San Diego Ship Modelers' Guild

2960 Chicago Street, San Diego, Calif. 92117

Volume 12 Number 8 August, 1988

August Meeting: Friday, August 12, 1988
7:30 P.M. Social 8:00 P.M. Meeting
Orlop Deck of the *Star of India*
Bring a model !!

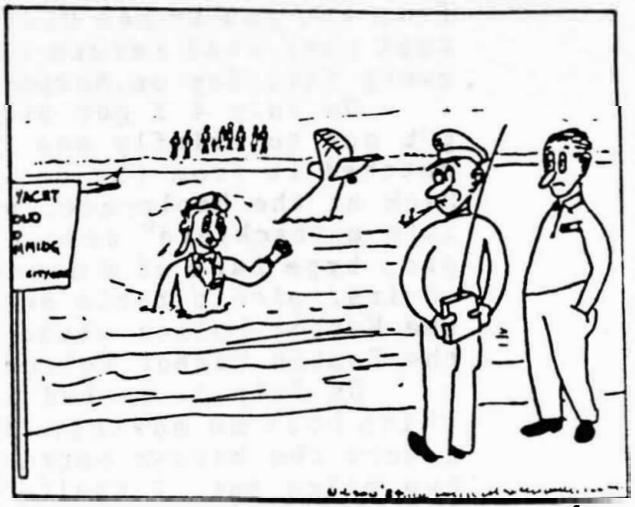
Notes from the July Meeting

The only notes to report from the July meeting is that there was no July meeting in the ordinary sense. Instead we celebrated our 17th birthday in style. On a balmy night in San Diego Bay we had a good turn out aboard the "*Star* " and from all accounts a good time was had by all. Our new bulletin board or "Rogues Gallery" made its debut with an interesting collection of old and new photos of club members and events. There was a good selection of home made goodies, not too heavy on the deserts as has been the case in recent years, and of course the bar was open and doing a brisk business! If you were there you know how much fun it was; if you weren't, sorry you missed it!

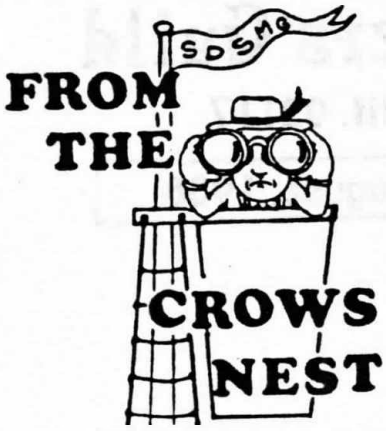
For Sale

Fred Fraas has three (count 'em three!) custom made MacFarland speed controls that he is willing to part with at cost, i.e. $50.00 each. For those of you not familiar with Dougs' speed control design, they are all-solid state units that plug directly into your receiver and take the place of a servo. They provide fully proportional forward and reverse speed control with little or no loss of battery power to the device itself. (You'll have to ask Fred why he has three of them!)

SHOW & TELL **by Nilson**



" WHO OWNS THE MISSILE FIRING CRUISER?



BY Bill Fleming, Jr.

I'm back aloft over on this other coast. It's hot and sticky in this port right now, and the land lubbers in their vehicles (cars) seem to have their own rule of the road which makes San Diego Bay on a holiday weekend look like a cake-walk,... but then there are some things which for me never seem to change...

...Why, it was only my second day in port, and I was aloft in the Pilots' office being introduced, and I look out and there were a couple of schooners sailing about. One with a white hull I had seen earlier and had identified for me as the SPIRIT OF MASSACHUSETTS. The other was bigger, with a dark hull, so I inquired, "That big Banks fishing schooner out there looks familiar, do you know who it is?" The Pilot responded that he wasn't sure, but the BLUENOSE II was around the area. "Why of course, I should have known it was her." My new boss was puzzeled at how I could identify such vessels. About a week later, I spot tall sticks and thinking it to be the BLUENOSE II, I persuaded the Sr. Chaplain to investigate with me. It turned out to be the old PILOT, sometime known as STAR PILOT which stopped in San Diego a few years ago. I was invited to crew her from San Deigo to Long Beach, but could not get out of a committment ashore.

