

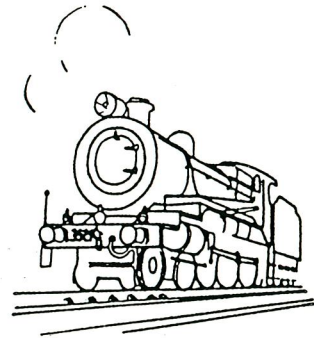
Sydney Live Steam Locomotive Society

Anthony Road, West Ryde, N.S.W.

Newsletter
Correspondence.
The Editor,
P.O. Box 124,
West Ryde. 2114.
N.S.W.

'Newsletter'

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February 1988.

Ground Level Signalling

Guards indicators were provided on the ground level railway platforms just before Christmas and these together with the shunt signals that were installed some months ago, virtually completes the signalling on our 5" gauge railway. There will always be the odd improvement to make but main efforts will now turn to other areas once the telephone boxes are supplied and installed.

The guards indicator clears when the signal at the end of the platform clears and assists guards and station staff to know that they must hurry on and dispatch the train. Like the main signals, they are a faithful reproduction, at about 1/4 scale, of the standard NSWGR type.

An unusual failure occurred prior to but was evident on the November running day where some of the signals failed to return to stop when the train had passed. This was due to the electronics in two of the relay / termination boxes being totally destroyed, presumably by lightning, which had occurred the previous week. Total damage of two voltage regulators and seven timer IC's was quickly fixed and modification to the existing circuitry carried out to ensure that all the electronic componentry is automatically disconnected when the system is turned off. This had occurred after eighteen months operation and nil failures. I guess we live and learn.

Generally, the system has proved to be very reliable, especially considering the amount of equipment in use and it offers a high level in integrity of operation.

Anyone who wants to try their hand at signalman's duties are welcome,
(especially drivers...)

Warwick Allison.

C3112.

At the end of the February meeting Barry Tulloch gave a brief talk on the events involving C 3112 his standard gauge 4-6-4 tank locomotive. 3112 was one of a class of 145 locomotives built over a period of 14 years, 1903 to 1917. It is now one of five remaining and one of the two in working order. 3112 was built by Beyer Peacock (builders No. 5807) for the NSWGR and entered service on the 4.11.1914 carrying No.1240. It covered almost 2 1/2 million kms. in revenue service spending most of its time in the Sydney area, Eveleigh, Clyde, Enfield and Hornsby. It did however spend a short time in the north at Hamilton and Broadmeadow.

The November 1986 Newsletter gave a short report of the auction at which part of the Lachlan Vintage Village collection was disposed of. 3112 was purchased by SLSLS member Barry Tulloch and then moved out of the village by road to Eugowra. From Eugowra it was taken by rail, hauled by C3026, to Cowra loco to live with the other locomotives of the Lachlan Valley Railway Society.

On the 20th January 1988 the loco. was steamed for the first time in thirteen years. The safety valves were set and it was ready for operation pending some minor adjustments. Some days later in the company of D 5367 it left Cowra for Sydney by way of Harden and the main south.

Friday 29th saw the same pair of locomotives leave Eveleigh Erecting Shops for Newcastle running by way of Canterbury, Enfield, Homebush and the main north. The two locos and C 3801 were to operate passenger services for a Newcastle bi-centennial event.

3112 was rostered to make a number of trips Newcastle to Awaba or Maitland on the Saturday and Sunday. The carriage consist was some 40 tons overload for Fassifern bank. To make it easy for the loco the passengers at Fassifern were asked to gather at the Sydney end of the platform, only the first car pulled in thus giving the driver the longest run possible at the bank. No trouble was encountered.

On Sunday the loco was timed at 62.5 mph on a run to Maitland. The return trip to Sydney was made late Sunday night Monday morning. Barry mentioned how quietly pleased he felt on the Sunday as he waited with a lot of other enthusiasts to photograph

cont.

