F32 Newsletter

The Journal of the Freedom 32 Sailing Yacht Vol. 3 No. 4 Jun-Jul.'89

Edited by John Lease, 197 New Road, Exeter RI 02822 (401) 295 7817

News

Item:
Good news: although there has been no official announcement as yet, several people who should know tell me that Freedom Yachts has a new owner and president -Paul Petronella. As more information becomes available, we will pass it on.

Item:
Dr. Peter McCrea, Panacea, did indeed take fleet honors in the singlehanded leg of the race to Bermuda, in spite of keel and rudder damage suffered in a drifting start causing him to ground on the rocks at Castle Hill. More on this later.

Item:
The Freedom Rendezvous held this year in Boston was, according to the attendies, very well managed and a uniquely pleasant experience. Of the 26 boats only 2 were F-32s, making races in our class impossible, unfortunately. Wait till next year!.

Letters

F/J 40
Dear Editor.
In the last issue of F-32 Don Peaslee suggested that a Freedom will not point through in less than 90 degrees. In the Freedom at Sunset people disagree with the statement and want to offer a friendly challenge.

I will offer you a test sail on any of the Mull designed Freedoms. Should you not be able to point through in less than 90 degrees Sunset will give you a Freedom jacket with your name and your boat name. Ask for me at (617) 925-2653.
Congrats to Paul Petronella. He has been a special part of Freedom. We are ecstatic.

Peter Swanson
Sunset Yachts
Hingham, Mass.

Dear Editor

I wanted to respond at once to Don Peaslee,s comments on the performance of the F-32, but somehow days and weeks have gone by.

I commend Don for his search for a rig that is both fast and convenient. Don comments on his joy at being able to sail effortlessly through tight passages, so he recognizes the good points of the rig. I think he goes a bit astray after that, though, with his Fact of Life conclusion that "Going Really Well Upwind Requires A Genoa". If we accept this, then we are doomed to repeat once again the curious logic that led to big genoas and big winches, and hard to handle rigs in the first place. That is, we have turned the F-32 into the very thing it was intended not to be.

If the F-32 does not perform well upwind in normal summer winds, perhaps we can see why by comparing sail areas of various boats of this size. The F-32 has a sail area(main and Camberspar jib) of 490 sq. ft. The Nonesuch 30 has an area of about 555 sq. ft. I note also that I have fit two Nonesuch 30s with roached full batten sails with areas of 654 sq. ft. I further note that Gougeons experimented with a wing masted Nonesuch 30 that had a mainsail area of 814 sq. ft. plus 100 sq. ft. of wing mast giving a total area of 814 sq. ft. of working sail area. (Curiously enough this Nonesuch led to the original wing mast rig on the Hoyt/Gougeon Freedom 25 prototype-which, through redesign and compromise, eventually led to the somewhat undercanvased F-32 we are discussing.) To compare the F-32 sail area to the conventional boat, consider that an Endeavor 32 with 155% genoa has an area of 605 sq.

ft. I think from this it is clear that the F-32 does not perform upwind in light air because she carries less sail than other yachts of her size, be they cat rigged or conventional.

To make up this difference in sail area Don chose a genoa as being the easiest thing to retrofit. He is right, but he is also starting anew the cycle that started when genoa jibs were first used on 6 metre yachts in 1930.

To achieve the upwind performance Don wants the Freedom rig need not be changed, just enlarged. Adding 4 feet to the mast, raising the hounds 2 feet, lengthening the boom 3 feet and moving the forestay ahead three feet(to an anchor housing bowsprit) gives a working sail area of 624 sq. ft. I personally feel this would be an improvement, but I also recognize that this would result in a rather tender boat that would need to reef early. The longer boom would probably put the mainsheet in the cockpit instead of on the cabin top. The taller mast would add weight aloft and increase pitching. And enlarging the jib would make a storm jib more necessary. All this could well be detrimental from a marketing standpoint. All designs are, after all, a compromise--or as Don observed, there is no free lunch.

Best regards,
Dave Bierig
Bierig Sailmakers, designers and makers of the F-32 jibs.
We owe Dave a thanks for providing the information on pages 3 & 4.

Your Editor has recieved a letter from Wilbur(Stub) Webster extolling the advantages of sailing a F-36, from a standpoint of speed and comfort. He should know, he has owned an F-32 and now is the proud owner of a F-36. This letter is in response to the comments Don Peaslee made about the sailing efficiency of the 36. His closing comment is this:
"The point of all this is to tell your other readers that the F-36(now 38) is a good boat, well worth their consideration when moving up. I just hate to see it's reputation damaged by inuendo"-signed, Stub Webster.