While going out to see PILOT, I see a 12-meter on the dock, STARS AND STRIPES motif with a winged keel. Seeing a worker nearby I ask, "Is this STARS AND STRIPES '85?" He responds that it is S & S '83. "Oh, the old SPIRIT." to which the worker is surpized I know and my boss is totally confused. "I've just arrived from spending 14 years on the San Diego waterfront" I explained, to which the worker responded, "no wonder you're so familiar with the boat then!"

After working my first week with the cruise ship GALILEO and two of her crew who knew me from when they were on AZURE SEAS, I convinced the senior chaplain to go down to Fall River next to the USS MASSACHUSETTS to see another familiar sight to me, the SS BERMUDA STAR. There were a bunch of surprised and happy crew as they spotted me on the key to greet them. Now here is a news item for you in San Diego, the BERMUDA STAR has just announced that they will return early to San Diego and will begin calling every Saturday on November 5 for a 23 week season.

On July 4 I got over for the Esplanade concert, and still got out to briefly see the CONSTITUTION turnaround. In fact I watched it from the deck of the Schooner SPIRIT OF MASSACHUSETTS. Back at the Esplanade, we watched as three rafts were transformed into a "backyard" complete with sod, pickett fence, mail box, a prop type face of a house with screen door and shutters, lawn chairs, picnic table and barbeque. If it had been in San Diego the Harbor Police would have found at least five violations, but the Boston Harbor Police just applauded.

On July 5, we had a busy day with eight vessels in port, which kept me moving. In the midst of the morning calling I look toward the harbor entrance and I spy three sticks with yards. At two miles out, I couldn't identify her yet, but as she approached I could gather enough information to say she was the Mexican bark

CUAUHTEMOC. Sure enough once the hull was in view I was able to confirm the identity. Of, course she had been in San Diego several times and my visits with the crew reflected that.

So it has been a slow start here on the "other" coast!! I don't understand why I haven't had enough time to find a place for us to live yet.

I should put a final note on my final day in San Diego. Aurora and I were able to take a final cruise on the MEDEA that noon. The KIWI was staying at her dock that day, so we saw her. But as we were getting underway, a white hulled 12 meter came in and tacked across our bow several times. I happened to know that it wasn't a new kid on the block, that in fact it was the LIBERTY with a new paint job. I had seen the painting in progress at Driscol's yard on Shelter Island the previous several days. What was especially entertaining that day was that LIBERTY under full sail was "racing" one of the catamarans with only one sail.

Ah, here comes another tanker down the channel for me to visit. Now, who will fill me in on what else is happening in San Diego?

Obituary - Erik Ronnberg

Erik A. R. Ronnberg, 79, a former ship rigger in Glouchester and proprietor of a marine supply shop in Rockport (Mass.), died of cancer June 23 at his Rockport home. A native of Vaxholm, Sweden, Mr. Ronnberg had been a seaman and officer aboard various vessels when in 1938 he became second mate of the bark *Abraham Rydberg*. Its voyages carrying cargo between Sweden and Australia were cut short by the mining of the North Sea early in WWII. In 1942 the ship was sold and Mr. Ronnberg was discharged in Baltimore. He became a U.S. citizen, married the former Karen Benzon, and moved with her to Boothbay Harbor, Maine, where he worked in a ship yard. He moved to Glouchester in 1945 finding work as a rigging assistant. Mr. Ronnberg went in to the rigging business himself in 1946, working on fishing boats, yachts and even aircraft carriers. In the 1950's and 60's Mr. Ronnberg built countless ship models, mainly of New England fishing and merchant craft.

Bay drops ship construction work

"In line with the recent dismal trends in the U.S. shipbuilding industry, the shipyard which built the last domestically constructed U.S. oceangoing merchant vessel will no longer be in the ship-construction business. Bay Shipbuilding Corporation of Sturgeon Bay, Wisconsin, which made headlines last November when it delivered the last domestic vessel on order books in the United States - the Sea-Land vessel *Kodiak*, a 1400 teu containership, now operating in the Pacific Northwest/ Alaska trade - has reduced the size of its operations to support ship repair and conversion work only. The shipyard built a number of 1000-foot bulk carriers in the 1970's, and is the only domestic yard in the Great Lakes area with the capacity to repair 1000 foot vessels." Pacific Shipper, 9 May, 1988

