

Section 29

Operating Procedures Working of Trains - Rules 1 to 23

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Table of Contents

1.	Whistling Signals.....	29-5
	a. Locomotive or Train Stationary	29-5
	b. Locomotive or Train in Motion.....	29-5
	c. Succession of Short Sharp Whistles	29-6
	d. Suburban Electric Trains Whistle Failure.....	29-6
	e. Daylight or Darkness.....	29-6
2.	Marker Lights of Electric Trains.....	29-7
	a. Head Signals.....	29-7
	b. Destination Indicators.....	29-7
	c. Tail Lights	29-7
3.	Emergency Tail Lighting.....	29-7
	a. COMENG Train.....	29-7
	b. HITACHI Train.....	29-8
	c. Suburban Electric Trains Defective Headlight	29-9
	d. Distinguishing Head Signals - Ditch Lights	29-10
4.	Employees Riding on Trains	29-10
5.	Driver Changeover and Trains Ready	29-10
	a. Drivers Changing Over.....	29-10
	b. Locomotives and Goods Train Ready.....	29-11
6.	Derailments	29-11
	a. After Derailment	29-11
	b. Interlocked Yard	29-11
	c. Reporting.....	29-12
7.	Train Defects.....	29-12
	a. Driver’s Defect Message	29-12
	b. Driver’s Defect Message Book.....	29-13
	c. Driver Returns to Outstation Depot.....	29-13
8.	Train Preparation and Repairs at Flinders Street and Epping.....	29-13
	a. Flinders St and Epping.....	29-13
	b. Lockable ‘Red’ Banners	29-13
	c. Danger Notice	29-14
	d. Protection of Employees Carrying out Repairs	29-14

9.	Repairing Buffer Stops	29-14
10.	Marshalling of Flammable or Dangerous Goods During Shunting	29-14
11.	Safety Vehicle with Articles of Exceptional Length	29-15
12.	Transition Coupling.....	29-15
	a. Scharfenberg Coupling – Transition Coupler	29-15
	b. Before Positioning Transition Coupling	29-15
	c. Positioning Transition Coupling.....	29-16
	d. Releasing and Removing Transition Coupling	29-16
13.	Combined Trains	29-16
	a. Electric Train Assisted by Another	29-16
	b. Combined Trains Driven from Leading Cab.....	29-17
	c. Two Six Car Trains.....	29-17
	d. Combined Train Not Braked from Leading Cab.....	29-17
	e. Passengers to be Detrained.....	29-18
	f. Both Trains between Stations	29-18
	g. Driver of Leading Locomotive to Call Attention	29-18
	h. Electric Train Assisting Failed Train.....	29-19
	i. Loads Which may be Lifted by Electric Train	29-19
	j. Trip Valves on Assisting Train.....	29-19
	k. Electric Train to be Driven in Series.....	29-19
	l. Maximum Speed when Assisting Freight Train.....	29-20
14.	Working at Pantographs - Equipment Examiners.....	29-20
	a. Safety Precautions	29-20
	b. Dynamotor Motor	29-20
	c. Pantograph at Leading End	29-21
	d. Pantograph at Trailing End	29-21
	e. Pantograph on an Intermediate Carriage.....	29-21
	f. Work Completed	29-21
15.	Coupler Height.....	29-22
	a. Standard Coupler Height.....	29-22
	b. Excessive Difference of Coupler Height	29-22
	c. Vehicle with Coupler Height Below Minimum	29-22
	d. Vehicle with Coupler Height Above 890 mm.....	29-22

e.	Locking of Automatic Couplers	29-23
f.	Insertion of Locking Hook.....	29-23
g.	On Completion of Makeup	29-23
16.	Lashings and Tarpaulins	29-23
17.	Turned Brake Heads on COMENG Trains	29-24
a.	Procedure for Isolating Bogies	29-24
b.	Jammed Brake Block	29-25
c.	Table of Percentage Speeds.....	29-25
18.	Rail Motors	29-25
a.	Authority to Drive.....	29-25
b.	Driver Leaving Rail Motor.....	29-26
c.	Leading Driver Cab	29-26
d.	Rail Motor Starting from a Station	29-26
e.	Driver’s Responsibilities	29-26
f.	Shunting or Reversing.....	29-27
19.	Operation of Steam-Hauled Passenger Trains	29-27
a.	Drivers and Employees Certified to Drive Trains	29-27
b.	Certain Qualified Employees Permitted to Drive Trains.....	29-27
c.	Equipment to be in Possession of Driver	29-28
d.	Train Movement	29-28
e.	Employee Incapacitated.....	29-28
f.	Engine Left Unattended	29-29
g.	Driver in Charge of Train.....	29-29
h.	Competent Employee in Charge of Passenger Carriages	29-29
i.	Stationmaster/Officer-in-Charge at Originating Station	29-29
j.	Train Overruns a Station	29-30
k.	Passenger Train operated by Other Organisation and Group	29-30
20.	Locked or Jammed Wheels	29-31
21.	Headlight Failure - Locomotive Hauled Trains and Sprinters	29-35
a.	Headlight failure during Daylight Hours	29-35
b.	Headlight failure during the hours of Darkness	29-36
c.	Ditch Lights.....	29-36
22.	Procedures for Hauling Bluebird Rail Cars	29-37

a.	With a Sprinter/Suburban Electric Train.....	29-37
b.	With a Locomotive.....	29-37
23.	The E.T.A.S (End of Train Air System)	29-38
a.	29-38	
b.	E T.A.S. Information	29-39
c.	Testing E.T.A.S. Unit Integrity	29-39
d.	Testing Procedure	29-40
e.	Train Integrity	29-40
f.	Confirming the Train has Arrived Complete at a Station or Loop	29-41
g.	Confirming the Train has Departed a Block Point Location	29-42
h.	E.T.A.S. Brake Pipe Fluctuating Consistency	29-43

1. Whistling Signals

The whistling signals defined here are illustrated by:

1. 'o' for short sounds, and
2. '-' for long sounds.

