

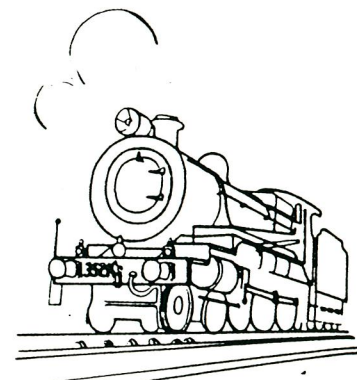
Allison

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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May 1990.

ANNUAL GENERAL MEETING.

Tuesday 5th June
1990

Members are invited to attend the A.G.M. to be held in our meeting room on the first Tuesday evening in June. Election of Office bearers for the following year will take place.

Editorial.

With the Annual General Meeting in a few weeks time we should give some thought to the direction of the Society for the next year. The Executive will be up for re - election with the exception of Alan Mackellar who is standing down after ten years service to the Society in the capacity of Secretary. With at least a new Secretary needed it is time to consider what support we can give. To make some changes to a saying of the late John F.Kennedy - don't ask what the Society can do for you but, what you can do for the Society.

I have been concerned of late of our running days. At a recent meeting it was decided to embark on a long term project with a large expenditure that would build a new pedestrian crossing at the southern end of the ground, this would give the public easier access and allow room to give more separation to the tracks at that point. If the trend at running days continues there may be few trains for the public to come in and watch or ride on.

It is also interesting, perhaps alarming, to look at the percentage of the membership that actually run locomotives, if one or two have to miss a running day the motive power shortage is acute as it has been especially on the elevated track of late.

I can't give an answer to solve this problem but if all members give the matter some thought then running days may become the spectacle they were a few years ago. Not everyone has to haul passengers, some people enjoy seeing a variety of locomotives in steam.

John Lyons

Breakthrough.

At the last general meeting, we agreed to provide a special running day for the benefit of the Breakthrough Program, which is run by the Sydney City Mission in conjunction with the Lady Mayoress of Sydney Fund. This Program assists the homeless children living in the city, many of whom are drug or alcohol addicted and have little hope of ever amounting to anything. This is not a government run program and since the things BREAKTHROUGH provides such as retraining of the children, help in qualifying for employment, and so on are expensive, they need a lot of help financially.

cont. over.

Breakthrough. cont.

The running day is to be scheduled for the first Saturday in September, and will be fully run by the S.L.S.L.S. This is to be a half day like our usual running days, and all the gate and ticket sales will be donated to the Breakthrough Program. We hope that in the process the S.L.S.L.S. will gain some publicity through media interest in the Breakthrough Program.

Obviously we need plenty of locomotives and other support in making the day a success for the Program, the Club and the paying public. If you can be there, please advise either Jim Hyde, Graham Sharp or Philip Sharp so we can plan accordingly.

Philip Sharp.

Duty Roster.

June '90. G.Sharp, B.Kilgour, R.Larkin, J.B.Hurst, C.Wear, T.Collett.
July '90. A.Mackellar, V.Scicluna, P.Ferguson, E.Holmes, J.Stevens, D.Price, K.Sewell.
Aug. '90. M.Haynes, M.McAulay, N.Sorrenson, J.Sorrenson, B.Courtenay, D.Gash, W.Hamilton.
Sep. '90. J.L.Hurst, J.Davies, R.Lee, P.Shiels, J.Lyons, P.Brotchie.

Gate Roster, 1990.

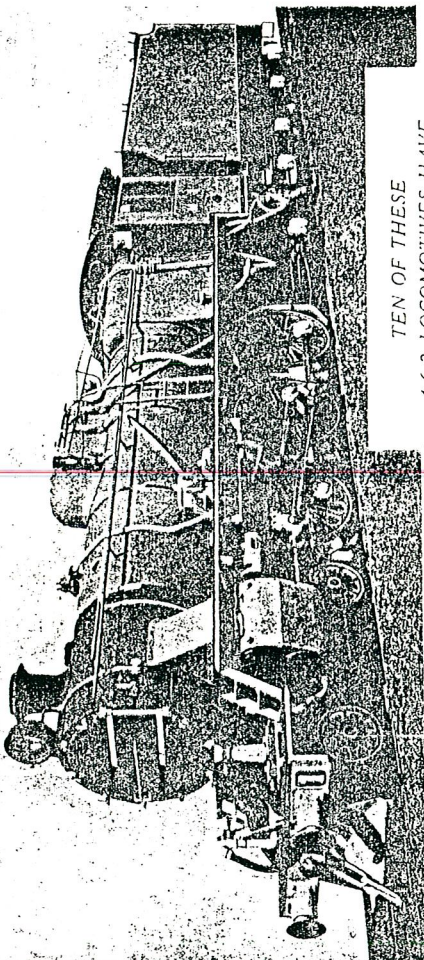
June. J.Hurst Jnr. July. T.Eyre. August. A.Mackellar, September. J.Lyon.