Worlds largest liner revisited

In the June issue we reported on the launching and maiden voyage of Royal Cruise Lines new 40,000 ton cruise ship *Crown Odyssey* . The previous month there were two articles; one about the largest cruise ship ever built, Royal Caribbean Cruise Lines 74,000 ton *Sovereign of the Seas* , and the other about an announcement by Harland and Wolff Shipyard and Indian shipping tycoon Radi Tikko of plans to build an even larger cruise ship. As yet unnamed, but being referred to as the *Ultimate Dream*, this behemouth would be one of the worlds largest ships weighing in at 160,000 tons! But it doesn't end there folks!! *Pheonix*, now lays claim to the title of worlds largest cruise ship. At 250,000 gross tons (thats right, a quarter of a million gross tons!), 1250 feet long and 250 feet wide, *Pheonix* is scheduled to make her maiden Caribbean cruise in 1991. A Japanese consortium is planning to build the ship in three parts in three different ship yards. Where will it end?

Coming in Future Issues

Gordon Jones has submitted information on a most interesting project taking shape in Aberdeen, Washington. In fact work is well along on the recreation of the 160 gross-ton brig *Lady Washington*, circa 1787. When completed by Grays Harbor Historical Seaport, the two masted *Lady Washington* will be the largest operating replica sailing ship ever built on the west coast and will serve as flagship for Washington state centennial celebrations in 1989. A few years later an even larger ship will be built by the same group of shipwrights; the 377 gross-ton, three masted, full-rigged ship *Columbia Rediviva*, the first American ship to circumnavigate the globe.

John Turner has submitted an excellent monograph on the role of U.S. Fleet Submarines in World War II. Drawing on a variety of sources John has written a very insightful paper which clearly demonstrates why it can be rightfully said that the U.S. Navies Fleet Submarines were the single most decisive factor in the defeat of Japan in World War II. Due to its length, this work will probably be reprinted in two parts starting with the October issue.

Many thanks to both of these gentleman for their contributions to the newsletter. If you have ship modeling or other nautically oriented material that would be of interest to Guild members and would like to see it published, please send it to me at the address on the letterhead. If the material is suitable it will find its way into a future issue of the newsletter.

Controlling your Speed Control

Doug Smay

Last month I provided information on building a two transistor speed control. As it was presented however the device controlled speed in only one direction. This month we'll look at one way of incorporating proportional speed control in forward and reverse directions.

If you recall, the actual control device on the two transistor speed control was a slide potentiometer. When the slide on the slide pot is at one end of its travel the motor will be completely stopped. At the other end of its travel the motor will run at full rpm. The first step in controlling the device then is to establish a link between the slide pot and a servo. There is no real trick to this of course. All that is needed is a push rod. In effect this is simply an exercise in converting the rotary motion of the servo to the linear motion of the slide pot. In establishing this link, visualize the situation in an automobile engine where the linear motion of the pistons is converted to the rotary motion of the crank shaft. Figure 1 shows the situation when the piston is at "top dead center" of the cylinder. From this position no matter whether the crankshaft turns clockwise or counterclockwise, the piston will move down in the cylinder, as shown in figures 2 and 3.

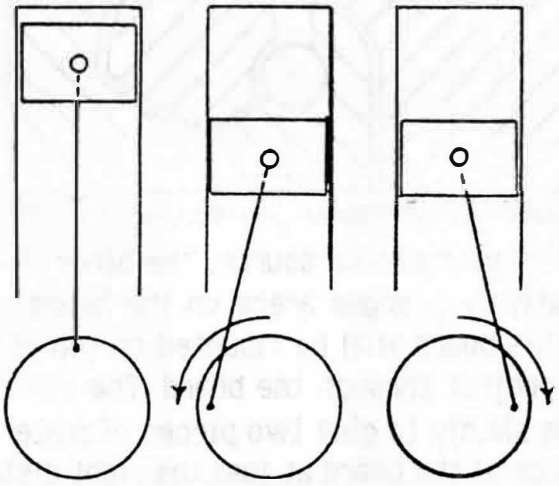


Fig. 1 Fig. 2 Fig. 3

We are going to hook our servo up to our slide pot in an analogous fashion. The situation corresponding to figure 1 is when the servo is in its centered position and the slide of the slide pot is all the way at the end of its travel in which no current flows to the motor. Then whether we turn the servo clockwise or counterclockwise the slide will be pulled toward the full speed end of its travel. In other words, with the throttle stick on our transmitter in the center position the motor will be off. Moving the stick to either side of center will cause the motor to speed up. The trick now will be to make the motor run in one direction when the servo turns clockwise and to run in the opposite direction when the servo turns counterclockwise.

