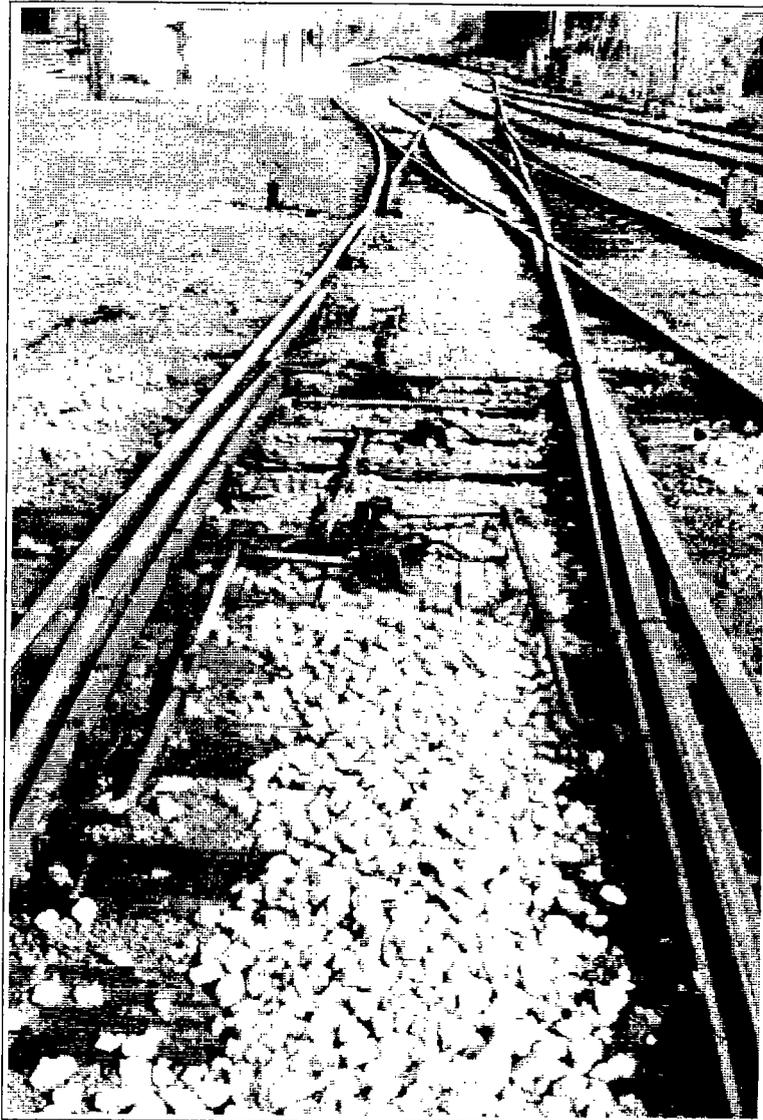


# SOMERSAULT

November 1993

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SIGNALLING RECORD SOCIETY OF VICTORIA INC



*Normally, lockbars were placed immediately in advance of the toe of the points they protected. Sometimes, however, there was insufficient room for this to be done. An example of this situation was Points 20 in the lead from the back platform to the down main line at Castlemaine "A". The cause in this case was the double compound in the background.*

*The normal solution was a 'selectable' lockbar where the lockbar was mounted on the point blades and closure rails. Separate lockbars obviously had to be provided for movements over the points in the normal and reverse position. To prevent binding and to ease the working only one lockbar was worked at one time. The method of selecting which lockbar was to work was achieved automatically by the set of cranks in the middle of the picture. The rod from the signalbox (which can just be seen entering from the left of the picture) runs across the set of points. A pin is provided in this rod which engages one of the two bell cranks which drive the lockbars. The lockbar drive rod is moved to engage one of these two bell cranks by a rod connected to the point blades.*

*Selectable lockbars were even more difficult to work and maintain than normal lockbars and most were replaced by short track circuits. The survival of this set at Castlemaine can only be attributed to the fact that, officially, they did not exist!*

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Deadline for February 1994 issue is 24 January

### MINUTES OF MEETING HELD FRIDAY SEPTEMBER 17, 1993

**Present:-** W.Brook, J.Churchward, G.Cumming, A.Gostling, W.Johnston, K.Lambert, D.Langley, B.McCurry, J.McLean, R.Murray, C.Rutledge, P.Silva & R.Whitehead.

**Apologies:-** A.Jungwirth, G.O'Flynn, R.Smith & A.Waugh.

The Vice - President, Mr. Jack McLean, took the chair and opened the meeting @ 2005 hrs.

The Vice - President welcomed visitor Vance Findlay to the meeting.

Minutes of the July Meeting:- Accepted as published. Churchward/Langley.

**Matters Arising:-** Bill Johnston commented on the detail in the minutes relating to the Syllabus Item presented at the last meeting by David Ward.

**Correspondence:-** A letter was sent to David Ward thanking him for his talk at the July meeting.

Various items of correspondence have been sent and received in relation to the Annual Showday Tour.

Jack McLean has received a further letter from Peter Kay of the S.R.S.U.K. and part of the letter was read to the meeting. The Secretary is to respond to the Secretary of the S.R.S.U.K. in an effort to clarify the situation in regards to publishing articles from "Somersault" in the S.R.S.U.K. "Signalling Record" and to correct other misunderstandings. A list of Australian General Appendices is to be compiled and forwarded to Peter Kay.

A telephone call from Noel Reed in New South Wales reported the demise of the signal box at Bargo. A fire lit by vandals on the down platform at Bargo destroyed the down side station building and the signal box. Temporary arrangements have been made so that the upper quadrant signals at Bargo now work automatically and all points have been placed out of use. It is believed that the interlocking will not be replaced. Noel also advised that he will be unable to take part in the Showday Tour.

A letter was received from member Rodney Kent commenting on the photograph in the last issue of "Somersault" and making some comments on upper quadrant signals on the Caulfield and Sandringham lines. The letter will be published in "Somersault" because of the interesting comments he made.

D.Langley/C.Rutledge.

**General Business:-** Following on from the discussion about the letter from the S.R.S.U.K., it was agreed that a list of member's interestsshould be compiled.

Members were reminded of the forthcoming Showday Tour. Final details were sent out with the September issue of "Somersault".

A question was asked as to what the proposed signalling arrangements would be for the electrification between Dandenong and Cranbourne. The answer given was that the signalling would be C.T.C. between Dandenong and Cranbourne, probably worked from Dandenong Signal Box.

Jon Churchward commented on the end of the running of the "Vineland" a week earlier than expected. The official reason given was that this was due to a landslide between Ballarat and Mildura. It has since been revealed that the story about the landslide was false.

David Langley reported on the demise of miniature electric staff working between Seymour and Wodonga with Train Orders now in use. A large number of signal alterations have taken place at the signal boxes between Seymour and Wodonga.

It was reported that it is proposed to upgrade the Murray River bridge at Albury - Wodonga. In order to do this the Standard Gauge line will be taken out of service and a gauntlet track will be provided on the Broad Gauge track. To work the single line, miniature electric staff will be provided between Wodonga Coal Sidings Box and Albury South Box. When the new arrangements are in use, all trains using the single line over the bridge will be required to carry a miniature electric staff for the section.

Bill Johnston reported that major signal re-cabling work is taking place between West Footscray and Tottenham.

It was reported that West Footscray Signal Box has been regularly switched in for the goods lines. This is because of problems with the provision of the new control panel for the goods lines in West Tower.

Bob Whitehead reported that an Upfield train derailed at platform 11 at Spencer Street Station at approximately 1130 today.

**Syllabus Item:-**

The Chairman introduced member Bob Whitehead who spoke about the video to be viewed on the subject of the signals and the signal boxes at the railway complex in Ballarat.

At the end of the viewing of the video, Bob asked whether those present considered that the video in its current form was a saleable item to the general public. The answer from the meeting was that in general, no the video is not yet suitable for sale. There were some inaccuracies ( both historical and technical ) that need to be corrected along with some improvements to the production of the video. It was noted that for the general public, clear simple explanations were required and don't overload the general public with railway jargon and technology.

At the conclusion of the Syllabus Item, the Chairman thanked Bob for arranging for the meeting to view the video, Jon Churchward for the loan of the television set and Alan Jungwirth for the loan of the video player.

Meeting closed @ 2134 hrs.

The next meeting will be on Friday November 19, 1993 at the Uniting Church Hall, Hotham Street, Mont Albert, commencing at 2000 hrs.

## SIGNALLING ALTERATIONS

*The following alterations were published in WN 29/93 to WN 36/93. The alterations have been edited to conserve space. Dates in parenthesis are the dates of the Weekly Notice.*

**25.07.1993 Dandenong - Leongatha**

On Sunday 25 July 1993, an Inspector from the E.M.S.U. will withdraw Master Keys Nos 19 & 20 from the Cranbourne - Leongatha Train Order Territory. Key No 21 must be delivered to the Signaller at Dandenong who will be responsible for ensuring the Driver of each train proceeding beyond Cranbourne is in possession of the Master Key. The Signaller, Dandenong, must collect the Master Key from the Driver of each train returning from beyond Cranbourne. These arrangements will remain in place until further notice. (O.787/93)

**25.07.1993 Dandenong - AGM Siding, Lang Lang**

Commencing Sunday 25 July 1993 after the arrival of No 8474 and until further notice, the following Safeworking arrangements will be in force between Dandenong and A.G.M. Company siding at Lang Lang:-

On arrival of No 8474 at Dandenong, the Signaller must retain the Dandenong - Cranbourne Electric Staff out of the Instrument. Permission is hereby granted for the Electric Staff so retained to be used for all train and shunting movements between Dandenong and Cranbourne.