Throttle Control

Bob Brown
Carina, #125

I've really enjoyed the F-32 Newsletter. The technical articles have been very helpful to me since I live so far from Freedom or any other Freedom 32s that I know of. I thought I would pass along some notes on a modification I recently made to my Edson pedestal engine controls(some have pedestal controls, some don't-ED).

I was never very happy with the throttle arrangement on my boat. It came from the factory with a cable clamp on the throttle cable in the vicinity of the engine to keep the throttle from slipping to a lower speed. Mine was slipping anyway and I was told by Freedom to either tighten up on the cable clamp or augment it with another. I used another cable clamp which solved the slippage problem but made it difficult to move the throttle handle. The whole arrangement bothered me and reminded me somewhat of trying to push a rope.

Later I noticed in an Edson catalog that the design of the throttle control had been modified by the addition of a "throttle friction adjuster", a 1/4-20 machine screw. I talked to Edson and they explained how I could install one and even sent me a couple(they apply something to the threads to keep the screw from backing out). I removed my cable clamps and tried it. It's smooth and works great!

The procedure goes something like this. Remove the compass(make sure you fix its rotational position so it goes back in the same position-Ed.). Remove the clevis pin from the throttle cable. Remove the throttle handle from the shaft. Remove the screw that is (go to page 7)

The Why and How of CamberSpar™ Control

After several seasons of testing, we are pleased to offer a unique new type of working headsail. It is controlled by a curved "half wishbone" boom that we call a CamberSpar. The CamberSpar headsail combines self tacking convenience with the automatic twist control that wishbone booms provide. As a by-product of these features, headstay sag is minimized and actually used to advantage. Now, with headstay sag and twist controlled, we have a working jib that sets well upwind in all weather, does not twist out of shape on a reach, and will wing itself out on a run. Because the sail sets properly on all these points of sail, it will provide more overall drive than its area alone would suggest.

Several considerations motivated us to develop this distinctive sail. First, it is true that genoas are very effective sails upwind when the wind is light, and when your yacht is fully crewed. But when the breeze is up or you are sailing short handed (or with a crew of non-sailors) a working jib can be real handy. Secondly, until now working jibs were either self tacking on a "club" or the conventional loose footed type. Self tacking club jibs are convenient and set well upwind, but when the sheet is eased for reaching they will twist excessively and the upper portion will luff. Conventional loose footed jibs also set well on a beat, and, by Barber hauling, the sheet lead can be adjusted to minimize twist on a close reach. Generally though, on a broad reach they become too full and have excessive twist just as a genoa will. Both types of working jibs require a whisker pole if they are to be of any use on a run. Finally, all headsails have the common problem of headstay sag and its effect on sail draft. Basically, sails should be flatter in heavier air to reduce drag and heeling force. However, heavier winds increase headstay sag, which in turn increases headsail draft (Fig. 1). The headsail becomes fuller when you actually want it flatter. Clearly there was room to improve the working headsail in the areas of twist and draft control.

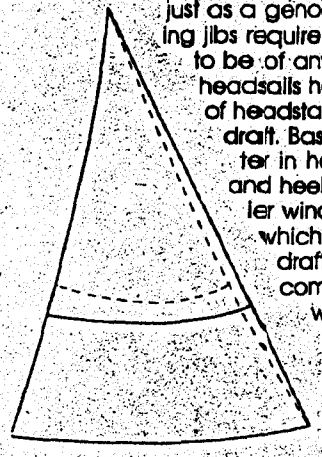

Fig. 1 Broken line illustrates how headstay sag affects draft

When we set out to develop a better working headsail we considered the standard wishbone boom. Wishbone booms have been used on headsails and have many advantages as well as significant disadvantages. Wishbone booms are self tacking and have additional advantages in that they control both the twist and the draft of the sail. Ultimately, the forward drive of the headsail is concentrated at the clew where the after end of the wishbone boom attaches. This forward drive is transmitted to the headstay by the wishbone, thrusting it forward and thereby tensioning it (Photo A). This pulls draft out of the sail. Thus, as wind strength increases, the headstay is tightened and the sail is flattened. In contrast, a conventional headsail would become fuller. To understand how a wishbone controls twist, consider an analogy to a mainsail with a boom vang wherein the wishbone represents the main boom and the foot of the jib represents the boom vang (Fig. 2). This self vanging action of the wishbone is so effective that the top of the jib will not twist off even when running wing-and-wing (Photo B). The disadvantages of the wishbone are that it is clumsy, odd looking, and creates windage and turbulance. If only one side (half) of the wishbone were used instead of a full wishbone, the clumsiness is reduced. It would still look odd though, and still create windage and turbulance.