To begin construction of the reversing circuit we first need a simple printed circuit board, (PCB). Don't let this scare you. If you've never made your own circuit board, be assured it is really an easy process. The materials you will need are available at most electronic stores. The process briefly involves obtaining a small piece of copper clad board material, approximately 2" X 3"; some PC board etching solution and a small bottle of etch resist lacquer. Using the lacquer paint the design on the board where you want the copper to remain, then soak the board in the etching solution. In about half an hour all the copper not covered with etch resist lacquer will be removed. The PCB we want should look like the one in figure 4 below. The part filled in with diagonal lines is where the copper remains. The board is divided into two halves, each with a wire soldered to it. One

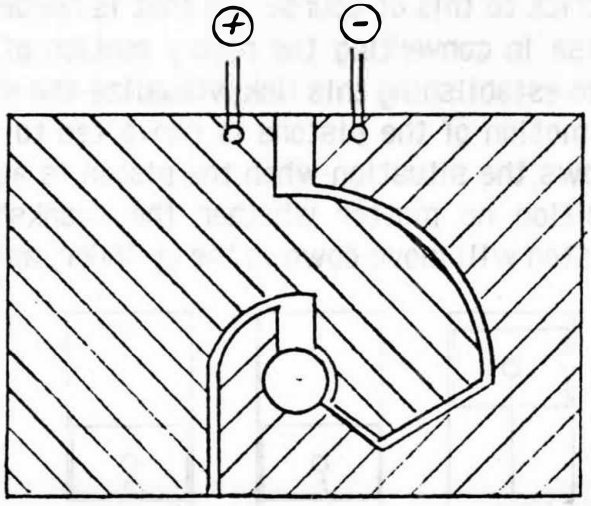


Fig. 4

wire is the positive lead from your power source, the other is the negative lead, thus creating positively and negatively charged areas on the board. A hole is drilled in the lower center of the board. This board will be mounted on top of a servo and the hole is where the servo shaft will project through the board. The easiest way I have found to mount the board to a servo is simply to glue two pieces of material, in my case styrene, at right angles to the underside of the board at just the right distance apart to allow the