When No 9409 departs Dandenong the Signaller must hand the Driver the Electric Staff for the Dandenong - Cranbourne section, the keys to the Station Office at Cranbourne, and written instructions for the Safeworking requirements the Second person will be responsible for at Cranbourne. The Second Person must, after gaining access to the Station building at Cranbourne, place the Electric Staff for the Dandenong - Cranbourne section in the pocket of the Instruments and return to the train after locking the Station Office. **Particular care must be taken not to insert the Staff into the Instrument.** The Driver must inform the Train Controller of the trains' arrival at Cranbourne. The Train Controller may then issue a return Train Order for No 9409 to proceed to A.G.M. Siding at Lang Lang and return to Cranbourne.

On arrival at Cranbourne on the Up journey the Second Person must gain access to the office, obtain the Dandenong - Cranbourne Electric Staff from the pocket of the Instrument, lock the station office, and hand the staff to the Driver. After ensuring the train is complete, the Driver must fulfill the Train Order. When No 9410 returns complete at Dandenong, the Signaller must obtain the Electric Staff for the Dandenong - Cranbourne section and place it in the pocket of the instrument until next required.

Prior to ceasing duty after the passage of No 8474 on Sunday 25.07.1993, the Signaller at Cranbourne must place and secure the Fixed Signals at proceed. Trains must not cross at Cranbourne unless a Signaller is in attendance. (O.766/93)

30.07.1993

**Camperdown**

On 30.7.93 Camperdown was closed as a Train Order Crossing Station.

All Fixed Signals have been placed and secured in the Proceed position and the Plungers on the Points have been secured with V5PSW padlocks. Amend page 3 of the Rules for Train Order Working and Page 17 of the General Instructions of the Master Train Plan (O.845/93, WN 30/93)

01.08.1993

**Regulations 271 and 272**

From Sunday 1 August 1993 the existing Regulations 271 and 272 are amended as follows. The amended Regulations are to be inserted on Pages 175-178 of the Book of Rules and Regulations and the instructions contained on Page 93 of the General Appendix under the heading of 'Use of Yellow Flag' are hereby cancelled.

**Regulation 271**

Where used in the Regulation, the words:

**'Warning Signal'** shall mean a signal given by the exhibition of a yellow flag or yellow light held steadily in the hand.

**'Danger'** i.e. **'Stop Signal'** shall mean a signal given by the exhibition of a red flag or red light held steadily in the hand.

**'Audible Track Warners (A.T.W.s)'** shall mean detonators

- (a) Before any On-Track Machine carrying work persons and/or material, wagons, or any other obstruction is placed upon a Running Line, or in the event of any Ballast or other Maintenance train being obliged to remain stationary on the line, or to move so slowly as to be in danger of being overtaken by another train on the same line, the person in charge must ensure that full protection is provided, as shown hereunder:
- (i) An Outer Flagman must be sent back along the line to not less than 2000 metres (and not beyond 4000 metres) from the obstruction, and must there place upon one rail of the line three Audible Track Warners, ten metres apart, and exhibit the 'Warning' hand signal (yellow flag or light), plainly exhibited in the direction of any approaching train, even if none is expected.
  - (ii) A second Flagman (Inner) must be placed at a distance of not less than 200 metres from the obstructions and there plainly exhibit the 'Danger' hand signal (red flag or light).
- (b) The Outer Flagman must continue to exhibit the 'Warning' hand signal (yellow flag or light) and keep the ATWs on the line, and the Inner Flagman must continue to exhibit the 'Danger' hand signal (red flag or light) until instructions are received from the person in charge to withdraw the signals. Such instructions must not be given until the line is clear of any obstruction.
- (c) The Driver of any approaching train or light locomotive, on the explosion of the ATWs, or observing the plainly exhibited 'Warning' hand signal (yellow flag or light) by the Outer Flagman, on any line on which the train or light locomotive is running, must immediately reduce the speed of the train until he receives a hand signal from the Inner Flagman for his further guidance. The Driver must be prepared to bring the train or light locomotive to a stand at the Inner Flagman, should it be necessary to do so.

The Inner Flagman must continue to exhibit the "Danger" hand signal (red flag or light) until the person in charge has issued instructions that the obstruction has been moved and that the line is clear for normal speed.

On receiving such instruction, the Inner Flagman must plainly exhibit a green flag or light, held steadily in the hand, to the Driver of the train or light locomotive.

- (d) When it is necessary for a train or light locomotive to travel at reduced speed over the affected section of line, the person in charge must instruct the Inner Flagman to exhibit the 'Caution' hand signal, by waving a green flag or light slowly from side to side.  
When the train has passed clear of the affected section of line, the Inner Flagman must exhibit to the Driver a steady green flag or light, whereupon the Driver may resume normal speed.
- (e) Once the 'Warning' hand signal (yellow flag or light) has been exhibited, and the speed of the train reduced, the Driver must not increase the speed of the train until the steady green flag or light is exhibited.
- (f) Should the distance of 2000 metres fall within the area where a Driver will not obtain a good and distant view of the 'Warning' hand signal, i.e.
- within a tunnel;
  - close to the mouth of a tunnel nearest to obstruction;
  - steep descending gradient;
  - curvature of the line;

then the 'Warning' hand signal and the three ATWs must be placed in a position over and above the 2000 metres, as may be necessary, to ensure that the Driver of an approaching train or light locomotive obtains a good and distant view of the 'Warning' hand signal and there place on one rail the three ATWs ten metres apart.

In the case of a tunnel, the Outer Flagman, in going back must place the three A.T.W.s ten metres apart, at the end of the tunnel nearest to the obstruction and proceed through the tunnel to such a distance beyond the tunnel to ensure that the Driver of an approaching train or light locomotive obtains a good and distant view of the 'Warning' hand signal, and there place on one rail of the line the three ATWs 10 metres apart.

- (g) If the Outer Flagman appointed to exhibit the necessary 'Warning' hand signal and to place the ATWs on the line, should arrive at a Signalbox (at which there is a Signaller on duty), before he has reached the prescribed distance of not less than 2000 metres, he must instruct the Signaller in charge of it to keep the fixed signals at the stop position to protect the line about to be obstructed, and, except as provided in clause (f) hereof, it will not be necessary for him to go further back, but he must remain at the Signalbox or Signalling complex, put down three ATWs and use his 'Warning' hand signal, and the Signaller must be instructed to keep the fixed signals at the Stop position and not allow any train to pass his signalbox in the direction of the obstruction until the person in charge of the work has informed him that the obstruction has been removed, and that the line is clear and safe for the passage of the train, the object being that the Signaller and Flagman do not show contrary signals to approaching Drivers.
- (i) If the obstruction is less than 400 metres in advance of the home signal applicable to the line which is obstructed, the Outer Flagman must not remain at such Signalbox, but after instructing the Signaller to keep the fixed signals at the Stop position for the protection of the obstruction, must go back the required distance of 2000 metres, as ordered in clause (a) of this Regulation, unless there is another Signalbox within that distance, when he must stop at such signalbox and act as above directed.
- (ii) Where automatic signalling is in force, it will not be necessary for the Flagman to proceed beyond the third signal in the rear of the obstruction if within the prescribed distance of 2000 metres but at the third signal he must fix three ATWs on the line and exhibit the 'Warning' or 'Danger' hand signals until he receives instructions from the same person to withdraw his hand signals.
- (iii) The Ganger or person in charge will be personally responsible for ensuring that the Flagmen are placed in their proper position and fully qualified and have an up-to-date Certificate of Competency to perform the duties of a Flagman.  
In those areas where a Driver's view is restricted, such as by curves, cuttings, etc., additional Flagmen must be employed.

#### Regulation 272

- (a) Prior to any rail being taken out or relaying operations commenced, or whenever the line is unsafe due to landslip or other cause a Flagman (Outer) appointed for the purpose must be sent back along the line to not less than 2000 metres (and not beyond 4000 metres) from the obstruction. The Flagman must there place upon one rail of the line three Audible Track Warners ten metres apart, and exhibit the 'Warning' hand signal (yellow flag or light), plainly exhibited in the direction of any approaching train, even if none is expected.
- (b) A second Flagman must be placed at a distance of not less than 200 metres from the obstruction, and there plainly exhibit the 'Danger' hand signal (red flag or light).
- (c) Both the Outer and Inner Flagman must act in accordance with Regulation 271.
- (d) In the case of a single line, or where the landslip or obstruction affects both the Up and Down lines, Flagmen must be sent out in both directions.

- (e) Before a rail is taken out the Gang must have at the spot a sound rail in readiness to replace it.

#### **Absolute Occupation**

When protecting an area under 'Absolute Occupation', a Flagman must be stationed at the fixed signal or other point determined by circular as the boundary of the 'Absolute Occupation' area.