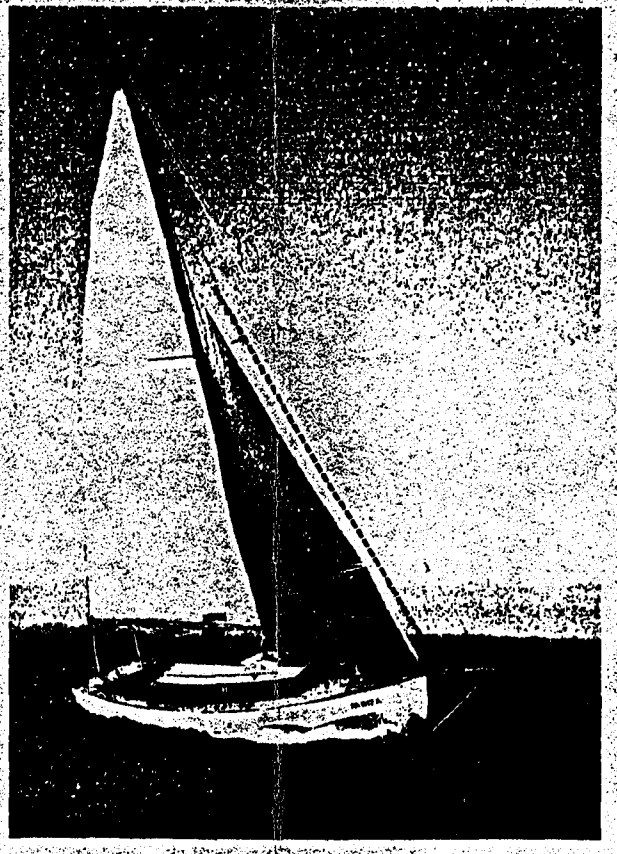

Photo A

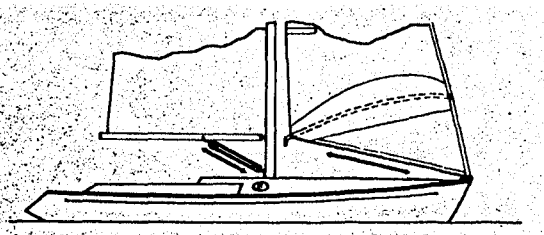

Fig. 2. Arrows indicate vanging action

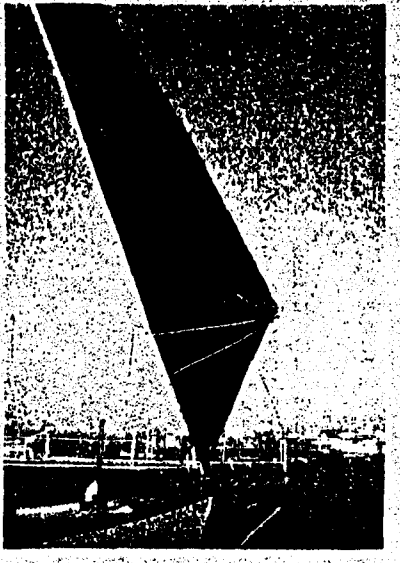

Photo B
Note vanging action of foot controlling twist

We felt we could minimize the turbulance if we fitted this half wishbone within a pocket in the sail. At the same time this will force the sail to take an efficient cross section as it conforms to the curve of the half wishbone. That brought us to the final detail of arranging our internal half wishbone so it will automatically rotate on its axis to tack with the sail. That accomplished, our innovation, the CamberSpar, was complete. We retained the inherent advantages of a wishbone while minimizing the disadvantages. We also gained an additional advantage in that the CamberSpar forces the sail to set correctly. This is especially beneficial in light air. This sail and spar combination is effective on all types of boats, and because it does not require a bar tight headstay, it is notably effective on monohulls with unstayed masts and on some trimarans and catamarans. This sail can be used as the staysail of a cutter, as the masthead jib of a sloop, or for any other self tacking headsail.

