhead. Lead the line either to a halyard winch or a cockpit winch and pull the mast as far ahead in the partners as possible. Insert the thick piece of rubber provided, centered in the aft portion of the space between the partners and the mast. Ease off on the line pulling mast ahead in order to hold the rubber in position. Now rig a line extending around the forward part of the mast to snatch blocks attached in genoa cars, and to the cockpit winches. Have two strong people grind both cockpit winches simultaneously in order to pull the mast aft and compress the rubber chock on the aft side of the mast. Lubricate chocking material with water. From belowdecks, slide the chocking material into the forward space between the partners and the mast. It will be a tight fit. Release the line holding the spar aft.

PRELIMINARY TUNING:

As soon as the spar is stepped in the boat, and the headstay, backstay and upper shrouds are loosely attached to their respective chainplates, the spar should be chocked in the partners. Refer to "Chocking the Main Mast". This job is considerably easier before the rigging is tensioned.

The next step should be to establish the masthead in the center of the boat. Use the main boom topping lift and a tape measure to measure to the upper shroud chainplates alternately on each side and adjust the turnbuckles so the reading on the tape is the same on each side. Once the masthead is centered, taking up an equal number of turns on each upper shroud turnbuckle will tension the uppers and maintain athwartships position.

Generally, the headstay goes in the second hole down in the link plates, but this may be changed dependent on rake desired. It may be necessary to attach a genoa halyard to the jib tack and tension the halyard with the winch to pull the spar forward to get the headstay in the required link plate hole. The masthead should not be pulled so far forward that tension on the backstay does not result in a straight mast, or a slight hook aft.

It is absolutely impossible to make any judgment regarding mast rake when the boat is not on an absolutely level flotation plane. Check the section "Draft Marks" for the procedure of leveling the boat fore and aft. With the boat exactly floating level, a 3' or longer carpenter's level held against the aft side of the mast will give a good indication of rake, by the simple geometric method of similar triangles. For example, the distance from the deck height to the masthead is approximately 40'. If the bottom of a 3' long level must be held out 1/4" from the spar when the level reads exactly vertical, then the equation becomes:

$$\frac{.0208^{*}}{3} = \frac{X}{40'} \quad \text{therefore } X = \frac{(.0208)\ (40)}{3}$$

* 1/4" - .0208' X - .277' or about 3-5/16" of rake

The fullness of the sails will be the determining factor on rake. We have found that a difference of 8" in rake is not uncommon to optimize a boat's performance to the cut of the sails. An aft rake of about 3" is average for a fairly full mainsail.

Set the upper shrouds up tighter than the lowers.

FINAL TUNING:

With the boat sailing hard on the wind, sight up the main mast. If the masthead appears to be falling off to leeward with a bow to windward in the middle, then the windward side lower shroud is too tight. Conversely, if the middle of the mast is sagging to leeward, the lower is too loose.

Always tack and adjust turnbuckles on the leeward side. Never adjust a windward side turnbuckle while sailing. Many tacks and mast sightings will be necessary to achieve perfect tune, as adjusting one side has an effect on the other side. Many owners do not try to achieve a perfectly straight mast until the rigging has had a chance to relieve itself of the initial stretch inherent in wire.

Generally, a few sails on windy days will stretch the rigging so a final perfect tuning may be made.

Especially with new rigging, the prudent skipper will check the mast for straightness on every voyage. After sailing in especially heavy winds, allow the rigging some time to "normalize" before adjustment.

II. GENERAL INFORMATION

MASTHEAD:

The sheaves in the masthead are made of aluminum. Before the spar is initially stepped, disassemble the sheaves and clean

the sides of the sheaves and the masthead to remove shipping dirt. Grease the sides of the sheaves with a heavy grease to prevent their galling. This disassembly and greasing procedure should also be a part of Spring commissioning.

MAST BOOT:

A vinyl mast boot is provided, which must be installed around the mast by sliding it on from the bottom end of the spar before the spar is stepped. Once the spar has been properly chocked and the boot is smoothed down over the mast partners, a bead of hardening silicone or other bedding compound around the top of the mast boot and the spar will assure water tight integrity. Also, remember to fill the sail track with silicone bedding at the top of the boot.

DRAFT MARKS:

At the bow and stern there are impressions of screws in the gel coat surface. These are NOT imperfections, and are placed in the hull to give a reference point for establishing level flotation.

The boats float a little down by the bow. It will be necessary to put several people in the cockpit to level the boat, as would happen when sailing. Measure from the center of the screw head to the water both bow and stern, and adjust the cockpit personnel so that the measurement at the bow and stern are the same. The exact amount of the measurement is not important, just so the measurement is equal both places.

PORTLIGHTS:

The ports are glazed with plexiglass and Lexan, noted for its high impact resistance. Gritty cleaning agents, such as cleanser, will scratch. Use only mild soap and water to clean the ports. Some chemical solvents, notably Acetone, will also injure the port lights.

RUDDER FAIRING STRIPS:

Spring bronze strips are installed vertically to smooth water flow at the juncture of rudder and skeg. Backing down at high speeds with the helm hard over will damage the fairing strips. As the strips have an infinitesimal affect on speed, the non-racer may wish to remove them and fill the screw holes with epoxy.

ELECTRICAL SYSTEM:

A 12 volt D.C. electrical system is used throughout the vessel for lighting and operation of various accessories. For any 12 volt current to be delivered, the following criteria must be met:

1. Charge in the battery.
2. Master switch (if installed) in Batt. 1 - Batt. 2 or BOTH position.
3. Switch for the individual appliance - (cabin lights, running lights, etc.) - ON.
4. Switch on the appliance (if there is one, such as cabin light or electric bilge pump) - ON.

The amount of charge going into the batteries when the engine is running is shown on the Ammeter in engine panel. Generally, this meter will show a high rate of charge as soon as the engine starts, and the charge will taper off as the battery comes up to full charge. The voltage regulator automatically regulates the amount of charge going into the batteries, and reduces the level to prevent the batteries "boiling" over as they reach capacity. For this reason, even though the engine has a 35 amp alternator, charging the batteries for an hour will NOT put a full 35 amp hours back into the battery.

Batteries will last longer if they are kept charged during periods when they are not used. Be sure to check the water level in the batteries at least every two weeks. Adding water to a partially charged battery will lower the charge in the battery. Never add water to a battery which is charging, either via the engine alternator or a separate charger. Be careful in adding water so that the battery acid does not splash. Never add salt water to a battery. Most boat batteries have a shortened life from improper storage during lay up periods, lack of water, and the use of "quick" chargers.

OPTIONAL SHOREPOWER SYSTEM:

The optional 110 volt A.C. system is active only when the vessel is plugged into shorepower via a shorepower cord. The plug which fits the power inlet fitting installed in the cockpit coaming is included with the boat. Have a competent electrician wire this plug to your cord, and check the polarity of the dock-side outlet. Never use an adapter to plug your shorepower cord into a two prong outlet.

A circuit breaker is used to control 110 volt A.C. power within the vessel. A mis-wired cord or shore outlet can render the circuit breaker inoperative. Be sure to disconnect the shore-power cord when working on the 110 volt wiring.

The use of inexpensive automotive battery chargers which do not have a built-in isolation transformer can cause electrolysis to the vessel. Disconnect the NEGATIVE battery lead from the engine when using any charger other than a high quality marine charger with built-in transformer.

COMPASS:

The compass supplied with your T-34 does have built-in compensators installed. We suggest that the built-in compensators be removed, as compensators can cause heeling error.

If compensation of the compass becomes necessary with compensators removed because deviation causing metals cannot be moved away from the compass, correction should be made with bar magnets placed about the vessel. In the event that your compass cannot be corrected by removal of deviation causing metals, and bar magnets are not available, the built-in type of compensating magnets may be reinstalled, and a correction for heeling error made to courses steered.

Compass mounting and correction is an owner responsibility.

HEAD:

It is always good seamanship to close the intake and discharge seacock (if installed) for the head when leaving the vessel. Also be certain, while sailing, that the flush control valve or lever on the head is not left in the flush position to prevent the head from filling with water which will spill as the boat heels.

FRESH WATER SYSTEM:

The water tank has an inspection port in the top of the tank. This may be opened to clean out the natural accumulation of scum inside the tank. Use caution that the port is not excessively tightened. Newer boats have transparent inspection ports, and the water level should be observed while filling the tank. The tank fills independently through a fill fitting located on the side deck. Each time the tank is filled, it is wise to wipe off the threads on the center plug and those on the deck fitting to remove dirt which may prevent a good seal.

The water in your tank may develop a taste after a period of time. This will happen to any water in any tank, as it grows "flat". The addition of a commercial water preservation agent such as Sudbury Aqua Fresh crystals will greatly improve the taste of water stored for a long period.

EXHAUST SYSTEM: Optional diesel engine only.

Your boat is equipped with a water lift principle muffler. This system cools the engine exhaust as it exits from the engine, reducing heat build-up, and substantially reducing exhaust noise.

If the flow of cooling water is interrupted, and the engine overheats severely, the rubber hose coming from the engine exhaust elbow may melt. Always check this hose after an occurrence of overheating.

There will always be a little water in the bottom of the water lift "pot". In Fall decommissioning, the pot should be drained, or anti-freeze should be added to the pot so that the residual water will not freeze.

If the engine should loose compression from sticking valves, bad piston rings, or other causes, and is cranked for a prolonged period, engine cooling water may build up in the pot. In this very unlikely situation, the cooling water intake should be shut off to prevent flooding the engine.

Before engine cooling water is injected into the exhaust elbow, it runs up to a point above the water line where air is admitted to the high point of the line so that a syphon action cannot start which may fill the pot and possibly back up into the engine after the engine has been shut off.

If contamination in the engine cooling water plugs this anti-syphon line, a syphon action may start, as described above. Check the operation of this anti-syphon device frequently, and disassemble the unit for cleaning at the end of each season as an absolute minimum, and more often if running the engine in dirty water.

STOVE OPERATION:

Most apprehension about alcohol stoves comes from a lack of experience and knowledge of the basic working of the stove.

Alcohol stoves operate by vaporizing liquid alcohol to a gas. The gas is burned in much the same manner as in a home gas stove. Most problems are caused by improper preheating of the burner, which does not vaporize the alcohol.

A typical stove operating routine would be:

1. Fill the alcohol tank to about 2/3 full. A funnel with a hose attached makes this job considerably easier.

2. Close the filler cap securely.

3. Wipe up any spilled alcohol.

4. Be certain that all stove burners are OFF.

5. Pump up the tank until resistance to pumping is felt.

6. Open the burner control valve for the burner you wish to use, about one turn, and wait about three seconds. Watch the alcohol flowing into the pan under the burner, and do not overfill the little cup. THEN CLOSE THE BURNER VALVE.

7. Wait a few seconds, then ignite the alcohol in the priming pan under the burner. The resulting flame should not be more than 6" above the top of the burner. If there is a higher flame, you have allowed too much fuel into the priming cup. If the flames are licking at the overhead, they can be extinguished with water.

8. When the preheating flame has died down, open the burner valve a little. If you hear the even sound of escaping gas, then the burner is hot enough, and opening the valve a little more will generally ignite the escaping gas from the priming flame. If

there is a sputtering sound, then the burner is not hot enough, and you should wait for it to cool down before repeating steps 6 and 7 above. If the priming flame should go out, and there is the steady sound of escaping gas, then the gas can be ignited and the stove operated.

9. Until the stove has had a chance to heat up, best not to try to use full heat, as the rush of gas may cool the preheater too much.

10. When finished cooking, shut off the burner valve gently. Force will injure the burner valve seat.

JIFFY REEFING SYSTEM:

The T-34 is equipped for "Jiffy" reefing the main sail. This reefing system is also called "California", "Slab", "Quick", and a multitude of other names.

Rigging: A line is provided with the vessel for the outboard end of the jiffy reef system. One end of this line should be tied with a bowline to the pad eye on the port side of the boom at its aft end. The line should run from the pad eye up through the first reefing grommet in the mainsail, then down through the cheek block on the boom, and forward to the cleat on the boom.

Operation:

1. Be certain that the main boom topping lift is attached and tied so that the main boom will not fall and hit the deck or crew.

2. Slack the main halyard sufficiently to enable the reefing grommet on the main luff to be slipped over the hook on the spar end of the boom. The halyard should be marked for reference at this point.

3. With the main's grommet engaged in the hook, re-tension the main halyard.

4. Tension the outboard end, and cleat.

5. Some sailmakers put small grommets in the sail to be used for ties to gather up the excess cloth. If these ties are used, BE CERTAIN that they are all removed before the reef is shaken out.

   If additional reefs are needed, the first reef outboard end can be tied off with a sail tie through the grommet on the main and around the boom, and the reefing line re-lead through the next higher grommet.

HOLDING TANK:

Your T-34 is equipped with a holding tank for retention of sewage. The standard system is a "No-Discharge" system, which we believe will be acceptable in all waters.

Sea water is used to flush the head, and the sea water and effluent is pumped into the holding tank by pumping the toilet. A deck fitting is provided through which the holding tank may be evacuated by a shoreside pump out station.

With the standard holding tank, it is not necessary to "pre-charge" the tank by adding water before using the system. Be certain that the pump on the toilet is pumped several additional strokes after waste has been evacuated from the bowl to insure that the effluent is pumped through the hoses and into the tank.

The tank has an inspection port on its top (located under the vee berth port side), which will give indication of the level in the tank. If the toilet should be difficult to pump, check that the holding tank is not overly full. Trying to over fill the holding tank will injure the tank, and may force waste out the air vent fitting.

OPTIONAL RECIRCULATING HOLDING TANK:

An optional arrangement allows the effluent liquid to be used to flush the toilet, which increases the number of uses of the tank. This system must be charged with water and chemicals before using, initially, and after each pump out. The recirculating system has valves which can be used to pump the toilet with either effluent liquid or sea water.

Typical operation would be to pump sewage out of the toilet using effluent liquid, then change the valves and pump a little sea water into the bowl. Always close the sea water intake valve after use to prevent filling up the tank with sea water.

WINTERIZING:

The holding tank must be pumped out before winter storage, and a small amount of Recreational Vehicle anti-freeze added to the residual water.

CENTERBOARD CONTROL:

The Tartan 34 is equipped with an easily operated centerboard control system giving positive control in both raising and lowering the board. The nature of the system allows precise control of the centerboard position, permitting you to take full advantage of the Tartan 34's fine sailing qualities on all points of sailing and in all wind and sea conditions.

The heart of the system is a 15" lever rigidly attached to the board at the pin through a stuffing box in the trunk. A well is cast into the starboard side of the lead keel which allows the lever to rotate freely. Any rotation of the lever thus results in a precisely equal rotation of the board. The lever itself is controlled by means of a continuous circuit of 1/8" stainless steel cable which is lead to and winds around a drum located just behind the forward wall of the cockpit. A removable handle - turns the drum from the cockpit. COUNTERCLOCKWISE RAISES THE BOARD. CLOCKWISE LOWERS IT.

A look at the accompanying diagram will reveal that, if the ends of the cable circuit were fixed, a greater cable length would be required at the half-up position. Consequently, the forward end of the cable circuit is not fixed but is attached through a turnbuckle to a stainless steel spring. The spring allows the system to accommodate itself to any position of the lever. When the turnbuckle is set properly, proper tension is maintained on the cable at all times.