The Flagman stationed at the fixed signal or other point must place on one rail of the line, three (3) ATWs 10 metres apart and exhibit the 'Danger' hand signal (red flag or light) until such time as the 'Absolute Occupation' has been cancelled. (O.808/93, WN 29/93)

04.08.1993

#### **Frankston**

On 4.8.93 the following alterations took place at Frankston:

1. The Disc signals on Posts 6 and 7 were electrically lit
2. 'X' track was track circuited between Posts 6 and 7
3. The Down approach for the Pedestrian Booms at Beach Street was extended by 87 metres

(O.824/93, WN 29/93)

04.08.1993

#### **Sunbury**

On 4.8.93 the points between Nos 1 and 1A tracks at the Up end of the yard ('B' hand points) were fitted with a C pattern Annett Lock. A rodded derail was provided in No 1A track to replace the existing derail block. Insert a reference on Diagram 30/90. (O.822/93, WN 29/93)

10.08.1993

#### **Frankston**

On 10.08.1993 train stops were provided at Posts Nos 8 and 9. Insert a reference on Diagram 19/92

(O.825/93, WN 29/93)

11.08.1993

#### **Dandenong**

On 11.8.93, the Flashing Lights at Greens Road Level Crossing were converted to Boom barrier operation. Healthy State Indication lights and yellow whistle boards were also provided. In addition three notice boards were provided.

Through train movements will operate the two Boom Barriers adjacent to the Main Line automatically via a Level Crossing Predictor. When shunting operations have taken place at the Kimberley Clark Siding, the Boom Barriers will not operate until the train or locomotive leaves the siding and moves towards the Level Crossing.

A Third Boom Barrier has been provided to protect the A.C.I. Pilkington Siding. For trains shunting at this siding, the procedures are as follows:

1. For Down trains which are to shunt at A.C.I. Pilkington Siding while leaving wagons on the Main Line, the train must stop at Notice Board No. 1 which states 'Trains Dividing and Shunting must obtain Annett Key before proceeding'. This board is located on the Up side of the level crossing. The Staff for the section must then be exchanged for the Annett Key. The push button controlling the Boom Barriers must then be pushed. This will cause the Main Line Boom Barriers to lower. After the Boom Barriers are fully horizontal the train is to pull forward over the Level Crossing. The Boom Barriers will rise after the train clears the Level Crossing.
2. After clearing the Level Crossing and Points leading to the Siding, the points must be unlocked and set to lay for the siding. The adjacent push button must then be pushed to operate the two outside Boom Barriers. The train must move until these two Boom Barriers are fully horizontal. Notice Board No 2, stating 'Trains must not enter Roadway until Boom Barriers are Horizontal' has been provided adjacent to the points on the Main Line.
3. An Up train requiring to shunt at the A.C.I. Pilkington Siding is required to stop at Notice Board No 2 and exchange the staff for the Annett Key. The shunting must then be carried out as laid down in 2.
4. When the train or locomotive is to depart the siding, the train or locomotive must stop at Notice Board No 3 which states 'Trains must not enter Roadway until Boom Barriers are Horizontal'. After ensuring that the points are correctly set, the push button must be pushed. When the Boom Barriers are horizontal, the train or locomotive may move onto the Main Line. The points are then to be placed to lie for the Main Line and the Annett Key exchanged for the Staff. The train or locomotive may then depart. However, if the train or locomotive is to travel to Dandenong, it will be necessary for the push button to be operated and the Boom Barriers to be lowered to the horizontal position prior to the train or locomotive departing. (O.857/93, WN 30/93)

15.08.1993

#### **Toorak - Caulfield**

On 15.8.93 signals D271, F271, D276, F276, D262, F262, D259, F259, D252, F252, D249, F249, F242, D237, F237, F230, D225, F225, F200, D213 and F213 were converted from Semaphore signals to Colour Light signals. In addition the Semaphore arms on Posts D242, D230 and D220 will be abolished and the existing Colour Light co-acting signals, as indicated on Circular O 799/93, will become the operating units. Posts D161, F161, D288, and F288 will be temporarily out of service. (O.856/93, WN 30/93)

(17.08.1993)

#### **Regulation 271**

The following is a clarification of Regulation 271 (as amended by circular O.808/93).

The requirements of Regulation 271 (as amended) do not apply to either motorised inspection trolleys or road/rail vehicles conducting track inspection duties. The instructions contained on page 143, General Appendix, and in the Rules of Train Order Working and Section Authority System Rules still apply.

(O.851/93, WN 30/93)

(24.08.1993) **South Yarra - Malvern**

Signalling diagram 5/93 replaced diagram 1/93. This shows the new light signals between Toorak and Malvern

(O.870/93, WN 31/93)

(24.08.1993) **Trawalla and Buangor**

Until further notice, permission is granted to use the Staff Exchange Box at Trawalla and Buangor for train 8146 on Tuesday to Saturday.

(O.895/93, WN 31/93)

(24.08.1993) **Mordialloc**

Until further notice, the signal box hours will be:

Monday to Friday..... From 0525 to 0800 and from 1735 to 2050

Saturday and Sunday..... Switched Out

(O.866/93, WN 31/93)

(24.08.1993) **Frankston**

Until further notice, the signal box hours will be:

Monday to Saturday..... From 0230 until 0130 the next day

Sunday..... From 0720 until 0030 the next day

(O.866/93, WN 31/93)

(24.08.1993) **Frankston**

The Disc signals on Posts Nos 5 and 5B were electrically lit.

(O.891/93, WN 31/93)

30.08.1993 **Bunyip - Longwarry**

From 30.8.1993 the instructions for the automatic operation of the Bunyip - Longwarry single line section are as follows:

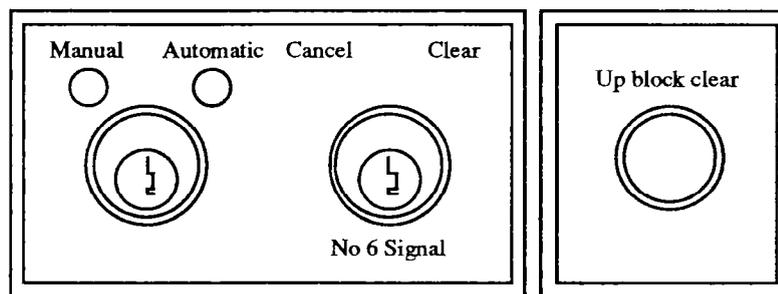
The approaches provided give precedence to Up trains. The approach track to the single line section for Up train is 6850 metres and for Down trains is 3244 metres. The first train on an approach track will set up a call and lock it into the system giving it precedence over any opposing train.

When a call is locked into the system no other calls will be accepted until the train has cleared the Bunyip - Longwarry section or a six minute run down on the signals has occurred.

Pilot Key Cabins are provided at Home Signal No 6 at Bunyip and No 24 at Longwarry. These Cabins are equipped with Sepac telephones, Train to Base radios, and two 5P key switches.

Telephones and 5P key switches are also provided in the Telephone Cabins at Home Signals No 14 at Bunyip and No 16 at Longwarry.

The 5P key switches are arranged as follows. One key switch is the Automatic/Manual selection switch, whilst the second operates the adjacent Home Signal. Indicator lights are provided as shown on the diagram. The colours of these lights are: Block Occupancy (white); Manual Mode (white), Automatic Mode (green).



Dual control point machines are provided at No 7 Points, Bunyip, and No 9 Points, Longwarry.

1. **Failure of Signals**

- (a) If on arrival at Home Signals Nos 6, 14, 16, or 24, the Home Signal is at Stop, the Driver must advise the Train Controller. The Train Controller must then ensure there is no other train in the section ahead and that Signalling System has not been placed in the manual operating mode.
- (b) The Train Controller must instruct the Driver to operate the key switch to the left (Manual position), return key to the midway position and remove the key.
- (c) The Driver must observe that the 'Manual Operation' and 'Block Clear' lights are displayed and advise the Train Controller. Note, a six minute time release will occur if a train is on the opposing approach track.

- (d) The Train Controller must instruct the Driver to operate the applicable Signal Key switch to the right (clear position), return key to midway position, and remove the key. The points will set and the Signal will clear for the move. After the train has cleared the points the system will revert to automatic mode.
- (e) If the Home signals and key switches fail, the Train Controller must ensure that the track section is clear, and if the train is entering the single line section, that any opposing train has stopped at the Home Signal at the opposite end of the section and that that Home signal is at Stop.
- (f) The Train Controller must then instruct the Driver or competent employee to operate the dual control points to the "Hand" operating position and to ensure that they are set for the required move. The Train Controller must then fill out a Caution Order, Form 2360, and dictate it to the Driver or competent employee as authority to pass the Signal.
- (g) After the train has passed the points, the dual control points must be placed back in the 'Motor' operating position by the competent employee.
- (h) In the case of a train operated by a Driver only, and a competent employee is not in attendance, it will not be necessary to return the dual control points to the 'Motor' position after the train has passed over the points.
- (i) Before issuing a Special Caution Order for Home Signals No 4 or 16, the Train Controller must ensure the preceding train has passed Garfield (if an Up train) or has arrived at Warragul (if a Down train).

## 2. Terminating Trains

A Down train is not permitted to terminate at Bunyip unless a competent employee is in attendance to manually operate the signalling system.