Let's take a closer look at the CamberSpar. At the forward end there is a sheave which rides on the headstay*, a pair of hooks which engage grommets in the luff of the sail, and a low friction thrust bearing which allows the spar to rotate (Fig. 3 shows this standard configuration, but in some cases the forward end fitting will be slightly different). The curved spar itself is made of 6061-t6 aluminum which is white epoxy coated. At the after end of the spar is an outhaul adjustment and a thrust collar with hooks to hold the clew grommets. When tacking, the spar rotates within this thrust collar. Also at the aft end of the spar is a short tacking arm to which the sheet is attached (Fig. 4). The tacking arm acts like a lever and enables the sheet to rotate the spar when tacking or jibeing. The sheet is rigged very simply as it only controls the angle of the sail in relation to the boat. Thus, the expense and clutter of a traveler is avoided. On some boats the sheet is led to a block on the mast. On other boats a block or bridle arranagement is used on the deck. The sheet can be single, two, or three part to minimize the need for a sheet winch. We would advise each customer on how to rig the sheet.

Rigging a CamberSpar jib is not much more complicated than rigging any other headsail. To start, hank the jib on as usual and side the CamberSpar into the pocket. Snap the spar to the headstay and slip the pair of luff grommets and the two clew grommets over the hooks on the spar. Then attach the sheet and you are ready to hoist. The forward end of the CamberSpar goes aloft with the jib and also comes down with it. You may want to add a topping lift to the after end of the spar to aid in hoisting, lowering, and stowing and to prevent the spar from banging around on deck. The sail can be furled on the CamberSpar and covered until you need it again. In light air, it can be left furled and the genoa hanked on above it.

*A CamberSpar is only recommended for use with a 1x19 headstay and is not compatable with rod headstays, or foil covered headstays.

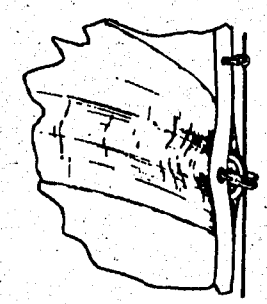

Fig. 3. Luff Detail

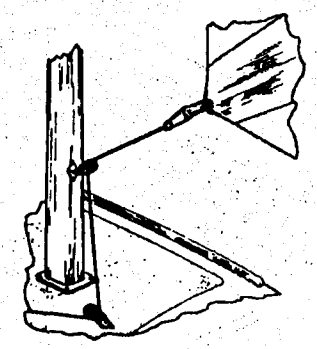

Fig. 4. Clew Detail

NOTE: See assembly and rigging details for alternate front end fitting and sheet arrangement.

To discuss the merits of a CamberSpar headsail for your yacht, contact:

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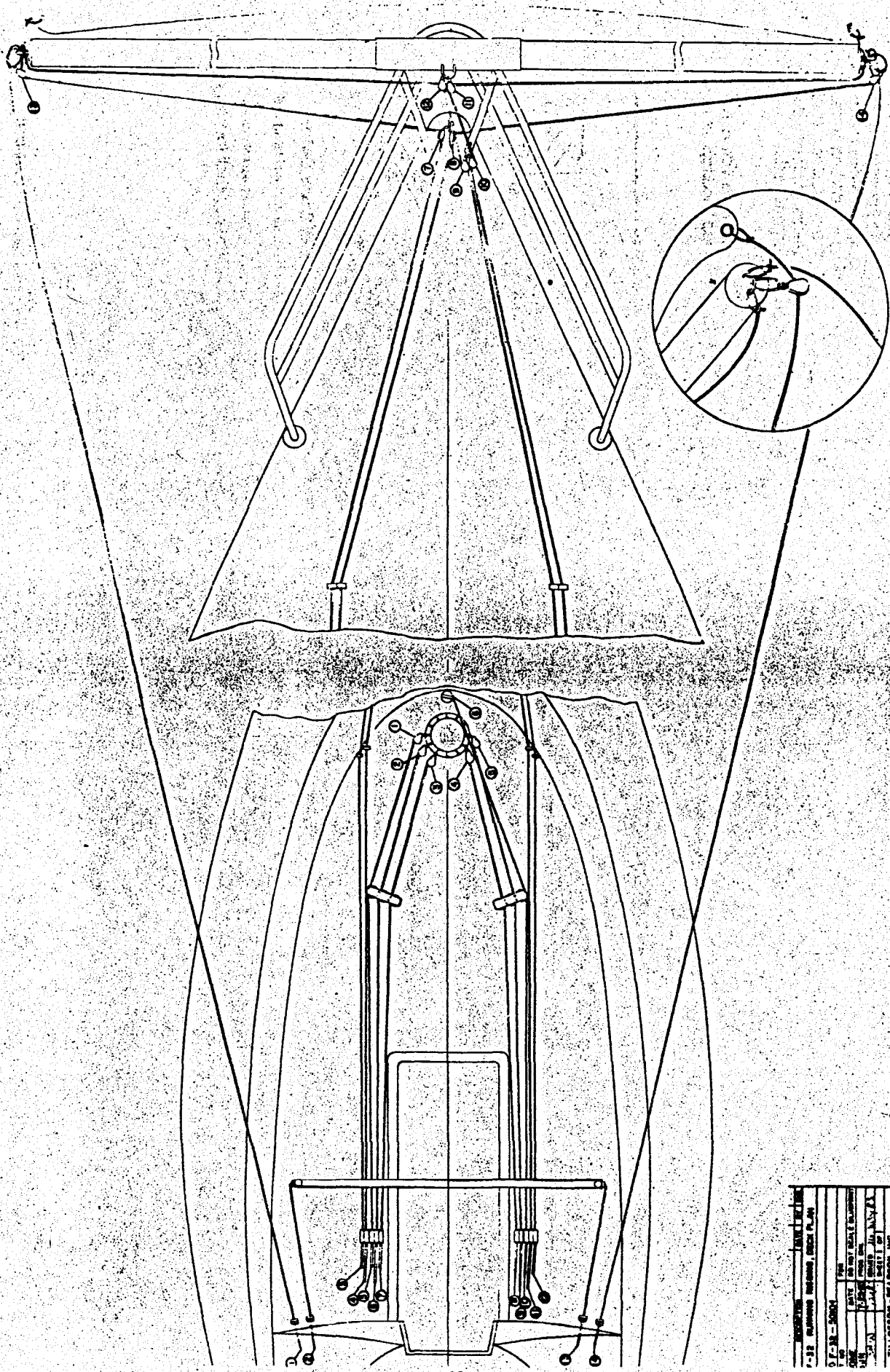
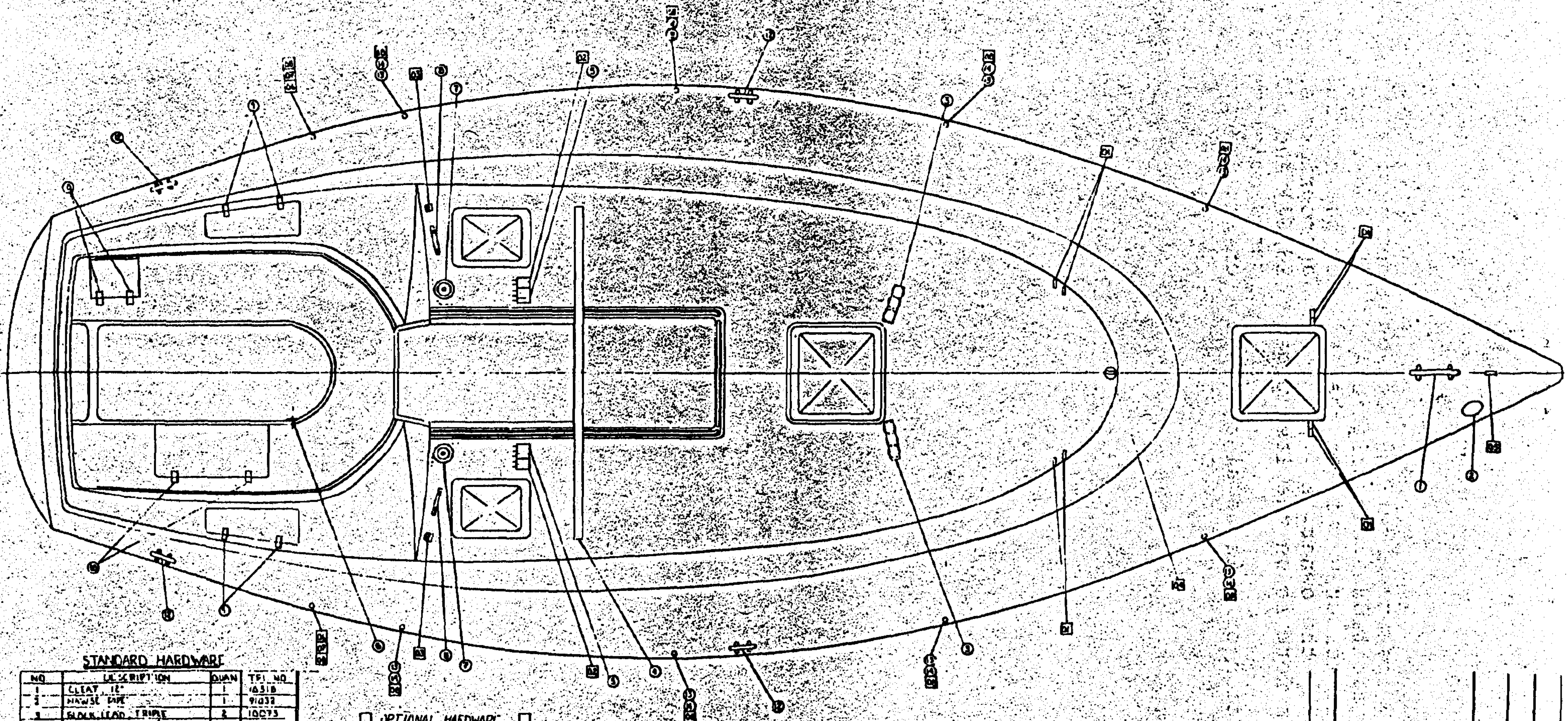


