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A Governor from Scratch Part 2

By Wilbur Wilhelm

Last month I discussed the design criteria for a scratch-built governor, the control valve type selected and the belt tightener arrangement.

The material choices were half-hard brass for the valve body, governor links and balls. The valve spool, the part of the control rod that sees steam service, linkage pins and cotter pins are stainless steel. The assembly above the valve body was fabricated from cold rolled steel. All of the flange seals and control rod seal are Viton "O" rings.

The pulley shaft bearings and all thrust washers are oil impregnated sintered bronze. The upper spider, lower spider and idler pulley use Garlock DU steel-backed self-lubricating bearings. The upper control rod uses a sealed ball bearing.

Now how was the governor built without any castings? Several parts were made using NC equipment. The valve body was made of two parts. The two separate parts were finish machined except for two bores and the face to which the top cover and governor body attached. The two parts were then assembled, bolted and doweled together, and the critical valve bore and the top cover fit bore and face machined. This approach insured all bores were concentric and the flange was square with the bores. The job was done at a Community College where one of our LALS SRM members, Tom Sweeny, is an instructor. He said it was a great challenge for his students. The inlet and outlet were also NC machined along with the cover through which the control rod passes and all of the pins. Needless to say the fit-up of all the parts was perfect.

The spiders were also NC machined. They were made from cold rolled steel. Fellow member, Dan O'Brien, machined these. He said it was very quick. It would have taken a lot of effort by a manual mill. To save machining, the tubular extension was made a separate part and subsequently "Locktited" to the spider.

The governor base is the support for the primary items of the governor. It was machined in pieces and the flange and cylindrical parts were furnace brazed in a small electric furnace. A simple brazing fixture was made and the pulley drive shaft bearing housing parts along with the idler arm shaft bearing was hand silver soldered to the governor base. The spindle was made from thick walled tubing that was centerless ground to the DU bearing requirements and "Locktited" in place.

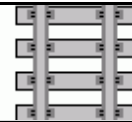
(Continued next issue)

Member Calendar

May 1 Board Meeting
 May 20 Work Day
 General Meeting

Jun. 5 Board Meeting

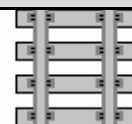
Board/General Meetings begin at 7 pm.



Public Service Schedule

May 7 Public Rides
 May 14 Public Rides
 May 21 Public Rides
 Disney Barn Open
 Steam Plant Open
 May 28 Public Rides

Jun. 4 Public Rides



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Splinters from the Board

April 3, 2006

By Peter Fuad

Don Frozina reported on the progress of the Phase I and II/Level 1 certification program. The Board voted to allow Level I certified operators to use Level II certified equipment to pull guests at private parties, which was subsequently approved by Mark Hanlon, safety engineer. Don Frozina reported that work continues on rolling stock remediation and upgrading. There was a discussion about some member's equipment failing wheel gauge tests. Wolf Fenger confirmed the necessity and accuracy of the current test standards.

Dave Johnson gave an update on insurance. Dave announced his resignation from handling insurance. (Steve Altmayer subsequently has agreed to take on that role.)

John DePhillip Jr. gave an update on the repair of the fuel pump on the Museum's tractor and Peter Fuad gave an update on our trademark application.

Steve Altmayer was thanked for his donation of a copy machine. Leonard Evans reported that distributing tickets for rides has improved the level of public donations. At the suggestion of Lew Soibelman, the Board voted to purchase concentrated weed killer.

With respect to the Sutchville track reconfiguration project, Dave Johnson reported that the tree trimmers would cut down the pine trees the following week, weather permitting (they were cut down April 12). Removal of the trees (approved by the Board, the membership and the City) will allow more space for the yard and require a revised track plan which, it was emphasized, the Board must approve. It was noted the current plan had been approved by the Board and the general membership on multiple occasions. In the meantime, mainline track maintenance can be undertaken.

Steve Harris gave an update on membership renewals. The Board also discussed the sequence of events surrounding the Museum's closure following the December derailment.

General Meeting Highlights

April 15, 2006

By Donald Frozina

President Donald Frozina brought the meeting to order at 7:03 pm. Don began by reviewing the April BOD meeting and amplified some of the items.

The City now requires the Museum to send to them, on a monthly basis, a list of the personnel who are Level I certified, and a list of the equipment that are Level I certified. Level I certified personnel could now use Level II certified equipment to pull guests at private parties. This was subsequently approved by Mark Hanlon our safety engineer. Don reported that the trees were removed last Wednesday, and that grading for the Sutchville track reconfiguration project can soon begin. Don also mentioned that there are other higher priority items that need attention around the Museum.