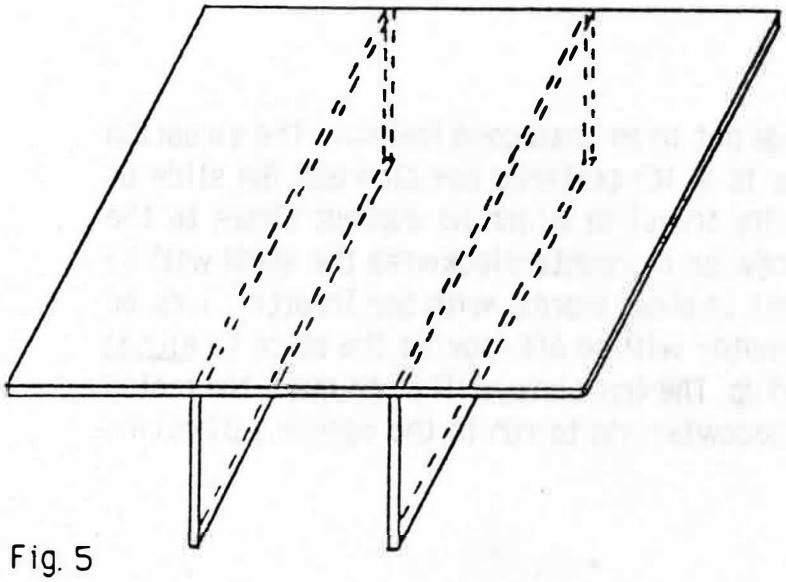


Fig. 5

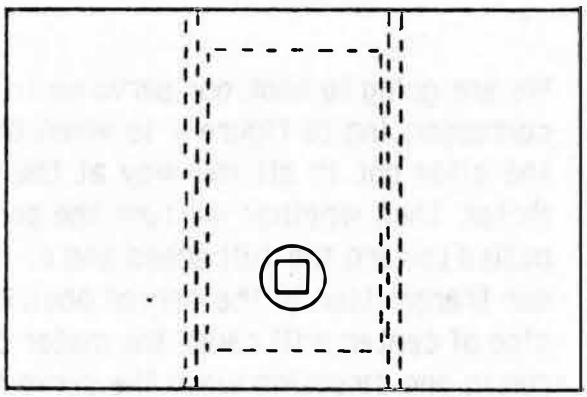


Fig. 6

servo to fit snuggly between them. In doing this be sure the servo is correctly positioned beneath the PCB so that the shaft fits through the hole. You may wish to use plastic electrical tape to hold the board securely to the servo. The tape can be easily removed if you decide to use the servo somewhere else later on. See figures 5, 6 & 7.

The next step is to create a double wiper device which will be used to pick up current from the PCB and transmit it to the motor. The wiper arrangement involves one wiper mounted above the other and separated by an insulator. Both wipers and the insulator are mounted on a hollow plastic shaft which in turn is mounted onto the servo shaft with a screw which runs down the center of the shaft. Plastic is used for the shaft because it helps to electrically isolate the two wipers. This arrangement is shown mounted on a servo in figure 7. The wipers are made of "springy" copper and each has a motor lead attached to the end opposite the part that contacts the PCB.

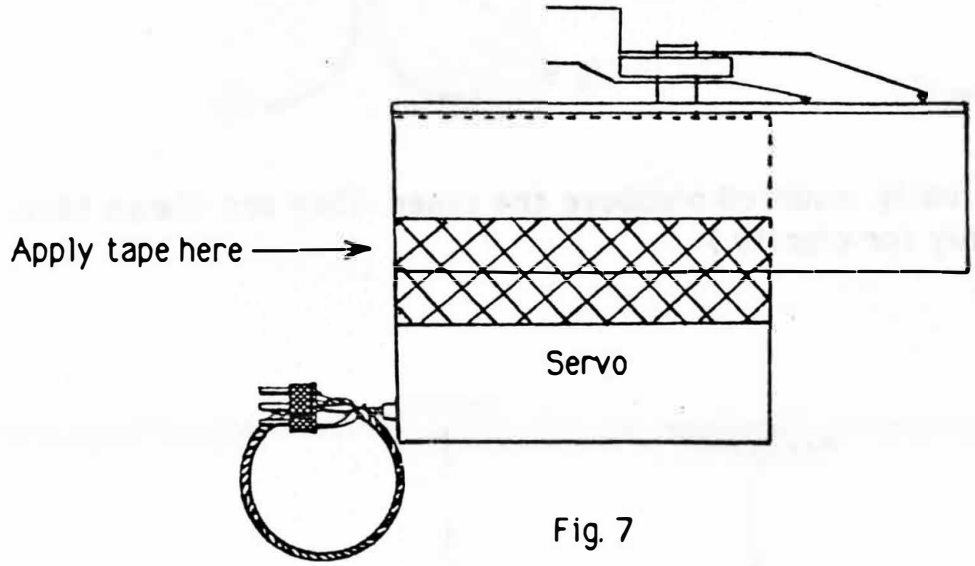


Fig. 7

Figures 8 & 9 show what happens in terms of current flow as the servo revolves. For clarity the two wipers are shown side by side, (an arrangement which is <u>not recommended</u> because of the possibility of a dead short occurring!) At dead center no current flows because the wipers are in the "dead spot" on the PCB, where all the copper has been removed. Revolving the servo clockwise results in a postive charge being delivered to the right hand motor lead and a negative charge to the left hand lead. Revolving the servo counterclockwise reverses the polarity.

Now all we have to do is combine the two ideas. This arrangement is shown in figure 10. Mounted above the wiper assembly is a flat round servo disc to which is attached the push rod to the slide pot. You will recall that motor speed is increased in either direction of rotation, except now with our reversing system in the loop, depending on whether the servo is turned to the right or the left will also determine the direction in which the motor will run. The complete circuit is shown in figure 11. Note that the reversing circuit is between the speed controller and the motor, i.e. it is the current <u>output</u> of the speed controller that is reversed, not the input! Reversing the input current will damage or destroy the transistors!