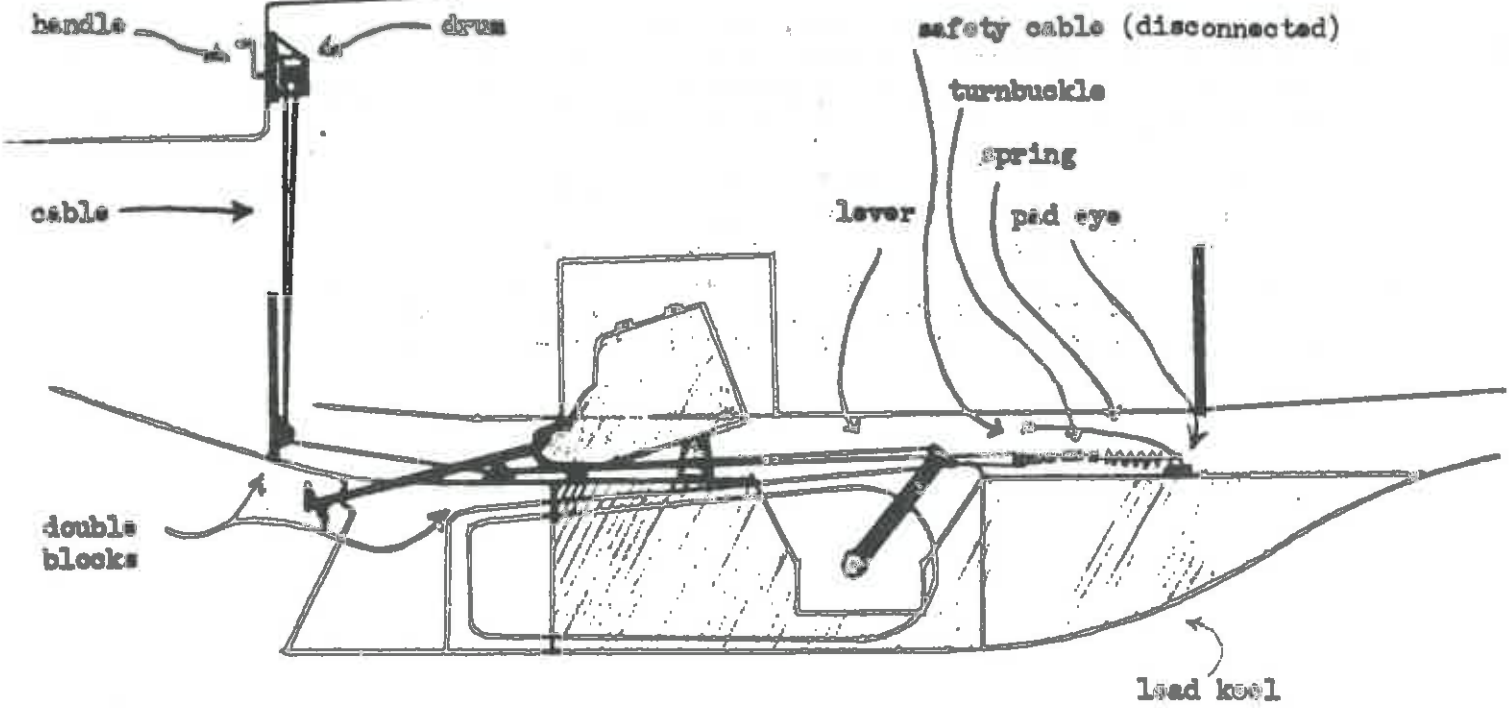
The centerboard cable turnbuckle is set at the factory during building, but due to the effects of use on the system this setting should be checked occasionally. Excessive slack will be apparent in the full up and down positions, and would result in imprecise control of the board setting. Excessive tension would be most obvious in the half-up position, and would result in difficult operation of the system and possible component failure. Therefore, the turnbuckle should be adjusted at the full-up position so that there is only a slight extension of the spring (1/4" - 1/2"). Then tension should be checked manually at the half-up and full down positions, and the system checked for smoothness of operation. Access to this part of the system is through the lift outs in the main cabin sole.

It is important to insure that there is sufficient friction in the system to prevent the board from changing position on its own because of its weight or wave action. This is done by adjusting the pressure of the drum bracket on the drum by means of the two nuts on the lower bolt on the bracket (see diagram). Backing off on the after nut and tightening the forward nut will increase the pressure on the drum and consequently the friction on it. At the proper setting the drum can be turned easily by the handle but will not move at any other time. This

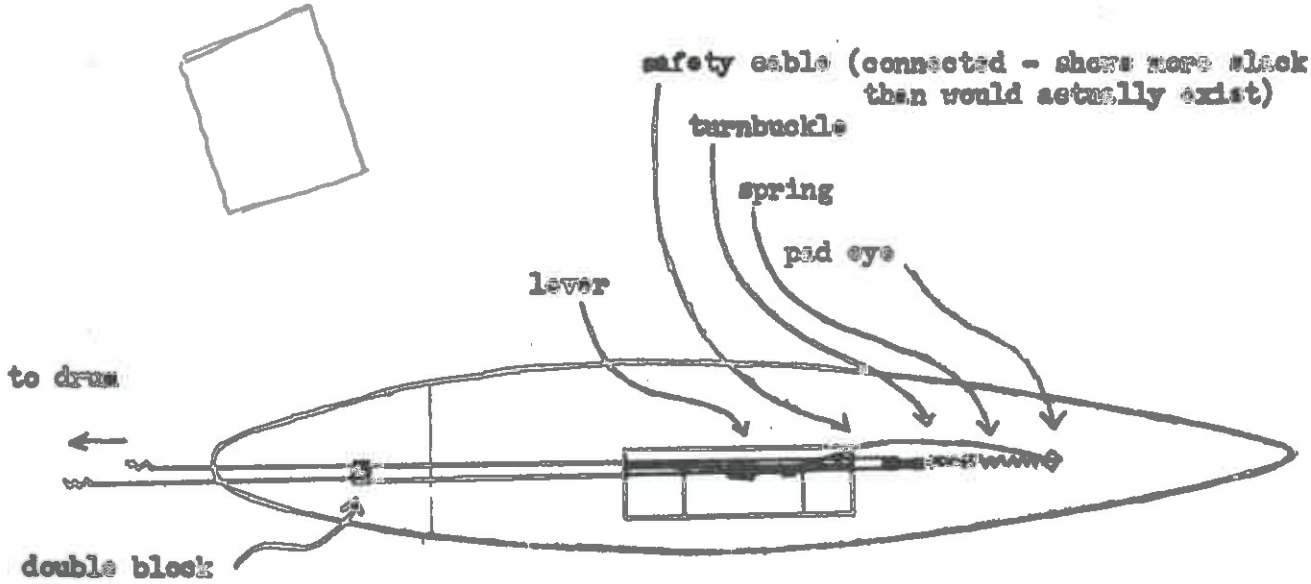
setting is done at the factory, but should be checked by the owner when he receives his boat and occasionally thereafter. Access to the drum bracket is gained through the hinged door just aft of the top of the companionway ladder.

As a safety measure, an additional separate length of cable with shackles at both ends has been provided. Whenever the boat is hauled, this cable should be shackled to the pad eye at the forward end of the spring and to the shackle already present at the forward end of the centerboard lever. This will insure that the board is securely locked in the up position.

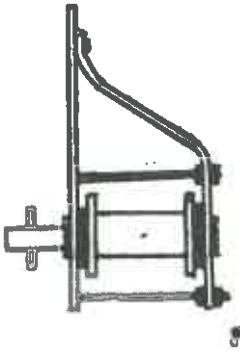
TARTAN 34 CENTERBOARD CONTROL SYSTEM



SIDE VIEW



TOP VIEW
(horizontal section at top of keel)



DRUM & BRACKET ASSEMBLY
STBD. SIDE VIEW

III. TARTAN MAINTENANCE SCHEDULE

GENERAL:

Regular preventive maintenance is required to keep any boat in "as new" condition. It starts with the day after delivery and continues throughout the year. The heaviest time commitment is, of course, in the Spring but one should always be observant of the condition of such areas as running rigging, finishes, the engine, head, and other moving parts of gear and tackle. The following comments are intended to serve as an initial guideline. You will no doubt want to develop a check list of your own.

FINISHES:

Fiberglass: Even though fiberglass construction has vastly reduced upkeep, some attention to gel coat surfaces is necessary to maintain the appearance of the finish. After a few years exposure with no protection, the finish may begin to fade or chalk. The annual application of a good commercially available wax (Johnson, Fuller, or equal) containing an ultra-violet shield will preserve the appearance of this finish for many years. Generally, an application at the beginning of the season will suffice. Abrasive cleaners (cleanser) should not be used for general cleaning.

Gel Coat: A small quantity of matching gel coat is shipped with each boat. This material should be kept in a cool place, not on board the boat. Generally, the shelf life of gel coat is about 6 months. Even during this period the original gel coat may not perfectly match due to fading. The gel coat is a polyester product, not a paint, and requires mixing a catalyst before use. Patching gel coat is a job requiring some experience, and best results are generally obtained from professional work. A manual on fiberglass repair is shipped with the boat.

Bottom Paint: One coat of bottom paint is applied at the factory. Generally, a second coat applied before launching will afford the best protection. Check with your dealer for a paint compatible to the factory applied paint. A non-compatible paint may lift the factory applied paint.

Bottom paint should be lightly sanded before re-coating. Always wear a respirator when sanding bottom paint - it is toxic. After several coats, it will be necessary to remove the accumulation of bottom paint preferably by sanding with a rotary sponge-backed pad.

Boot Top: is painted with polyurethane paint. If touch-up is needed, contact your dealer for the matching paint.

EXTERIOR TEAK:

If left untreated, exteriorteak will discolor rapidly, turning a dull grey color. Teak is relatively open grain wood, and eventually, mildew may form in the grain, resulting in a very dark color.

If you wish to maintain the warm brown color, the teak must be kept clean, and oiled. The grain of the teak will raise as the wood is wetted. The job of keeping up the teak will be much easier if the wood is sanded very smooth. Use sandpaper for this purpose, and be careful not to scratch the gel coat. The best routine for bringing back discolored teak is to scrub thoroughly with a teak cleaner and water, allow to dry, sand, then apply multiple coats of a high grade teak oil. Some teak cleaners will stain the gel coat, so be sure to hose off the deck and topsides thoroughly.

A good applicator for teak oil is a small piece of a sponge, perhaps 1" square, by about 3" long, with one end tapered to allow application close to the deck without touching the gel coat. Most teak oils will stain the gel coat, and are difficult to remove, so be careful and clean up drips promptly.

INTERIOR TEAK:

The interior teak has been oiled with Watco Danish Wood Finish or equal. These surfaces should be inspected regularly and touched up if needed.

Cabin sole is varnished with Glidden #10 polyurethane (Satin) and additional coats should be applied as areas wear.

SAIL, SHEETS AND LINES:

Sails and lines should be removed at the end of each season and stored in a warm, dry place. If it is possible to dry them thoroughly, they should be rinsed with fresh water before storage.

SPARS AND STANDING RIGGING:

The mast should be supported so that it lies straight. A thorough inspection of all wire, swages, splices, pins and fittings should be made prior to winter storage; any necessary replacement or reinforcement should be made before beginning the next sailing season. The boom is anodized and spar finished with Magnus F 111 Clear Coating.

ENGINE AND FUEL SYSTEM:

Check the engine manual for maintenance guidance during the season and for the specific haul out procedures necessary to winterize the engine..

FRESH WATER SYSTEM:

The water tank and water lines should be completely emptied in preparation for winter storage, and the optional pressure water pump drained, if installed.

WINTER STORAGE:

Cover: If storing outdoors, a winter cover is recommended. It can be as simple as a rectangular piece of canvas forming a tent over the boat. A ridge pole (formed by 2" x 4" 's along the centerline) several feet above the cabin top, well supported at several places along its length, is sufficient to support the center. The stanchions can be removed from their sockets, and ropes tied from the ridge pole to the stanchion sockets to help support the cover. Use carpeting to pad any areas of chafe. Lash the cover tightly to the cradle, avoiding any metal grommets in contact with the gel coat.

Bilges: Be sure to pump the bilge completely dry.

Ventilation: Leave the dorade vents in place and open so the boat can get air during the winter.

Cradle: Make sure that the boat is adequately supported and that any suspected weakness has been reinforced. The keel of the boat must rest solidly on the main beam. The vertical risers are not intended to carry the load, merely to stabilize the boat.

The cradle must rest on a level surface, or be blocked to prevent distortion of the timbers.

HEAD:

As with the engine, the specific procedures for preparation for winter storage and recommissioning are contained in the Wilcox-Crittenden manual.

BATTERIES:

Remove from boat and store inside. Will need to recharge prior to installing in boat. Do not store batteries on a concrete surface - elevate with pieces of wood. A fully charged battery will freeze at well below zero F; a discharged battery freezes at about 20° F.

TARTAN RUNNING RIGGING LIST

ITEM	T-27 SIZE/LENGTH	T-30(std. rig) SIZE/LENGTH	T-34 SIZE/LENGTH	T-41 SIZE/LENGTH
Main Halyard-wire	1/8"/35'4"	3/16"/39'6"	3/16"/42'4"	3/16"/106'
rope tail	3/8"/35'	3/8"/43'	3/8"/47'	--------
shackle	MH#580W	MH#580W	MH#580W	MH390J-3/8
Genoa Halyard-wire	1/8"/33'4"	3/16"/37'2"	3/16"/43'4"	1/4"/63'
rope tail	3/8"/35'	3/8"/43'	3/8"/47'	7/16"/55'
shackle	NF12000S	NF11000S	NF11000S	NF13000B
Main Boom -top	3/8"/30'	3/8"/34'	3/8"/36'	1/8"V.C.x50'
Topping Lift-bottom	1/4"/9'	1/4"/9'	1/4"/10'	1/4"/14'
Main Sheet	3/8"/60'	3/8"/58'	7/16"/90'	1/2"/55'
Genoa Sheets - each	7/16"/40'	7/16"/46'	1/2"/52'	5/8"/52'
Quick Reef-outboard end	1/4"/16'	1/4"/16'	---------	7/16"/33'
inboard end	--------	---------	---------	7/16"/24'
Flag Halyard	1/8"/70'	1/8"/80'	1/8"/46' 1/8"/82'	1/8"/100
OPTIONAL SPIN GEAR				
Spin Halyard-rope	3/8"/72'	7/16"/80'	3/8"/90'	1/2"/120
shackle	NF12000S	NF11000S	NF11000S	NF13000B
Spin Sheets-each-rope	3/8"/38'	7/16"/46'	1/2"/48'	1/2"/60'
shackle	NF12000S	NF11000S	NF11000S	NF13000B
Pole Topping lift-rope	3/8"/35'	3/8"/40'	3/8"/48'	7/16"/65'
shackle	NF12000S	NF11000S	NF11000S	NF11000S
Fore Guy-rope	3/8"/42'	3/8"/40'	3/8"/39'	7/16"/61'
shackle	NF12000S	NF11000S	NF11000S	NF11000S

Notes:

1) All rope is Dacron yacht braid.

2) All wire 7 x 19 stainless.

3) Thimbles are used in all wire eyes.

4) Abbreviations: NF=Nicro Fico
MH=Merriman Holbrook
V.C.=vinyl coated

5) Tartan may substitute, dependent on availabilities.

TARTAN 34 OWNER INSTRUCTIONS

LAUNCHING

1. Check that engine has been de-winterized, and that all drain plugs are in.

2. Inspect all hose connections at seacocks and open the valves.

3. Mark propeller shaft with fixed prop vertical, and Martec Prop with blades opening horizontally. For increases speed, set the shaft to this position when sailing. Do not leave the engine out of gear and permit the shaft to rotate.

4. Check the charge in the battery. Add water and charge if necessary. Avoid "quick charge" chargers. For longest battery life, do not charge at a rate exceeding 20 amps.

5. Check engine oil level.

6. Immediately after launching, check bilge for water.

7. Adjust shaft stuffing box as needed, avoid over tightening - it should drip a little water.

8. Immediately upon starting the engine, check that water is coming out the exhaust. If water does not come from the exhaust, check that the engine water intake thru hull is open (access is thru the panel in the after head bulkhead.)

FUEL TANK

Capacity is 26 gallons. The fuel shut off will be found on top of the tank under the main cabin port side berth. Fuel fills from deck, and vents overboard. The fuel fill is grounded to the tank via a wire embedded in the fill hose.

WATER TANK

Avoid overfilling the water tank. The air vent for the tank is below decks, and overflow will run out the vent into the bilge.

ELECTRICAL SYSTEM

The boat is equipped with a 12 volt direct current (DC) system through out. All circuits are protected by fuses. It is wise to carry spares. Do not use over 20 amp fuses. The light bulbs used are mostly automotive type and spares may be obtained from an auto parts store or Bass Products, P.O. Box 901, Marblehead, Mass. 01945. Always order by number. Occasionally, inspect the wiring running to the engine for signs of chafe, or failure caused by vibration.

