

~~373-6592~~

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.

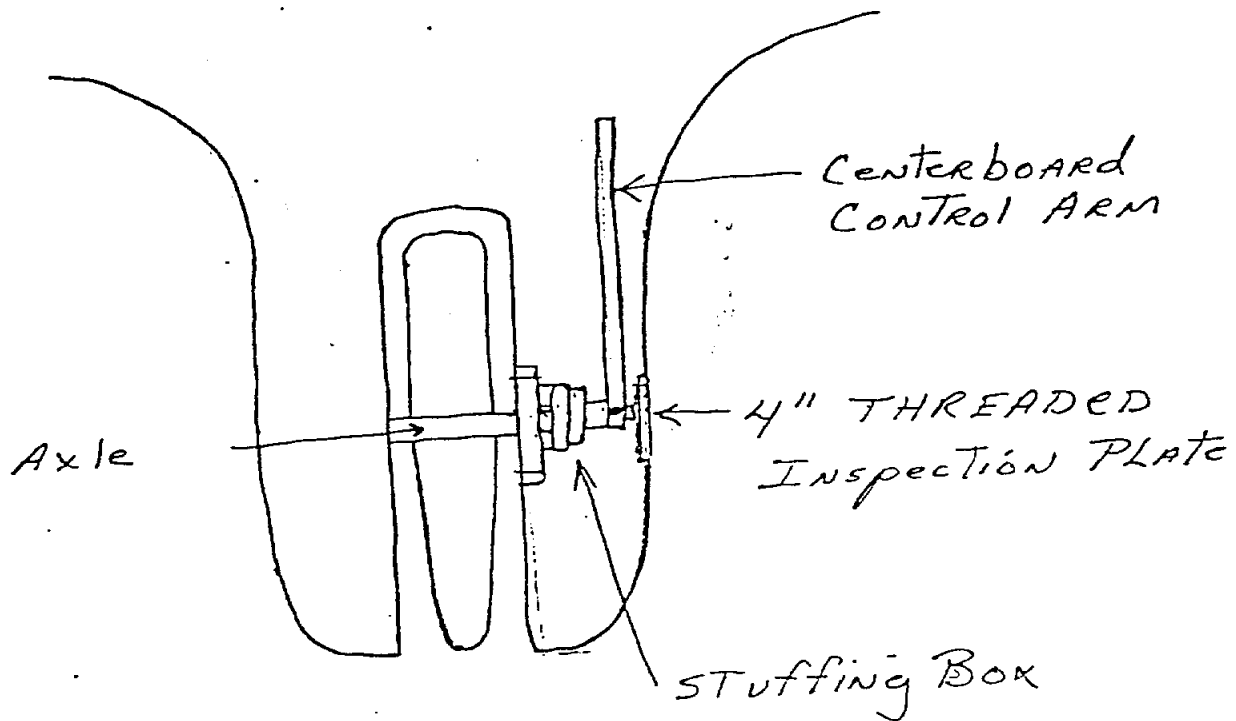
A look at the accompanying diagram will reveal that, if the ends of the cable circuit were fixed, a greater cable length would be required at the half-up position. Consequently, the forward end of the cable circuit is not fixed but is attached through a turnbuckle to a stainless steel spring. The spring 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.