a. Locomotive or Train Stationary

SIGNAL	PARTICULARS
o	Before moving a locomotive or train under any circumstance.
oo	To move forward
ooo	To set back
o	Starting of trains with one or more locomotives in front, and in the rear of the train.
- - - -	<ol style="list-style-type: none"> 1. To recall the competent employee to the train when the Driver is prepared to proceed and the competent employee is protecting the track. 2. (Driver of an electric train). To call the competent employee to the front of the train
-	To notify the competent employee or station staff that locomotive requirements have been completed, and the locomotive is available to work or ready to depart

b. Locomotive or Train in Motion

SIGNAL	PARTICULARS
- o o o -	Ballast trains, whilst employees are in wagons, the Driver must sound the whistle prior to reducing speed.
o - o	<ol style="list-style-type: none"> 1. To signal to track maintenance staff that there is fire by the side of the line or on adjoining land.
o - o	<ol style="list-style-type: none"> 2. For the Driver to indicate the train is divided. Also indicates acknowledgment of the green hand signal moved in a circle, when given by station staff or the Signaller.

c. Succession of Short Sharp Whistles

SIGNAL	PARTICULARS
SUCCESSION OF SHORT WHISTLES	To indicate that the train is out of control, and if it is safe and practicable to do so, the line ahead must be cleared and made available for the train. The whistling signals must be sounded as long as may be necessary.
	To stop a train on the opposite line if there is an obstruction on the line.
	To be used when a locomotive is attached to the rear of a train and the Driver of the rear locomotive requires to attract the attention of the Driver of the leading locomotive.

d. Suburban Electric Trains Whistle Failure

If the whistle on a suburban electric train fails and the Driver cannot rectify the fault, the following procedures must be followed.

e. Daylight or Darkness

The Driver must advise the Train Controller of the circumstances and immediately lodge a Train Malfunction Message. The Train may then be worked to the terminal, Flinders Street, or suitable sidings to shunt.

Every effort must be made to restore the whistle to working order. The Driver must:

1. proceed cautiously at reduced speed with regard to track conditions.
2. Speed must not exceed 15 km/h through yards, stations or near employees working on or near the line.
3. Use the headlight by alternating between high and low beam when approaching a level crossing to attract the attention of road traffic, and
4. Use the headlight by alternating between high and low beam when approaching any employees on or near the line to attract their attention.

If the employees fail to recognise the approach of the train, the Driver must immediately respond. When the whistle has failed, the Driver must take all precautions when approaching a level crossing.

2. Marker Lights of Electric Trains

The Marker Lights of electric trains may be used as red tail lights on the rear of the train when necessary.

a. Head Signals

Head signals of electric trains must be properly arranged when trains are:

1. coupled, or
2. uncoupled.

The headlight is located on each side of the front of the motor carriage.

b. Destination Indicators

In addition to head signals, suburban electric trains display a destination indicator on the front of each train. It is illuminated at night.

c. Tail Lights

Electrically lit marker lights on the rear of a suburban electric train, are regarded as combined marker and tail lights.

A red light on the rear of the last carriage indicates that the train is complete.

3. Emergency Tail Lighting

The emergency tail light must be checked periodically at maintenance depots. In the event of failure of both tail lights, the following procedure must be carried out.

a. COMENG Train

On COMENG trains the Driver must:

1. break the seal, and
2. switch on the battery operated tail lights.

During train preparation the Driver must check that the emergency tail light box is:

1. sealed, and
2. the charge light is on.

b. HITACHI Train

On HITACHI trains the Driver must:

1. unlock emergency tail light from bracket located on van floor,
2. place emergency tail light on bracket on rear of train,
3. secure it with the padlock, and
4. switch the light on.

During train preparation the Driver must check that the emergency tail light:

1. operates by switching on the light, and
2. send a train defect message, if light fails to operate.

c. Suburban Electric Trains Defective Headlight

If the headlight on a suburban electric train fails and the Driver cannot rectify the fault, the following procedures must be followed.

During daylight hours the Driver must:

1. prepare a Train Defect Message stating the motor number and a description of the defect,
2. advise the Train Controller, and
3. deliver the message as soon as possible.

The train may proceed to its terminal or to Flinders Street without reducing speed.

However, if the train is to pass through an underground loop or the West Richmond tunnel, the train must not exceed 50 km/h, when passing through the tunnel and the normal white marker light must be illuminated.

If the train is running between Dandenong and Warragul or Newport and Werribee, the train may proceed at normal speed with the normal white marker lights switched on.

During Darkness the Driver must:

1. prepare a Train Defect Message stating the motor number and a description of the defect,
2. advise the Train Controller,
3. deliver the message as soon as possible,
4. not exceed 50 km/h between stations or crossing loops,
5. not exceed 15 km/h over level crossings or through stations or yards,
6. switch on the white marker lights, and
7. take all possible precautions to ensure the safety of level crossings.

If both headlights on a 'COMENG' or a 'Hitachi' train are defective, the train must not proceed beyond Flinders Street without being repaired, unless the train is to run to Macaulay Sidings or North Melbourne stabling sidings to shunt.

If only one headlight on a 'COMENG' or a 'Hitachi' train is working, the train is permitted to remain in service.

d. Distinguishing Head Signals - Ditch Lights

Certain locomotives have additional headlights located low down on the front of the locomotive. These lights do not dispense with the use of the normal headlights on the locomotive.

Drivers of locomotives fitted with these additional headlights must switch on all the lights at all times the locomotive is running. However, the dimming instructions will apply.

NOTE:

Whilst every effort must be made to restore the defective headlight, trains must not be delayed to reverse units.

CAUTION:

A hand lamp must not be used as an emergency head light. A train must not be run according to the time table with an emergency light in place.

If the headlights and marker lights fail during the hours of darkness, the train must be removed from service as soon as possible, unless the train arrangement can be altered to allow lights to be displayed on the front of the train.

4. Employees Riding on Trains

Except when on duty, employees are not permitted to ride in the following, unless in possession of a duty pass suitably endorsed:

1. a locomotive,
2. leading cab of an electric train,
3. intermediate driving cab, or
4. any brake compartment.