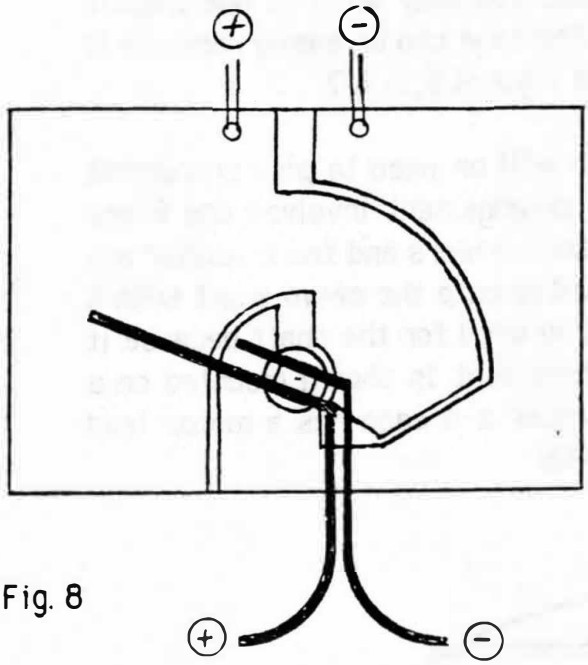


Fig. 8

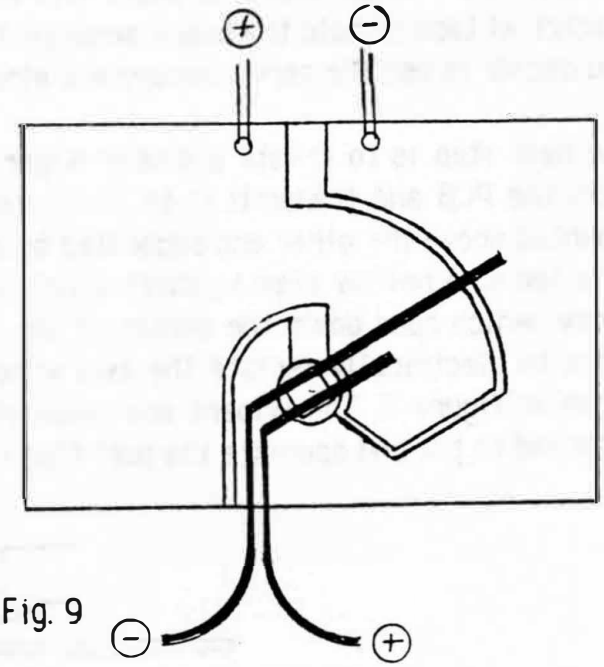


Fig. 9

(Note: Wipers are actually mounted one above the other. They are shown here side by side only for clarity.)