Questions were then fielded from the audience. Ted Berg talked about possible legislative ways in which to help the Museum. Dave Johnson also gave a detailed report on the chronology of events surrounding the Museum's closure following the December derailment.

Someone asked if the Board would consider moving the General Membership Meeting to the fourth Saturday of the month. The theory is that other local clubs have many of their activities on the third weekend of the month, and that by moving our meeting, more members could visit these other clubs. Don pointed out that to move the meeting would require a Bylaws amendment. An advisory vote of the members present was taken and 20 were in favor of changing the meeting day, 2 were against, and 2 abstained. Don indicated that he would put this on the May BOD agenda for discussion.

Don again reminded those attending that there is still much maintenance work to do around the Museum and that every Saturday can be considered a workday—not just the formal workday scheduled for the third Saturday. Don encouraged all members to come on out and lend a hand.

The meeting adjourned at 8:58 pm.

Los Angeles Live Steamers Railroad Museum Engine Booster

The *Engine Booster* is the monthly publication of the Los Angeles Live Steamers Railroad Museum, a non-profit 501(c)(3) organization. Museum/tracks are located in Griffith Park, 5202 Zoo Dr., Los Angeles, CA. Mailing address: PO Box 2156 Toluca Lake, CA 91610.

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FROM THE **General Superintendent**

By Tom Downing



The April workday went well. Once again we had wet weather in the morning, but in the afternoon we got a lot of jobs done. Some of the probationary members were instrumental in getting these jobs done. I hope to get the hand-rail on the west-end bridge completed.

As always, there's still a lot of work to be done.

I know John DePhillip Jr. and Roger Bacon will soon be looking for individuals to help in getting the new yard and main line installed. Please contact them if you're interested in helping out in one of the many areas that needs attention.

I'd like to thank Don and Aaron Emmer for the donation of some hand and power tools. Thanks to them, we now have a lawn edger in our custody to be used at the Museum. I also like to thank Mark Jackson who is our park maintenance supervisor. As of late he has been instrumental in helping us get things hauled away and completed.

We still have a big list of things to do, but sometimes if you see something that needs attention, please let me or a Board member know. Please remember that the Board is still considering every Saturday, weather permitting, a workday. Don't hesitate to come out and get involved! If you see somebody doing some work, jump in and lend them a hand. Hopefully I will see you on a Saturday.

Remember When...

By Doug Alkire

Four V&T 1-1/2" scale "Moguls" quadruple-head a long train over the "Disney Loop" bridge during the LALS 1980 IBLS Meet. Engineers are, L to R, Don Nelson, Don Day, Jim Lawrence, and Bill Semerau. The "lake" was created by a movie studio for scenes in a Steve Martin/Bernadette Peters movie (*The Jerk*) just before the Meet, and was left in place for its photographic value for the Meet.



President's Message

By Donald Frozina



I want to clarify the differences between Level III (Maintenance of Way) and Level II (personal) operations. Level III operation is specifically for MOW only—used for our initial remediation efforts. Now that these initial efforts have been successful, Level III operation is pretty much out of the picture. Level II is for your personal enjoyment of your train. Both you and your equipment must be Level II certified, i.e., you have attended the Level II safety class and have successfully passed the Level II safety test. Your equipment must meet Level II requirements—your equipment must conform to the specifications that have long been published in our *Safety and Operating Rules* book, albeit with a few updates. **So, in order for a member to run a train at the Museum, both the member and the equipment must now be (at a minimum) Level II certified.**

Now that we have two sets of three center bench cars Level I (public) operations certified, we are in need of more engineers and conductors. It's been somewhat difficult at times to crew both trains. So, if you are Level I certified, i.e., you have attended the Level I safety class and have successfully passed the Level I safety test, come on out and lend a hand. We do expect to field another set of three center bench cars in the very near future, so even more Level I certified members can participate.

As has been said in both the Board and General Member meetings, we still have much to do, and every Saturday can be considered a work Saturday. Our Museum needs your "sweat equity" to continue to improve.

2006 Roster Availability

By Donald Frozina

The 2006 *Roster* will be available first to those members who pick it up at the Museum on May 14, 20 and 21. Afterwards, the remainder will be mailed out. If 75 *Rosters* are distributed this way, it will save the Museum about \$100 in postage!

Kitchen Sign-ups Redux

Remember, if you'd like to see the kitchen open on Sundays, you need to help out and sign-up for kitchen duty. At least three persons are recommended to staff the kitchen so that each one is not over-worked. The kitchen will not be open unless you sign-up and help!