5. Driver Changeover and Trains Ready

a. Drivers Changing Over

Drivers and competent employees on passenger trains are allowed up to five (5) minutes to changeover.

Time in excess of five (5) minutes must be accounted for.

b. Locomotives and Goods Train Ready

Drivers must sound one long whistle to indicate a train is ready to proceed when:

1. a locomotive is ready for work after locomotive requirements, or
2. a goods train is ready to depart from a freight yard after examination.

If post telephones or radio are provided, the Driver must also inform the Signaller.

6. Derailments

Instructions relating to derailments are contained in the Emergencies, Derailments, Mishaps and Accident Procedures Manual.

Instructions relating to the management of incidents on the ARTC Victorian Network are contained in the ARTC Incident Management Manual – TA44.

a. After Derailment

After a derailment of any vehicle, it must be:

1. red carded 'not to go', and
2. not used until a Train Examiner has examined and certified the vehicle fit to travel.

b. Interlocked Yard

When a derailment occurs in an interlocked yard, the following equipment is to be inspected and tested for damage:

1. interlocking connections, and
2. hand points.

c. Reporting

When a derailment occurs, the Stationmaster, Signaller or employee in charge must report the derailment to the:

1. Supervising Ganger,
2. Signal Adjuster, or
3. Signal Maintenance Technician, if interlocking or signalling equipment is involved.

The running line must not be used following a derailment until certified as fit for traffic by:

1. Track Supervisor, or
2. other competent employee of the Track Maintenance Department.

7. Train Defects

a. Driver's Defect Message

When a defect occurs on an electric train and the train radio has failed, the Driver must:

1. complete a defect message explaining the defect,
2. hand it to the nearest Stationmaster, Signaller or competent employee, and
3. obtain their signature on the butt of book.

The Stationmaster, Signaller or competent employee must advise the Train Controller of the contents of the defect message. The Train Controller will pass on the defect message to the equipment examiner who will decide whether it is necessary to withdraw the train from service. In this case the Train Controller must arrange for a replacement train.

b. Driver's Defect Message Book

The Driver's defect message book consists of four (4) coloured forms. Unless the defect affects the scheduled running of the train, coloured forms are placed as follows:

1. green copy discarded,
2. pink copy on clip in Driver's cab,
3. blue copy in 'correspondence' box at electric running depot, and
4. yellow copy in 'suburban train testing working party correspondence' box at electric running depot.

c. Driver Returns to Outstation Depot

If the Driver is relieved at an outstation depot and the train radio has failed, the train defect message must be given to the employee in charge at the depot.

The employee in charge must:

1. transmit message to the Train Controller, and
2. forward copy to Manager, Train Crews.

8. Train Preparation and Repairs at Flinders Street and Epping**a. Flinders St and Epping**

All train preparation must be carried out from the Driver's end of the train.

Yard or transfer preparation, must be commenced from the 'west end' motor.

b. Lockable 'Red' Banners

Trains being worked on by field maintenance staff or equipment examiners, must be protected by lockable 'red' banners.

Banners are positioned:

1. on the west end of trains standing in dead-end tracks, and
2. at both east and west ends of trains standing in open-ended tracks.

c. Danger Notice

In addition to positioning 'red' banners, equipment examiners must lock all Driver's cab doors of the consist to be worked on, after attaching a 'danger' notice to:

1. the pantograph isolation switch, or
2. circuit breaker, or
3. in close proximity to the 'pantograph raise' magnet valve.

Trains inside a 'red' safety banner and/or red 'danger' notice/'pantograph raise' button, is off limits.

When the Flinders Street yard Supervisor removes the banner and notice, the train may be released back into service.

d. Protection of Employees Carrying out Repairs

All train movements into affected tracks, must be stopped until repair work is completed.

Work may consist of:

1. examining,
2. lifting,
3. repairing,
4. cleaning any vehicle, or
5. double coupling vehicles. Local safety instructions must be complied with.

9. Repairing Buffer Stops

The employee in charge, must arrange to 'book out of service', the affected track, before any repairs to buffer stops, are commenced. When the work is completed, the track can be returned to service.

10. Marshalling of Flammable or Dangerous Goods During Shunting

Employees engaged in shunting duties must ensure vehicles containing flammable materials or dangerous goods, are marshalled in accordance with the instructions contained in the [Dangerous Goods Book Australian Dangerous Goods Code](#).

11. Safety Vehicle with Articles of Exceptional Length

Loads must not project more than 560 mm over the ends of any vehicle, unless a suitable vehicle can be attached as a safety vehicle.

When a safety vehicle is attached for overhanging loads, the load must be secured. No portion can touch the safety vehicle during the journey.

12. Transition Coupling

a. Scharfenberg Coupling – Transition Coupler

A locomotive equipped with automatic couplings attached to a train equipped with Scharfenberg couplings, must be coupled with a transition coupling.

b. Before Positioning Transition Coupling

Before positioning the transition coupling:

1. (the main reservoir and brake pipe isolating cocks must be closed,
2. the electrical portion of the coupling must be isolated, by lifting the rubber flap on top of the coupling head, and
3. the safety wing disengaged by turning the yellow pilot lever 180 degrees clockwise.

The dummy couplings from the hose pipes on the transition coupling must be undone, and the 5P padlock removed.

On COMENG trains, a transition coupling is secured under the step of each motor on the side opposite the Driver's cab.

c. Positioning Transition Coupling

To position the transition coupling the following procedure is used:

1. the releasing handle must be operated to free the bottom of the coupling,
2. the coupling must be lifted to free retaining hooks,
3. the coupling must be taken to the headstock,
4. the retaining hoods placed in holes provided on top of the headstock,
5. the jaw of the transition coupling pressed down firmly, until it clicks home.

The locked position of the transition coupling is shown by a 'red' marked groove, on the main bolt of the Scharfenberg coupling head. Locking is achieved by turning from the 'incline' to the 'longitudinal' position.