3112. cont.

the loco as it made its way to Tick hole tunnel at Cardif. He was most appreciative of the help that had been given by many other people to see this loco returned to fine running order.

A number of SISLS members were part of the restoration team, Bernie Courtenay looked after the making and refitting of the cab floor and roof. Bill Richards manufactured parts for the connecting rods, little end pins and cotters and the chill plates for the re-metalling of the crossheads. Jeff Sorrenson supplied a turbo generator and with Neil Sorrenson reassembled the valve gear. The boiler lining and paint work saw Ray Lee involved. Blacksmithing work was carried out by Ron Larkin to straighten the guardirons and forge the rear step supports. Tony Eyre worked on the side tanks at Homebush and the assembly work at Cowra while Col Wear pressed a patch plate for the rear bunker.

I am sure that all would be proud of the end result and happy to have had the chance to work on a loco 12 inches to the Foot scale.

Duty Roster.

Mar. '88. B.Peake, W.Allison, J.Murray, J.Leishman, W.Edgecombe, B.Roden, V.Condon.
Apr. '88. T.Arney, G.Farkas, P.Dunn, M.Tyson, H.Ryan, K.Capes, K.McMahon.
May '88. W.Richards, T.Geraghty, W.Sandberg, J.Ranford, J.Hagan, H.Spencer, A.Cottrell.
Jun. '88. G.Sharp, B.Kilgour, R.Larkin, J.B.Hurst, C.Wear, T.Collett, J.Rule.

PLEASE NOTE. The duty roster is for the month not just one Saturday grass cutting.

Gate Roster.

March. D.Gash, April. K.McMahon, May. N.Sorrenson, June. B.Roden, July. M.Yule.
Reports Christmas Party.

As usual this was a very pleasant event. The weather was not too hot and there were more locomotives in steam than in previous years. Santa was a popular visitor for the children and the party and afternoon tea was enjoyed by all. Thanks are due to Diane Lee and the other ladies who prepared the food and kept the tea pot topped up all afternoon.

Of course some things make you realise that you are getting old and your children are growing up. It was not that long ago that Mathew Lee was waiting with the other kids for Santa, this time Mathew drove Santa to the party behind his Dad's $3\frac{1}{2}$ " gauge C 32 and spent the rest of the afternoon keeping it under way. Peter Lyons had your Editor's Z 2552 in steam for a couple of hours, most of the time in total control keeping fire and water in good order. He can't wait till next year.

SISLS Bi-centennial Week End.

As published in a previous newsletter the June long weekend has been set aside for our special bi-centennial run. Mike Tyson is the chief organiser of a small band who will look after this event.

The ladies of the canteen are also enthusiastically preparing for this weekend. They would like to know who would be prepared to bring cakes, biscuits or other goodies for sale, or for our morning - afternoon teas.

Do we want to provide sausage or steak sandwiches - someone to run the B.B.Q. a roster perhaps. Are there any other members wives who would be prepared to help on both days or part of one day.

We know that June is a long way off but Laurelle, Diane and Elizabeth would like to have some indication as soon as possible so they can begin to get organised.

CHARITY DAY

CHARITY DAY

CHARITY DAY

The first Saturday in March, March 4th, is the date of the Spastic Centre Charity Day. To make this day a success we need a good turnout of members and locomotives. Try to keep this day free, come and enjoy some train running and help a worthy cause.

1988 Easter Convention If anyone is thinking of going they should contact our Secretary, Alan, as soon as possible for details.

Bankstown Society

Towards the end of last year the Society was visited by the new Secretary of the Bankstown Society Bruce Allen. Bruce spent some time at the grounds and we hope to see more members in the future.

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TRADE THEORY51-25 SETTING THE VALVE

The actual valve setting operation can be divided into three parts, namely:-

- (a) Measuring the leads and port openings.
- (b) Determining the amount and nature of the corrections required.
- (c) Correcting the errors and rechecking the settings.