If a 110 volt AC battery charger is used which does not have a built-in isolation transformer, it is prudent to disconnect the NEGATIVE battery cable. This will prevent the 110 volt ground from being connected to the 12 volt grounding system of the boat in case the shore receptacle or power cord is miswired. ALWAYS disconnect a battery charger before starting the engine.

If your boat is equipped with the battery switch for dual battery installations, follow the instructions on the switch. Do not turn the switch off while the engine is operating.

Check the water level in the battery weekly, and refill as needed. Use care in adding water as acid may splash out of the battery.

PORTLIGHTS

The ports are glazed with plexiglass, noted for its high impact resistance. Gritty cleaning agents, such as cleanser, will scratch the plexiglass. Use only mild soap and water to clean the ports. Some chemical solvents, notably Acetone, will also injure plexiglass.

HEAD

It is always good seamanship to close the intake and discharge seacock on the head when leaving the vessel. Also be certain, while sailing, that the flush control valve or lever on the head is not left in the flush position to prevent the head from filling with water which will spill as the boat heels.

INTERIOR SCREWS

The brown colored screws used to hold trim, etc. have a + shaped Reed and Prince head. Do not use a Phillips screwdriver as it will tend to chew up the slots.

STANDING RIGGING

All standing rigging is 1 x 19 stainless steel cable. The two equal length shortest pieces are the lower shrouds. The two equal length next longer pieces are the upper shrouds. The next longest single piece is the headstay. The longest piece is the backstay.

The headstay attaches to the stemhead with two link plates. Generally the marine eye in the headstay runs to the second hole down in the plates.

The lower shrouds attach to the chain plates. All turnbuckles are provided with toggles which should be installed under the turnbuckle.

TUNING

The spar should be set in the boat just about vertical. The headstay generally goes in the second hole down in the link plates. As a rule of thumb - if sails are out full - the spar should be vertical, for flatter sails, the spar should be raked aft. Experience with your sails will determine this.

The backstay should be tensioned very tight for sailing to windward (say 1800 lbs.). Leaving the backstay tight will not hurt the boat. If the conventional turnbuckle is adjusted often it should be replaced annually.

The upper shrouds should be also very snug. Use the main halyard to measure to each side of the boat to be certain that the spar is centered in the boat at the masthead. Adjust the lower shrouds while sailing to windward so the spar is straight athwartships. Always adjust the leeward side, then tack to check the adjustment. The lowers will end up a little looser than the uppers.

TARTAN MAINTENANCE SCHEDULE

GENERAL

Regular preventitive maintenance is required to keep any boat in "as new" condition. It starts with the day after delivery and continues throughout year. The heaviest time committment is, of course, in the Spring but one should always be observant of the condition of such areas as running rigging, finishes, the engine, head, and other moving parts of gear and tackle. The following comments are intended to serve as an ititial guideline. You will no doubt want to develop a check list of your own.

FINISHES

Fiberglass: Even though fiberglass construction has vastly reduced upkeep, some attention to gel coat surfaces is necessary to maintain the appearance of the finish. After a few years exposure with no protection the finish may begin to fade or chalk. The annual application of a good commercially available (Johnson, Fuller or equal) wax containing an ultra-violet shield will preserve the appearance of this finish for many years. Generally, an application at the beginning of the season will suffice. Abrasive cleaners (cleanser) should not be used for general cleaning.

Any damage which the hull or deck sustains can be repaired with good results. Refer to the manual Care and Repair supplied with your boat. Also, most good yards have competent fiberglass repairmen. If you attempt to patch gelcoat with the material shipped with the boat, remember that it must be catalyzed with MEK.

Bottom finish: At the beginning of each season and perhaps once more during the season, as local conditions require, the bottom should be repainted, after proper preparation, with a good grade of anti-fouling paint. A local yard will be able to recommend the best paint for area conditions. The bottom was prepared for anti-foul application at the factory with an etching process. Additional application should be PRECEDED with a sanding. When sanding bottom paint, be sure to wear a respirator. Bottom paint is toxic.

BOOT TOP FINISH: An annual inspection of the condition of the boot top should be made and the boot repainted as required.

EXTERIOR TEAK: Owner Preference: Teak has a tendency to discolor rather rapidly, turning a dull grey color. If one prefers to maintain the warm brown color, an application of teak oil every six to eight weeks during the season will serve this purpose. If sanding is required - use bronze wool.

INTERIOR WOOD: The interior wood has been coated with U.S. Plywood's Firzite or equal. These surfaces should be inspected regularly and touched up if needed.

INTERIOR ENAMEL: Refinish as necessary with Glidden eggshell or equal.

SAILS, SHEETS & LINES

Sails and lines should be removed at the end of each season and stored in a warm, dry place. If it is possible to dry them thoroughly, they should be rinsed with fresh water before storage.

SPARS AND STANDING RIGGING

The mast should be supported so that it lies straight. a thorough inspection of all wire, swages, splices, pins and fittings should be made prior to winter storage; any necessary replacement or reinforcement should be made before beginning the next sailing season. The boom is anodized and spar finished with Magnus Flll Clear Coating.

ENGINE AND FUEL SYSTEM

Check the engine manual for maintenance guidance during the season and for the specific haul out procedures necessary to winterize the engine. Add a winterizing agent such as StaBil to the fuel tank.

HEAD

As with the engine, the specific procedures for preparation for winter storage and recommissioning are contained in the Wilcox-Crittenden manual.

BATTERY

Remove from boat and store inside. May need to recharge prior to installing in boat. Do not store batteries on a concrete surface - elevate with pieces of wood. A fully charged battery will freeze at well below zero F, a discharged battery freezes at about 20 degrees F.

FRESH WATER SYSTEM

The water tank and water lines should be completely emptied in preparation for winter storage.

WINTER STORAGE

Cover: If storing outdoors, a winter cover is recommended. It can be as simple as a rectangular piece of canvas forming a tent over the boat. A ridgepole (formed by 2" x 4"'s along the centerline) several feet above the cabin top, well supported at several places along its length, is sufficient to support the center. The stantions can be removed from their sockets, and ropes tied from the ridge pole to the stantion sockets to help support the cover. Use carpeting to pad any areas of chafe. Lash the cover tightly to the cradle, avoiding any metal grommets in contact with the gel coat.

Bilges: Be sure to pump the bilge completely dry.

Ventilation: Leave the dorade vents in place and open so the boat can get air during the winter.

Cradle: Make sure that the boat is adequately supported and that any suspected weakness has been reinforced. The keel of the boat must rest solidly on the main beam. The vertical risers are not intended to carry the load, merely to stabilize the boat.

THRU HULL - HOSES

Thru hulls, all intake and outlet hoses should receive special scrutiny to insure their integrity. Anything that looks questionable with respect to water tightness should be replaced.

INSTALLATION OF MAST PARTNER WEDGES

1. Two pure gum rubber wedges are supplied with the Tartan 34. Both measure 4½" high, and are 3½" wide.

2. Before stepping spar, remove the teak oval moulding in the head overhead through which the spar passes.

3. After spar is in boat, connect all rigging, but leave it slack.

4. Push the spar forward in the partners, and insert the thick wedge centered in the aft end of the oval partners opening. The 4" dimension should be running vertically. The wedge should extend about ½" above the top of the partners. Check the clearance on the overhead in the head so that the partners interior trim piece may be re-installed without interference from the bottom of the wedge.

5. Hook a snatch block into a genoa car on each side of the boat, and position the car toward the forward end of the track.

6. Pass a line around the spar, just above the lowest winch, and run it through each snatch block and to the genoa winches.

7. Use two people cranking simultaneously on the genoa winches to pull the spar aft in the partners, and compress the aft wedge.

8. Slip the forward wedge in from the underside of the partners. It may be helpful to spray the wedge with silicone spray, or talcum powder so that it does not bind up against the spar. Do not use grease, or any lubricant injurious to rubber.

9. The forward wedge should also protrude about ½" above the top of the partners. A wooden block may be used to "bump" the forward wedge up. If the forward wedge will not go all the way up, and you have exerted all the pressure possible with the two winches, trim off the forward wedge so that the teak trim may be re-installed on the head overhead.

10. Tighten the rig. The forestay should be tensioned first in setting up the rig, and should be positioned in the closest hole on the link plates with the mast just slightly aft from vertical. The genoa halyard may be used to help in pulling the top of the spar forward a little to allow insertion of the clevice pin in the link plates. The upper shrouds should be quite tight, with the lower shrouds a little looser. Lastly, tighten down on the backstay turnbuckle to make the headstay as tight as the upper shrouds.

11. Re-install teak trim in head overhead.

CENTERBOARD CONTROL

The Tartan 34 is equipped with an easily operated centerboard control system giving positive control in both raising and lowering the board. The nature of the system allows precise control of the centerboard position, permitting you to take full advantage of the Tartan 34's fine sailing qualities on all points of sailing and in all wind and sea conditions.

The heart of the system is a 15" lever rigidly attached to the board at the pin through a stuffing box in the trunk. A well is cast into the starboard side of the lead keel which allows the lever to rotate freely. Any rotation of the lever thus results in a precisely equal rotation of the board. The lever itself is controlled by means of a continuous circuit of 1/8" stainless steel cable which is lead to and winds around a drum located just behind the forward wall of the cockpit. A removable handle - which doubles as the roller reefing handle - turns the drum from the cockpit. Counterclockwise raises the board. Clockwise lowers it.

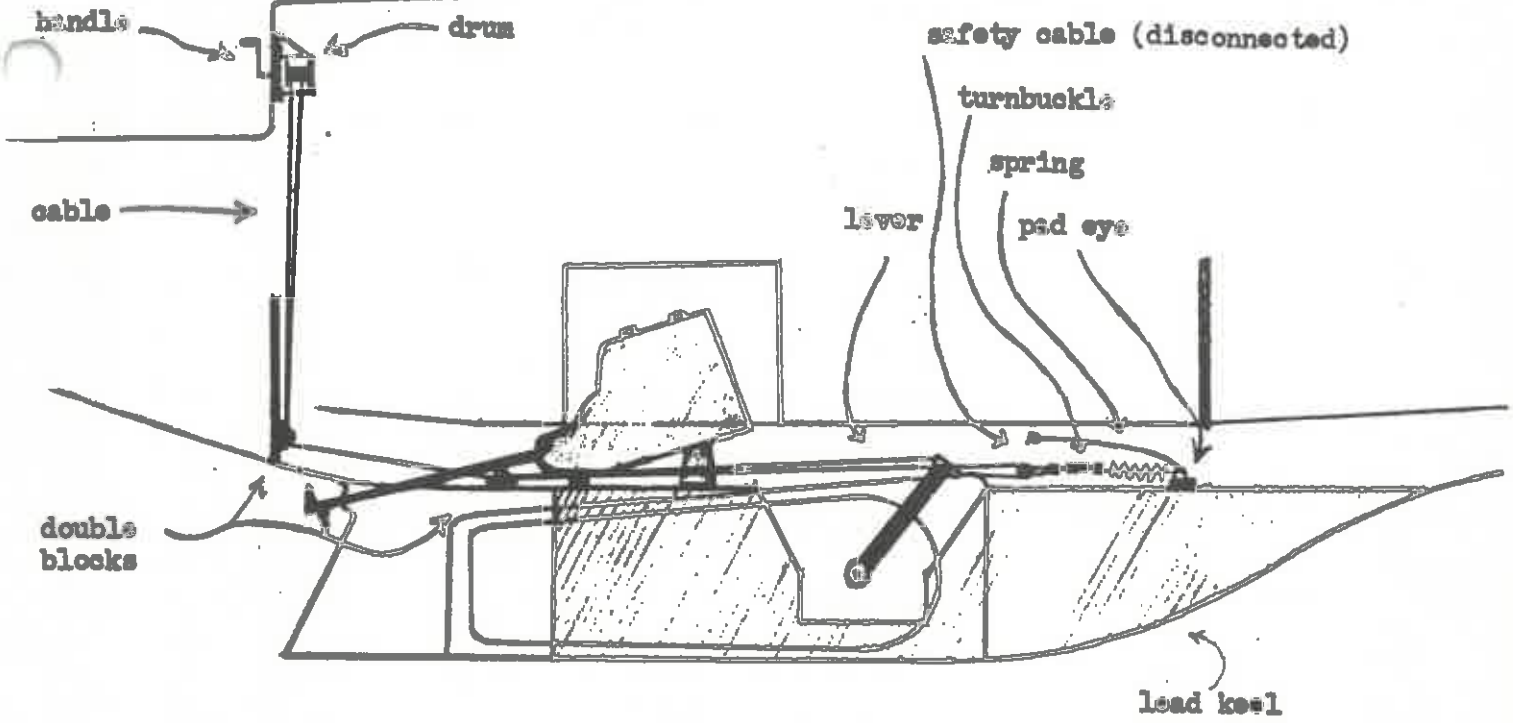
A look at the accompanying diagram will reveal that, if the ends of the cable circuit were fixed, a greater cable length would be required at the half-up position (with the lever vertical) than in either the full up or full down position. Consequently, the forward end of the cable circuit is not fixed but is attached through a turnbuckle to a stainless steel spring. The spring allows the system to accommodate itself to any position of the lever. When the turnbuckle is set properly, proper tension is maintained on the cable at all times.

The centerboard cable turnbuckle is set at the factory during building, but due to the effects of use on the system this setting should be checked occasionally. Excessive slack will be apparent in the full up and full down positions, and would result in imprecise control of the board setting. Excessive tension would be most obvious in the half-up position, and would result in difficult operation of the system and possible component failure. Therefore, the turnbuckle should be adjusted at the full-up position so that there is only a slight extension of the spring (⅛" - ½"). Then tension should be checked manually at the half-up and full down positions, and the system checked for smoothness of operation. Access to this part of the system is through the lift outs in the main cabin sole.

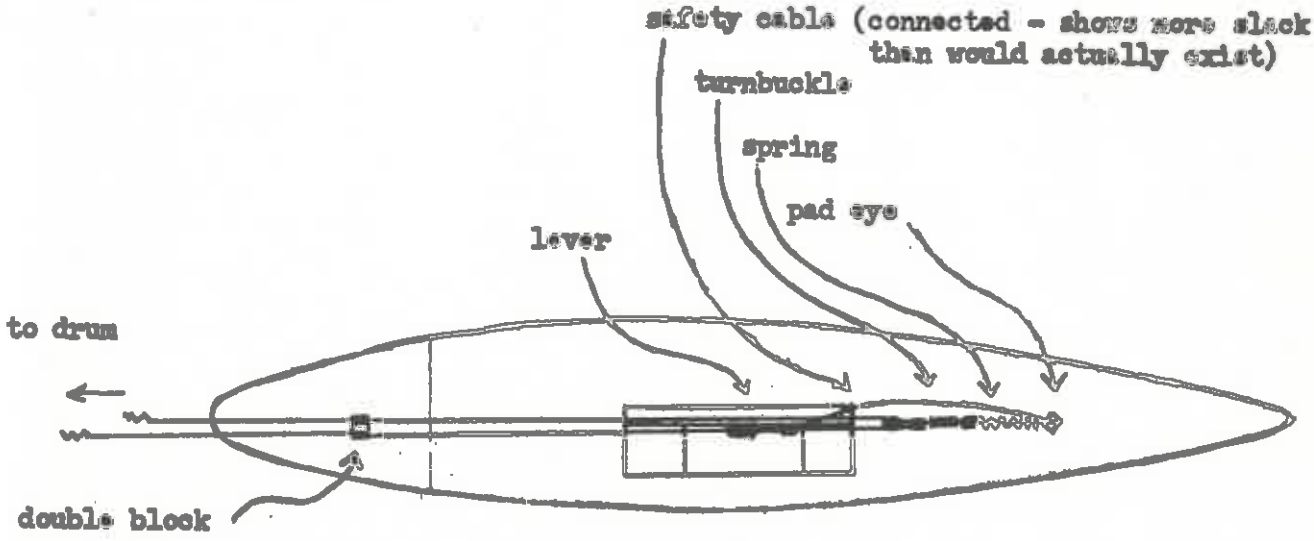
It is important to insure that there is sufficient friction in the system to prevent the board from changing position on its own because of its weight or wave action. This is done by adjusting the pressure of the drum bracket on the drum by means of the two nuts on the lower bolt on the bracket (see diagram). Backing off on the after nut and tightening the forward nut will increase the pressure on the drum and consequently the friction on it. At the proper setting the drum can be turned easily by the handle but will not move at any other time. This setting is done at the factory, but should be checked by the owner when he recieves his boat and occasionally thereafter. Access to the drum bracket is gained through the hinged door just aft of the top of the companionway ladder.