F-32 Rigging



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NO.	DESCRIPTION	QUAN	TPI NO.
1	CLEAT, 12"	1	10318
2	HAWSE PIPE	1	91032
3	BLOCK, LEAD, TRIPLE	2	10073
4	TRAVELLER, 7', W/END STOPS	1	10555
5	STOPPER, TRIPLE	2	10168
6	PUMP	1	23170
7	WINCH, 2/A BARIENT	2	10087
8	CLEAT, 6" JAM	2	10014
9	HINGE, UNEQUAL LEAF	4	10299
10	HINGE, EQUAL LEAF	4	10693
12	CLEAT, SS, 8"	4	10555
13	STANCHION, TUBE ONLY, 24", SGL	4	10359
14	STANCHION BASE, A 44, CLEAN	4	10330

☐ OPTIONAL HARDWARE ☐

01	BULLSEYE	6	10141
02	STOPPER, DOUBLE	2	10167
03	CLEAT, CAM, W/FAIRLEAD	2	10014
04	BLOCK SWIVEL FOR 3/8	1	10353
05	CHAINPLATE	1	10005
06	STANCHION, TUBE ONLY, 24" SGL	1 or 2	10357
07	STANCHION BASE, A 44, CLEAN	1 or 2	10330
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F-32
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The publication of this newsletter was inspired by the interest demonstrated at the Freedom Rendezvous of 1986 and by the obvious benefits that would acrue by the exchange of information between owners concerning the maintenance, operation and customizing of the boats. F32s prime mission is to publish, in detail, information concerning the correction of problems and the implementation of improvements the the boats, F32s in particular, an relies primarily on reader/owner supplied articles. It will also carry articles of interest on cruising, racing, social events, interviews,etc.

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The editor and contributors are not liable for comments, suggestions and recommendations made in this publication.

(throttle control cont'd) underneath the casting that the shaft goes through. This screw holds the teflon screw in place. Now slide the shaft and the teflon sleeve out of the housing. Then, using an appropriate sized drill(I used a 13/64) and a 1/4-20 tap make your screw hole in the position indicated on the drawing(pg. 8). It is easier if you bolt down the whole assembly while you do this. Install your bolt.If you don't use one from Edson make sure that it is non-magnetic (some stainless alloys can be magnetic or para-magnetic-so test its effect on your compass-Ed.) Put everything back together in the reverse sequence. Before replacing the compass, tighten your new "throttle friction adjuster" until the throttle remains in position with the engine running,

Hope this might prove helpful to someone. Fair Winds, Bob Brown

Bob, this might be helpful to more of us than you might guess, I have this problem on Sans Souci with bulkhead mounted controls. We should look into this and report in the next issue. Thanks for sharing.-ED