When in this position, a train or locomotive equipped with automatic couplings, can be attached to the transition coupling.

d. Releasing and Removing Transition Coupling

To release the transition coupling:

1. operate the wire pull handle to its fullest extent, and
2. ensure the 'red' marked groove on the main bolt rotates to the 'incline' position, and
3. return yellow pilot lever to the electrical position, and
4. relock pull wire.

To remove the transition coupling, the fitting procedure must be reversed.

After use, the transition coupling must be locked back in its normal position, under the step of the motor opposite the Driver's cab.

13. Combined Trains

a. Electric Train Assisted by Another

Whenever an electric train has to be assisted by another electric train:

1. the two trains must be coupled together,
2. if practicable, jumper cables and brake pipes of the two trains must be connected.

If combined trains can be braked from the leading cab:

1. passengers must be detrained from both trains.

b. Combined Trains Driven from Leading Cab

If the combined trains can be driven from the leading cab, the Driver of the front train must:

1. drive the combined trains from the front cab,
2. ensure that the trip valve of leading cab is cut in, and
3. all other trip valves of the combined trains are cut out.

Two six car trains may be combined with eight motor cars working. However the speed must not exceed 50 kilometres per hour if both trains are a Hitachi type or 70 kilometres per hour if both trains are COMENG type. The combined trains are to be driven in series until the speed reaches 40 kilometres per hour and are not to be driven in weak field until the speed reaches 60 kilometres per hour.

c. Two Six Car Trains

In the Underground Loop a maximum of eight motor cars may be combined. The controller must not be operated beyond Series position.

Combined Trains Driven From Rear Train

If the combined trains can be braked, but not driven from the leading cab:

1. the Driver of the failed train must brake the train from the leading cab, and
2. the assisting Driver must drive the combined trains from the leading cab of the assisting train. The speed must not exceed 40 kph.

The trip valve of the leading cab must be cut in, and all other trip valves on the train cut out.

d. Combined Train Not Braked from Leading Cab

If the combined trains cannot be braked from the leading cab, Home Signal – Semaphore

brake the train from the most convenient intermediate cab.

The Driver of the failed train must:

1. ride in the front cab,
2. observe fixed signals, and
3. advise the Driver of the assisting train, when to operate the controller or brake. The speed must not exceed 15 kph.

The trip valve of the leading cab must be cut in, and all other trip valves on the train cut out.

e. Passengers to be Detrained

If a failed train cannot be braked from the leading cab, and is at a station:

1. the passengers must be detrained before the assisting train is brought to the platform, and
2. the passengers on the assisting train must also be detrained.

If the failed train is between stations, the passengers on the assisting train must be detrained at a station before proceeding to the failed train.

f. Both Trains between Stations

If the failed train and the assisting train are between stations:

1. passengers from both trains must be detrained at the first station, and
2. the failed train placed in the first available siding.

When an electric train cannot be driven or braked from the leading cab, the propelling movement must not exceed 15 km/h.

The Driver of the train in front, must communicate with the Driver of the assisting train by radio.

g. Driver of Leading Locomotive to Call Attention

When the Driver of the train in front, has received the 'Proceed' indication on the proper fixed signal:

1. the Driver must inform the Driver in the rear by radio, and
2. the assisting locomotive must not move forward until the radio message has been given and acknowledged.

h. Electric Train Assisting Failed Train

When an electric train is required to assist a failed train:

1. the assisting train must be brought cautiously on to the failed train, and
2. the air brake connected, if the failed train is a passenger train, and
3. the passengers must be detrained.

The air brake must not be connected if an electric train is used to assist a failed freight train.

The air brake may be connected if:

1. the air brake on the freight train is inoperative, provided that
2. the freight train does not exceed four bogie vehicles for each motor on the assisting train.

i. Loads Which may be Lifted by Electric Train

The load limits for electric trains, automatically coupled to the failed train are as follows:

1. grade of 1 in 40, 2 motors, 250 tonnes, 4 motors, 300 tonnes,
2. grade of 1 in 50, 2 motors, 350 tonnes, 4 motors 400 tonnes,
3. grade of 1 in 75, 2 motors, 500 tonnes, 4 motors, 600 tonnes,
4. grade of 1 in 100, 2 motors, 650 tonnes, 4 motors, 800 tonnes, and
5. grade of less than 1 in 100, 2 motors, 800 tonnes, 4 motors, 1000 tonnes.

j. Trip Valves on Assisting Train

The Driver of the electric train assisting in the rear must cut out all trip valves on the train.

k. Electric Train to be Driven in Series

The Driver of the assisting electric train pushing a failed freight train, must intermittently operate the controller handle, until the speed is suitable to operate in full series.

The controller must not be placed beyond full series whilst assisting.

I. Maximum Speed when Assisting Freight Train

When an electric train is assisting a freight train in the rear, the speed must not exceed 15 km/h.

If the failed train has to stop, the Driver must:

1. sound a series of short, sharp whistles, or
2. inform the Driver of the assisting train by radio if communication is available.

The Driver of the assisting train must immediately shut off power, to enable the train to be stopped if necessary.

14. Working at Pantographs - Equipment Examiners

a. Safety Precautions

The equipment examiner or electrical mechanic may be required to perform work at a pantograph, whilst the carriage is under a live wire.

Before commencing work, the following safety procedures must be observed:

1. the pantograph must be lowered,
2. the isolating cock leading to the magnet valve closed,
3. the pantograph cutout switch must be open, and
4. the air compressor and protective relay switch and motor generator or alternator contactor open.

b. Dynamotor Motor

The equipment examiner or electrical mechanic must:

1. listen to ensure the dynamotor motor generator or alternator has stopped spinning,
2. the driving compartment must be unoccupied and the door of the compartment closed and secured, and
3. personally inform the Driver of the work to be carried out, if a Driver is in charge of the train.

c. Pantograph at Leading End

If the pantograph requiring work, is located at the leading end of the train, the Driver must:

1. leave the driving compartment and remain in the leading end van, and
2. prevent any person from entering the driving compartment.