As a safety measure, an additional separate length of cable with shackles at both ends has been provided. Whenever the boat is hauled, this cable sould be shackled to the pad eye at the forward end of the spring and to the shackle already present at the forward end of the centerboard lever. This will insure that the board is securely locked in the up position.

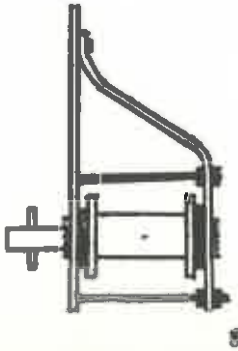
TARTAN 34 CENTERBOARD CONTROL SYSTEM



SIDE VIEW



TOP VIEW
(horizontal section at top of keel)



DRUM & BRACKET ASSEMBLY
STBD. SIDE VIEW

TARTAN 34 SLOOP with working sails and all equipment listed in brochure		$24,300.00
Stern rail (includes adjustable pelican hooks aft and provision for life line gates port and starboard)	165.00	
Pilot berth - port side main cabin with three drawers	150.00	
Additional 12 V battery with vapor proof transfer switch	82.00	
Screens for Companionway and Forehatch	65.00	
Shore power 110 V supply with galley receptacle	60.00	
Foredeck Illuminating light on spar	55.00	
Winter cover. Rectangular 18' x 36', 8.6 oz. green duck	125.00	
Pedestal steering with 5" express compass	1,370.00	
Opening 5" x 12" dog type port lites (with screens) each in lieu of fixed port	48.00	
Depth sounder mounted on swing board in companionway	180.00	
All deck non-skid in contrasting color	190.00	
Name and Hailing Port painted on transon. Choice of colors	50.00	
Spinnaker gear -- aluminum pole in chocks on housetop, halyard, sheets, topping lift, foreguy, track and slide, 2 additional snatch blocks, 5 additional cleats, 1 #10 Barient on spar	580.00	
2 Additional Barient #16 winches, cockpit pedestal mounted	250.00	
Reaching strut in chocks with pad eyes on spar	95.00	
Light green acrylic sail cover	55.00	
Cockpit seat cushions (pair)	105.00	
Shipping and storage cradle	185.00	
Martec folding prop in lieu of standard fixed blade	165.00	
Internal halyards (main and jib)	135.00	
Lever back stay turnbuckle replacing standard turnbuckle	80.00	
	TOTAL	

Additional racing gear, sails, and electronic equipment is available for installation. Due to continuing improvements and new product introductions, it is suggested that selection of these items be made after close consultation with the dealer.

ORDER GUIDE

COLOR OPTIONS

HULL: Topsides can be molded to color specifications requested by owner from standard colors. Boot top and anti-fouling paint applied after molding. Boot top colors to specifications. Red anti-fouling standard.

DECK: Standard white or off white colors are recommended. Cabin trunk and deck may be separately molded in two contrasting colors as an option.

MATTRESSES: Available in nylon or vinyl for selection from wide colors. Optional cockpit seat cushions are recommended in vinyl white.

Payment is made in three steps: $4500 deposit with order, $5000 when deck and hull of assigned boat are joined, balance on delivery. The boat is guaranteed under the builder's warranty.

Prices and Specifications subject to change.

All prices F. O. B. Grand River, Ohio 44045

TARTAN 34

The decision to make the Tartan 34 a keel-centerboarder was based on Tartan's experience with 500 such boats previously built and the concurrence of Sparkman & Stephens that the advantages of being able to balance the helm on all points of sail, the significant lifting action of up to three degrees on the wind, the flexibility in shoal waters, and the reduced wetted surface off the wind more than offset any added cost. Tartan 34 is a coherent blend of past experience and innovation. She features a high-aspect rig with a high ballast/displacement ratio. Indeed, her weight distribution, adapted from the Twelves, puts as much required equipment and weight (e.g. the engine) as close to the center of balance as possible. Her divided rudder, well aft of a scepter keel section, is supported along the entire leading edge by a skeg; this provides much greater stability and helm balance, particularly off the wind, than a spade rudder and, as a point of practicability, protection to the vital steering mechanism. Generous waterline and beam measurements account for the spaciousness below where builder and designer have taken advantage of the space to provide attractive and comfortable accommodations.

HULL & DECK

Construction: High fiberglass, low resin content, alternate layers of hand lay-up mat and 24-oz. woven roving. Laminate is 5/16" at sheer increasing to 5/8" at garboards and 3/4" at keel. All bulkheads are secured to the hull with fiberglass laminations. Hull colors, molded in, are available from a wide selection at no additional charge; cove stripe and boot are painted. 4,800 pounds of lead ballast is located to provide the lowest possible center of effort.

Centerboard: The centerboard trunk, located completely below the accommodations, houses a steel-cored fiberglass centerboard, molded in an airfoil shape with a sharp trailing edge. Precise control of board position, via cables, combined with easy board operation from the cockpit, permits optimum centerboard trim under any conditions.

Rudder: The skeg-attached rudder supplies a second airfoil lifting-surface aft and allows the helmsman to better feel his boat. The rudder is stainless steel-reinforced fiberglass with a sharp trailing edge, supported at the heel by a manganese bronze shoe. Fairing strips are attached to the skeg to improve flow characteristics.

Deck: Sail handling efficiency and safe uncluttered space are the keys to the deckplan; wide decks alongside the cabin trunk permit the crew to go forward with confidence and to find ample room to sit on the weather rail. A traditional tapered teak toe-rail accents a well-proportioned sheer line while the low coach roof (still providing 6'2" headroom below) affords a pleasing profile. All deck hardware is stainless steel, high-tensile, non-corrosive aluminum or satin chrome-plated bronze. Coamings, toe-rails, hatches, grab-rails and trim are select Burma teak. The stainless steel pulpit with lifelines includes stanchion sockets with pad eyes. The hatch forward is translucent and there are two Dorade vent boxes with 3" PVC cowls.

Cockpit: The cockpit measures 9'3" fore and aft within the coamings and there is even room aft of the helmsman for sheet handling. Engine controls (with removable handles) are located in the cockpit wall and a compass is supplied for bulkhead mounting. There is a cockpit hatch for deck-loading of ice into the icebox. Two large scuppers (draining overboard), laminated tiller, and thru-wall manual bilge pump are also provided.

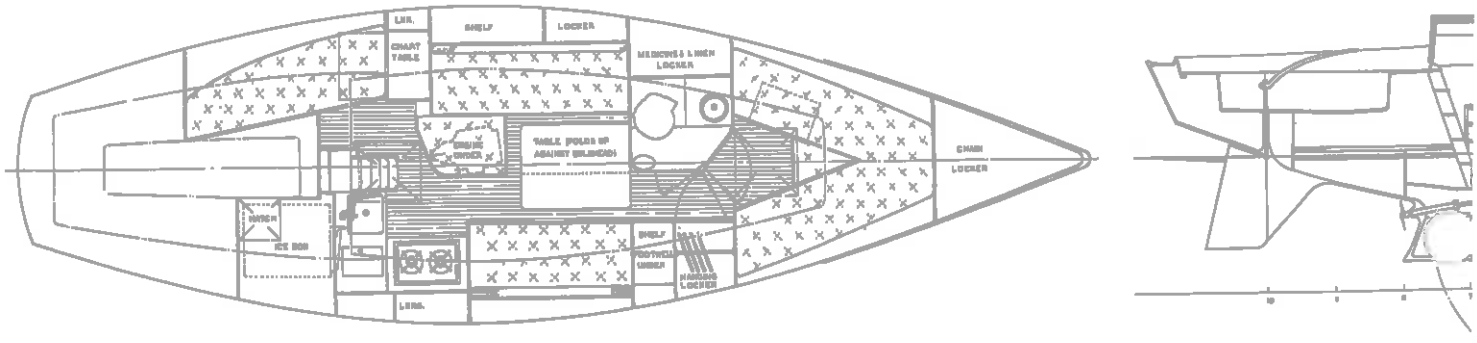
ACCOMMODATION

Berths: Headroom carried into the forecabin is 6'2". Sleeping accommodations for six: V-berths forward are 6'5", quarter berth 7'2", main cabin berths 6'5" to port and 6'7" to starboard. Mattresses are 4" polyfoam with removable nylon covers. A portside pilot berth in the main cabin is available.

Forecabin: Two berths. Translucent forehatch and two ports for light and ventilation. Forward, closed off by a door, is the chain locker. Foot locker and seat between berths, shelves outboard above berths, drawers and foot lockers below and storage bins beneath.

Head: Two separate entries are provided to the head compartment for privacy and flexibility in usage. A marine toilet with holding tank, lockers and shelves behind and beside plus a stainless steel sink complete the facilities.

Main cabin: To starboard, aft of the hanging locker which faces the head, is a fixed berth with shelves outboard; its foot extends in an alcove beneath a 3-drawer bureau alongside the hanging locker. To port a settee covers the engine; the L-shape running forward as a fixed berth which can be made up as a double. The dining table is hinged and stows vertically on the forward bulkhead when not in use. Beneath



these berths, keeping the weight centered amidships, are tanks: 36 gallons of water to starboard, 26 gallons of fuel to port. On the house sides are mounted teak grab rails.

Galley & navigation: The galley on the starboard side aft has a gimballed stove, stainless steel sink and, outboard lockers. Portside aft is the navigator's table and quarter berth. The insulated deck-loading icebox is separated from the food compartment, accessible from the galley below; icebox drains overboard. The absence of an aft engineroom beneath the cockpit and companionway opens up a large volume of stowage space not generally available or accessible.

Finish: Cabin trunk interior is laminated imported wood. Two main bulkheads are also laminated while all others are finished in white pressure-laminate. Eight fixed ports and windows provide an open, bright atmosphere. The cabin sole is imported wood veneer, lightly varnished, with teak hatches.

MECHANICAL & ELECTRICAL

Power: A 30 Hp. Universal Atomic-Four engine is positioned forward over the center of ballast, reducing pitching moment in a seaway. Shaft angle is set three degrees to port to eliminate propeller torque. Shaft is 1" stainless steel. Narrow-blade propeller on centerline; folding Martec optional. Two lever engine control, Coast Guard approved ventilation system with blower, midships exhaust duct and loop silencer. Engine's position makes service particularly easy by simple removal of the insulated box/settee. Instrumentation includes temperature, oil pressure and ammeter gauges.

Electrical: 35-Amp alternator. 90 Amp-hour 12-volt battery. Minimum 14-gauge loom wiring to gang terminal boards; 6-place fuse panel. System supplies seven cabin lights (4 dome, 2 swivel-base reading, one shaded bulkhead), all required running lights and compass illumination.

SPARS & RIGGING

Mainmast: 6061-T6 aluminum alloy, 7½" x 5" elliptical section with integral sail track, properly stepped through deck on the lead ballast assuring rig stability. Tapered, air-foil spreaders. Two halyard winches mounted for main and genoa. Masthead pennant halyard.

Boom: 6061-T6 aluminum alloy, 4½" x 2¾" elliptical section with integral sail track, internal 4:1-purchase outhaul with stainless steel car, inboard and outboard jiffy-reef system with complete hardware. Topping lift.

Rigging: Stainless 1 x 19 wire, led to knee and flange-mounted chainplates. Wire/rope spliced halyards, Dacron genoa and main sheets. Fast-pin operated genoa-tack stem-fitting.

Gear: Two 2-speed geared sheet winches, mounted on bases with winch handle stowage. 16 feet of genoa track with cars, end stops and #3 PVC-shell snatch-blocks port and starboard. Adjustable mainsheet traveller with mainsheet winch.

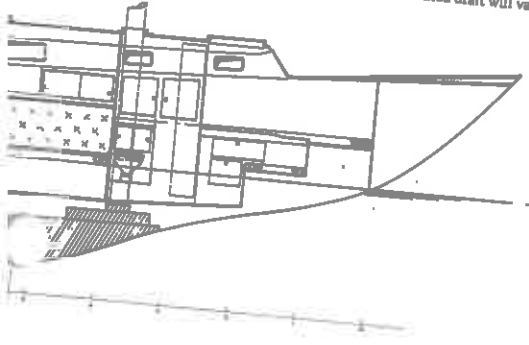
MISCELLANEOUS

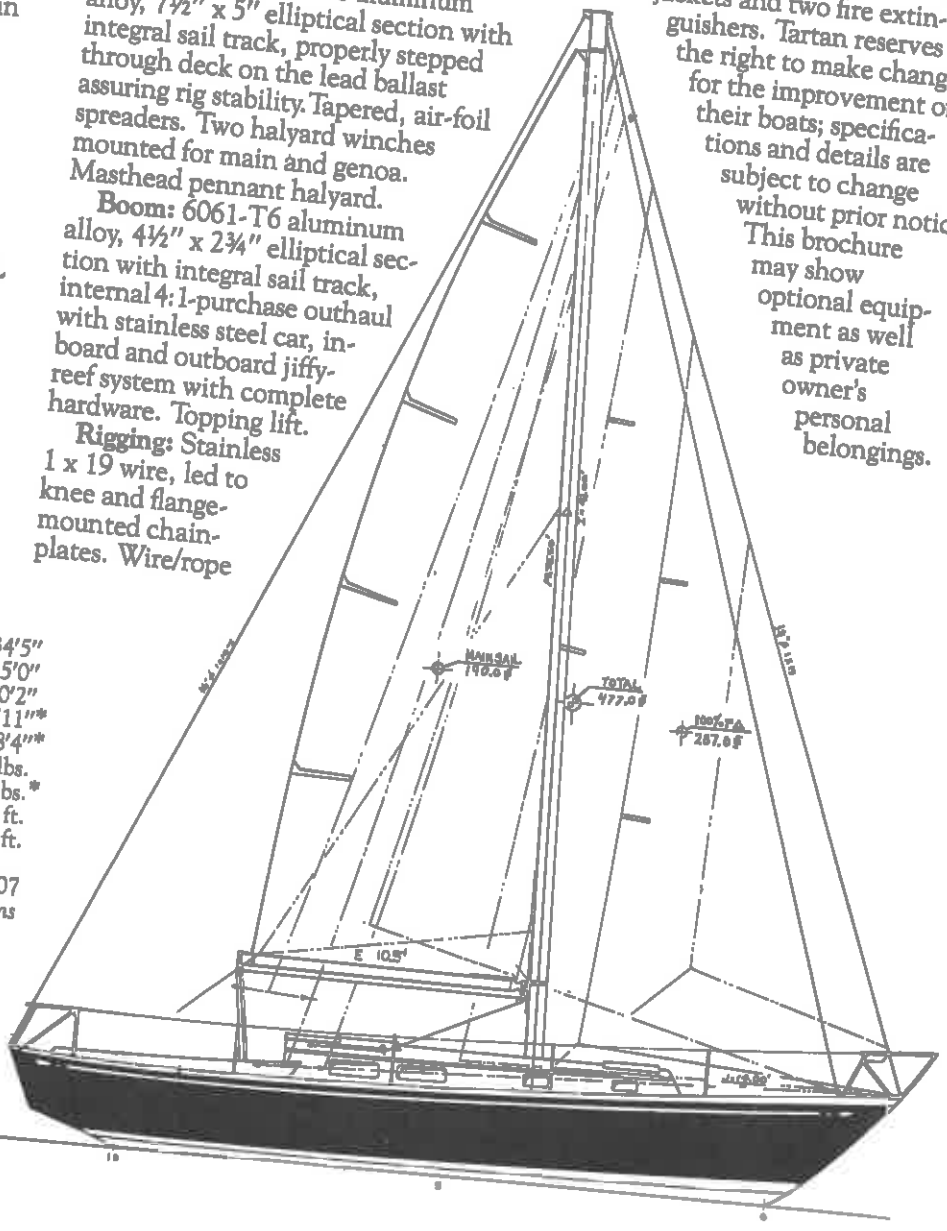
Much other detail and equipment is supplied with a Tartan 34. Among them are anchor plus 150 feet of ⅝" nylon rode, fog horn and bell, six Coast Guard approved life jackets and two fire extinguishers. Tartan reserves the right to make changes for the improvement of their boats; specifications and details are subject to change without prior notice. This brochure may show optional equipment as well as private owner's personal belongings.