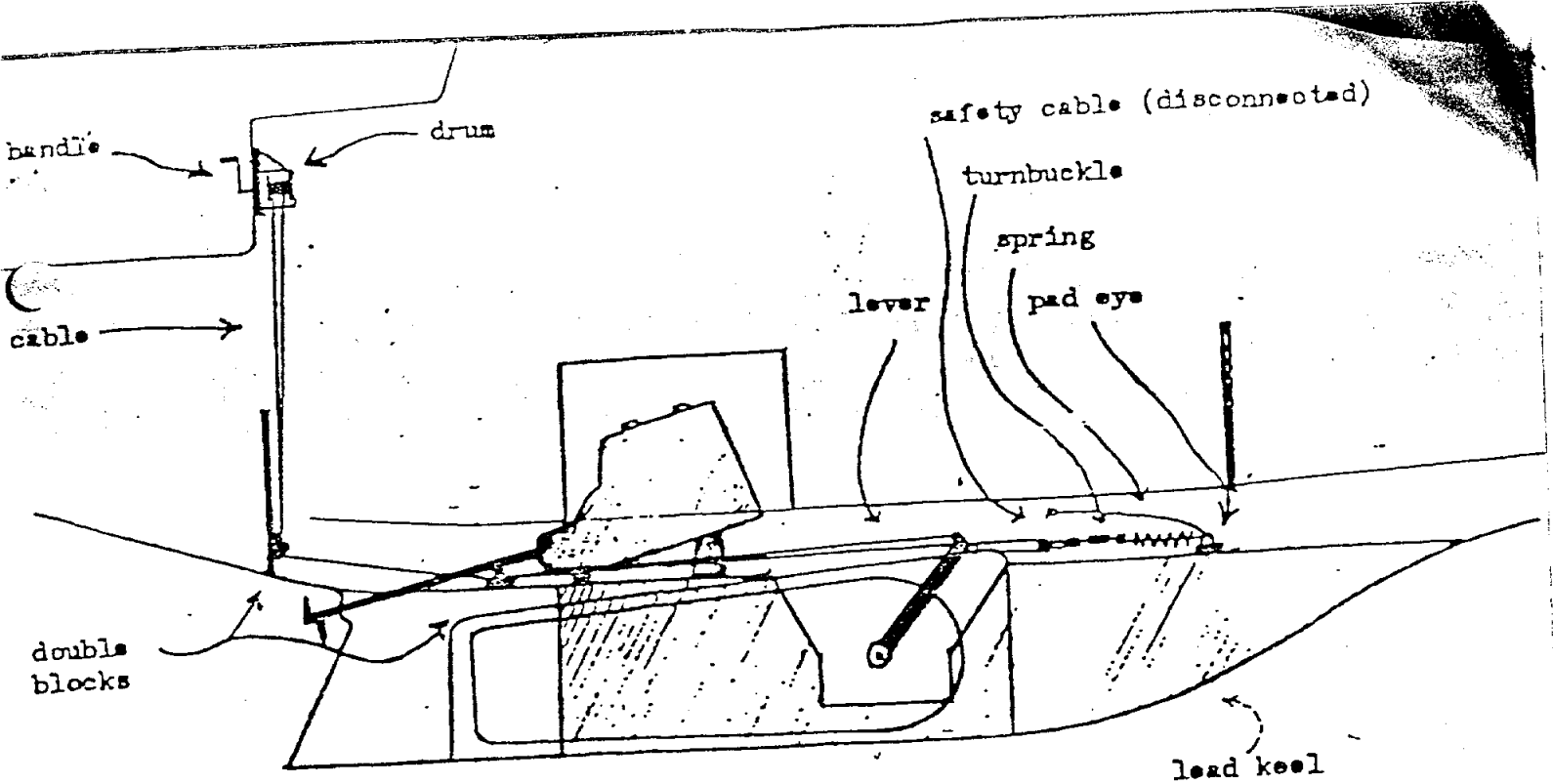
The centerboard cable turnbuckle is set at the factory during building, but due to the effects of use on the system this setting should be checked occasionally. Excessive slack will be apparent in the full up and down positions, and would result in imprecise control of the board setting. Excessive tension 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

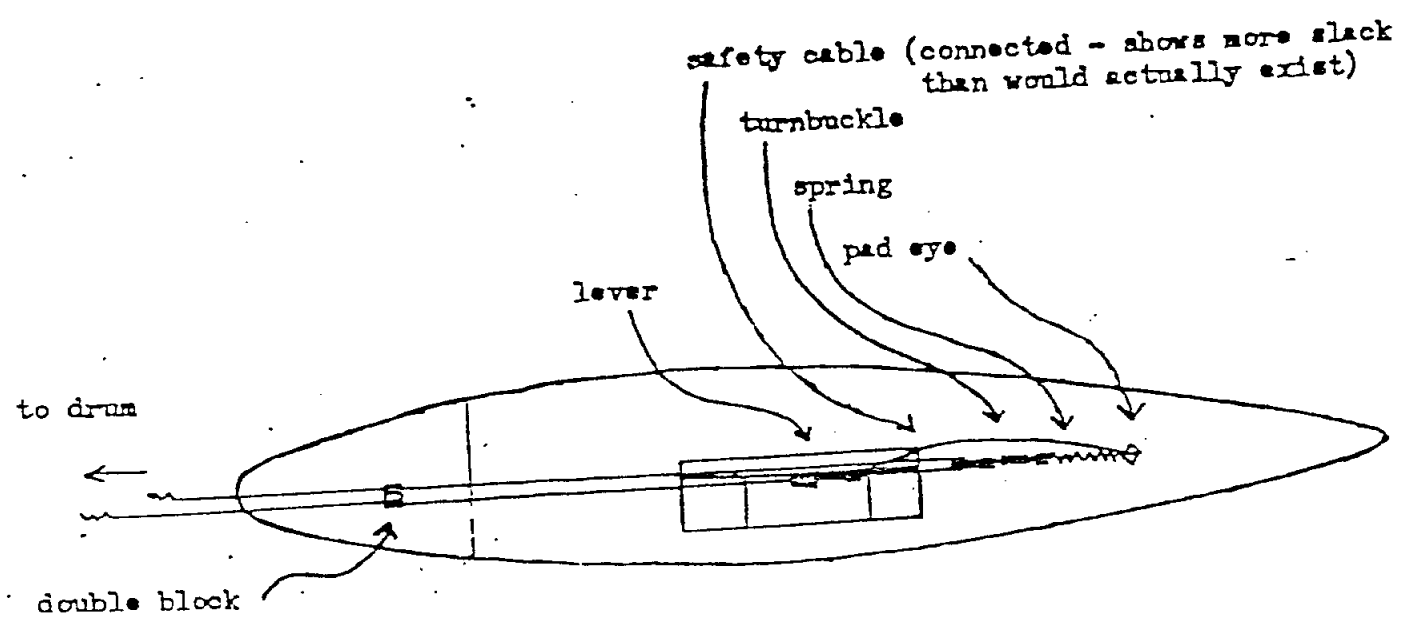
setting is done at the factory, but should be checked by the owner when he receives his boat and occasionally thereafter. Access to the drum bracket is gained through the hinged door just aft of the top of the companionway ladder.