The equipment examiner or electrical mechanic authorising the work, must personally inform the Driver when work has been completed.

The Driver's cabin must not be occupied, until work has been completed.

d. Pantograph at Trailing End

If the pantograph is at the rear end of the train, the competent employee on the train must follow instructions as laid down for the Driver.

e. Pantograph on an Intermediate Carriage

A competent employee must be stationed in the respective van, to follow instructions to act as laid down for the Driver if:

1. the pantograph is on an intermediate carriage, or
2. the Driver is not on the train.

f. Work Completed

When the work at the pantograph has been completed, the employee who performed the work must personally:

1. inform the Driver or competent employee,
2. open the isolating cock to the magnet valve,
3. close the pantograph cut-out switch, and
4. raise the pantograph for the Driver.

NOTE: Specific instructions may be issued to certain locations regarding the above works on pantographs.

15. Coupler Height

a. Standard Coupler Height

The standard height of automatic couplers is:

1. 813 mm minimum height for a loaded vehicle, and
2. 914 mm maximum height for all vehicles.

Standard height is measured from the top of the rail to the centre of the coupler knuckle.

The maximum difference permitted between the height of two adjoining couplers is 102 mm. When this difference in height is exceeded, the following employees must ensure that the vehicles are not coupled together:

1. Drivers,
2. competent employees engaged in shunting, and
3. train examiners.

b. Excessive Difference of Coupler Height

If an excessive difference of coupler height occurs, the vehicle with the low coupler must be transferred to a position where the difference in coupler height comes within the specified limit.

If the coupler of the low vehicle is below the minimum height of 813 mm, the vehicle must be green carded for attention.

c. Vehicle with Coupler Height Below Minimum

If a vehicle with a coupler height below the minimum, is being worked forward for repairs, it must be positioned on the train so the difference in coupler height between it and an adjoining vehicle, is not more than 102 mm.

d. Vehicle with Coupler Height Above 890 mm

Vehicles with a height of automatic coupler exceeding 890 mm must:

1. be green carded for adjustment, and
2. may be attached to a vehicle where the difference in height does not exceed 102 mm.

e. Locking of Automatic Couplers

On Victorian and standard gauge passenger stock, a locking hook, is provided.

It is attached by a chain to the coupler head and is inserted through a hole in the bottom lifter.

This minimises the possibility of the coupler being inadvertently or accidentally uncoupled.

f. Insertion of Locking Hook

On vehicles fitted with high voltage jumper cables, the locking Hook must be inserted before any jumper is connected between Coupled vehicles.

It can only be inserted under the personal direction of the train lighting mechanic.

g. On Completion of Makeup

On completion of makeup of passenger trains, employees engaged in shunting operations must ensure all locking hooks are inserted.

In the course of their duties, Train examiners must ensure couplings are properly locked, with a locking hook in position.

16. Lashings and Tarpaulins

Train crews and employees undertaking train examination must ensure that tarpaulins covering vehicles, are properly tied and secured to proper attachments. They must not be tied to:

1. brake gear,
2. hand rails,
3. doors fastenings, or
4. any part of the vehicle coupling gear.

17. Turned Brake Heads on COMENG Trains

a. Procedure for Isolating Bogies

To maintain revenue services, the Driver can isolate a bogie to eliminate the effect of a turned brake head on a COMENG train.

When one or two bogies are isolated, the following speed restrictions apply:

with one bogie on a six car train, 90% of track speed,

with two bogies on a six car train, 80% of track speed, and

with one bogie on a three car train, 80% of track speed.

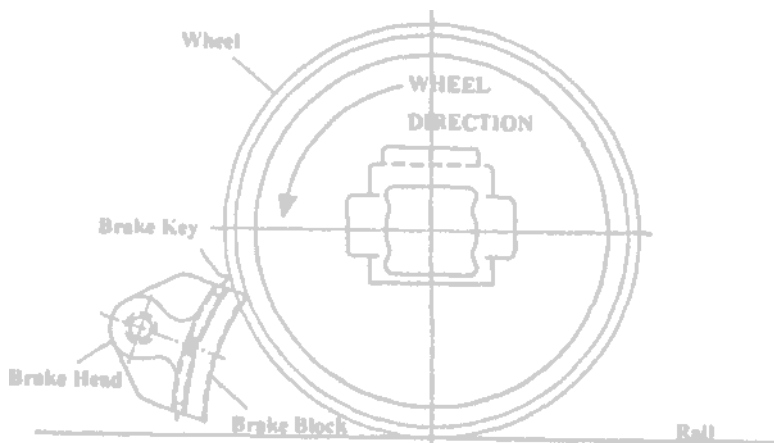
When the bogie has been isolated, due to a turned brake head (COMENG train), the brake block key and brake block must be removed. (At an out-station, after a reasonable effort has been made and the Locomotive Driver is unable to remove the brake block, the train is not to dock.)

the brake block key and brake block must be removed,

a malfunction message must be sent, and

the train can then proceed in revenue service.

The malfunction can then be repaired.



b. Jammed Brake Block

When a brake block is found jammed against the wheel and rail:
 the bogie must be isolated,
 the train reversed one (1) rotation of the wheel to release the brake block,
 the brake block removed, and
 the train proceeds to be repaired at next maintenance location.

If the brake head cannot be released from the wheel and rail, it is then to be treated as a skidding wheel or locked axle.

c. Table of Percentage Speeds

TRACK SPEED	90% OF SPEED	80% OF SPEED
115 km/h	103 km/h	92 km/h
100 km/h	90 km/h	80 km/h
80 km/h	72 km/h	64 km/h
60 km/h	54 km/h	48 km/h

18. Rail Motors**a. Authority to Drive**

A rail motor may be operated on any line or siding but only by qualified persons.

The Driver in charge of a rail motor must:

- not allow any unauthorised person to ride in the driving compartment, and
- except in cases of necessity, not converse with any person or employee, while the rail motor is in motion.

b. Driver Leaving Rail Motor

Except where absolutely necessary and as directed in the Rules and Operating Procedures or other printed instructions, the Driver must not leave the rail motor.