SPECIFICATIONS

L.O.A.	34'5"
D.W.L.	25'0"
Beam	10'2"
Draft (Board up)	3'11"*
(Board down)	8'4"*
Ballast	4,800 lbs.
Displacement	11,200 lbs.*
Sail area (Sloop)	483 sq. ft.
(Yawl)	520 sq. ft.
DWL/Vertical clearance Lbs./Inch immersion	807
Design	*Sparkman & Stephens*

*measured at datum waterline; actual weight and associated draft will vary.





TARTAN 34 PRICE GUIDE

TARTAN 34 SLOOP with working sails and all equipment listed in brochure	25,600.00	
Stern Rail (includes adjustable pelican hooks aft and provision for life line gates port and starboard)	$ 165.00	
Pilot Berth - port side main cabin with three drawers	150.00	
Additional 12 V battery with vapor proof transfer switch	105.00	
Screens for Companionway and Forehatch	75.00	
Shorepower 110 V supply with galley receptacle	75.00	
Foredeck illuminating light on spar	75.00	
Pedestal steering with 5" compass	1,370.00	
Opening 5" x 12" dog type port lites (with screens) each in lieu of fixed port	55.00	
Depth sounder mounted on swing board in companionway	220.00	
All deck non-skid in contrasting color	240.00	
Spinnaker gear - aluminum pole in chocks on housetop, halyard, sheets, topping lift, foreguy, track and slide, 2 add'l snatch blocks, 5 add'l cleats, 1 No. 10 Barient on spar	580.00	
2 Additional Barient No. 16 winches, cockpit pedestal mounted	250.00	
Reaching strut in chocks with pad eyes on spar	95.00	
Cockpit seat cushions (pair)	120.00	
Shipping and storage cradle	200.00	
Martec folding prop in lieu of standard fixed blade	175.00	
Internal Halyards (main and jib)	135.00	
Lever backstay turnbuckle replacing standard turnbuckle	100.00	
Pressure water to galley and head faucets	225.00	
Pressure water with Shower in Head and Electric Bilge Pump	450.00	
Pressure water-hot & cold with shower	800.00	
Stove with oven replacing standard stove	450.00	
Diesel Engine - Farymann R-30-M	2,000.00	

Additional racing gear, sails, and electronic equipment is available for installation. Due to continuing improvements and new product introductions, it is suggested that selection of these items be made after close consultation with the dealer.

TARTAN 34 - ORDER GUIDE

Color Options

HULL: Topsides can be molded to color specifications requested by owner from standard colors. Boot top and anti-fouling paint applied after molding. Boot top colors to specifications. Anti-fouling standard in red, green or blue.

DECK: Standard white or off white colors are recommended. Cabin trunk and deck may be separately molded in two contrasting colors as an option.

MATTRESSES: Available in nylon or vinyl for selection from wide colors. Optional cockpit seat cushions are recommended in vinyl white.

PAYMENT

Payment is made in three steps: $4,500 deposit with order, $5,000 when deck and hull of assigned boat are joined, balance on delivery.

The boat is guaranteed under the builder's warranty.

1 April 1974

All prices F.O.B. Grand River, Ohio 44045

TARTAN 34 PRICE GUIDE

TARTAN 34 sloop with equipment listed in brochure	26,500.00	
Stern Rail (includes adjustable pelican hooks aft and provision for life line gates port and starboard)	$175.00	_____
Pilot Berth - port side main cabin with three drawers	150.00	_____
Additional 12 V battery with vapor proof transfer switch	110.00	_____
Screens for Companionway and Forehatch	75.00	_____
Shorepower 110 V supply with galley receptacle	85.00	_____
Foredeck illuminating light on spar	75.00	_____
Pedestal steering with 5" compass	1,370.00	_____
Opening 5" x 12" dog type port lites (with screens) each in lieu of fixed port	55.00	_____
Depth sounder mounted on swing board in companionway	220.00	_____
All deck non-skid in contrasting color	240.00	_____
Spinnaker gear - aluminum pole in chocks on housetop, halyard, sheets, topping lift, foreguy, track and slide, 2 add'l snatch blocks, 5 add'l cleats, 1 No. 10 Barient on spar	640.00	_____
2 Additional Barient No. 16 winches, cockpit pedestal mounted	330.00	_____
Reaching strut in chocks with pad eyes on spar	95.00	_____
Cockpit seat cushions (pair)	140.00	_____
Shipping and storage cradle	200.00	_____
Martec folding prop in lieu of standard fixed blade	175.00	_____
Internal Halyards (main and jib)	135.00	_____
Lever backstay turnbuckle replacing standard turnbuckle	100.00	_____
Pressure water to galley and head faucets	225.00	_____
Pressure water with Shower in Head and Electric Bilge Pump	450.00	_____
Pressure water-hot & cold with shower	800.00	_____
Stove with oven replacing standard stove	450.00	_____
Diesel Engine - Farymann R-30-M	2,000.00	_____
Dark hull color	150.00	_____

Additional racing gear, sails, and electronic equipment is available for installation. Due to continuing improvements and new product introductions, it is suggested that selection of these items be made after close consultation with the dealer.

TARTAN 34 - ORDER GUIDE

Color Options

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Prices and specifications subject to change.

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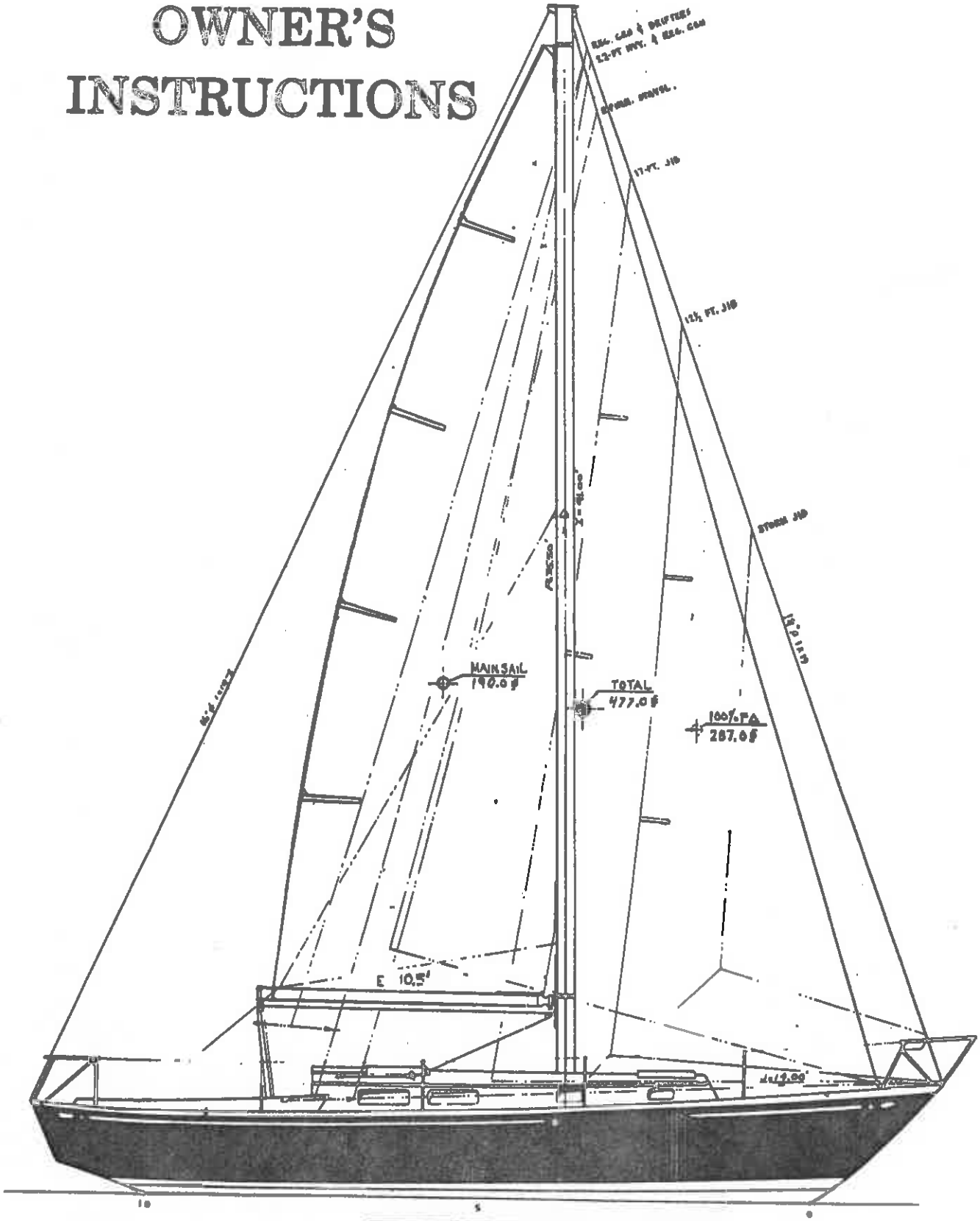
All prices F.O.B. Grand River, Ohio 44045

TARTAN 34

OWNER'S INSTRUCTIONS



TARTAN Marine Company

P.O. BOX 27 — 320 RIVER STREET
GRAND RIVER, OHIO 44045

9-77

****CONTENTS****

I. COMMISSIONING:

BEFORE LAUNCHING:

Check that the engine and head have been de-winterized and that all drain plugs are in place.

Inspect all thru hull connections, and close valves.

Mark propellor shaft with fixed prop vertical and folding prop with blades opening horizontally. For best sailing speed, set shaft to this position while sailing. Never leave engine out of gear and allow the shaft to rotate while sailing.

Install fully charged batteries.

Check engine and transmission oil level.

Note the location of the draft marks on the hull - refer to "Draft Marks" section.

When picking up boat, note proper location for straps, and mark rail so that the straps can be easily positioned upon haul out.

AFTER LAUNCHING:

Immediately check bilge for water.

Open all thru hull valves and inspect hose connections for leakage.

When the engine is initially started, check that water is coming out the exhaust. If water does not come out the exhaust, check that the engine water thru hull is open and not blocked, then check the water pump impellor.

After engine has run in gear for several hours, adjust the packing at the shaft stuffing box. Avoid over tightening - it may drip a little water, and a slight drip is better than a tight packing, which will burn out.

About a week after the spar has been stepped, and the rigging tensioned, it is wise to check engine alignment. Engine alignment should only be checked or changed by a qualified mechanic, familiar with the procedure.

RIGGING TIPS:

1. Always lubricate turnbuckle threads before tightening them. Rod Stephens likes Anhydrous Lanolin. If that is not

available, Lubriplate or similar grease works well. After adjustments are completed, remove excess lubricant.

2. In general, clevice pins should be inserted in toggles and turnbuckles so the cotter pin ends up either facing aft or inboard. This will result in less chance of snagging.

3. Cotter pins should only be opened up 10° so they can be pulled out readily in an emergency and re-used.

4. In stepping the mast, it is generally easier if the toggles and link plates are attached onto the deck, and the turnbuckles are opened evenly while attached on the ends of the rigging.

5. Spreader tips should be taped or covered with boots to avoid tearing headsails.

6. When attaching the rigging onto the mast, insert the clevice pins so the cotter pins are in against the spar, open the cotters, then apply a dab of silicone sealer to prevent the cotter pins from snagging sails.

7. During commissioning, the length of the genoa halyard should be checked with the headsails for the boat.

   Ideally, the head sails should have adequate luff length, or extending pennants, so there are three to four turns of wire on the genoa halyard winch with the sail fully hoisted.

   It is important that there always be at least two turns of wire on the genoa halyard winch, and sails which do not have adequate luff length to allow this condition must have head pennants added to them. Under no circumstances should genoa halyard tension be taken on the rope tail of the halyard.

8. All standing rigging is 1 x 19 stainless steel cable. The two equal length shortest pieces are the lower shrouds. The two equal length next longer pieces are the upper shrouds. The next longest single piece is the headstay. The longest piece is the backstay.

9. The shroud chainplates are installed at an angle which approximates the angle of the shroud when tensioned. Be certain that the lower shroud is on the chainplate with the most cant inboard, and the upper is on the near vertical chainplate.

10. The spreader bases are designed to hold the spreaders at an upward angle. Tightening the lower shrouds may pull the spreader tips downward. After tensioning upper shrouds, always check that the spreaders follow the degree of up angle established by the spreader bases. It may be necessary to loosen the tension on the upper shrouds a little, push the spreader tips upward, then re-tension the upper shrouds.

CHOCKING THE MAINMAST:

After the mast is in the boat, rig a line from the mast up to a snatch block held in the stemhead. Lead the line either to a halyard winch or a cockpit winch and pull the mast as far ahead in the partners as possible. Insert the thick piece of rubber provided, centered in the aft portion of the space between the partners and the mast. Ease off on the line pulling mast ahead in order to hold the rubber in position. Now rig a line extending around the forward part of the mast to snatch blocks attached in genoa cars, and to the cockpit winches. Have two strong people grind both cockpit winches simultaneously in order to pull the mast aft and compress the rubber chock on the aft side of the mast. Lubricate chocking material with water. From belowdecks, slide the chocking material into the forward space between the partners and the mast. It will be a tight fit. Release the line holding the spar aft.

PRELIMINARY TUNING:

As soon as the spar is stepped in the boat, and the headstay, backstay and upper shrouds are loosely attached to their respective chainplates, the spar should be chocked in the partners. Refer to "Chocking the Main Mast". This job is considerably easier before the rigging is tensioned.

The next step should be to establish the masthead in the center of the boat. Use the main boom topping lift and a tape measure to measure to the upper shroud chainplates alternately on each side and adjust the turnbuckles so the reading on the tape is the same on each side. Once the masthead is centered, taking up an equal number of turns on each upper shroud turnbuckle will tension the uppers and maintain athwartships position.

Generally, the headstay goes in the second hole down in the link plates, but this may be changed dependent on rake desired. It may be necessary to attach a genoa halyard to the jib tack and tension the halyard with the winch to pull the spar forward to get the headstay in the required link plate hole. The masthead should not be pulled so far forward that tension on the backstay does not result in a straight mast, or a slight hook aft.

It is absolutely impossible to make any judgment regarding mast rake when the boat is not on an absolutely level flotation plane. Check the section "Draft Marks" for the procedure of leveling the boat fore and aft. With the boat exactly floating level, a 3' or longer carpenter's level held against the aft side of the mast will give a good indication of rake, by the simple geometric method of similar triangles. For example, the distance from the deck height to the masthead is approximately 40'. If the bottom of a 3' long level must be held out 1/4" from the spar when the level reads exactly vertical, then the equation becomes:

$$\frac{.0208^*}{3} = \frac{X}{40'} \quad \text{therefore } X = \frac{(.0208)\ (40)}{3}$$

* 1/4" - .0208' X - .277' or about 3-5/16" of rake

The fullness of the sails will be the determining factor on rake. We have found that a difference of 8" in rake is not uncommon to optimize a boat's performance to the cut of the sails. An aft rake of about 3" is average for a fairly full mainsail.

Set the upper shrouds up tighter than the lowers.

FINAL TUNING:

With the boat sailing hard on the wind, sight up the main mast. If the masthead appears to be falling off to leeward with a bow to windward in the middle, then the windward side lower shroud is too tight. Conversely, if the middle of the mast is sagging to leeward, the lower is too loose.

Always tack and adjust turnbuckles on the leeward side. Never adjust a windward side turnbuckle while sailing. Many tacks and mast sightings will be necessary to achieve perfect tune, as adjusting one side has an effect on the other side. Many owners do not try to achieve a perfectly straight mast until the rigging has had a chance to relieve itself of the initial stretch inherent in wire.

Generally, a few sails on windy days will stretch the rigging so a final perfect tuning may be made.

Especially with new rigging, the prudent skipper will check the mast for straightness on every voyage. After sailing in especially heavy winds, allow the rigging some time to "normalize" before adjustment.

II. GENERAL INFORMATION

MASTHEAD:

The sheaves in the masthead are made of aluminum. Before the spar is initially stepped, disassemble the sheaves and clean

the sides of the sheaves and the masthead to remove shipping dirt. Grease the sides of the sheaves with a heavy grease to prevent their galling. This disassembly and greasing procedure should also be a part of Spring commissioning.