## 3. Single Line Working

- (a) When working the traffic of the Double line Pakenham (or Nar Nar Goon) to Bunyip, or Longwarry to Warragul, in addition to a Signalman being on duty at Pakenham, Nar Nar Goon, or Warragul (as required), a Signalman must be on duty to operate the points at Bunyip or Longwarry as required.
- (b) The single line section Bunyip - Longwarry must be included in the single line working arrangements. Thus the single line sections must be Pakenham (or Nar Nar Goon) - Longwarry or Bunyip - Warragul.
- (c) If the Pilot working commences at Bunyip, Down Home Signal No 6 is the signal leading to the Pilotman's section and must not be passed at the Stop position unless authorised by the Pilotman.
- (d) If the Pilot working commences at Longwarry, Up Home Signal No 24 is the signal leading to the Pilotman's section and must not be passed at the Stop position unless authorised by the Pilotman.
- (e) When Signals 6 and 14 at Bunyip or 16 and 24 at Longwarry are *intermediate* signals in the single line (Pilotman's) section, the Signalman must issue the Driver with a Caution Order to pass any of these signals if at Stop. Prior to issuing the Order the Signalman must ensure the points are correctly set.

## 4. Self-propelled Track Machines

When necessary for self-propelled track machines (which cannot be relied on to drop track) to travel between Bunyip and Longwarry a competent employee must be in attendance to operate the dual control points for the safe passage of the machines. District Business Manager, Eastern, to arrange.

## 5. Road/Rail (Hi-Rail) Vehicles

- (a) The Train Controller is considered the Signalman for the section Bunyip - Longwarry. Road/Rail vehicles must not travel over the points at Bunyip or Longwarry, but must off-track and on-track at the special take-offs provided unless a competent employee is in attendance to manually operate the points.
- (b) In the event of any Road/Rail (Hi-Rail) Vehicle operating in either an Up or Down direction over the single line, the Train Controller must:
  - (i) Advise the Signalman at Warragul, Pakenham, or Nar Nar Goon of the circumstances.
  - (ii) Ensure that the Signalman at Warragul and Pakenham/Nar Nar Goon place and maintain the appropriate Home Departure Signals at the Stop position, and that the lever sleeves are applied to the respective controlling levers, and are not removed until advice is received that the Road/Rail Vehicle has been removed from the line.
- (c) For Up journeys from Warragul to Longwarry, and Bunyip to Nar Nar Goon or Pakenham, the Signalman at Warragul will grant permission.
- (d) For Down journeys from Pakenham or Nar Nar Goon to Bunyip and Longwarry to Warragul, the Signalman at Pakenham or Nar Nar Goon will grant permission.

## 6. Disabled Train

Should a train become disabled between Bunyip and Longwarry the following steps must be taken:

- (a) The Driver must:
  - (i) Advise the Train Controller of the circumstances and the location of the train by means of the Train to Base radio or other means of communication.
  - (ii) Complete a Driver's Relief Order and dictate the particulars to the Train Controller
  - (iii) Protect the train by proceeding 500 metres displaying a Red hand signal in the direction which the relief train or locomotive is expected, as directed by the Train Controller;

- (iv) Accompany the relief train or locomotive to the disabled train;
- (v) If the radio is not working, protect as provided in Regulation 239 and proceed to the nearest telephone.
- (b) The Train Controller on receiving advice that the train is disabled, must:
  - (i) Repeat the particulars of the Driver's Relief Order back to the Driver;
  - (ii) Make arrangements to obtain a relief locomotive or train;
  - (iii) Issue a Train Authority (2368) as the authority for a relief train or locomotive to assist the disabled train.
- (c) The Driver of the relief locomotive or train, after entering the section, must:
  - (i) Proceed cautiously to the disabled train;
  - (ii) Obtain the Driver's Relief Order and cancel it;
  - (iii) Remove the disabled train to the end of the section to which it was proceeding.

The above instruction supersedes the current instructions for Bunyip - Longwarry on page 246, General Appendix, and cancels Circular O.904/88 (O.879/93, WN 32/93)

(31.08.1993) **Metrol**

Whenever Road/Rail (HiRail) vehicles enter or leave any Underground Loop in conjunction with an 'Absolute Occupation', the Train Controller, Metrol, must be informed. In addition to complying with Regulation 271A, Gangers and Supervisors must inform the Train Controller after Road/Rail vehicles have entered, or are clear of, any Underground Loop and/or Running Line. (O.899/93, WN 32/93)

(31.08.1993) **Charlton**

The catch points at the Up end of Charlton Sub Terminal were removed and replaced with a Hayes Derail Block locked with a V5PSW lock. (O.912/93, WN 32/93)

(31.08.1993) **Bairnsdale**

Until further notice, the Drivers of all trains arriving and departing Bairnsdale will be in charge of operating the Fixed Signals for their trains.

On arrival of a Down train, the Driver must place the Down Home Signal, Post No 1, to the Stop position. Prior to the departure of an Up train, the Driver must ensure the train is standing in No 1 track with the locomotive clear on the Up side of the Up Home (Semaphore) Signal Post No 3. The Driver must ensure the Up end plunger lock is 'in' and must place the Down Home signal, Post No 1 (Signal A) and the Up Home (Light) signal Post No 2 (Signal H) to the Proceed position. The train may then depart. Manager, Central Operations, to arrange for Drivers to have access to the Train Register Book.

Insert on page 247, General Appendix (O.920/93, WN 32/93)

(31.08.1993) **Mildura Line**

Healthy State Indication Lights were provided at the following Level Crossings:

Litchfield	Borong Highway (316.111 km)
Massey	Sunraysia Highway (324.475 km)
Birchip	Berriwillock Road (353.632 km)
	Sealake Road (354.230 km)

(O.937/93, WN 32/93)

(31.08.1993) **Ardeer**

The Signal Gantry containing Posts NA574 and SA574 has been dismantled in preparation for relocation due to the erection of an overpass for the Western Ring Road. As a temporary measure the Signals were placed on ground masts 2 metres in the Down direction. Post NA574 was placed on the left hand side of the line, and Post SA574 on the right hand side. (WN 32/93)

(07.09.1993) **Warrnambool Line**

Commencing forthwith, the operational responsibility and control of the Warrnambool line from the Down Home Departure Signal at South Geelong to Dennington (inclusive) is transferred from the Manager, Southern Operations, to the Manager, Western Operations. (WN 33/93)

(07.09.1993) **Traralgon - Bairnsdale**

Until further notice, Drivers of all trains running between Traralgon - Sale - Bairnsdale must be in possession of a Master Key. The Master Key must be collected from the Signaller, Traralgon, prior to the departure of a Down train and returned to the Signaller, Traralgon, on the Up journey.

Insert as a new instruction on page 42, Book of Train Order Rules (O.963/93, WN 33/93)

(07.09.1993) **Healthy State Indicators**

Many country level crossings are fitted with a monitoring device known as a 'Healthy State Indicator'. These level crossings have:

- (i) A flashing white lamp mounted on a flashing light mast close to the track.
- (ii) Yellow whistle boards provided on each approach track.

The device monitors the operational functions of the level crossing circuitry and displays a flashing white light to the approaching train under normal or healthy conditions.

In the event of a problem with the level crossing equipment this light will not flash upon the approach of a train. This must be reported immediately to Train Control by the train crew, even if the lights and bells are observed to be operating normally.

Therefore the following procedure must be followed by train crews:

1. If, when approaching a level crossing provided with the yellow whistle boards, the Healthy 'White' flashing indication is NOT operating, the Driver MUST immediately inform the responsible Train Controller who is then required to contact the Signal Maintenance Fault Centre to report the failure without delay.
2. Train Controllers shall then advise other trains approaching this crossing to reduce speed on the approach until fault rectification is confirmed.

(07.09.1993) **Shepparton**

Until further notice, Driver-in-Charge of signalling will apply at Shepparton for the arrival and departure of all passenger trains on Saturdays and Sundays. The following instructions will also apply at other specified periods as authorised by the Superintendent Safeworking.

The Train Controller must be advised when the Signaller (sic) commences and ceases duty on a daily basis. Prior to ceasing duty the Signaller must advise the Train Controller the time at which the next Signaller is rostered to commence duty. The Train Controller must endorse the Train Control Graph accordingly.

**Mondays to Fridays**

After the departure of the last Up train for the day and prior to ceasing duty the Signaller must ensure that the Down Home Signal is at the 'Stop' position and advise the Train Controller accordingly.

If it is known that the first Down train on Saturday is a passenger train and that no Signaller will be on duty for the arrival of this train then, prior to ceasing duty on Friday, the Signaller will place the Down Home Signal to the 'Proceed' position provided the platform track is clear.

**Saturdays**

Providing the platform track is clear, the Signaller must ensure that the Down Home Signal is placed to the proceed position prior to ceasing duty.

**Duties of the Train Controller**

On being advised by the Signaller, Shepparton, that the above instructions have been complied with the Train Controller must endorse the Train Control Graph accordingly. If necessary, the attention of the Relief Train Controller must be drawn to the endorsement.

Except as described below the Train Controller must be satisfied beyond all doubt that the Down Home Signal at Shepparton is at the 'Stop' position before a Train Order is authorised for the first Down train for the day to depart from Seymour. The Train Controller may authorise a Train Order (irrespective of the position of the Down Home signal?) if the first train for the day is a passenger train.

If (suitable?) conditions exist, authority is granted for a Train Order to be issued from Seymour to Shepparton and return.

**Duties of Drivers**

On Saturdays and Sundays (and at other specified periods) the Driver must comply with the following instructions.