The student must understand, however, that the operation will involve checking the valve action in both fore gear and back gear, and determining the influence of each eccentric on the valve movements in these positions. It follows, therefore, that the valve setter must possess a sound knowledge of the functions of the expansion link.

51-26 MEASURING THE LEADS

To check the leads of each valve in fore gear and back gear, proceed as follows:-

- (a) Adjust the reversing mechanism until the link block is in normal fore gear running position, and move the engine forward until the wheel trammel coincides with the inner "dead centre" mark on the wheel.
- (b) Using the valve spindle trammel, scribe an arc on the spindle intersecting the line DE at 4, FIGS. 51-19 and 51-20. The distance L between point 4 and the port opening mark 2 will correspond to the lead of the valve on inner dead centre, but, of course, may not be the lead desired.
- (c) Move the engine forward until the wheel trammel coincides with the outer dead centre mark on the wheel rim. Scribe a second arc 5 on the valve spindle and note the distance M between the lead mark 5 and the port opening mark 1; that is, the lead on outer dead centre.
- (d) Place the engine in back gear, with the link block in normal running position. Move the engine forward about 12 in. to permit all lost motion to be taken up, then reverse the direction of movement until the wheel trammel will again coincide with the outer dead centre mark on the rim.

TRADE THEORY

- (e) Scribe an arc on the valve spindle and note the distance N between the lead mark 7 and the back port opening mark 1; that is, the amount of lead on outer dead centre.
- (f) Move the engine backward until the wheel trammel again coincides with the inner dead centre mark on the rim. Scribe an arc on the valve spindle and note the distance O between the intersection at 6 and the front port opening mark 2; that is, the lead on inner dead centre.

NOTE:- To avoid confusion, only one valve has been considered in this explanation. In practice, however, the leads of both valves are checked simultaneously.

51-27 DETERMINING THE AMOUNT AND NATURE OF CORRECTIONS REQUIRED

If the eccentric sheaves have been accurately machined and located, the sum of the front and back port leads will be as specified, although inequalities in the leads may occur, due to errors in the lengths of the eccentric rods.

Assuming the following leads are obtained on a locomotive fitted with inside admission valves:-

Fore gear	Front port lead = L = $\frac{1}{8}$ in.
	Back port lead = M = $\frac{3}{16}$ in.
Back gear	Front port lead = O = $\frac{7}{32}$ in.
	Back port lead = N = $\frac{3}{32}$ in.

then, if equal leads are required, it may appear necessary, at first sight, to lengthen the fore gear eccentric rod by an amount equal to half the difference in the tabulated leads - that is,

$$\frac{1}{2} \left[\frac{3}{16} - \frac{1}{8} \right] = \frac{1}{32} \text{ in.}$$

in order to increase the front port lead and decrease the back port lead the required amount.

Similarly, in back gear it may appear necessary to decrease the front port lead and increase the back port lead by shortening the back gear eccentric rod

$$\frac{1}{2} \left[\frac{7}{32} - \frac{3}{32} \right] = \frac{1}{16} \text{ in.}$$

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TRADE THEORY

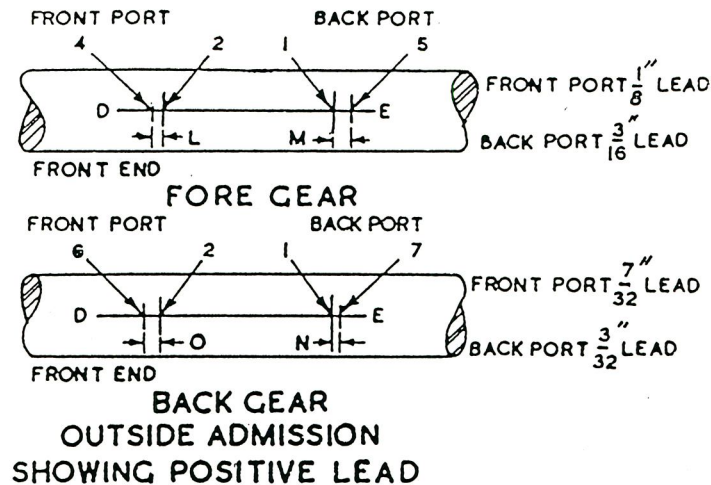


FIG. 51-19.