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.

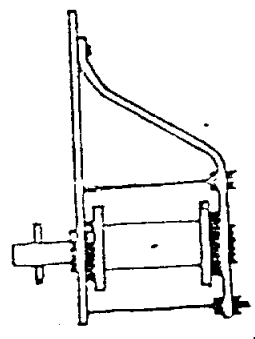




SIDE VIEW



TOP VIEW  
(horizontal section at top of keel)



DRUM & ERACKET ASSEMBLY  
STBD. SIDE VIEW

adjustment nuts

## THE TARTAN 34 CENTERBOARD

Due to rating considerations at the time the T-34 was designed, the board is on minimum weight. Therefore, a positive system is needed to make the board go down, as well as pull it up.

The vertical actuating arm visible in the bilge is connected to a horizontal axle. The connection of the arm to the horizontal axle has changed during the course of production of the T-34. Early boats had an arm with a square hole in it, and the end of the axle was square. Later boats had an arm with a round keyed hole, and a round axle with a keyway milled in. On all models, a set screw is incorporated to hold the arm from sliding off the axle.

The horizontal axle passes through a stuffing box and through the centerboard trunk to a bushing on the port side of the centerboard trunk. Where the axle passes through the centerboard, the axle is square, and there is a square hole in a piece of brass embedded in the board. In time, a few thousandths of an inch of wear will happen to the square hole in the piece of brass embedded in the centerboard. Because the sides of the square are only about an inch on a side, the small amount of wear will let the aft end of the centerboard many feet aft, drop lower than the bottom of the keel, even when the board is hauled up all the way (with the vertical arm all the way forward). There are two remedies for this condition:

- A. Remove the board and bush the square hole in the board to be a tight fit on the axle again.
- B. Remove only the vertical arm and cut it and reweld it with a dog leg so the axle turns farther before the arm hits the forward end of this travel. The disadvantage of this fix is that the board will not go down all the way.

Unless operating in very shallow water, most owners ignore the "drooping" aft end of the centerboard.

### TO REMOVE THE CENTERBOARD

There is an inspection plate in the hull, starboard side of the keel area. The inspection plate is glassed over with one layer of mat to help insure watertight integrity. If you cannot find the plate visually, the metal in it will cause a different temperature to be felt in the area of the plate. As a last resort, hit the area with a CO<sub>2</sub> fire extinguisher, and the frost pattern will tell you where the plate is. Chip off the glass and unscrew the middle portion of the inspection plate. There will be a 1/4-20 Hex head machine screw visible on the end of the axle. Back out this fastening, and then the vertical arm can be slid off the end of the axle after the set screw is loosened.

## TO REMOVE THE CENTERBOARD (Continued)

It is often easiest to thread a long 1/4-20 bolt, or piece of threaded rod into the tapped hole in the end of the axle in order to pull the axle out. If possible, support the centerboard before pulling the axle.

A small trick in getting the board back in is to draw a cross on the starboard side of the board with chalk, crossing at the axle hole, so that the direction to the hole can be seen while your assistant wrestles with the board.

### POSSIBLE PROBLEM

If the bolt in the starboard end of the axle is not properly installed with the locking nut on it, the bolt may back out, allowing the axle to move to starboard enough so the square on the axle disengages from the square in the board. If this should happen, pass a line under the boat, and haul up on both ends to raise the board partially.

Disconnect the cables from the vertical arm. Use a crow bar, or in an emergency, a winch handle, to apply pressure to the end of the axle visible just to starboard of the vertical arm, down in the hole in the bilge. Wiggle the arm while applying the leverage, and if you hold your mouth just right, you will be able to get the square on the axle to line up with the square in the board. Once the assembly is all back together, you may wish to epoxy a piece of fiberglass or strong wood to the inside of the hull opposite the centerboard axle to prevent athwartship movement of the axle.