MAST BOOT:

A vinyl mast boot is provided, which must be installed around the mast by sliding it on from the bottom end of the spar before the spar is stepped. Once the spar has been properly chocked and the boot is smoothed down over the mast partners, a bead of hardening silicone or other bedding compound around the top of the mast boot and the spar will assure water tight integrity. Also, remember to fill the sail track with silicone bedding at the top of the boot.

DRAFT MARKS:

At the bow and stern there are impressions of screws in the gel coat surface. These are NOT imperfections, and are placed in the hull to give a reference point for establishing level flotation.

The boats float a little down by the bow. It will be necessary to put several people in the cockpit to level the boat, as would happen when sailing. Measure from the center of the screw head to the water both bow and stern, and adjust the cockpit personnel so that the measurement at the bow and stern are the same. The exact amount of the measurement is not important, just so the measurement is equal both places.

PORTLIGHTS:

The ports are glazed with plexiglass and Lexan, noted for its high impact resistance. Gritty cleaning agents, such as cleanser, will scratch. Use only mild soap and water to clean the ports. Some chemical solvents, notably Acetone, will also injure the port lights.

RUDDER FAIRING STRIPS:

Spring bronze strips are installed vertically to smooth water flow at the juncture of rudder and skeg. Backing down at high speeds with the helm hard over will damage the fairing strips. As the strips have an infinitesimal affect on speed, the non-racer may wish to remove them and fill the screw holes with epoxy.

ELECTRICAL SYSTEM:

A 12 volt D.C. electrical system is used throughout the vessel for lighting and operation of various accessories. For any 12 volt current to be delivered, the following criteria must be met:

1. Charge in the battery.
2. Master switch (if installed) in Batt. 1 - Batt. 2 or BOTH position.
3. Switch for the individual appliance - (cabin lights, running lights, etc.) - ON.
4. Switch on the appliance (if there is one, such as cabin light or electric bilge pump) - ON.

The amount of charge going into the batteries when the engine is running is shown on the Ammeter in engine panel. Generally, this meter will show a high rate of charge as soon as the engine starts, and the charge will taper off as the battery comes up to full charge. The voltage regulator automatically regulates the amount of charge going into the batteries, and reduces the level to prevent the batteries "boiling" over as they reach capacity. For this reason, even though the engine has a 35 amp alternator, charging the batteries for an hour will NOT put a full 35 amp hours back into the battery.

Batteries will last longer if they are kept charged during periods when they are not used. Be sure to check the water level in the batteries at least every two weeks. Adding water to a partially charged battery will lower the charge in the battery. Never add water to a battery which is charging, either via the engine alternator or a separate charger. Be careful in adding water so that the battery acid does not splash. Never add salt water to a battery. Most boat batteries have a shortened life from improper storage during lay up periods, lack of water, and the use of "quick" chargers.

OPTIONAL SHOREPOWER SYSTEM:

The optional 110 volt A.C. system is active only when the vessel is plugged into shorepower via a shorepower cord. The plug which fits the power inlet fitting installed in the cockpit coaming is included with the boat. Have a competent electrician wire this plug to your cord, and check the polarity of the dock-side outlet. Never use an adapter to plug your shorepower cord into a two prong outlet.

A circuit breaker is used to control 110 volt A.C. power within the vessel. A mis-wired cord or shore outlet can render the circuit breaker inoperative. Be sure to disconnect the shore-power cord when working on the 110 volt wiring.

The use of inexpensive automotive battery chargers which do not have a built-in isolation transformer can cause electrolysis to the vessel. Disconnect the NEGATIVE battery lead from the engine when using any charger other than a high quality marine charger with built-in transformer.

COMPASS:

The compass supplied with your T-34 does have built-in compensators installed. We suggest that the built-in compensators be removed, as compensators can cause heeling error.

If compensation of the compass becomes necessary with compensators removed because deviation causing metals cannot be moved away from the compass, correction should be made with bar magnets placed about the vessel. In the event that your compass cannot be corrected by removal of deviation causing metals, and bar magnets are not available, the built-in type of compensating magnets may be reinstalled, and a correction for heeling error made to courses steered.

Compass mounting and correction is an owner responsibility.

HEAD:

It is always good seamanship to close the intake and discharge seacock (if installed) for the head when leaving the vessel. Also be certain, while sailing, that the flush control valve or lever on the head is not left in the flush position to prevent the head from filling with water which will spill as the boat heels.

FRESH WATER SYSTEM:

The water tank has an inspection port in the top of the tank. This may be opened to clean out the natural accumulation of scum inside the tank. Use caution that the port is not excessively tightened. Newer boats have transparent inspection ports, and the water level should be observed while filling the tank. The tank fills independently through a fill fitting located on the side deck. Each time the tank is filled, it is wise to wipe off the threads on the center plug and those on the deck fitting to remove dirt which may prevent a good seal.

The water in your tank may develop a taste after a period of time. This will happen to any water in any tank, as it grows "flat". The addition of a commercial water preservation agent such as Sudbury Aqua Fresh crystals will greatly improve the taste of water stored for a long period.

EXHAUST SYSTEM: Optional diesel engine only.

Your boat is equipped with a water lift principle muffler. This system cools the engine exhaust as it exits from the engine, reducing heat build-up, and substantially reducing exhaust noise.

If the flow of cooling water is interrupted, and the engine overheats severely, the rubber hose coming from the engine exhaust elbow may melt. Always check this hose after an occurrence of overheating.

There will always be a little water in the bottom of the water lift "pot". In Fall decommissioning, the pot should be drained, or anti-freeze should be added to the pot so that the residual water will not freeze.

If the engine should loose compression from sticking valves, bad piston rings, or other causes, and is cranked for a prolonged period, engine cooling water may build up in the pot. In this very unlikely situation, the cooling water intake should be shut off to prevent flooding the engine.

Before engine cooling water is injected into the exhaust elbow, it runs up to a point above the water line where air is admitted to the high point of the line so that a syphon action cannot start which may fill the pot and possibly back up into the engine after the engine has been shut off.

If contamination in the engine cooling water plugs this anti-syphon line, a syphon action may start, as described above. Check the operation of this anti-syphon device frequently, and disassemble the unit for cleaning at the end of each season as an absolute minimum, and more often if running the engine in dirty water.

STOVE OPERATION:

Most apprehension about alcohol stoves comes from a lack of experience and knowledge of the basic working of the stove.

Alcohol stoves operate by vaporizing liquid alcohol to a gas. The gas is burned in much the same manner as in a home gas stove. Most problems are caused by improper preheating of the burner, which does not vaporize the alcohol.

A typical stove operating routine would be:

1. Fill the alcohol tank to about 2/3 full. A funnel with a hose attached makes this job considerably easier.

2. Close the filler cap securely.

3. Wipe up any spilled alcohol.

4. Be certain that all stove burners are OFF.

5. Pump up the tank until resistance to pumping is felt.

6. Open the burner control valve for the burner you wish to use, about one turn, and wait about three seconds. Watch the alcohol flowing into the pan under the burner, and do not overfill the little cup. THEN CLOSE THE BURNER VALVE.

7. Wait a few seconds, then ignite the alcohol in the priming pan under the burner. The resulting flame should not be more than 6" above the top of the burner. If there is a higher flame, you have allowed too much fuel into the priming cup. If the flames are licking at the overhead, they can be extinguished with water.

8. When the preheating flame has died down, open the burner valve a little. If you hear the even sound of escaping gas, then the burner is hot enough, and opening the valve a little more will generally ignite the escaping gas from the priming flame. If

there is a sputtering sound, then the burner is not hot enough, and you should wait for it to cool down before repeating steps 6 and 7 above. If the priming flame should go out, and there is the steady sound of escaping gas, then the gas can be ignited and the stove operated.

9. Until the stove has had a chance to heat up, best not to try to use full heat, as the rush of gas may cool the preheater too much.

10. When finished cooking, shut off the burner valve gently. Force will injure the burner valve seat.

JIFFY REEFING SYSTEM:

The T-34 is equipped for "Jiffy" reefing the main sail. This reefing system is also called "California", "Slab", "Quick", and a multitude of other names.

Rigging: A line is provided with the vessel for the outboard end of the jiffy reef system. One end of this line should be tied with a bowline to the pad eye on the port side of the boom at its aft end. The line should run from the pad eye up through the first reefing grommet in the mainsail, then down through the cheek block on the boom, and forward to the cleat on the boom.

Operation:

1. Be certain that the main boom topping lift is attached and tied so that the main boom will not fall and hit the deck or crew.

2. Slack the main halyard sufficiently to enable the reefing grommet on the main luff to be slipped over the hook on the spar end of the boom. The halyard should be marked for reference at this point.

3. With the main's grommet engaged in the hook, re-tension the main halyard.

4. Tension the outboard end, and cleat.

5. Some sailmakers put small grommets in the sail to be used for ties to gather up the excess cloth. If these ties are used, BE CERTAIN that they are all removed before the reef is shaken out.

   If additional reefs are needed, the first reef outboard end can be tied off with a sail tie through the grommet on the main and around the boom, and the reefing line re-lead through the next higher grommet.

HOLDING TANK:

Your T-34 is equipped with a holding tank for retention of sewage. The standard system is a "No-Discharge" system, which we believe will be acceptable in all waters.

Sea water is used to flush the head, and the sea water and effluent is pumped into the holding tank by pumping the toilet. A deck fitting is provided through which the holding tank may be evacuated by a shoreside pump out station.

With the standard holding tank, it is not necessary to "pre-charge" the tank by adding water before using the system. Be certain that the pump on the toilet is pumped several additional strokes after waste has been evacuated from the bowl to insure that the effluent is pumped through the hoses and into the tank.

The tank has an inspection port on its top (located under the vee berth port side), which will give indication of the level in the tank. If the toilet should be difficult to pump, check that the holding tank is not overly full. Trying to over fill the holding tank will injure the tank, and may force waste out the air vent fitting.

OPTIONAL RECIRCULATING HOLDING TANK:

An optional arrangement allows the effluent liquid to be used to flush the toilet, which increases the number of uses of the tank. This system must be charged with water and chemicals before using, initially, and after each pump out. The recirculating system has valves which can be used to pump the toilet with either effluent liquid or sea water.

Typical operation would be to pump sewage out of the toilet using effluent liquid, then change the valves and pump a little sea water into the bowl. Always close the sea water intake valve after use to prevent filling up the tank with sea water.

WINTERIZING:

The holding tank must be pumped out before winter storage, and a small amount of Recreational Vehicle anti-freeze added to the residual water.

CENTERBOARD CONTROL:

The Tartan 34 is equipped with an easily operated centerboard control system giving positive control in both raising and lowering the board. The nature of the system allows precise control of the centerboard position, permitting you to take full advantage of the Tartan 34's fine sailing qualities on all points of sailing and in all wind and sea conditions.

The heart of the system is a 15" lever rigidly attached to the board at the pin through a stuffing box in the trunk. A well is cast into the starboard side of the lead keel which allows the lever to rotate freely. Any rotation of the lever thus results in a precisely equal rotation of the board. The lever itself is controlled by means of a continuous circuit of 1/8" stainless steel cable which is lead to and winds around a drum located just behind the forward wall of the cockpit. A removable handle - turns the drum from the cockpit. COUNTERCLOCKWISE RAISES THE BOARD. CLOCKWISE LOWERS IT.

A look at the accompanying diagram will reveal that, if the ends of the cable circuit were fixed, a greater cable length would be required at the half-up position. Consequently, the forward end of the cable circuit is not fixed but is attached through a turnbuckle to a stainless steel spring. The spring allows the system to accommodate itself to any position of the lever. When the turnbuckle is set properly, proper tension is maintained on the cable at all times.

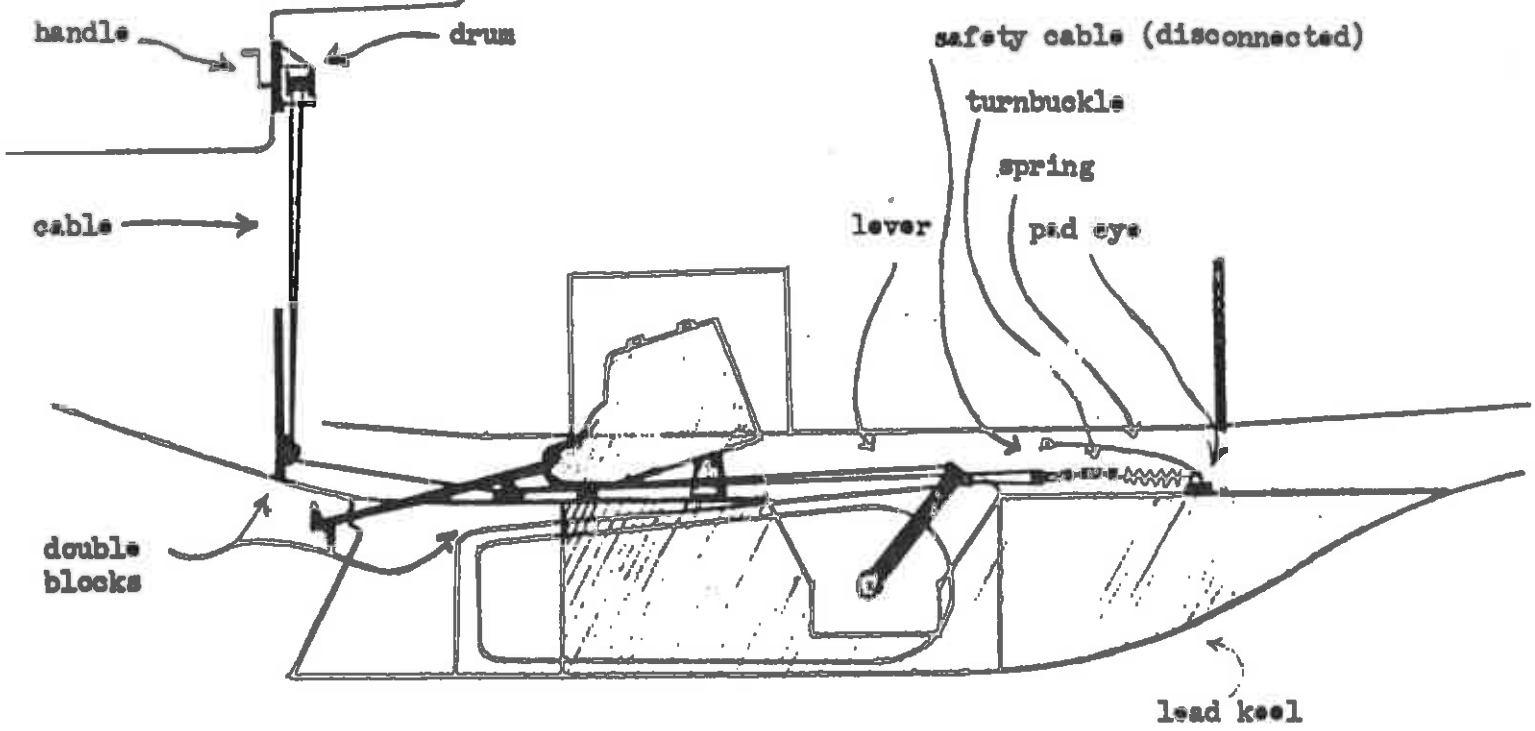
The centerboard cable turnbuckle is set at the factory during building, but due to the effects of use on the system this setting should be checked occasionally. Excessive slack will be apparent in the full up and down positions, and would result in imprecise control of the board setting. Excessive tension would be most obvious in the half-up position, and would result in difficult operation of the system and possible component failure. Therefore, the turnbuckle should be adjusted at the full-up position so that there is only a slight extension of the spring (1/4" - 1/2"). Then tension should be checked manually at the half-up and full down positions, and the system checked for smoothness of operation. Access to this part of the system is through the lift outs in the main cabin sole.