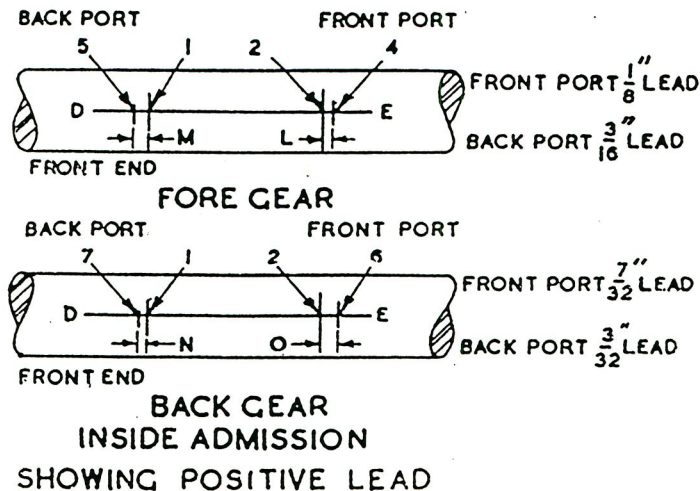


FIG. 51-20.

TRADE THEORY

The corrected leads would then be:-

$$\begin{aligned} \text{Fore gear} \quad & \left[\begin{aligned} \text{Front port lead} &= \frac{1}{8} + \frac{1}{32} = \frac{5}{32} \text{ in.} \\ \text{Back port lead} &= \frac{3}{16} - \frac{1}{32} = \frac{5}{32} \text{ in.} \end{aligned} \right. \\ \text{Back gear} \quad & \left[\begin{aligned} \text{Front port lead} &= \frac{7}{32} - \frac{1}{16} = \frac{5}{32} \text{ in.} \\ \text{Back port lead} &= \frac{3}{32} + \frac{1}{16} = \frac{5}{32} \text{ in.} \end{aligned} \right. \end{aligned}$$

Reference to FIG. 51-22, however, will show that this assumption does not take into account the fact that the distance W between the normal running position of the block in fore gear and back gear is less than the distance X between the points of attachment of the eccentric rods to the expansion link. Hence, when the engine is in fore gear

- (a) the end of the fore gear rod will travel farther than the link block; thus, for a valve travel of V inches, the eccentric rod will move $\left[V \times \frac{W}{X} \right]$ inches.
- (b) the movement of the back gear rod will also exert some influence on the movement of the valve.

In FIG. 51-21, AB is drawn parallel to the centres of the link pins, and intersects horizontal lines CD and EF drawn through the centres of the link pins, and GH and JK drawn through the centre of the link block pin in the back and fore gear running positions respectively. By laying off PR and ST to represent the extent and direction of the apparent correction necessary in back and fore gear respectively, and scribing a line YZ passing through points T and R, the actual correction necessary to the back gear and fore gear rods will be represented by LM and NO respectively. It follows, therefore, that, except in cases where both rods are too long or too short by equal amounts, the alteration necessary in the rods is not one-half the difference in the leads found.

Possible errors in rods

On link motion engines, possible errors in the length of the eccentric rods may be classified as follows:-

- Case (i) Both rods are too long or too short by an equal amount; FIG. 51-22(a)
- Case (ii) One rod is too long or too short; FIG. 51-22(b)
- Case (iii) Both rods are too long or too short by varying amounts; FIG. 51-22(c)