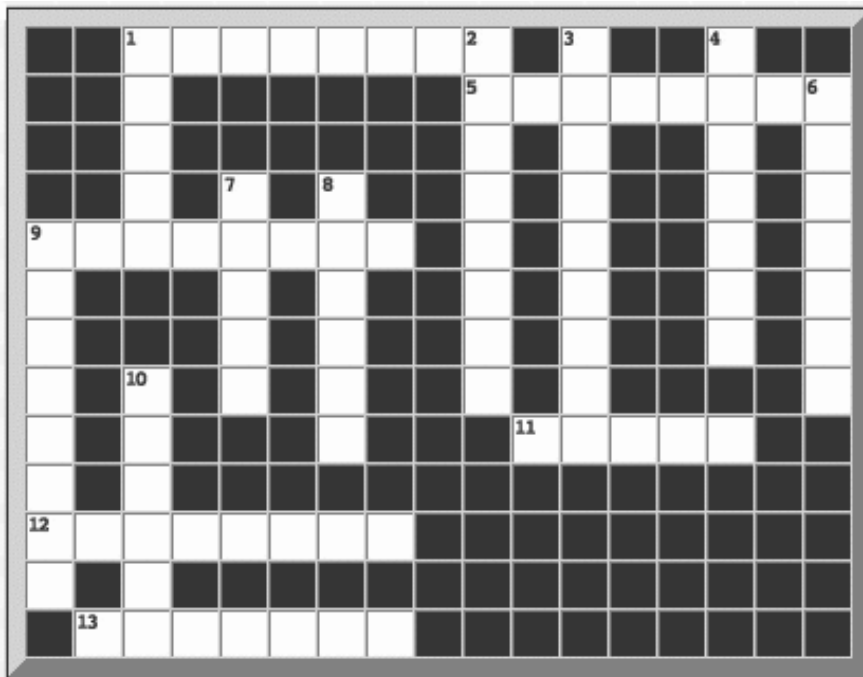


Engineers and Conductors March 2006

<u>Date/Passengers</u>	<u>Engineer</u>	<u>Conductor</u>	<u>Owner</u>
03/19/06	Peter Fuad	Robert Quinn	LALS
365 passengers	Todd Moore	Robert Quinn	LALS
	Track Inspector: Donald Frozina		
	Safety Coordinator: Donald Frozina		
	Station Master: Roger Bacon		
	Station Assistants: Pat Miller and David Johnson		
03/26/06	Peter Fuad	Robert Quinn	LALS
396 passengers	Fred Lack	Ted Naimy	LALS
	Track Inspector: Peter Fuad		
	Safety Coordinator: Roger Bacon		
	Station Master: David Johnson		
	Station Assistant: Pat Miller		

761 Total passengers for month
761 Total passengers to date

Whyte Classification System Crossword



Across

- 1 4-8-0
- 5 4-10-2
- 9 4-4-2
- 11 2-10-4
- 12 2-6-4
- 13 4-4-4

Down

- 1 2-6-0
- 2 4-8-4
- 3 2-8-4
- 4 4-6-2
- 6 2-10-0
- 7 0-10-2
- 8 2-8-2
- 9 4-4-0
- 10 2-6-2

Solution next month.

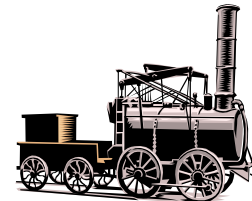
This and other exciting games can be found on our website, www.lals.org.

Training Classes

Safety: Level II (private use), 3rd Saturday at 10 am. This is a half-hour class with a multiple choice test. Level I (public operations), 3rd Saturday at 2 pm. This is an hour class with a multiple choice test. (Level II is the prerequisite for Level I.)

Conductor: Want to learn to be a conductor? Call Roger Bacon at 818/887-0898 or Steve Harris at 818/842-2296 to schedule a class. There is an excellent DVD available to either borrow or own (\$5). The conductor class typically meets on a Saturday. Note: You must have completed both your Level II and Level I safety training to attend this class.

Diesel Engineer: Want to learn to operate the organization's diesel/ electric locomotives? Call Roger Bacon at 818/887-0898 or Gary Burdorf at 310/573-2019 to schedule a class. The diesel class typically meets on a Saturday with the Check Ride on the following Sunday. Note: You must have completed all your conductor requirements to attend this class.



Who's Been Workin' on the RR

Mar. 19—Apr. 15

Akins, Tom	Quinn, Robert
Crone, Bob	Romanucci, Mike
Downing, Tom x2	Schirmer, Bill x2
Hritz, John	Soibelman, Lew
Lamont, Robert	Villafaña, Henry
x2	

For Sale

3/4" Tich, unfinished, all parts there. Best offer. Contact Ross Crawford, 916/718-4162.