Upon the arrival of the Down passenger train the Driver will be responsible for restoring the Signal levers and Closing lever to the normal position and withdrawing the Annett Key from the lock on the Closing lever. After the passengers have been detrained and when the Driver considers it safe to do so, the train must be pushed in the Up direction. The train is to be stopped with the locomotive clear of the first crossover on the Up side of the platform. The locomotive must then be detached and run around the train via No 2 track. The Driver must then restore the Annett key to the lock on the Closing lever and place the three levers to the reverse position. The Train Controller must be informed when this has been done. Providing the Driver has the proper authority to enter the section, the Up train may then depart as scheduled.

On Sundays, after the last passenger train for the day has arrived and reversed, as described previously, the Driver must ensure that the Down Home Signal is at the 'Stop' position before ceasing duty. The Train Controller must be advised accordingly.

The levers referred to are located on the platform. They consist of a lever working the Up Home Signal, a lever working the Down Home Signal, and a Closing lever which is fitted with an Annett lock.

The Regional Manager must ensure that Drivers working under the Driver-in-Charge conditions have access to the Station Office, telephones, etc.

Insert this instruction on page 44 of the Train Order Rule Book

(O.964/93, WN 33/93)

(14.09.1993) **Paisley**

The SEC Sidings at Paisley (worked from Newport 'A' Signalbox) were abolished. Points 225 (leading from the West Line to the SEC Sidings) and Dwarf 226 (applying from the SEC Sidings to either the East or West Lines) were abolished. Amend diagrams 21/86 and 73/87.

(O974/93, WN 34/93)

**(14.09.1993) Seymour - Wodonga**

The Electric Staff System between Seymour and Wodonga has been abolished and replaced by the Train Order System of Signalling. The Train Order sections will be Seymour - Avenel, Avenel - Violet Town, Violet Town - Benalla, Benalla - Wangaratta, Wangaratta - Springhurst, and Springhurst - Wodonga. Train Orders issued to or from Benalla will not make any distinction between Benalla 'A' and Benalla 'B' signalboxes.

Block Point locations will be established at Longwood (134.000 km) and Bowser (243.825 km). These will be equipped with TAILS units and telephones. Under no circumstances are opposing trains to be permitted to approach Longwood or Bowser Block Points at the same time.

Train Order Territory Boards will be erected at Seymour, Springhurst (on the Rutherglen line), and Wodonga.

Four Master Keys engraved 'Seymour - Wodonga' and numbered 64 to 67 will be provided.

Should traffic so permit, return Train Orders may be issued for the sections Seymour - Wodonga or Wodonga - Seymour.

The Fixed Signals at Avenel, Violet Town, Benalla, Wangaratta, and Springhurst will be retained. The Distant signals at these stations will be fixed at Caution and the normal position of the Home signals will be 'Proceed'. Regulations 46 and 63 are modified accordingly. Whenever it is necessary for trains to cross at Avenel, Violet Town, Benalla, Wangaratta, or Springhurst the Train Controller and Regional Operations Manager are to jointly arrange for a Signaller to be on duty prior to the crossing trains departing Seymour or Wodonga.

Euroa has been abolished as a crossing location. The Home signals applying to No 1 (Platform) track have been fixed at 'Proceed' and the Distant signals at 'Caution'. Under no circumstances are opposing trains to be permitted to approach Euroa at the same time.

Insert this instruction on Page 44 of the Book of Train Order Rules.

(O.972/93, WN 34/93)

**(14.09.1993) Avenel**

In conjunction with the introduction of Train Orders, the following alterations to the signalling at Avenel have taken effect:

1. The Up and Down Distant (worked by levers 1 and 35) were fixed at Caution
2. The reversers for Homes 3, 5, 31, and 33 (on Posts 2 and 14) have been disabled.

(O.987/93, WN 34/93)

**(14.09.1993) Euroa**

In conjunction with the introduction of Train Orders, the following alterations to the signalling at Euroa have taken effect:

1. The Up and Down Distant (worked by levers 1 and 20) were fixed at Caution
2. The reversers for Homes 2, 3, 18, & 19 (on Posts 2 and 6) have been disabled.
3. The right hand Down Home signal on Post 2 (Home 2), the Down Home signal on Post 5 (Home 10), the Up Home Signal (light) on Post 3B (Home 17) and the left hand Up Home Signal on Post 6 (Home 19) have been fixed at proceed.

(O.988/93, WN 34/93)

**(14.09.1993) Violet Town**

In conjunction with the introduction of Train Orders, the following alterations to the signalling at Violet Town have taken effect:

1. The Up and Down Distant (worked by levers 1 and 42) were fixed at Caution
2. The reversers for Signals 2, 3, 7, & 8 (Post 2), Signals 36 & 39 (Post 3), Signals 38 & 41 (Post 11) have been disabled.
3. The Down Home (Light) Signal on Post 7 is worked either by Lever 5 or a 5P Key Switch. When switching out, the signal must be cleared using the 5P Key Switch. The signal will then remain at proceed.

(O.989/93, WN 34/93)

**(14.09.1993) Benalla**

In conjunction with the introduction of Train Orders, the following alterations to the signalling at Benalla have taken effect:

1. The Up and Down Distant (worked by lever 5, Benalla "A", and lever 115 Benalla "B") were fixed at Caution
2. The track cancellation in the circuits for the reversers for Signals 9 (Post 19), 6 (Post 27), 17 (Post 25), 95 (Post 28), 97 (Post 26), 113 & 114 (Post 33) and 117 (Post 29B) have been disabled.
3. The reversers for Signals 8 & 9 (Post 2), 47 (Post 7B), and 7 (Post 7) have been disabled.

(O.990/93, WN 34/93)

**(14.09.1993) Wangaratta**

In conjunction with the introduction of Train Orders, the following alterations to the signalling at Wangaratta have taken effect:

1. The Up and Down Distant (worked by levers E & 74) were fixed at Caution

2. The track cancellation in the circuits for the reversers for Signals 4 (Post 7), 59 (Post 8), and 71 & 73 (Post 23) have been disabled.
3. The reversers for Homes 1 (Post 4), 3 (Post 9), and 5 (Post 17) have been disabled.
4. The reversers for Calling-On arms 4 (Post 7), 59 (Post 8), and 71 & 73 (Post 23) have been disabled.
5. The track cancellation in the circuits on the Up Starting Signal (Home 30, Post 1) will be removed. (O.991/93, WN 34/93)

**(14.09.1993) Springhurst**

In conjunction with the introduction of Train Orders, the following alterations to the signalling at Springhurst have taken effect:

1. The Up and Down Distant (worked by levers 1 and 50) were fixed at Caution
2. The reversers for Homes 2 & 3 (Post 2) and 48 & 49 (Post 8) have been disabled. (O.992/93, WN 34/93)

**(21.09.1993) Geelong 'A'**

The Wharf Track was abolished. The existing three throw points leading to the Wharf Track, Siding A, and Siding B has been removed and replaced with a right hand turnout connecting Siding 'A' and Siding B. Points 45, Catch 45, and Dwarf 44 were abolished. Levers 44 and 45 were sleeved normal. Amend Diagram 46/89. (O.1037/93, WN 35/93)

**(21.09.1993) Violet Town**

In conjunction with the introduction of Train Orders, the Calling-on signals on Post No 2 (Signals 3 and 8) were removed from service. Amend Diagram 34/90. (O.1019/93, WN 36/93)

**(21.09.1993) Wangaratta**

In conjunction with the introduction of Train Orders, the Calling-on signals on Post No 8 (Signal 59) and Post No 23 (Signals 71 and 73) were removed from service. Amend Diagram 34/90 (sic). (O.1018/93, WN 36/93)

**(28.09.1993) Broadmeadows**

Except in the case of unavoidable necessity, Down trains hauled by locomotives must not be signalled towards the Down Starting Signal Post 36 to wait for the 'Is Line Clear?' signal, but must be held at the platform or at the Down Home Signals Posts 19 or 21.

Insert as a new instruction, page 244, General Appendix (O.1041/93, WN 36/93)

**(28.09.1993) Bacchus Marsh**

No 3 Track has been abolished. Crossover 26 (leading from No 2 to No 3 Track) and Lockbar 27 were abolished. Discs 15 and 22 (Post 6), Disc 29 (Post 8), and Disc 37 (Post 10) were abolished. Levers 15, 22, 26, 29, and 37 were sleeved normal and will be removed. Lever 27 became a pilot lever.

Amend Diagram 30/88. (O.1060/93, WN 36/93)

**(28.09.1993) Warrnambool**

Until further notice, Driver-in-charge of Signalling will apply at Warrnambool for the arrival and departure of all passenger trains on Saturdays and Sundays. These instructions will also apply at other specified periods as authorised by the Superintendent, Safeworking. Suitable instructions will be issued in this case.

**Signallers:**

After the departure of the last Up train for the day and prior to ceasing duty, the Signaller must ensure that the Plunger securing the Up end facing points is padlocked 'in', the Down Home signal is at the 'Stop' position and the Quadrant lever is chained in the normal position, the Annett Key has been removed from the lock on the Signal lever and placed in the special box located in the Station building.

The Train Controller must be notified that the above instructions have been carried out, that the Signaller is ceasing duty, and when the next Signaller will commence duty. The Train Controller must endorse the Train Control Graph accordingly. The Train Controller must also be notified when a Signaller resumes duty.