PEDESTAL ENGINE CONTROLS

Eds

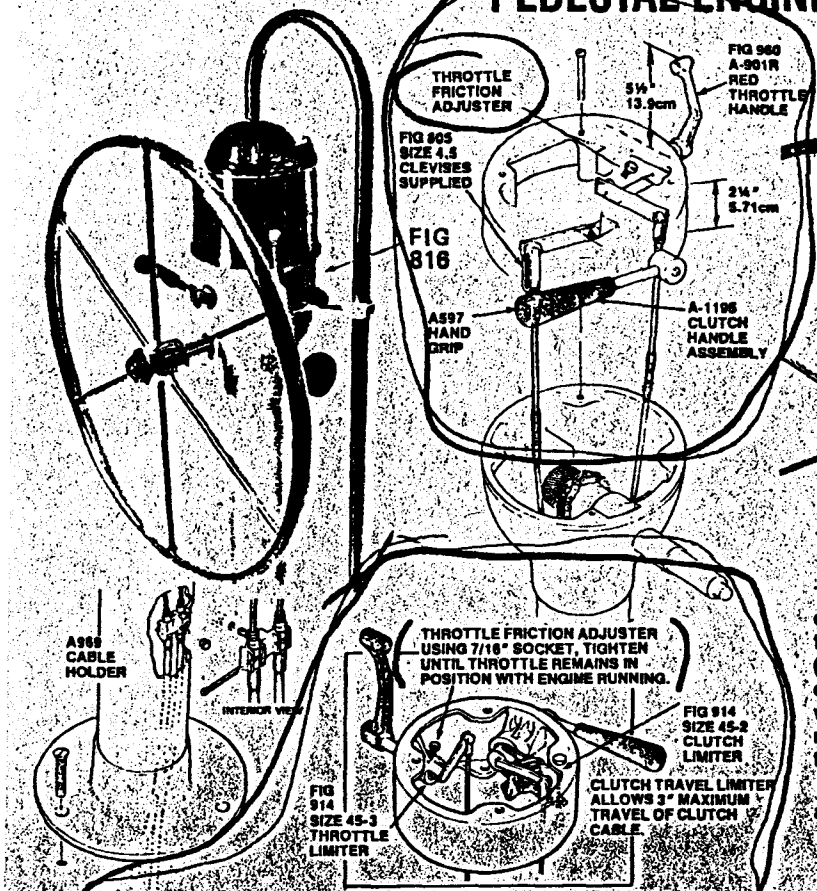


FIG. 816 CLUTCH & THROTTLE CONTROL

This control is used for those harder to shift mechanical clutches — that specify 33C (Fig 734) Control Cables. The handle is 6" in length and has a very convenient up and down action. You operate it by easily reaching over the top of the wheel. The throttle handle is red for easy identification and comes equipped with throttle friction adjuster. Additional features for those transmission and throttles having no built-in limits or stop. Fig 914, Size 45-2 Clutch Travel Limiter allows 3" of total travel and is limited by the stop. The Fig 914, size 45-4 Throttle Limiter also limits the travel to almost 2¾". For Size 45 ONLY — to fit 334 and 335 steerers.

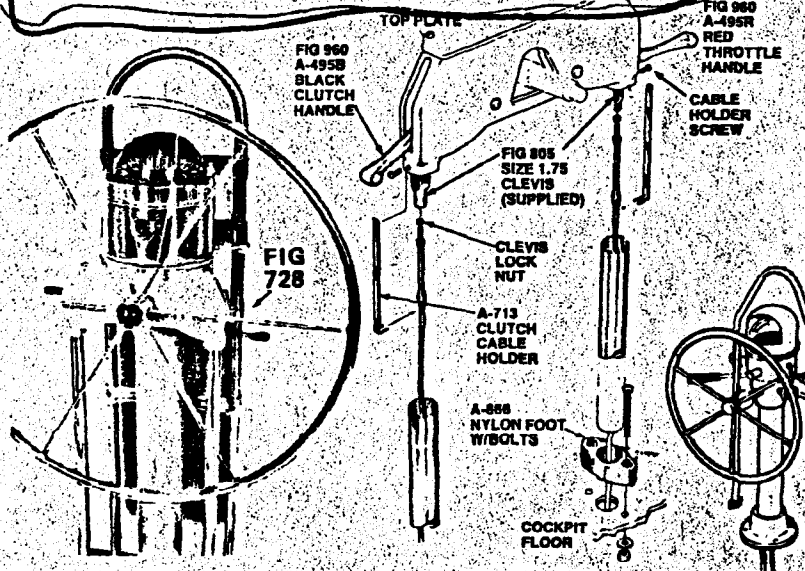


FIG 728 CLUTCH AND THROTTLE CONTROL

Fig 728 Clutch and Throttle Control has all of the same features as the Fig 727 except it is specifically designed for hydraulic transmissions *only*. It can easily be converted to a mechanical control and vice versa by stocking some minor parts. Wt. 8 lbs/2.7k

