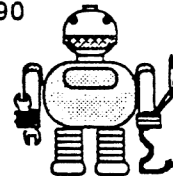


ROBOT BUILDER

May 1990



The official publication of the Robotics Society of Southern California
P.O. Box 3227, Seal Beach CA 90740, Meetings the 1st Tuesday @ 7:00 PM at MTI College

UPCOMING EVENT CALENDAR:

May 1:	RSSC May Meeting, MTI College: Topic - Batteries
May 5:	RSSC Robot Project Workshop, <i>The Robot Company</i>
May 20:	Computer Swap Meet at Advanced Computer Products: RSSC Booth
June 5:	RSSC June Meeting, MTI College: Topic - Motors
June 9?:	RSSC Robot Project Workshop, <i>The Robot Company</i>
July 3:	RSSC July Meeting, MTI College: Topic - TBD
July 11-22	Orange County Fair
July 29:	Computer Swap Meet at Advanced Computer Products

APRIL 3rd RSSC MEETING

The April RSSC meeting was well attended with approximately 25 members present. Initial activities included distributing copies of the Society's bylaws so everyone could review them and provide comments. In addition, Tom Carroll distributed copies of an article from MIT on robotics work done there, and the article is a good general overview of robot designs. Also distributed were preliminary drafts of the RSSC Resource Directory. Because of the high cost of postage, copies of these articles and materials can only be distributed to members who are present at the meetings.

The featured event of the evening was Jerry Burton's demonstration of his SynPet "Newton" (although he renamed it Fred). Jerry spent about 45 minutes sharing his thoughts about well designed areas of the robot and other areas where there is room for improvement. Our thanks to Jerry for sharing Newton (Fred) with us!

APRIL 9th RSSC BOARD MEETING

(Editor's note: The following was provided by Tom Carroll on the Board Meeting activities.)

The RSSC board of officers meeting was held on April 9th at MTI College.

Board members present were Tom Carroll, Joe McCord, and Jerry Burton. The following items of business were discussed:

A. OC Fair: Joe McCord was elected the Orange County Fair chairman at the April 3rd general membership meeting and formally accepted the position (he was not present at that meeting). We discussed the actual need for our presence at the fair; all felt that the booth at the Advanced Computer Products Swap Meet would far better serve our membership recruitment needs. We felt that the fair best served as an exhibit to the general public of exactly what it is that we do (even some of us don't exactly know this). Manning the booth for the entire fair was a problem last year and it is expected to be a problem this year. Joe has a nephew who will be staying with him this summer and probably will be available to man the booth for most of the time, but another member or individual will be required for relief duty. The Robot Company will pay the booth fees, but we still need members to volunteer for booth duty.

B. Future Meeting Program Selection:

As vice-president, Joe McCord has agreed to coordinate the programs for our future general meeting nights, but he requests help from the membership in finding interesting and quality speakers. The May 1st meeting agenda was discussed and we

agreed to follow the tentative schedule listed in the newsletter and have the topic of discussion be batteries. Joe has agreed to contact Interstate Batteries and Carefree Unlimited to invite representatives to speak with us. We hope to have literature to hand out and be able to field questions concerning selection, battery types, charging, costs, etc. The June meeting feature subject will be motors, and it is anticipated that several representatives will come talk with us.

C. Meeting Format: It was agreed that having a meeting agenda available ahead of the meeting in the newsletter was best for all concerned. Having the meeting agenda displayed on an overhead viewgraph at the meeting helped the meeting run much more smoothly. This, of course, works best when we have a featured speaker, such as Jerry Burton and *Newton*, but will not work when the membership waits for others (i.e., the board members) to supply the speakers.

D. Meeting Location: MTI College has been very generous with RSSC to provide a meeting room for our use; however several members have inquired about alternative meeting areas that are more centrally located or more conducive to our interests. The use of one of ACP's classrooms has been suggested along with possibly meeting at *The Robot Company*. We will have more information on this at the next meeting.

E. Treasurer's Report: Jerry Burton reported that the RSSC has \$730.13 in the treasury and 38 paid members as of April 9th, 1990.

Tom Carroll, President

MARCH 31st RSSC ROBOT PROJECT WORKSHOP

On March 31st, the RSSC had our second robot project workshop at *The Robot Company* shop in Costa Mesa. The three subcommittees (mechanical, electronics, & software) were all represented with over 12 members present.

Most of the 2-1/2-hour meeting was on discussing the current base design and on future work to be done.