In cases where it is unavoidable that the Driver has to leave the rail motor:

- all hand brakes must be fully on,
- all driving compartment windows must be closed,
- all doors secured, and
- the reverser key removed.

c. Leading Driver Cab

A rail motor must always be driven from the leading driving cab and the windows and doors of all other cabs must be closed and locked.

During shunting operations, the Driver must always drive from the leading cab in the direction of movement.

d. Rail Motor Starting from a Station

When a rail motor is starting from a station, the Driver must:

- look back, and
- ensure the whole of the train is following safely.

A mirror is provided for this purpose.

e. Driver's Responsibilities

The rail motor Driver is responsible for:

1. tail signals,
2. hand brakes, and
3. checking the coupling of trailers when in use.

f. Shunting or Reversing

At any location where a rail motor and trailer is to be shunted or reversed, a competent employee qualified in shunting duties must be in position to undertake the work.

The Driver is personally responsible to see that the:
trailer has been correctly coupled, and
correct tail signals are displayed following the shunt.

19. Operation of Steam-Hauled Passenger Trains

These instructions must be used in conjunction with this Code of Practice. They are applicable for the operation of steam-hauled passenger trains only.

a. Drivers and Employees Certified to Drive Trains

Driver's must be at their trains in sufficient time to ensure that the vehicles are in proper working order.

Only certified employees may drive engines on any part of the running lines or sidings. No unauthorised person is permitted to operate trains.

Drivers must assist in the marshalling, formation and alteration of trains due to any defect.

b. Certain Qualified Employees Permitted to Drive Trains

Certain qualified employees are permitted to drive a train under the supervision of the regular Driver to keep acquainted with the duties of a Driver.

The regular Driver will, at all times, be responsible for the operation and safety of the train in accordance with this Code of Practice. If necessary, the regular Driver must be prepared to take immediate control of the train.

The qualified employee, whilst under the supervision of the regular Driver, is not relieved of responsibility for observance of this Code of Practice.

c. Equipment to be in Possession of Driver

When on duty, a Driver must be in possession of the following items:

- a watch,
- a complete set of lamps,
- at least 12 audible track warning signals,
- two red flags,
- a fire bucket,
- an off-train radio, and
- any other items ordered.

A portable train to base radio must be available and a locomotive display unit, if the train is to run over sections of line where the Section Authority System of Signalling is in operation.

d. Train Movement

Unless otherwise advised, the Driver and Fireman must be on the train before any movement is made.

Before any train movement, the Driver must sound the whistle.

When more than two light steam engines are coupled together, or when more than one engine is attached to a train, the following whistles will be sounded:

1. three distinct whistles to signify a set back, and
2. two distinct whistles to signify a move forward.

No engine movements must be undertaken until these whistles have been given and acknowledged by repetition from each of the rear Drivers.

e. Employee Incapacitated

If a Driver or Fireman becomes incapacitated whilst on duty, the Driver or Fireman must take the train to the nearest station in advance and advise the Train Controller. The Train Controller will arrange for assistance for the incapacitated employee and another employee as a replacement.

f. Engine Left Unattended

The Driver and Foreman must not leave the engine unless it is essential to do so and only in accordance with the Rules and Operating Procedures. The engine may only be left unattended if:

the engine is in a siding and out of gear, and the hand brake is fully applied.

g. Driver in Charge of Train

The Driver is in charge of the train. The Fireman and any other competent employee must promptly obey all instructions received.

Before departing a terminal station, a competent employee will be appointed to take charge of the passenger carriages.

h. Competent Employee in Charge of Passenger Carriages

The competent employee in charge of the passenger carriages must radio instructions to the Driver before the train can depart from a platform (or within a section if it has been unexpectedly stopped).

Before informing the Driver that the train may proceed, the competent employee must:

ensure all outward opening carriage doors are closed,

ensure all platform work has been completed, and

ensure that no person is trying to get on or off the train.

The Driver must be in possession of the necessary authority before proceeding.

If the train is stopped before all carriages are clear of the platform, the Driver must not proceed until being advised by the competent employee in charge of the passenger carriages.

i. Stationmaster/Officer-in-Charge at Originating Station

The Stationmaster or Officer-in-Charge at the originating station must:

ensure the proper tail signal is displayed, and

advise the Driver of the train.

The Driver is responsible of ensuring that the proper lights and signals are carried on the front of the engine.

j. Train Overruns a Station

If a steam hauled passenger train overruns a station at which it intended to stop, the Driver must not set back without obtaining the authority of the Signaller, Stationmaster or competent employee, whichever is applicable to the location.

A competent employee must ride in the leading vehicle to give the Driver hand signals or verbal instructions by radio.

k. Passenger Train operated by Other Organisation and Group

Members of any organisation or group who operate a passenger train over the Public Transport Corporation system, must be fully trained and accredited as competent in their duties by the proper Officers of the Public Transport Corporation.

20. Locked or Jammed Wheels

If, owing to a malfunction, any wheels of a motor carriage become locked or jammed, and it is necessary that the wheels should be skidded, great care must be exercised in the working of the train, particularly when passing over facing points, guard rails or crossovers. The speed of the train must not exceed 5km/h. Additionally, the following procedures must be observed:

If the locked wheels be the trailing wheels on the train, it must be worked forward. If the locked wheels are leading, the train must be set back to the station in the rear. The provisions of Rule 5 (Section 13) of this Code of Practice must be observed in this instance. If a locomotive or another train is available to be attached to the end of the train where the locked wheels are situated, the train may be worked in either direction. In the event of any wheels becoming locked, other than those specified above, the train may be worked in either direction. The defective train must be shunted clear of the main line as quickly as possible, and in every case in which the train is worked in the wrong direction, the provisions of Rule 5 (Section 13) must be observed.

An infrastructure representative must be notified when skidding is necessary, so as arrangement may be made for track protection to be provided as prescribed in Rule 4 (Section 15). The infrastructure representative must examine the portion of line over which the vehicles have been skidded and make arrangements for following trains to be stopped or travel at reduced speed, until the line is safe.