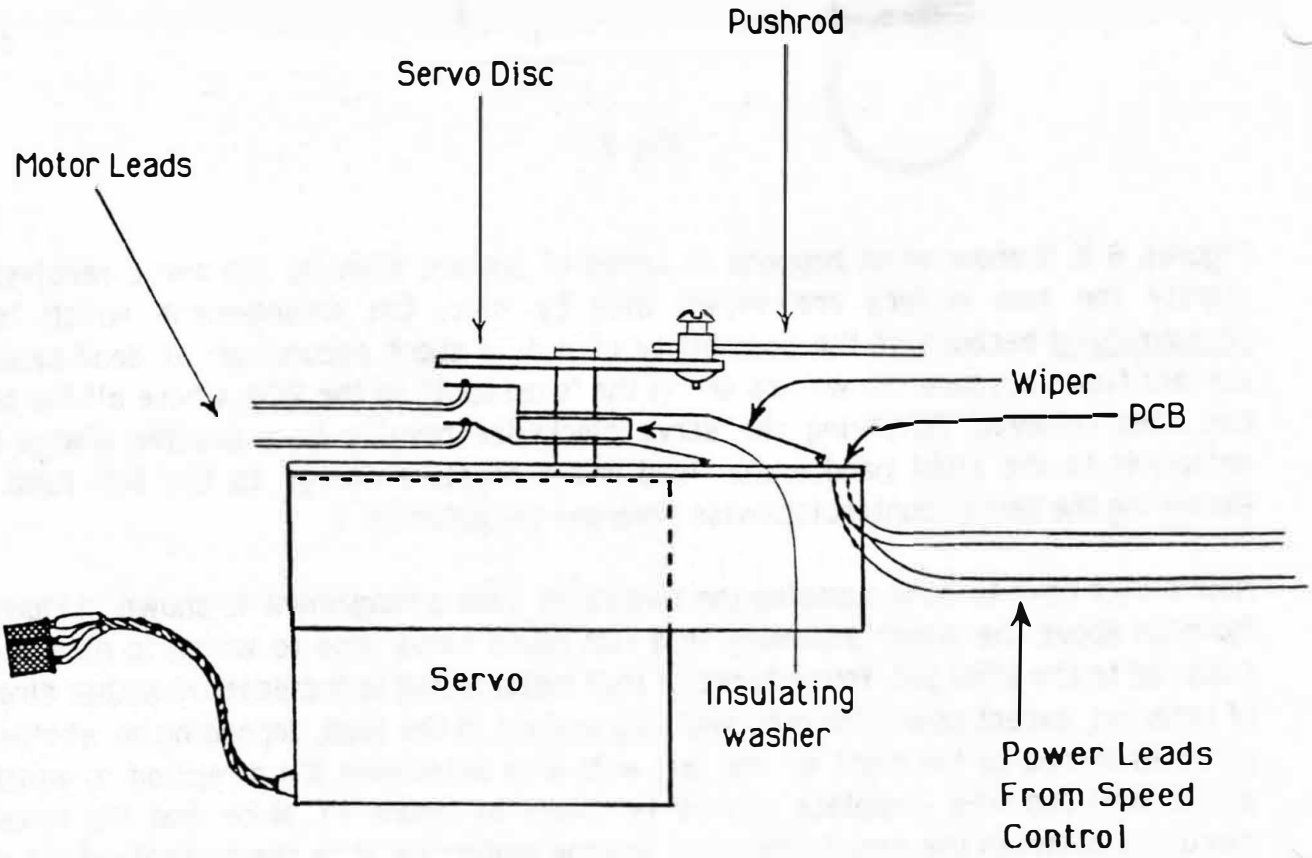


Fig. 10

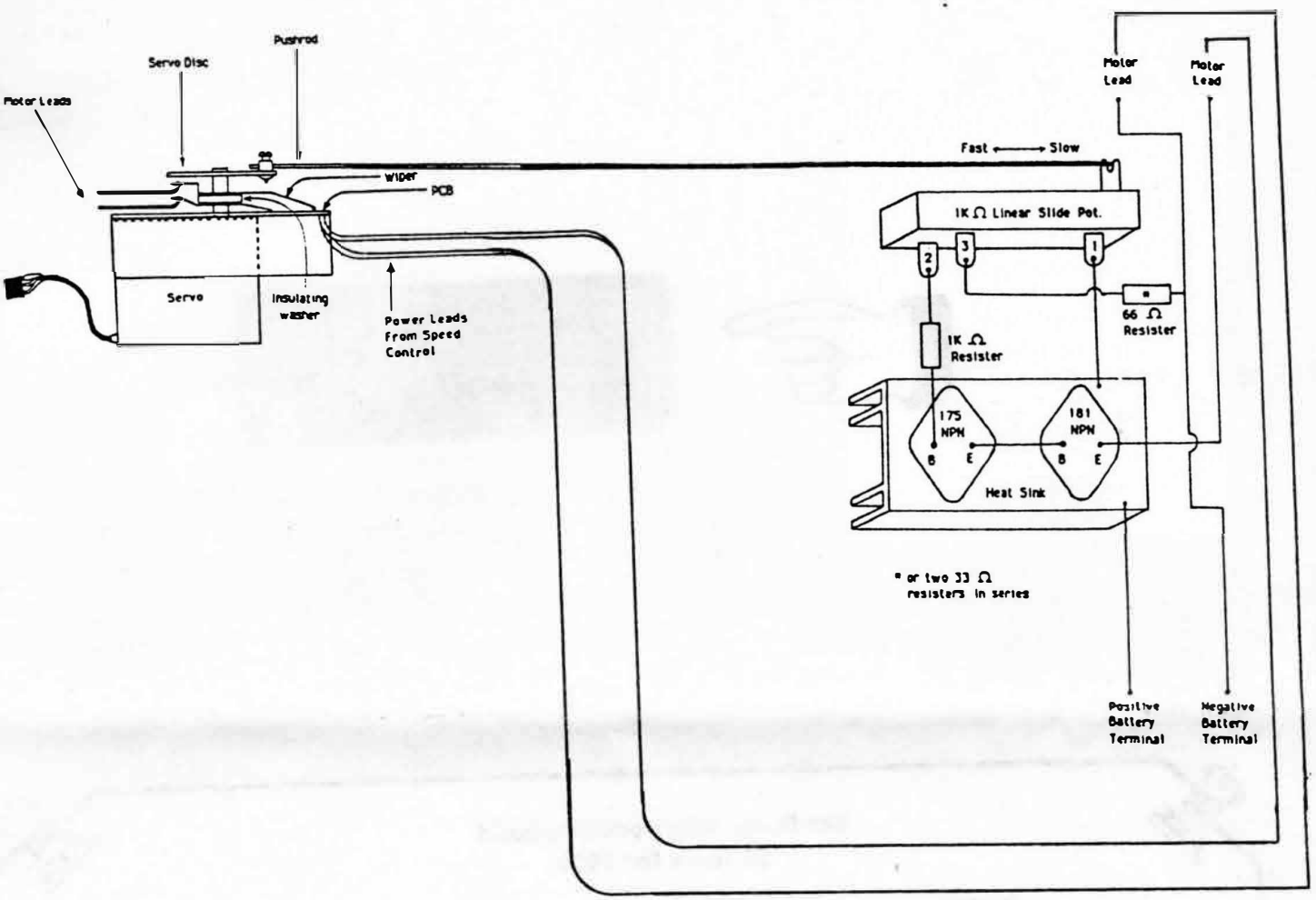


Fig. 11

One further note on the operation of the Darlington Circuit itself. I have had the oportunity to use my own speed controller extensively in the past two months to control the speed of my dc "Dremel" type tool. It has worked beautifully. This is especially true when very low speeds were required, as in some drilling operations using drills less the 1/64" in diameter. However, I have found that operating my drill at very low rpm's for extended periods of time creates a large heat build up in the transistors. So much so in fact that the heat sink became almost too hot to touch! This is wasted energy, so unless you have energy to burn this device may not be for you. Or if you do decide to use it, just keep in mind that slow speed operations may be consuming as much (or more ?) power from your battery as full power operation.

San Diego Ship Modelers Guild
Doug Smay, Editor
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August Meeting