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Reminder.

Our hard working canteen ladies are always happy to receive cakes, biscuits, etc., for the afternoon teas on the public running days. Keep this matter in mind and make their job a little easier.

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TEN OF THESE
4-6-2 LOCOMOTIVES HAVE
BEEN BUILT FOR
TASMANIA

FOR
Tasmanian Government Railways
LOCOMOTIVES

Gauge	3'-6"	Flue tubes	371 square feet
Cylinders	16" diameter x 24" stroke	Boiler Tubes 601	" "
Coupled Wheel	diameter 4'-7"	Arch Tubes 12.5	" "
Boiler Pressure	180 lb. per square inch	Firebox 124	" "
Grate Area	23.1 square feet	Evaporative Heating Surface	1108.5 "
Tractive Effort at 85% Boiler Pressure	17,091 lbs.	Superheater Elements	265 "
Tender Capacity	Water 3,562 gallons Fuel 6 tons	Total Heating Surface	1373.5 "

Roller bearings are fitted throughout.

ROBERT STEPHENSON & HAWTHORNS-
LIMITED
DARLINGTON AND NEWCASTLE
ENGLAND

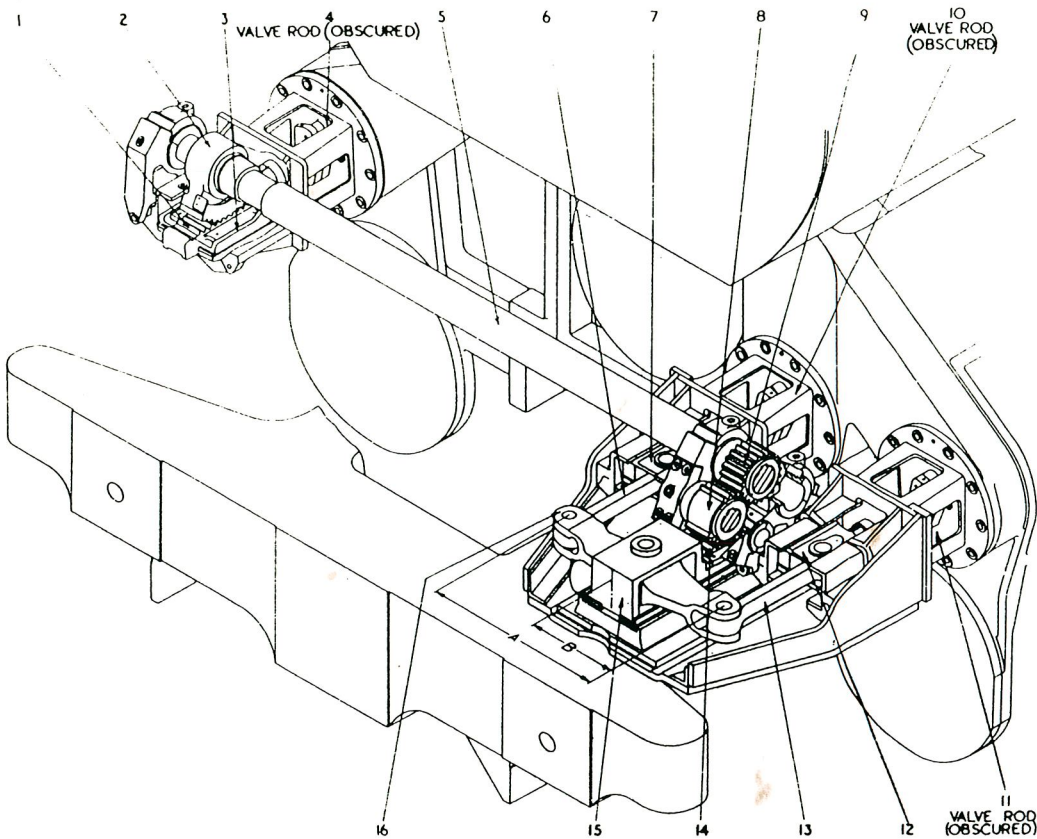


FIG. 52-15

Geared racks 1 and 14, which are free to move longitudinally in special guideways, are attached, respectively, to the tail rod crosshead 3 of the right hand valve, and to the conjugating crosshead 15 in which the floating lever 16 is pivoted.