If an infrastructure representative is not available, a responsible officer must arrange for flagmen to be provided as prescribed in Rule 4 (Section 15). The Driver of every train to pass over the affected line must be advised of the circumstances and instructed to proceed cautiously at a speed not exceeding 15 km/h. This arrangement is to apply until such time as the infrastructure representative arrives.

Electric Trains Damaged Air Pipes, Hoses etc.

FAULT	ACTION TO BE TAKEN
Main reservoir coupling hose burst on any car of a multiple unit train.	2. Close main reservoir end cocks on each side of the burst hose. 3. Send Train Malfunction Message NOTE: Main reservoir safety valves may operate intermittently on motors behind the closed cocks.
Main reservoir pipe broken under motor (unable to plug)	4. Close both main reservoir end cocks near the Scharfenberg coupling at the rear of the motor. 5. Open compressor contactor isolating switch on the desk of that car. 6. Open compressor governor M/C/B on that car. 7. Open the E.P. brake M/C/B on front car. 8. On trains that are fitted with spring operated park brakes, obtain handbrake ratchet from tool kit and release the park brake by rotating the square lug on the brake cylinder 8 turns in an anti-clockwise direction. If disc brake 8 turns anti clockwise by hand. 9. Send Train Malfunction Message.
Main reservoir pipe broken under motor (unable to plug)	10. Proceed using the automatic air brake only. 11. If a qualified employee is available, they are to be instructed to charge the brake pipe to 550
Leading motor.	kPa. from another brake controller and then close DBV isolating cock until the train has come to a stand, when the brake pipe can again be fully recharged.
	NOTE: (i) The pantograph on that car will lower and it must be isolated.
	(ii) The whistle, doors and windscreen wiper on that car will not operate.
	Instructions b to g to be carried out.
	If no qualified employee available, train is disabled, Driver to arrange relief train.

FAULT	ACTION TO BE TAKEN
Main reservoir end cock broken off at front of leading car (behind Scharfenberg coupling).	12. Plug open pipe with wooden plug if possible. 13. If unable to plug, train may continue to its destination; as a choke fitted near the ends of M/Res line will allow approx 550 kPa pressure to be maintained by the compressors. 14. Send T.M.M.
Main reservoir pipe broken under 'T' car (unable to blank).	15. Close both main reservoir end cocks of the affected car. 16. Send T.M.M. 17. Proceed using the automatic brake only.
Brake pipe broken, or hose bag burst at an intermediate location on a train.	18. Close the brake pipe cocks at each end of the affected car. 19. If a qualified employee is available, they are to be instructed to charge the brake pipe to 550 kPa from another brake controller and then close DBV isolating cock until the train has come to a stand, when the brake pipe can again be fully recharged. 20. Exhibit any necessary hand signals to the driver. 21. Be ready to operate the emergency tap if required. 22. The Driver will apply power and operate the brake from a motor of the longest braking portion of the train, travelling at a speed not to exceed 15 k.p.h. 23. Send T.M.M.
	NOTE: The passengers are to be detrained at the first station and the train is to be shunted at the first available siding.
	24. If no qualified employee is available and the Driver is able to obtain 50% of operating air brake from the leading end, the Driver is to open the D.B.V.I.C. on the rear portion and leave it open to allow the E.P. Brake to operate throughout the train. Train to operate at a speed not to exceed 15 k.p.h.
	25. if a 3 carriage train the air brake must be operational on the leading 2 carriages.
Brake pipe broken, or hose bag burst at an intermediate location on a train.	26. If unable to obtain 50% of operating air brake train is disabled, Driver to arrange assistance. 27. Send T.M.M.
	NOTE: The passengers are to be detrained at the first available station and the train is to be shunted at the first available siding.
(i) Brake pipe cock broken off at front of leading motor car (behind Scharfenberg coupling).	28. Plug open with wooden plug and proceed. 29. Send T.M.M.

FAULT	ACTION TO BE TAKEN
(ii) If unable to plug (or blank) the pipe.	<p data-bbox="603 398 1018 425">If a qualified employee is available.</p> <ol style="list-style-type: none"><li data-bbox="651 450 1139 477">30. Close DBV isolating cock on that car.<li data-bbox="651 501 1386 564">31. Close both brake pipe end cocks between the leading and second car.<li data-bbox="651 589 1422 651">32. Release the air brake on the vehicle by operating the release wire.<li data-bbox="651 676 1418 784">33. Qualified employee to ride in the leading motor exhibiting the necessary hand signals to the Driver, and being prepared to apply the park brake if required.<li data-bbox="651 808 852 835">34. Send T.M.M.<li data-bbox="651 860 1406 922">35. Driver to drive the train from the most convenient motor at a speed not exceeding 15 kmh.
	<p data-bbox="603 949 1434 1012">NOTE: Passengers are to be detrained at the first station and the train is to shunt at the first available siding.</p>
	<ol style="list-style-type: none"><li data-bbox="651 1037 1406 1099">36. If no qualified employee available train is disabled. Driver to arrange relief train.

21. Headlight Failure - Locomotive Hauled Trains and Sprinters

In the event of failure of the headlight on a Locomotive or Sprinter whilst in running, the following procedure must be adopted.

a. Headlight failure during Daylight Hours

The Driver must immediately inform the Train Controller, and the Locomotive Maintenance Foreman at South Dynon fuel point. In the case of Sprinters, the Train Controller and the Cars office must be advised.

A changeover locomotive is to be arranged and the locomotive on which the headlight has failed, must be worked to a suitable location under the conditions as set out below.

If the locomotive is leading in a multiple unit consist, then the locomotive positions are to be reversed in order to restore the headlight on the leading unit of the consist.

Similarly the locomotive may be worked to a location where it is able to be turned, if this is more convenient.

All employees concerned are to give special attention to providing remedial action to restore the headlight as soon as circumstances permit.

When working the train to a location where the fault is to be repaired, the train may proceed as for normal daylight operation.