Steam buffs rejoice! Our guest speaker for the August meeting will be Art Howarth, a friend of Bob Hanley's and a man who really knows his way around a steam engine - or an internal combustion engine as well. Art has built dozens of each - from scratch! Bob met Art at an exhibit of steam engines in Vista last October and was greatly impressed with his collection of miniature engines. Art will be bringing about 30 examples of his work to the meeting. If your into steam power, don't miss this meeting.

San Diego Ship Modelers Guild
Officers for 1988

Master	Mike Rivera	/redacted/
Mate	Roger Smith	
Purser	Bob Hanley	/redacted/
Logkeeper	Tim Pettit	/redacted/
Newsletter Editor	Doug Smay	/redacted/
Steering Committee	Norm Hiatt	/redacted/
	Doug McFarland	/redacted/
	Roy Nilson	/redacted/
	Fred Fraas	/redacted/

Schedule of Activities

Meetings - Third Friday of the month
7:30 PM social, 8:00 PM meeting
Static Workshops - Every other Tues.
7:00 to 9:00 PM aboard the ferry Berkeley
R/C Operations - Saturday mornings
Model Yacht Pond
Annual Regatta - Third weekend in June

Membership

Dues are $10 annually

We strongly encourage all to joint the San Diego Maritime Museum as an expression of appreciation for the facilities they provide us.