It is important to insure that there is sufficient friction in the system to prevent the board from changing position on its own because of its weight or wave action. This is done by adjusting the pressure of the drum bracket on the drum by means of the two nuts on the lower bolt on the bracket (see diagram). Backing off on the after nut and tightening the forward nut will increase the pressure on the drum and consequently the friction on it. At the proper setting the drum can be turned easily by the handle but will not move at any other time. This

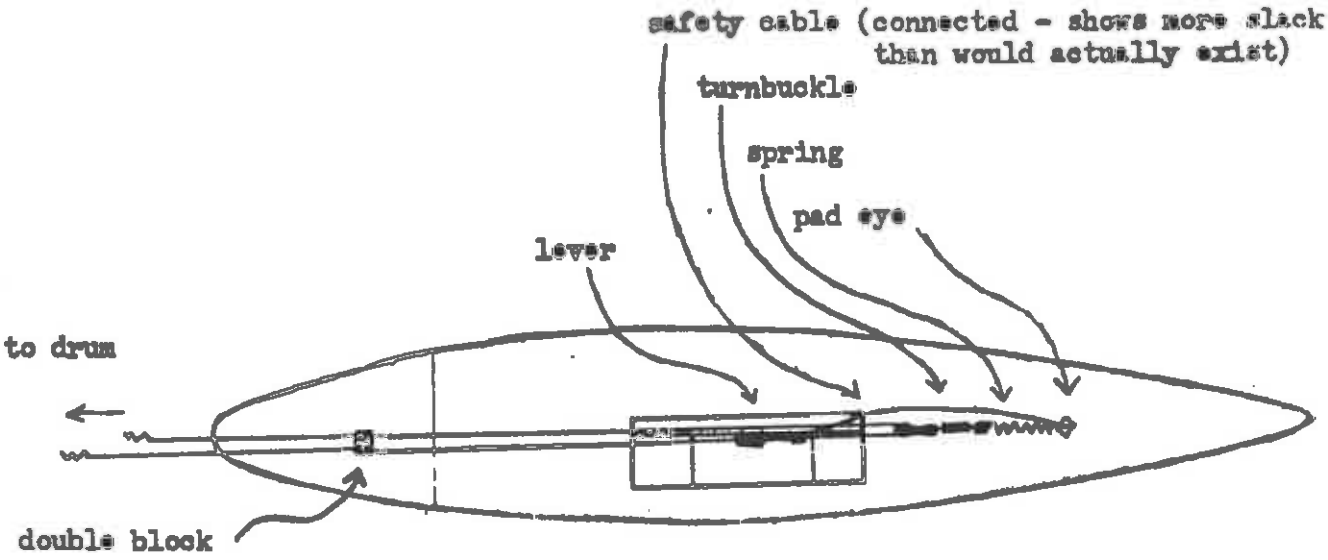
setting is done at the factory, but should be checked by the owner when he receives his boat and occasionally thereafter. Access to the drum bracket is gained through the hinged door just aft of the top of the companionway ladder.

As a safety measure, an additional separate length of cable with shackles at both ends has been provided. Whenever the boat is hauled, this cable should be shackled to the pad eye at the forward end of the spring and to the shackle already present at the forward end of the centerboard lever. This will insure that the board is securely locked in the up position.

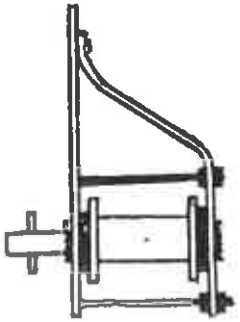
TARTAN 34 CENTERBOARD CONTROL SYSTEM



SIDE VIEW



TOP VIEW
(horizontal section at top of keel)



DRUM & BRACKET ASSEMBLY
STBD. SIDE VIEW

III. TARTAN MAINTENANCE SCHEDULE

GENERAL:

Regular preventive maintenance is required to keep any boat in "as new" condition. It starts with the day after delivery and continues throughout the year. The heaviest time commitment is, of course, in the Spring but one should always be observant of the condition of such areas as running rigging, finishes, the engine, head, and other moving parts of gear and tackle. The following comments are intended to serve as an initial guideline. You will no doubt want to develop a check list of your own.

FINISHES:

Fiberglass: Even though fiberglass construction has vastly reduced upkeep, some attention to gel coat surfaces is necessary to maintain the appearance of the finish. After a few years exposure with no protection, the finish may begin to fade or chalk. The annual application of a good commercially available wax (Johnson, Fuller, or equal) containing an ultra-violet shield will preserve the appearance of this finish for many years. Generally, an application at the beginning of the season will suffice. Abrasive cleaners (cleanser) should not be used for general cleaning.

Gel Coat: A small quantity of matching gel coat is shipped with each boat. This material should be kept in a cool place, not on board the boat. Generally, the shelf life of gel coat is about 6 months. Even during this period the original gel coat may not perfectly match due to fading. The gel coat is a polyester product, not a paint, and requires mixing a catalyst before use. Patching gel coat is a job requiring some experience, and best results are generally obtained from professional work. A manual on fiberglass repair is shipped with the boat.

Bottom Paint: One coat of bottom paint is applied at the factory. Generally, a second coat applied before launching will afford the best protection. Check with your dealer for a paint compatible to the factory applied paint. A non-compatible paint may lift the factory applied paint.

Bottom paint should be lightly sanded before re-coating. Always wear a respirator when sanding bottom paint - it is toxic. After several coats, it will be necessary to remove the accumulation of bottom paint preferably by sanding with a rotary sponge-backed pad.

Boot Top: is painted with polyurethane paint. If touch-up is needed, contact your dealer for the matching paint.

EXTERIOR TEAK:

If left untreated, exteriorteak will discolor rapidly, turning a dull grey color. Teak is relatively open grain wood, and eventually, mildew may form in the grain, resulting in a very dark color.

If you wish to maintain the warm brown color, the teak must be kept clean, and oiled. The grain of the teak will raise as the wood is wetted. The job of keeping up the teak will be much easier if the wood is sanded very smooth. Use sandpaper for this purpose, and be careful not to scratch the gel coat. The best routine for bringing back discolored teak is to scrub thoroughly with a teak cleaner and water, allow to dry, sand, then apply multiple coats of a high grade teak oil. Some teak cleaners will stain the gel coat, so be sure to hose off the deck and topsides thoroughly.

A good applicator for teak oil is a small piece of a sponge, perhaps 1" square, by about 3" long, with one end tapered to allow application close to the deck without touching the gel coat. Most teak oils will stain the gel coat, and are difficult to remove, so be careful and clean up drips promptly.

INTERIOR TEAK:

The interior teak has been oiled with Watco Danish Wood Finish or equal. These surfaces should be inspected regularly and touched up if needed.

Cabin sole is varnished with Glidden #10 polyurethane (Satin) and additional coats should be applied as areas wear.

SAIL, SHEETS AND LINES:

Sails and lines should be removed at the end of each season and stored in a warm, dry place. If it is possible to dry them thoroughly, they should be rinsed with fresh water before storage.

SPARS AND STANDING RIGGING:

The mast should be supported so that it lies straight. A thorough inspection of all wire, swages, splices, pins and fittings should be made prior to winter storage; any necessary replacement or reinforcement should be made before beginning the next sailing season. The boom is anodized and spar finished with Magnus F 111 Clear Coating.

ENGINE AND FUEL SYSTEM:

Check the engine manual for maintenance guidance during the season and for the specific haul out procedures necessary to winterize the engine..

FRESH WATER SYSTEM:

The water tank and water lines should be completely emptied in preparation for winter storage, and the optional pressure water pump drained, if installed.

WINTER STORAGE:

Cover: If storing outdoors, a winter cover is recommended. It can be as simple as a rectangular piece of canvas forming a tent over the boat. A ridge pole (formed by 2" x 4" 's along the centerline) several feet above the cabin top, well supported at several places along its length, is sufficient to support the center. The stanchions can be removed from their sockets, and ropes tied from the ridge pole to the stanchion sockets to help support the cover. Use carpeting to pad any areas of chafe. Lash the cover tightly to the cradle, avoiding any metal grommets in contact with the gel coat.

Bilges: Be sure to pump the bilge completely dry.

Ventilation: Leave the dorade vents in place and open so the boat can get air during the winter.

Cradle: Make sure that the boat is adequately supported and that any suspected weakness has been reinforced. The keel of the boat must rest solidly on the main beam. The vertical risers are not intended to carry the load, merely to stabilize the boat.

The cradle must rest on a level surface, or be blocked to prevent distortion of the timbers.

HEAD:

As with the engine, the specific procedures for preparation for winter storage and recommissioning are contained in the Wilcox-Crittenden manual.

BATTERIES:

Remove from boat and store inside. Will need to recharge prior to installing in boat. Do not store batteries on a concrete surface - elevate with pieces of wood. A fully charged battery will freeze at well below zero F; a discharged battery freezes at about 20° F.

TARTAN RUNNING RIGGING LIST

ITEM	T-27 SIZE/LENGTH	T-30(std. rig) SIZE/LENGTH	T-34 SIZE/LENGTH	T-41 SIZE/LENGTH
Main Halyard-wire	1/8"/35'4"	3/16"/39'6"	3/16"/42'4"	3/16"/106'
rope tail	3/8"/35'	3/8"/43'	3/8"/47'	--------
shackle	MH#580W	MH#580W	MH#580W	MH390J-3/8
Genoa Halyard-wire	1/8"/33'4"	3/16"/37'2"	3/16"/43'4"	1/4"/63'
rope tail	3/8"/35'	3/8"/43'	3/8"/47'	7/16"/55'
shackle	NF12000S	NF11000S	NF11000S	NF13000B
Main Boom -top	3/8"/30'	3/8"/34'	3/8"/36'	1/8"V.C.x50'
Topping Lift-bottom	1/4"/9'	1/4"/9'	1/4"/10'	1/4"/14'
Main Sheet	3/8"/60'	3/8"/58'	7/16"/90'	1/2"/55'
Genoa Sheets - each	7/16"/40'	7/16"/46'	1/2"/52'	5/8"/52'
Quick Reef-outboard end	1/4"/16'	1/4"/16'	--------	7/16"/33'
inboard end	--------	--------	--------	7/16"/24'
Flag Halyard	1/8"/70'	1/8"/80'	1/8"/46' 1/8"/82'	1/8"/100
OPTIONAL SPIN GEAR				
Spin Halyard-rope	3/8"/72'	7/16"/80'	3/8"/90'	1/2"/120
shackle	NF12000S	NF11000S	NF11000S	NF13000B
Spin Sheets-each-rope	3/8"/38'	7/16"/46'	1/2"/48'	1/2"/60'
shackle	NF12000S	NF11000S	NF11000S	NF13000B
Pole Topping lift-rope	3/8"/35'	3/8"/40'	3/8"/48'	7/16"/65'
shackle	NF12000S	NF11000S	NF11000S	NF11000S
Fore Guy-rope	3/8"/42'	3/8"/40'	3/8"/39'	7/16"/61'
shackle	NF12000S	NF11000S	NF11000S	NF11000S

Notes:

1) All rope is Dacron yacht braid.

2) All wire 7 x 19 stainless.

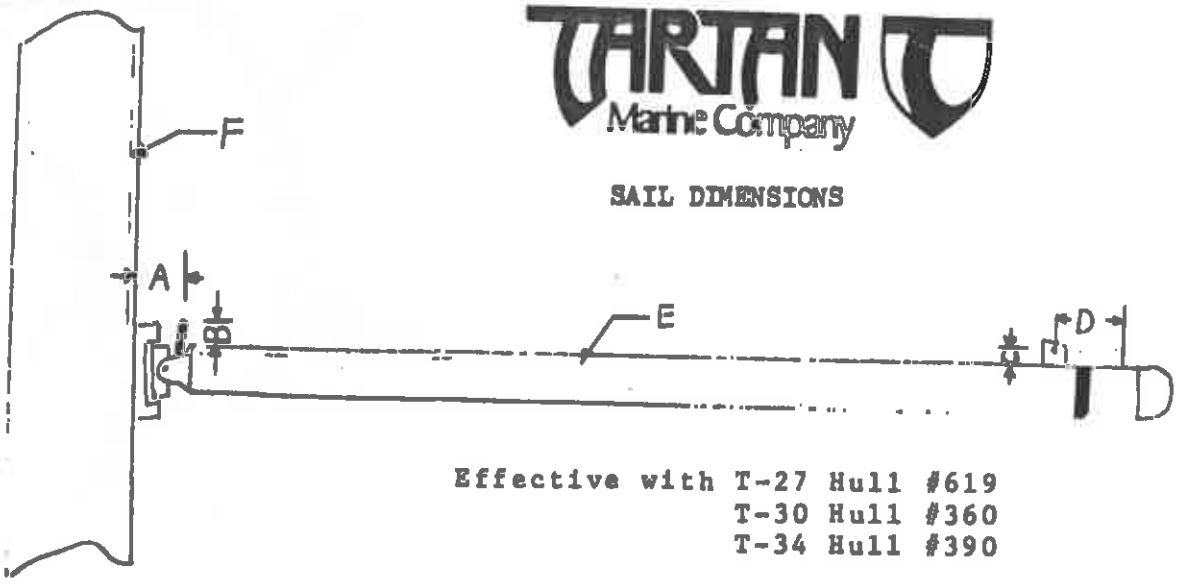
3) Thimbles are used in all wire eyes.

4) Abbreviations: NF=Nicro Fico
MH=Merriman Holbrook
V.C.=vinyl coated

5) Tartan may substitute, dependent on availabilities.

TARTAN Marine Company

SAIL DIMENSIONS



Effective with T-27 Hull #619
T-30 Hull #360
T-34 Hull #390

Letter	Dimension Explanation	T-27 Sloop	T-27 Yawl Main Mast	T-27 Yawl Mizzen Mast	T-30 Std. Rig	T-30 Comp. Rig	T-34
A	Cutback	3"	3"	1-1/2"	3"	3"	3"
B	Height of tack shackle	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
C	Height of outhaul car pin above boom	1-1/2"	1-1/2"	1/4"@ $\mathbb{C}$ hole	1-1/2"	1-1/2"	1-1/2"
D	Travel of outhaul car past end of E dim.	1-1/2	1-1/2	no car	1-1/2	1-1/2	1-1/2"
E	Boom track-slug size	1/2" round	1/2" round	3/8" round	1/2" round	1/2" round	1/2" round
F	Mainsail Hoist track - slug size	5/8" flat	5/8" flat	3/8" round	3/4" flat thin*	3/4" flat thin*	3/4" flat thin*
J	Foretriangle Base	9'10"	9'10"		13.0'	13.0'	14.0'
I	Foretriangle Heigth (* denotes P_2 dim)	34' * 7-3/4"	34' * 7-3/4"		39.0'	41.0'	41.0'
P	Mainsail Hoist	30'6"	30'6"	12'11"	34.0'	36.0'	35.5'
E	Mainsail Foot	13'6"	13.0'	5'8"	11'.6"	10.0'	10' 6"

* - Metalmast type

See separate sheets for: Tartan Offshore Cruising Ketch
T-41 Sloop
T-37 Sloop and Ketch
T-38 Sloop

TARTAN 34

DESIGNER: Olin Stephens
Sparkman & Stephens
New York, New York

BUILDER: TARTAN MARINE COMPANY
320 River Street
Grand River, Ohio
Phone (216) 354-5671

SPECIFICATIONS

LOA — 34'5"
LWL — 25'0"
Beam — 10'2"
*Draft (board up) — 3'11"
*Draft (board down) — 8'4"
*Displacement — 11,200 pounds
Lead ballast weight — 5,000 pounds
Sail area sloop — 483 sq. ft.
Sail area yawl — 520 sq. ft.
1970 CCA Rating — 28.2
1972 Mark III — 25.14
*These dimensions will be affected by loading.

Length cockpit — 9'3"
Head room main cabin — 6'2"
Head room fore cabin — 6'2"
*Vertical clearance DWL to mast truck — 44'0"
Deck width alongside cabin house — 24"
Fore cabin hatch — clear opening — 24" x 25"
Berth length — 6'5" or more
Longitudinal center of flotation — .557
Moment to change trim 1" — 1087 ft. pds.
Pounds per inch immersion — 807

GENERAL

In 1960 we, at Tartan Marine Company, turned to Sparkman and Stephens for the design of our first auxiliary: Tartan 27. Since her introduction in 1961 she has proven to be the most consistent long distance winner under 30 feet. In 1965, in keeping with our philosphy of developing each design as a unique entity — rather than attempting to adapt existing models, we undertook the Ted Hood designed Black Watch and Tartan 37. With this design proven in competition and the market place, we recognized the need for an auxiliary that fell between. For this development we returned to Olin Stephens who at the same time had been commissioned to do the *America* and Twelve Meter, *Intrepid*. As in the case of Tartan 27, our request was for a high performance, off-shore cruising-racing boat.