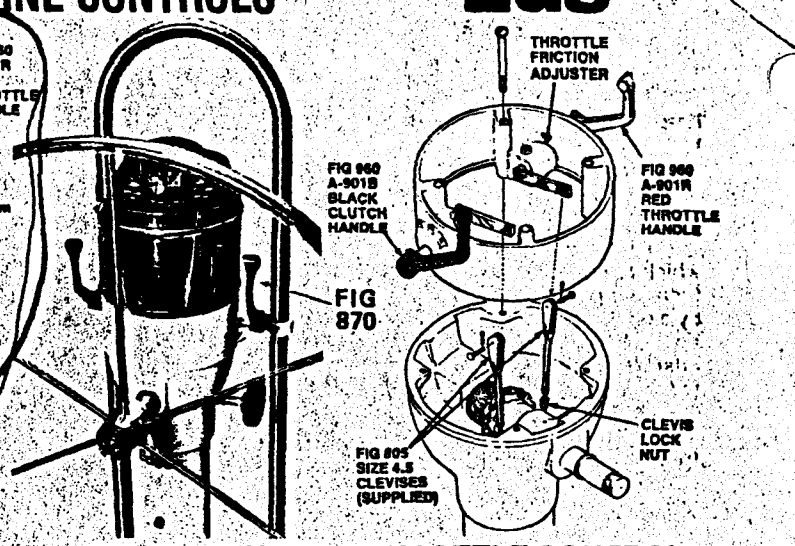


FIG 870 CLUTCH & THROTTLE CONTROL

The Fig 870 Clutch and Throttle Control features easy-to-reach color-coded handles conveniently located between the compass and pedestal top. The Fig 870 is designed to be used with transmissions that use 33C (Fig 734) cable. When properly installed, pushing the clutch lever forward engages the transmission in forward while pushing the throttle lever forward increases speed. This control features ease of installation with the neat appearance of all inside mounted Push-Pull cables and Throttle Friction Adjuster. Wt. 4 lbs/1.8k.

Fig 963 Stainless Steel Handles can be ordered for new or existing 870 and 816 controls. Highly polished, marked "Fast-Slow" and "Fwd-Rev."
Clutch Handle, Size 55P Throttle Handle, Size 55S

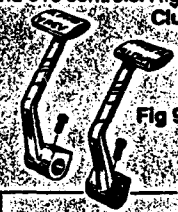


Fig 963

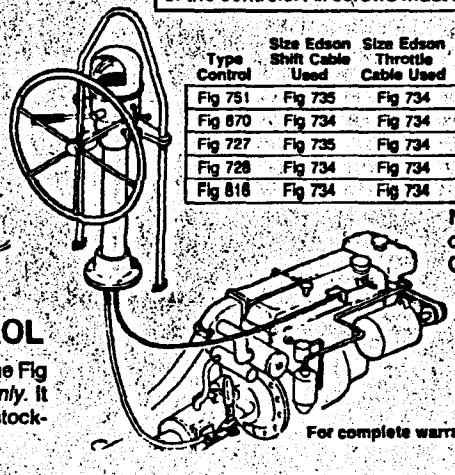

Fig 960 Size A-1203 Engine Control Decal — Red Decal for ease and safety — supplied with all new controls. Order a spare.

ENGINEERING DATA

1. All Edson engine controls are designed for use *only* with engine transmission having detents to locate and hold the transmission in gear.
2. Lead cables under the deck using a minimum number of bends with a generous radius. Tape or clamp to several structural members to reduce cable lost motion, and prevent interference with sheaves and wire rope.
3. If engine vibration causes unwanted throttle movement, adjust throttle friction adjuster Fig 751, Fig 816 and Fig 870 controls.
4. Cables may be adjusted by screwing the clevises at the engine control or engine end in or out, by relocating the cable clamp in the pedestal tube, or by attaching the clevis at a different position on the engine shift lever or throttle lever.
5. All on board must be familiar with the maintenance and operation of the controls. All screws must be kept tight and cotter pins secured.

Type Control	Size Edson Shift Cable Used	Size Edson Throttle Cable Used	Max. Clutch Cable Throw	Max. Throttle Cable Throw	Approx. Max. Operator Input for a Properly Adjusted Transmission
Fig 751	Fig 735	Fig 734	3⅜"	3 "	15 to 20 lbs/6.8 to 9k
Fig 870	Fig 734	Fig 734	3 "	3 "	5 to 10 lbs/2.2 to 4.5k
Fig 727	Fig 735	Fig 734	2½"	2½"	20 to 25 lbs/9 to 11.3k
Fig 728	Fig 734	Fig 734	2½"	2½"	5 to 10 lbs/2.2 to 4.5k
Fig 816	Fig 734	Fig 734	3 "	3 "	10 to 15 lbs/4.5 to 6.8k

NOTE: Max. cable throw figures on using Edson's *standard* 4" O.D. Column Pedestal.



CAUTION: All screws must be inspected and kept tight or loss of control will occur.

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