Our next workshop will be held May 5th, at 10:00 a.m., again at *The Robot Company*, 881 West 18th Street, Costa Mesa.

JIM'S WORLD

(Editor's note: Jim Pfister is a mechanical designer I work with at Rockwell International and after a lot of prodding has provided RSSC with an article for our newsletter.)

Scott asked me to write a "tech-ie" article for the RSSC newsletter. Now, I'm the kind of guy who knows a little about a lot of stuff and a lot about a little. I thought about "tech-ie" stuff and discovered I'm no pro, but anyway, here goes.

I'm going to let loose and finally talk about my robot submarine. (Scott doesn't believe it really exists.) I've been working on it for about six years now (seems more like 20), and every time I figure I've got all the bugs licked, something else pops up and sinks me (figuratively!). Like the first time I tested my first prototype in my swimming pool. The sub worked great. (It's small, about 3 feet long, but big enough to hold a camera.) The wife said it looked like a fly, my daughter said a frog, and my neighbor said a piece of @#&*!. Polite guy, my neighbor. Opens beer bottles with his teeth, still has his Christmas lights up from 1984. Back to the sub...

It went down; it went up; it went left and right. I could turn on its lights and its camera (Sony Micro-Cam) without resorting to using a snorkel and swim fins. I could control it with a little swizzle-stick (it was a party) and watch where it went through a teeny 4-inch Sony monitor - all this without electrocuting myself. I was brilliant. My wife worried about aluminum scratches on the nice white pool bottom. I said, "don't worry." Later, I said "I'll clean them off."

All in all, it was a nice day. That was Friday. Saturday was different. When I moved the sub from the patio to the

garage, it left three trails of water, conspicuously dribbling from each of my carefully water-proofed DC-brushed, O-ring sealed, 1/4-hp motors. I really do actually know a lot about underwater motors; it's just that my memory and my budget frequently don't get together on the same day. I figured I'd try them out... wired the things up and gave 'em some juice... You know how a table saw sounds when you jam a log into the blade? It just sort of sits there and makes this science-fiction whine, like it's got 10 seconds till doomsday.

About two months later, I decided to unravel the remains of my motors and get back on schedule. That's when I discovered what chlorine does to crappy pot metal motor housings. It didn't take long to open the motors up. I just sort of cracked them open, like an egg. Inside...well, I've seen prettier septic tanks that even smelled better than this did. Everything kind of dissolved.

The through-hull connectors are a different story. Brass and aluminum sort of weld together when you mix in some chlorine. Honestly, I was going to all aluminum before deep sea test. I really didn't need to take these apart, anyway.

Anybody got a schematic for a cheap DC-brushless motor driver?

Jim Pfister

UPCOMING RSSC EVENTS

The RSSC is planing to have a booth at the May 20th ACP swap meet. This booth should be a very good source to attract new members to RSSC. We plan to have some of our members' robots; Jerry is going to bring Newton, Tom Carroll will have his robot, and I will bring my equipment rack on wheels (EROW). Everyone is welcome to bring their robots, or whatever; just let Tom know at the May 1st meeting if you want to bring yours. It would be great if the Society had 8 to 10 different robots to show off! Hopefully by then, we will have the RSSC robot at a stage where it looks like something resembling a robot (although

it doesn't look promising...). We plan to print up some flyers about RSSC with a membership form.

For our June 5th meeting, we are making arrangements to have representatives from some manufacturers come and present a short technical overview on motors. I'm sure you won't want to miss this meeting!

If anyone has a particular topic that they would be interested in, by all means, bring it up at the meeting (although you may be made responsible for lining up the manufacturer's representatives).

For next month's newsletter, Tom Carroll has "volunteered" to write a short article on alternative sources of robotics components. This should be a excellent source of information!

These newsletters are getting to be pretty lean! Again I strongly encourage our members to provide some short write-ups on some of their work or activities to share with our membership!

MAY 1st MEETING AGENDA

- 1) Business agenda
 - a. Final plans for ACP swap meet booth on May 20th
 - b. Plans for staffing OC Fair booth
 - c. Nomination and selection of a replacement for the office of RSSC Secretary
- 2) Presentation of RSSC robot design and construction
- 3) Representative from Interstate will present information on batteries
- 4) RAM (Random Access Meeting) - bring something of interest to share with the membership!

Again, I hope to see the entire membership there, along with any interested individuals or business representatives! Pass the word around about the RSSC!!

Scott MacGillivray, Editor