The decision to make her a keel centerboard was based on the builder's experience with 500 such boats built and the concurrence of builder and designer that the advantages of being able to balance the helm on all points of sail, the significant lifting action of up to three degrees on the wind, the flexibility in shoal waters, and reduced wetted surface off the wind more than offset the added cost of the keel-centerboarder.

Tartan 34 is a coherent blend of past experience and innovation. She features a high aspect rig with a high ballast to displacement ratio. Indeed, her weight distribution, adapted from the Twelves, puts as much required equipment weight, e.g. engine, as close to the center of balance as possible. Her divided rudder, well aft of a scepter keel section, is supported along the entire leading edge by a skeg. This innovation provides much greater stability and helm balance, particularly off the wind, than a freely suspended rudder. As a point of practicability, protection to the vital steering mechanism is also afforded.

HULL

CONSTRUCTION:

High glass, low resin content, alternate layers of hand lay up mat and 24 oz. woven roving. Laminate is 5/16″ at sheer line increasing to 5/8″ at garboards and 3/4″ at keel. All bulkheads are secured to the hull with fiberglass laminations.

COLOR:

Hull colors are available from a wide selection at no additional charge. Cove stripe and boot are painted colors.

BALLAST:

Lead ballast weighing 5000 pounds is located so that the highest possible density at the lowest center of effort is obtained.

CENTERBOARD:

The centerboard trunk houses a fiberglass steel cored centerboard moulded to an air foil shape and employing a sharp trailing edge. Positive control of the board via cables for both raising and lowering leave no doubt as to position for most effective balance of helm. This precise control of board position, combined with easy board operation from the cockpit, permits optimum centerboard trim under all conditions.

RUDDER:

The skeg attached rudder forms a second air foil and lifting surface aft and allows the helmsman to feel his boat. The rudder is steel reinforced fiberglass with a sharp trailing edge and is supported at the heel by a manganese bronze shoe. Fairing strips are attached to the skeg ahead of the rudder to improve flow characteristics.

ACCOMMODATIONS

Her generous beam and water line length account for the space below decks. The builder and designer have innovated to make maximum usage of the available area.

HEAD:

Two separate entries are provided for the head to permit complete privacy and flexibility in the use of the space. Lockers and shelves outboard, plus a stainless steel washbasin, complete the head facilities.

BERTHS:

Headroom carried forward to forecabin is 6′2″. Sleeping accommodations for six are provided. V berths in forecabin are 6′5″, quarter berth port side is 7′2″. Portside berth main cabin is 6′5″, starboard berth is 6′7″. Mattresses are 4″ polyfoam with removable nylon or expanded vinyl covers. Pilot berth, portside main cabin, is available.

FINISH:

Cabin trunk interior is laminated imported wood. The two main bulkheads are also laminated while all others are finished in white pressure laminate. Eight fixed ports and windows provide open, bright atmosphere. Cabin sole is wood veneer, lightly varnished.

MAIN CABIN:

The galley starboard side aft has gimballed stove, stainless steel sink with lockers outboard. Portside aft is quarter berth with chart table forward. A settee covers the engine located midships and combines with fixed sea-going berth portside to make into double berth. Table is hinged to head bulkhead for storage. Starboard side forward of galley is fixed berth with shelves outboard. Three drawers are over the berth with alcove below for leg room. Hanging locker forward opposite portside head. Bins and foot lockers below all berths. Grab rails port and starboard. The absence of the engine aft of the companion way ladder opens up space not available with conventional engine locations. The sole is imported wood veneer with teak hatches.

ICEBOX:

The insulated deck-loading icebox is separated from the food compartment which is accessible from galley below deck. Icebox drains overboard.

FORECABIN:

A translucent forehatch and two ports provide light for forecabin. Shelves port and starboard outboard of berths and drawers, foot lockers, and traps below both berths. Foot locker and seat between berths, chain locker forward with door.

WATER TANK:

The 36 gallon water tank is located under starboard berth main cabin.

GAS TANK:

The 26 gallon gas tank is located under the the port berth main cabin.

DECK

PLAN:

Sail handling efficiency and safe uncluttered space are the keys to Tartan 34's deck plan. Wide decks alongside the cabin house permit the crew to go forward with confidence, or find ample room to line up on the weather rail. The cockpit measures 9'3" fore and aft within the coamings and provides working room for sheet handling abaft the helmsman.

PROFILE:

A traditional tapered teak toe rail accents a well proportioned sheer line while a low coach roof, still providing 6'2" headroom, affords a pleasing profile.

MATERIALS:

All deck hardware is stainless steel, high tensile, non-corrosive aluminum, or satin chrome plated bronze. Coamings, toe rails, hatches, grab rails, and trim are in select Burma teak.

Two-speed Barient No. 21 winches, mounted on bases with winch handle stowage and equipped with all necessary genoa gear, are standard equipment as well as the main sheet traveller vital to proper trim.

STANDARD EQUIPMENT

Dorade vent boxes with 3" pvc cowls
Complete engine vent system with blower
Companion hatch cover
Deck loading ice box
Bulkhead mounted compass
#21 two speed Barient winches
16' genoa track with cars & end stops
Main sheet traveller
Stainless steel pulpit with lifelines
Stanchion sockets with pad eyes
2 pvc shell snatch blocks
Translucent foreward hatch
Anchor and 150' ⅝" nylon rode
Fog horn and bell
Coast Guard approved life jackets
Fire extinguishers
Compass for bulkhead mounting

SPARS AND RIGGING

MAST:

A light rugged 7½ x 5" eliptical section carries the 34's high aspect rig. The spar is properly stepped through deck on the lead ballast assuring rig stability. #10 Barient winches mast mounted for main and genoa halyards.

RIGGING:

Stainless 1 x 19 standing rigging is lead to knee and flange mounted chain plates. Running rigging is dacron with wire rope splices where applicable.

BOOM:

Eliptical 4.5" x 2.75" extrusion with integral sail track. Internal outhaul with stainless steel car and 4:1 purchase tackle integral to boom. Cheek block, pad eye, and cleat provided for outboard end of jiffy reefing system.

SPECIFICATIONS AND STANDARD EQUIPMENT

High aspect rig
Two No. 10 Barient halyard winches
Wire rope spliced halyards
Genoa sheets, main sheet, boom topping lift, jiffy reefing lines.
Two #3 snatch blocks
Inboard & outboard end jiffy reef system
Internal outhaul
Fast pin operated tack stem fitting
Aluminum spar stepped through deck
Tapered spreaders
Mast head pennant halyard

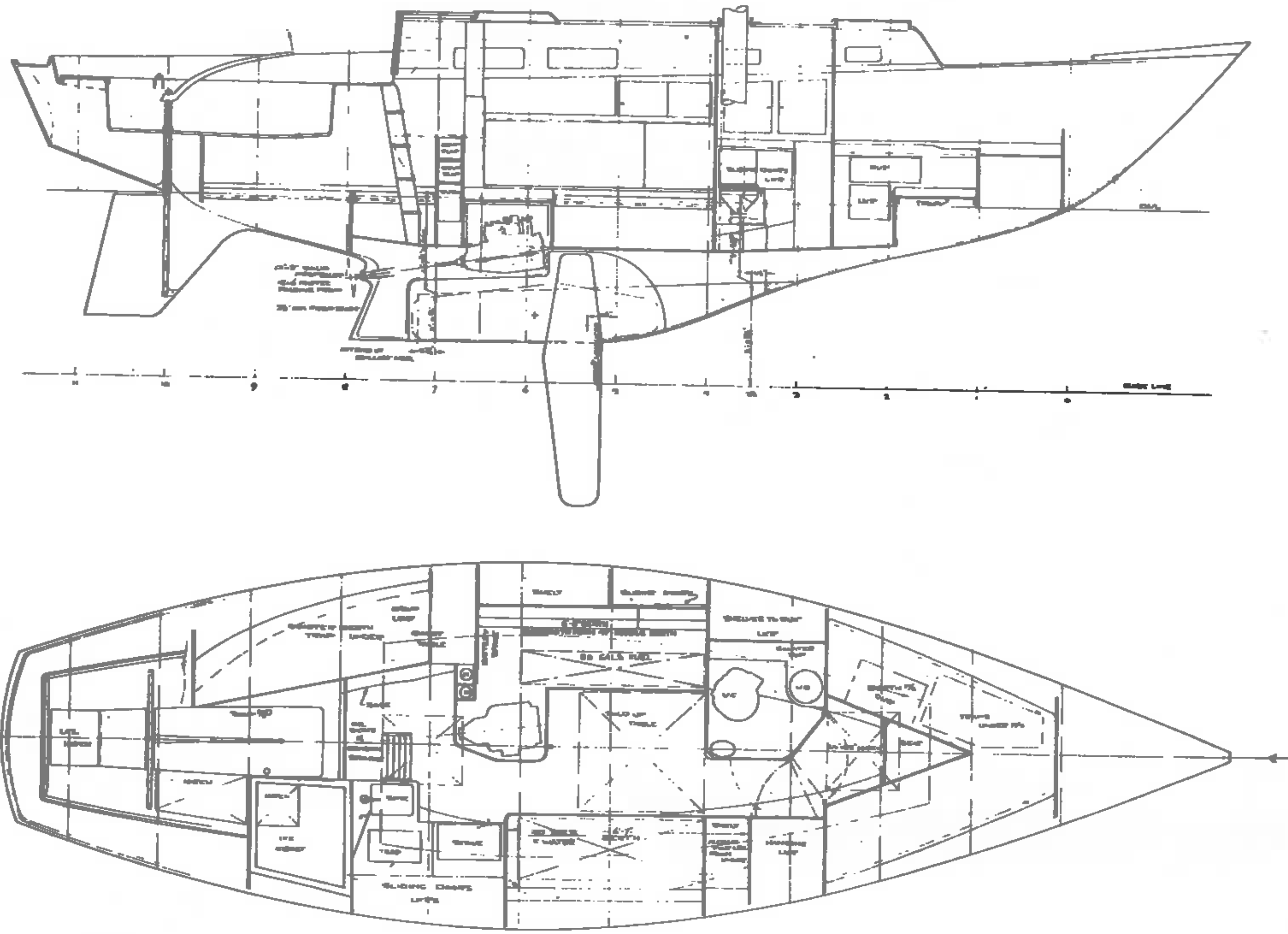
MECHANICAL AND ELECTRICAL

Auxiliary power by Universal is positioned forward over center of ballast reducing tendency to hobby horse in a seaway, and shaft angle is set three degrees to port to eliminate propeller torque. The shaft is 1" stainless through 10" bronze sleeve. Narrow blade wheel on centerline (Martec wheel optional) Two lever engine control, full instrumentation, Coast Guard approved ventilation system, midships silencer, exhaust duct, bilge pump, and blower.

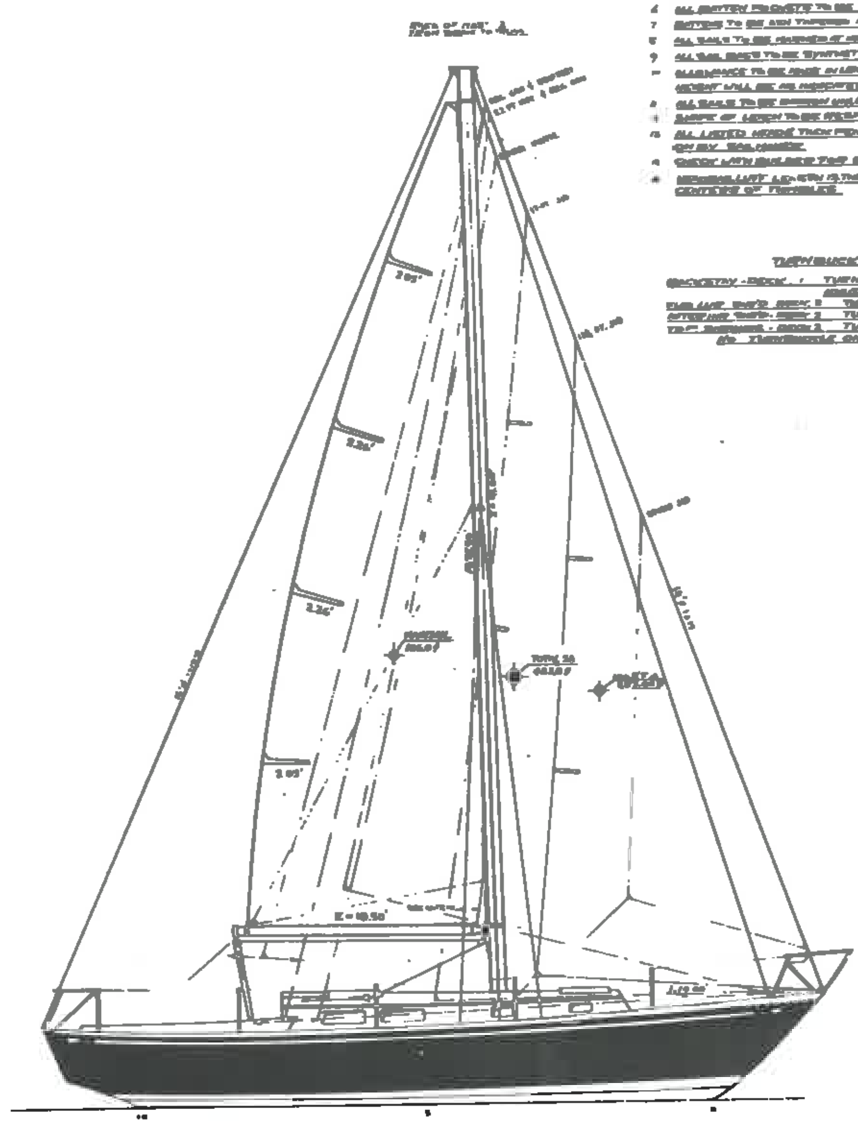
Electrical system, 12 volt, supplied by heavy duty 90 amp hour battery, 30 amp alternator. Minimum 14 gauge wire throughout to fused panel. System supplies seven cabin lights and required navigational lights.

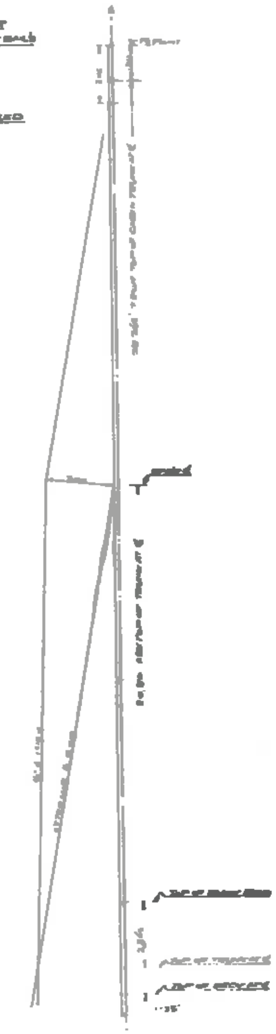
STANDARD EQUIPMENT

Universal Atomic four engine
Immediate engine access through removable insulated box
Off set drive eliminates torque
30 amp alternator
Removable handle reverse gear linkage
Oil pressure gauge, ammeter, temperature gauge
Exhaust loop silencer
90 amp hour battery
Loom wiring to gang terminal boards
6 place fuse panel
4 dome lights
2 swivel base reading lights
1 shaded bulkhead light
All running lights and compass illumination



CABIN ARRANGEMENT PLAN
OF
CENTERBOARD SLOOP
FOR
DOUGLASS & McLEOD PLASTICS CORP
SPARKMAN & STEPHENS INC.
79 MADISON AVE. N.Y. N.Y.
7 July 67





DESIGN Nº 1904

SAIL PLAN

23-0" DWL AUX SLOOP

TARTAN MARINE Co.

SCALE

SPARKMAN & STEPHENS INC.

NEW YORK N.Y.

TA-1001 5


AEOS
2094