**Drivers:**

Prior to an Up Passenger train departing Warrnambool, the Driver must:

- obtain and verify the Train Order;
- obtain the Annett Key secured in the special box located in the Station building;
- unlock and reverse the Quadrant lever for the Down Home signal;
- personally observe that the Down Home signal is at Proceed;
- chain the platform Quadrant lever in the reverse (pulled over) position;
- inform the Train Controller of the position of the Down Home signal;
- ensure that the proper Tail signals are exhibited on the rear of the train.

After the arrival of the Down Passenger train into the platform track, the Driver must:

- unlock and restore the platform Quadrant to the Normal position;

## VALE MAURICE DIGGLE

*Maurice Diggle, a member of the Society and the PTC Superintendent Safeworking passed away recently at the age of 58. His friend, fellow SRS member, and Block and Signal Inspector, David Watson delivered the eulogy at Maurice's funeral. Florence Diggle has kindly given permission for the eulogy to be reprinted in Somersault. The Society would like to extend its sympathies to Maurice's family and friends in this time of sorrow.*

Friends, we are gathered here today to mourn the passing and at the same time celebrate the life of a great man, Maurie Diggle; and I mean "great" in every sense of the word. He was great in stature, great in intellect, great in verbal prowess, he was great at his job, and he was a great character. To some of us he was a workmate, to some of us he was a neighbour, to some of us he was a relative, but we are all united in that he was our friend and collectively our hearts reach out in sympathy today to those who had the most intimate relationship with Maurie - that of being his close family-

to Mary, his mother; to Florence; to the children, Kathy, Jenny, and John; and to his sisters: Judith; Danyce; and Anne and their families.

Maurie was born in Flemington on 27 December, 1934, the eldest in Mary and Jack's family of four. He spent his childhood in the Flemington and Fitzroy areas and was educated at St. Patrick's College and, when you recall his gruff voice, you might be astounded to learn that he won a singing scholarship there! But he chose instead to pursue a railway career and he was very firm about this even at the age of about ten when he used to tie his mother's tea-towels to sticks and wave them as he ran around the back yard pretending to be a train.

Maurie left school after eighth grade and joined the Victorian Railways at the tender age of fourteen years and two months on 24 January, 1949 as a Lad Messenger in the Refreshment Services Branch. In 1951 he transferred to the Traffic Branch and began as a Lad Porter at Essendon where he worked alongside our friend and colleague Ray Barden in the same capacity. Then in 1953 the future direction of his career in signalling and Safeworking was set when he became a Block Recorder in Flinders Street "A" Box. His first Signaller's job was at Albert Park in 1956 and in that year he became a Relieving Signaller, ultimately qualifying in nearly 60 frames - failing Newport "A" at his first attempt!

Maurie and Florence were married at St. Mary's Church in Ascot Vale in 1957 and Kathy, Jenny and John were born over the next five years. In 1967, the family relocated to Ararat where Maurie was appointed as Block and Signal Inspector, a position he occupied for some ten years. Who can forget those great social events, the VRI Balls that were held during Maurie's presidency of the Railways Institute at Ararat?

In 1977 Maurie became Assistant Superintendent of Safeworking and then after a period of having special responsibilities within The Met he was appointed Superintendent Safeworking in 1989. Without a shadow of doubt, no Superintendent Safeworking in the history of railways in Victoria has occupied the position during a period of change and upheaval such as that of recent years when a combination of factors has resulted in low morale and people not having their eye on the ball which is highly undesirable in the field of Safeworking. As one close to Maurie, I know this was of great concern to him

because he viewed system safety as fundamental. His personal approach to the job was one of honesty, integrity and truth and when these were potentially compromised by external influences he worried. He worried a lot more that he let on and more than most people knew.

Those of us who are or were railwaymen or women delight in telling anecdotes and I'd like to share two concerning Maurie. The first concerns his examining a young Signal Assistant in the signalling arrangements at Armstrong. Maurie was unimpressed with the candidate's knowledge and announced that he had failed the exam. Maurie then proceeded to switch out the signal box but upon checking with the stations on either side discovered that the through circuit had not been established. He pondered this for a while until the lad helpfully pointed out that he thought that the circuit switch should have been turned to "out". Maurie, in a display of caring and compassion that was typical, said "Thanks, but you still failed!"

During the 1967 drought, a considerable part of District Officers' time was spent in recovering tarpaulins and ropes that accumulated at unattended stations where railway wagon loads of relief fodder were being received. On one such occasion Maurie was at Strathkellar with the District Superintendent and the Traffic Inspector and decline to help with the task, announcing that as Block and Signal Inspector, his job was to test the safeworking apparatus. So he strolled off and the next thing was flat on his back when a supposedly locked point lever came free when he pulled it. Ever afterwards, he maintained that this irregularity justified his stance that as a Block and Signal Inspector he didn't have to lift heavy tarpaulins!

Another pastime of railway folk is to discuss each other's discipline History Sheets. Now a relieving Signaller of many years experience might be expected to have accumulated several pages of recorded misdemeanours but Maurie's History has but one entry; a Commissioners' Commendation for his part in the successful promotional tour of the Hamilton area by the new 600hp Diesel Rail Car. Was Maurie the perfect Signaller, was he lucky in never getting caught, or is there another explanation?

It would of course be wrong to concentrate on railway matters alone because there were many other aspects to Maurie. We might think about his faith - in his youth he was an Altar Boy and a member of the Knights of the Southern Cross. In more recent times he was a long term member and President for some years of the Railway Catholic Association. He has, in Florence's own words, raised his children to be "decent, honest kids" for who he was their model of integrity. He was held in great respect by his nieces and nephews. He truly valued his friendships and none perhaps more than those of his friend and confident, Don Woodful and his wife Mardi.

(Continued on Page 109)

## 1989 OPERATIONAL GUIDE TO STUD MARKINGS (TRAM DIVISION)

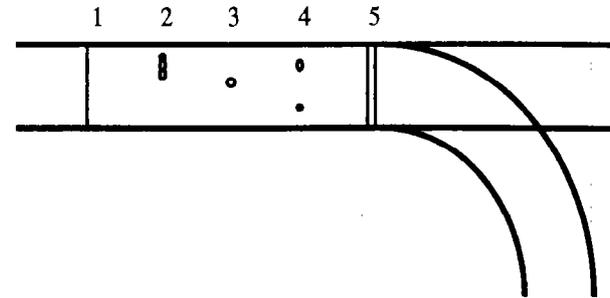
The contents of this document has been prepared to provide guidance and direction to all tram drivers to clarify stud marking utilised throughout the tram network. Stud markings are important in Tram operations because they assist in driving through critical areas. To help drivers understand stud markings more thoroughly, explanations will be divided into actual operational situations as follows:

- Various types of track markings.....1.
- Facing Points:
  - a. Old type auto (without signal)..... 2a.
  - b. New type auto (with signal) .....2b.
  - c. Manual.....2c.
  - d. Railway catch points.....2d.
  - e. Exceptions.....2e.
- Crossovers.....3.
- Shunts .....4.
- Section Insulators & "H" Crossings.....5.
- "T" Light Activation.....6.
- Depot Yards .....7.
- Compulsory stops other than Facing Points....8.
- Special Notes .....9.

### 1. Various Types of Track Markings

The various markings are summarised in table 1.

### 2a. Facing Points - Old Type Automatic (Without Signal)



#### Explanation of Markings

1. One yellow bar positioned approximately 3 pole lengths before a compulsory stop. This forewarns drivers that they are approaching a compulsory stop.
2. Three stud marks denote a provisional stop. Trams must not pass this mark until the tram in front has completely cleared the points.
3. One stud mark denote the start of directional selection for Automatic points.
4. Two stud marks denote the end of directional selection for the Automatic Points.
5. Two yellow bars indicate a compulsory stop. These

### Summary of Track Markings (Table 1)

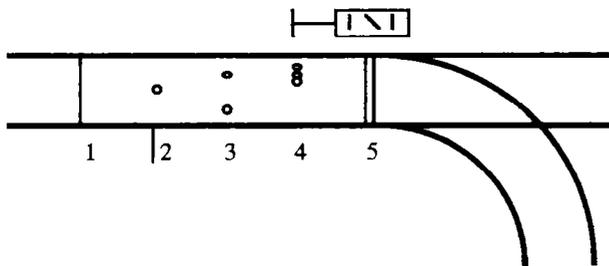
Physical Marks	Applies to tram classes	Location	Meaning	Section
half yellow bar outside of track	All classes	Auto points (new type)	Additional indication of start directional selection	
1 yellow bar	All classes	Road	Advance warning of compulsory stop	
1 yellow bar across track and extending outside rail	All classes	Yards	Fouling point	
2 yellow bars	All classes	All locations	Compulsory Stop	
1 white stud	W, B, A (rear pantograph)	Auto points	Start directional selection	
	W	Section Insulator & "H" Crossing	Cut-off	
		"T" lights	Start "T" Light Activation	
1 yellow stud	Z	Auto points	Start directional selection	
		Section Insulator & "H" Crossing	Cut-off	
1 yellow triangle	A (front pantograph)	Auto points	Start directional selection	
		Section Insulator & "H" Crossing	Cut-off	
2 white studs	W, B, A (rear pantograph)	Auto points	End directional selection	
	W	Section Insulator & "H" Crossing	Cut-on	
		"T" lights	End "T" Light Activation	
2 yellow studs	Z	Auto points	End directional selection	
		Section Insulator & "H" Crossing	Cut-on	
2 yellow triangles	A (front pantograph)	Auto points	End directional selection	
		Section Insulator & "H" Crossing	Cut-on	
3 studs	All classes	Auto points	Provisional Stop	
		Approaching crossover or shunt on road	Fouling Point	
3 white studs	W, A	After crossovers or in shunt on road	Clearance	
3 yellow studs	Z	After crossovers or in shunt on road	Clearance	
2 rows of 3 white studs	B	After crossovers or in shunt on road	Clearance	

are positioned after the two stud mark and at or before the toe of the points. Drivers must come to a **full stop** at this mark and visually inspect the points to ensure that they are in the correct position before proceeding.