The transverse shaft 5 is supported by bearings across the front of the engine, and carries the gear quadrant 2 and pinion 9, the former meshing with the rack 1, and the latter, through the idler gear 8, engaging the rack 14.

As in the Gresley gear, the floating lever 16 is coupled to the left hand and centre valve rod crossheads 12 and 7 by means of the extension links 13 and 6 respectively.

52-24 PRINCIPLE OF OPERATION

When the engine is in motion, the valve rod 4, FIG. 52-15, acting through the rack 1 and gear sector 2, produce a semi-rotary movement of the transverse shaft 5 in its bearings. This movement of the shaft is transmitted through the pinion 9 and idler gear 8 to the rack 14, causing the latter, and with it the conjugating crosshead 15, to reciprocate in the guideways.

Since the gear sector 2 corresponds with a gear of 42 teeth, and the pinion 9 has 21 teeth, the longitudinal movement of the conjugating crosshead will be half that of the valve rod.

This movement of the conjugating crosshead, in conjunction with the reciprocating movement of the left hand valve rod 11, will, in turn, cause the floating lever 16 to oscillate and move the centre valve rod 10 backward and forward in the steam chest. Since the dimensions A and B of the floating lever are in the ratio of 2 : 1, the travel of the centre valve will be equal to that of the outside valves.

52-25 SETTING THE VALVES OF A THREE CYLINDER LOCOMOTIVE

Before attempting to set the inside admission valves of D57 and D58 class engines, the "dead centre" positions of all three cranks and the port closed positions of all three valves must be located. To simplify setting, it is usual to mark the dead centre positions of the centre crank on the outer face of one of the driving wheels.

The valves of the outer cylinders are set first by making any necessary adjustments to the Walschaert motion gears in the manner already described, without reference to the movement of the centre valve.

TRADE THEORY52-26 SETTING THE CENTRE VALVE OF D57 CLASS ENGINES

To equalise the leads of the centre valve, the engine should be placed in full fore gear and the following procedure adopted:-

- (a) Set the centre crank on front and back dead centres, in turn, and scribe arcs on the valve spindle with the standard valve trammel.
- (b) Determine the "leads" in these positions by measuring the distance between these arcs and the corresponding port opening marks.

If, for example, leads of $\frac{1}{16}$ in. are required at each end on engines fitted with the Gresley conjugating gear, and it is found that the indicated leads are:-

$$\text{Front port} = \frac{3}{32} \text{ in.} \quad \text{Back port} = \frac{1}{32} \text{ in.}$$

then it will be necessary to equalise the leads by:-

- (i) adjusting the valve check nuts so that the valve is moved backward $\frac{1}{2} \left[\frac{3}{32} - \frac{1}{32} \right] = \frac{1}{32}$ in., relative to its spindle; or
- (ii) lengthening the extension link 4, FIG. 52-11, of the centre valve $\frac{1}{32}$ in.; the leads will then be $\frac{1}{16}$ in. at each end.

NOTE:- When altering the length of the link, it will be noted that the centre valve will be moved toward the back of the steam chest by an amount equal to the alteration made. This will occur regardless of whether the change in length is made in the centre link or in one of the outside links. If more than one link is altered, the correction of the centre valve will equal the sum of the alterations made.

If any subsequent alteration is made in the settings of either of the outside valve gears, it will be necessary to recheck the leads of the centre valve and make any necessary adjustments.

TRADE THEORY52-27 SETTING THE CENTRE VALVE OF D58 CLASS ENGINES

The gears and racks of the D58 class engine should be aligned in their correct relative position as follows:-

- (a) Set the right hand valve in mid-position and engage the gear sector and right hand rack so that the marked tooth of the rack engages the marked space on the gear sector.
- (b) Repeat operation (a) and engage the similarly marked teeth or spaces of the left hand gear, the idler, and the conjugating crosshead rack.
- (c) Notch up the reversing gear $3\frac{1}{2}$ turns from full fore gear position. Set centre crank on front and back centre in turn, and check the leads in this position with the standard valve trammel.
- (d) Make any adjustment necessary to equalise the leads by varying the position of the conjugating crosshead rack. This is done by releasing the clamping nut of the rack and wedge, and adjusting the thickness of the packing pieces provided.

It should be noted that the centre valve will be moved twice the amount of any correction made; thus, to increase the back port opening by $\frac{1}{32}$ in., it will be necessary to move the valve backward on its seat by reducing the thickness of the packing piece $\frac{1}{64}$ in. As on D57 class engines, provision is also made for adjusting the valve on its spindle when required.

NOTE:- When making any corrections to the valve gear of an engine out of steam, always make a suitable allowance for subsequent longitudinal expansion of the valve spindles. A final recheck should be made when the engine is under steam.

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