The stud markings used for the one stud and two stud marks vary depending on the class of tram which operate on the line. White studs are used for class W, B, and A (rear pantograph) trams. Yellow studs are used for Class Z trams. Yellow triangles are used for Front Pantograph class A trams. A combination of one white and two yellow studs will be used at locations where classes W, B, & A (Rear Pantograph) and class Z trams operate. The one white stud indicates the start of directional selection for classes W, B, and A (Rear Pantograph) trams and the two yellow studs indicate the end of selection for Class Z trams.

Drivers are asked to use selection procedures (controller or points button) for the entire length of this marking to ensure correct operation of points.

**2b. Facing Points - New Type Automatic (With Signal)**

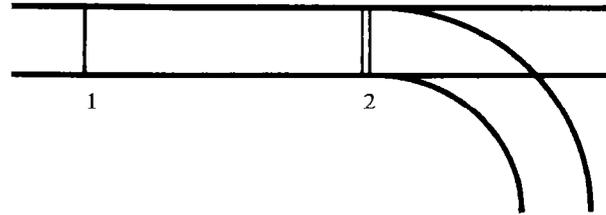


**Explanation of Markings**

1. One yellow bar positioned approximately 3 pole lengths before a compulsory stop. This forewarns drivers that they are approaching a compulsory stop.
2. One stud mark denote the start of directional selection for automatic points. One white stud will be used for all classes of tram. A half yellow bar outside the rail gives additional indication of the location of the one stud mark.
3. Two stud marks denote the end of directional selection for the automatic points. Two yellow studs will be used all classes of trams.
4. Three stud marks denote a provisional stop. All trams must stop at this mark if the tram in front has not cleared the points and a horizontal bar (---) is lit in the signal. If no horizontal bar is lit, the tram may proceed directly behind the first tram, but must still come to a full stop at the compulsory stop mark.
5. Two yellow bars indicate a compulsory stop. These are positioned after the three studs and the signal, but before the toe of the points. Drivers must come to a **full stop** at this mark and visually inspect the points to ensure that they are in the correct position before proceeding.

The signal provides an indication as to the current setting of the points and whether the driver must stop at the three stud mark.

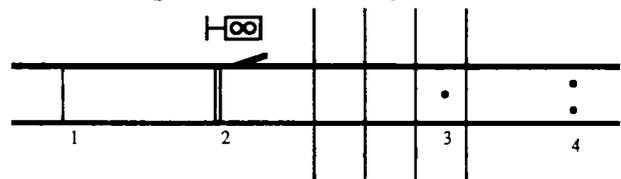
**2c. Facing Points - Manual**



**Explanation of Markings**

1. One yellow bar positioned approximately 3 pole lengths before a compulsory stop. This forewarns drivers that they are approaching a compulsory stop.
2. Two yellow bars indicate a compulsory stop. These are positioned at the toe of the points. Drivers must come to a **full stop** at this mark and visually inspect the points to ensure that they are in the correct position before proceeding.

**2d. Facing Points - Railway Catch Points**



**Explanation of Markings**

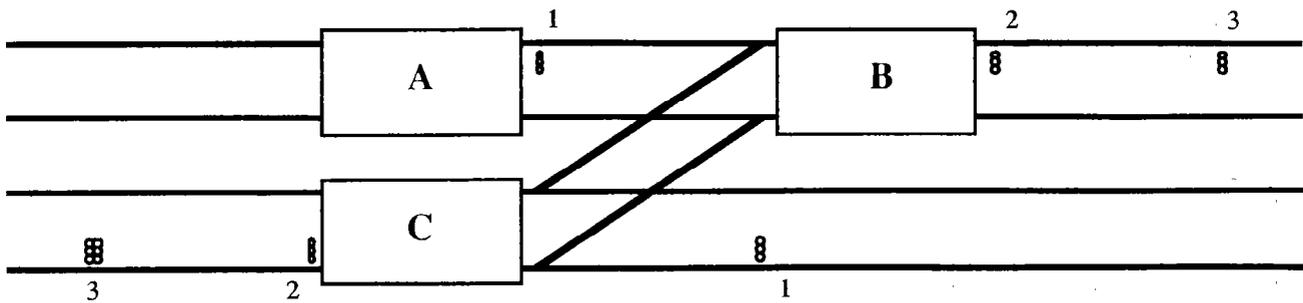
1. One yellow bar positioned approximately 3 pole lengths before a compulsory stop. This forewarns drivers that they are approaching a compulsory stop.
2. Two yellow bars indicate a compulsory stop. These are positioned at the toe of the points. Drivers must come to a **full stop** at this mark, sound gong, and visually check both signal and points before proceeding. Note: do not attempt to manually change these points at any time.
3. One stud denotes the cut-off point for the section insulator.
4. Two studs denote the cut-on point for the section insulator.

The stud markings used for the one stud and two stud marks vary depending on the class of tram which operate on the line. White studs are used for class W, B, and A (rear pantograph) trams. Yellow studs are used for Class Z trams. Yellow triangles are used for Front Pantograph class A trams.

**2e. Exceptions**

The stud markings described previously will be uniform throughout the system, however, the following operational situations should be noted:

Points Location	Direction	Comment
Luna Park	Down	Pantograph trams cannot change points for the curve automatically. Points will set for the straight as a pantograph tram approaches.
Claredon & Whiteman Sts	Down	Pole tram cannot change points automatically for the curve. Points will set for the straight as a pole tram approaches.
Fitzroy St & Canterbury Rd	Up	Do
Spencer St & Bourke St	Up	Do
St Kilda/ Port Melbourne Junction	Down	Pole trams not permitted



**3. Crossovers**

**Explanation of Markings**

1. Three studs denote the fouling point. The tram located at Position A must not proceed until the tram at Position B reaches Position C where it is completely clear of the crossover.
2. Three studs denote the clearance of the points. When a tram reaches this mark it is clear of the points just passed through.
3. Three studs indicate the clearance point for double or two tram crossover. When a tram is stopped at point 3, another tram can follow it in to point 2 and shunt first.

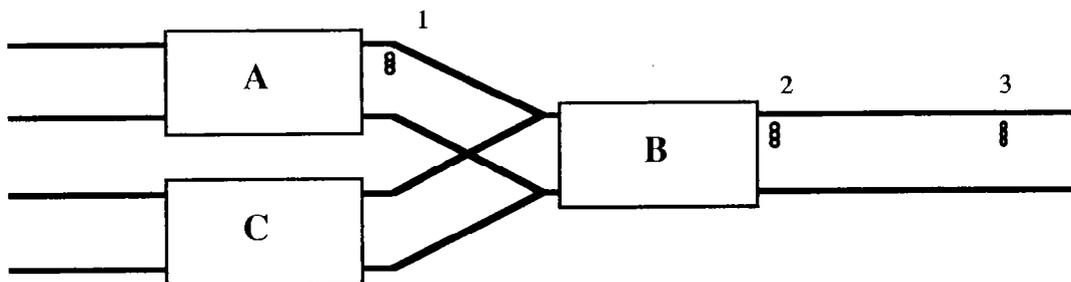
The stud markings used for points 2 and 3 vary depending on the class of tram. Three white studs indicate clearance for A and W class trams. Three yellow studs indicate clearance for Z class trams. Two rows of three white studs indicate the clearance for B class trams.

Note: Clearance marks have been placed for the type of trams normally operating at a particular location. Adjustments will have to be made by the driver if a location is not marked for a particular tram. For example, a Z class tram clearing with three white studs as the indicator will have to proceed approximately 4 metres further than the marks to obtain a proper clearance. See the special note on this subject in section #.

**4. Shunts**

**Explanation of Markings**

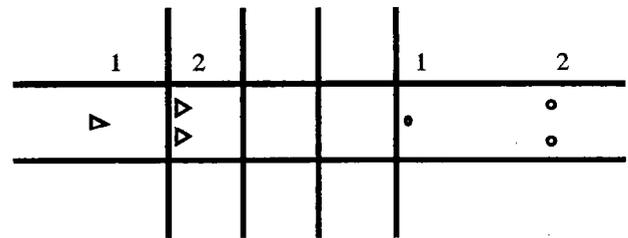
1. Three studs denote the fouling point. The tram waiting to enter the shunt (Position A) must not proceed until the tram leaving the shunt reaches Position C. Position C is the point where the rear of the tram leaving the shunt is in line with the front of the tram waiting to enter the shunt.
2. Three studs denote the clearance of the points. When a tram reaches this mark it is clear of the points just passed through.
3. Three studs indicate the clearance point for double or two tram shunt. When a tram is stopped at point 3, another tram can follow it in to point 2 and shunt first.



The stud markings used for points 2 and 3 vary depending on the class of tram. Three white studs indicate clearance for A and W class trams. Three yellow studs indicate clearance for Z class trams. Two rows of three white studs indicate the clearance for B class trams.

Note: Clearance marks have been placed for the type of trams normally operating at a particular location. Adjustments will have to be made by the driver if a location is not marked for a particular tram.

**5. Section Insulators and 'H' Crossings**



**Explanation of Markings**

1. One Stud denotes the cut-off point for the section insulator.
2. Two studs denote the cut-on point for section insulator.

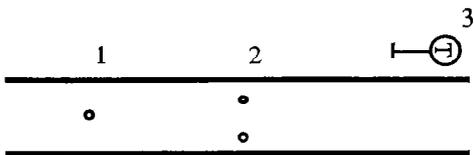
The stud markings used for points 1 and 2 vary depending on the class of tram. White studs indicates the cut-off and cut-on points for W, B, or A (rear pantograph) class trams. Yellow studs indicate the cut-off and cut-on points for Z class trams. Yellow triangles are used to indicate the cut-off and cut-on points for A (front pantograph) class trams.

These marks have been placed for the type of trams normally operating at a particular location. Front Pantograph markings will always be shown at locations where these trams operate regardless of other types of trams also used there.

If Z class trams are used in addition to any other class, one white stud will be provided for cut-off and two yellow studs for cut-on. Wherever possible, drivers should cut off through this whole section but are reminded that the actual section insulator will begin at the white stud for A (front pantograph), B, and W class trams, and end at the

two yellow studs for Z class trams.

6. "T" Light Activation



Explanation of Markings

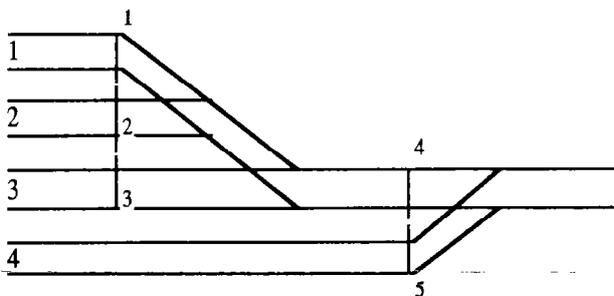
1. One Stud indicates the start of "T" light activation.
2. Two studs indicate the end of "T" light activation.

This is provided at:

1. Corner of Park and Claredon Streets (for both Up and Down moves in both Park and Claredon Streets).
2. Balaclava Junction (for both Up and Down moves in both Balaclava Street and Hawthorn Road).
3. Corner of Carlisle Street and St. Kilda Road (for Up moves in Carlisle Street).

Since all of these locations are served by "W" class trams only, all stud markings will be white.

7. Depot Yards



Explanation of Markings

1. One yellow bar extending beyond track on one side. This marks the fouling point on track 1 for track 2. If a tram is stopped over any part of this line on track 1, no trams may proceed past it in either direction on track 2.
2. One yellow bar extending beyond track on both sides. This marks the fouling point on track 2 for tracks 1 and 3. If a tram is stopped over any part of this line on track 2, no trams may proceed past it in either direction on track 1 or track 3.
3. One yellow bar extending beyond track on one side. This marks the fouling point on track 3 for track 2. If a tram is stopped over any part of this line on track 3, no trams may proceed past it in either direction on track 2. Note, however, that track 4 is not fouled at this point and trams may proceed on that track.
4. One yellow bar extending beyond track on one side. This marks the fouling point on track 3 for track 4. If a tram is stopped over any part of this line on track 3, no trams may proceed past it in either direction on track 4. Note that track 3 has two fouling marks, each in a different position, for the tracks on either side.
5. One yellow bar extending beyond track on one side. This marks the fouling point on track 4 for track 3. If a tram is stopped over any part of this line on track 1, no trams may proceed past it in either direction on track 3.

8. Compulsory Stops



Explanation of Markings

1. One yellow bar positioned approximately 3 pole lengths before a compulsory stop. This forewarns drivers that they are approaching a compulsory stop.
2. Two yellow bars indicate a compulsory stop. Drivers must come to a **full stop** at this mark and proceed when safe to do so.

9. Special Note:

Importance of Varying Tram Types

It is important to recognise that different tram types have necessitated special stud markings to show critical operating information.

Some markings are the same regardless of the type of tram. These are shown in the following table.

Indication	Physical Marks	Location
Advance warning of a compulsory stop	1 yellow bar	Road
Compulsory Stop	2 yellow bars	All locations
Provisional Stop	3 studs	Auto points
Additional indication of start of directional selection	half yellow bar outside track	Auto points (new type)
Fouling Point	1 yellow bar across and extending beyond tracks	Yards
Fouling Point	3 studs	Approaching crossover or shunt on road

However, some markings are different for different classes of trams because of varying tram length or pantograph operation. These are shown in Table 2.

To simplify and clarify this as much as possible, the following standards have been adopted:

- Routes have been marked for operations of whatever class(es) of tram normally operate
- For cut-off, cut-on, at section insulators, start directional selection and end directional selection:
- If "A" class trams normally operate, marking will be shown at all such locations for front end pantographs
- For joint operations involving "Z" class trams:
- On white studd will be shown indicating that mark for classes W, B, and A (Rear Pantograph) trams
- Two yellow studs will be shown indicating that mark for class Z trams.

This will result in a slightly longer area between the one and two stud marks due to the different lengths of trams and the placing of pole/pantograph.

- For clearance marks:
- If "B" class trams operate, specific clearance marks (two rows of three white studs) will be placed.
- For joint operation involving "Z" class trams, clearance will be placed for "Z" class trams (three yellow studs) because they are longer than W or A class trams.

**Marks which Vary  
(Table 2)**

Indication	Location	Mark for classes W, B, and A (Rear Pantograph)	Mark for Class Z	Mark for Class A (Front Pantograph)
Start Directional Selection	Auto Points	1 white stud	1 yellow stud	1 yellow triangle
End Direction Selection	Auto Points	2 white studs	2 yellow studs	2 yellow triangles
Cut-off	Section Insulator and "H" crossing	1 white stud	1 yellow stud	1 yellow triangle
Cut-on	Section Insulator and "H" crossing	2 white studs	2 yellow studs	2 yellow triangles
Clearance	After crossovers or in shunt on road	3 white studs (2 rows of 3 white studs B class only)	3 yellow studs	3 white studs
Start "T" Light Activation	See Section 6	1 white stud	N/A	N/A
End "T" Light Activation	See Section 6	2 white studs	N/A	N/A

## SIGNALLING ALTERATIONS

(Continued from Page 102)

- remove the Annett Key from the lock on the Quadrant.
- ensure that the train has arrived complete with the proper tail lights being displayed on the rear of the train;
- fulfil the Train Order;
- run around the train via the Up end Annett locked points;
- place the Annett Key in the special box located in the Station building prior to the Driver ceasing duty.

Insert this instruction on Page 37 or the Train Order Book. (O.1021/93, WN 36/93)

## VALE MAURICE DIGGLE

(Continued from Page 103)

We might wonder why Maurie was taken from us at a time when he was beginning to plan his retirement which he had announced for 24 January next - the 45 anniversary of his joining the Railways. I can't answer that - no one can answer it beyond saying that Maurie's full life had run its course and that his Maker has called him Home. In our grief we can take comfort in the assurances that we have from our Lord and Saviour Jesus Christ of a better life beyond this one -

a life free from worry and 3am phone callers  
a life free from sickness and pain  
an eternal life spent in the presence of God and His angels.

The railway folk would have seen Mike and Tay Ronald's obituary notice referring to the railway bell code 3-4-3, "Closing of Signal Box". I believe that if you listen carefully you might just hear another bell code - 3 beats - signifying that the train has arrived.

## LETTERS TO THE EDITOR

Rodney Kent writes:

I was pleased to receive Vol 16 No 5 today and was particularly interested in your photo and article on the sad end to the upper quadrants along the Caulfield line.

I was interested by your comments about the first motorised semaphores being replaced way back in 1917/18 at Toorak Road Bridge by style VR three aspect light signals. However, you said on the south side of the bridge, I wonder whether you mean on the north side.

When I went to school in the late forties I used to alight at South Yarra from the Sandringham line and can remember a VR style on the Sandringham down side against the wall adjoining the ramp to the station. I remember another VR style in the same position on the last platform on the east side of the station. As you said Post B131 VR style has been replaced by a style R, I suppose the VR style rusted away.

I can remember as a boy upper quadrants all the way down to Sandringham and the VR style on the up before Elsternwick which rarely went green, only if the hand operated gates were shut to Glenhuntly Road. I used to be friendly with the guard on the 8.02 from Brighton Beach and used to watch from the upper seat the pantograph spark and watch the position of the signals.

I also remember the crossovers between South Yarra and Richmond, the homes signals and the A and B's.

Not many GRS upper quadrants left now. A few left on the East Richmond, Kensington and Sandringham lines. I wonder when the homes will disappear from Caulfield. Over the years I have travelled around the suburban and country lines recording on film the old somersault and GRS's

Of course they can't last for ever, however they have been around for nearly a century in many cases.

Your Society is doing a good job and I appreciate reading your magazine, but it is sad to see our once great railways in decline.

The editor replies: Thank you for the kind words. You are quite correct that the Style VR Post B131 was on the North side of the Toorak Road bridge. The upper quadrant semaphore that it replaced, however, was situated on the South side of the bridge. There are no upper quadrant semaphores on the East Richmond line; I suspect you mean the Clifton Hill line.