Drivers must be aware that they are to immediately respond should they consider that the approach of their train is not being paid its usual attention.

b. Headlight failure during the hours of Darkness

The Driver must immediately inform the Train Controller., and the Locomotive Maintenance Foreman at South Dynon fuel point. In the case of Sprinters, the Train Controller and the Cars Office must be advised.

A changeover locomotive is to be arranged and the locomotive on which the headlight has failed, must be worked to a suitable location under the conditions as set out below.

If the locomotive is leading in a multiple unit consist, then the locomotive positions are to be reversed in order to restore the headlight on the leading unit of the consist.

Similarly the locomotive may be worked to a location where it is able to be turned, if this is more convenient.

All employees are to give special attention to providing remedial action to restore the headlight as soon as circumstances permit.

When running during the hours of darkness with a failed headlight, the speed of the train must not exceed 50km/h (30 m.p.h.) when operating on a running line.

When passing over Level Crossings or through Station Yards, the speed of the train must not exceed 15km/h (10 m.p.h.).

Should the Driver consider it necessary, and if assisted by a competent employee, the train may be stopped prior to passing over any level crossings until the competent employee has protected the crossing. In this instance, the competent employee must be mindful of personal safety.

If only one beam of a twin sealed beam headlight is operating, or if the headlight is operable on `Dim' only, the train may run without restriction. The Driver must notify the Train Controller so that arrangements may be made to repair the defect at the earliest opportunity.

UNDER NO CIRCUMSTANCES IS THE LOCOMOTIVE HAND LAMP TO BE USED AS AN EMERGENCY HEADLIGHT.

c. Ditch Lights

Where a locomotive is fitted with Ditch Lights, and a failure of the Headlight exists, the Driver must notify the Train Controller. and the Locomotive Maintenance Foreman at the South Dynon fuel point.

The train may continue to run with no restrictions, provided the Ditch Lights are switched on and are operative. At the first available opportunity the defect must be repaired.

22. Procedures for Hauling Bluebird Rail Cars

a. With a Sprinter/Suburban Electric Train

1. Couple the Main Reservoir pipe from the Sprinter/Suburban Electric Train to the Main reservoir pipe on the Bluebird
2. (ii) Couple the Emergency pipe from the Bluebird to the Brake pipe of the Sprinter/Suburban electric Train.
3. (iii) Open both through cocks.
4. (iv) Place the Reverser in Neutral.
5. (v) A Driver must be at the driving station of the Bluebird to operate the brakes as this arrangement does not provide for "Head End" braking.

b. With a Locomotive

1. Place the change over cock to Non Control and remove.
2. Place Brake Valve handle to off and remove.
3. Place Reverser handle to off and remove.
4. Couple the air hoses as shown below:

Bluebird Locomotive

M.R.	to	M.R.
S.A.	to	#3 (Control pipe)
E.M.	to	Brake Pipe

5. The locomotive can haul and control the Bluebirds at line speed, the brake being controlled by the Driver of the locomotive using the Independent Brake. Under this scenario, the Bluebird driving station does not require attending by a Driver.

The following procedure was inserted as a new Operating Procedure No.23 (Section 29), as per SW1025/2003 of June 20, 2000.

23. The E.T.A.S (End of Train Air System)

a.

The E.T.A.S. system (End of Train Air System) is an air monitoring system which measures the train brake pipe pressure on the trailing vehicle of a train and transmits the air pressure information to a digital receiver located in the driving end of the locomotive cab.

The E.T.A.S System may be used in conjunction with both the Section Authority and Train Order Safeworking Systems for confirming overall train integrity.

The E.T.A.S. system consists of an End of Train Marker which has an air recording radio transmitting device and red flashing marker light. This unit is placed on the trailing vehicle, and consists of a locomotive in cab visual display unit, select and ID switches, low battery indicator and radio transmitting and receiving facilities.

The End of Train Marker must be placed on the trailing vehicle of the train, the unit flexible coupling coupled to the train brake pipe of the trailing vehicle, and the End of Train Marker switched on.

The in cab locomotive display unit consists of a radio receiving device which processes information received from the End of Train Marker and displays the information in a numeric and alpha format. The End of Train and in cab display unit is powered by a 12 volt rechargeable battery system.

b. E.T.A.S. Information

The information displayed to the Train Crew is in KPA (eg: 475 kpa), which updates with any air variation occurring in the train brake pipe system, (for example:- train air brake application, train air brake release, leakage in the train brake pipe, or when the train brake pipe has been corrupted).

E.T.A.S. will provide a process to validate:

- locomotive air gauge information,
- level of train brake pipe leakage between the leading locomotive and trailing vehicle of the train, when full brake pipe pressure has returned to the rear of the train after train brake has been released, and,
- the amount of air released from the brake air pipe during each train brake application.

This information is continually updated.

Should the E.T.A.S. unit lose radio coverage for any reason, the in cab display unit will indicate the air pressure reading prior to loss of radio coverage and display a no signal advice.

When radio coverage returns, the air pressure reading is updated within 3 seconds. (Radio coverage may not be available in tunnels and some cuttings. If signal loss occurs, a list of these locations will be made available).

The E.T.A.S. Cab display unit will advise the state of the battery on the End of Train Marker.

c. Testing E.T.A.S. Unit Integrity

It is necessary to prove the integrity of the E. T.A.S. unit prior to departing an originating location. It is recognised that variations in the performance of locomotive air gauges exist, the E.T.A.S. integrity testing procedure assists in identifying these variations.

d. Testing Procedure

1. Attach the E.T.A.S. unit to the driving end of the lead locomotive and couple to the brake pipe. Close the brake pipe tap at the non-driving end of the locomotive.
2. Compare the E.T.A.S. reading with the locomotive air gauges.

EXAMPLE

E.T.A.S. LOCO	489 kPa
BRAKE PIPE GAUGE	500 kPa
EQUALISING RESERVOIR GAUGE	500 kPa
E.T.A.S. REAR VEHICLE	485 kPa

This would indicate a variation of 11 kpa between locomotive gauges and the E.T.A.S. unit. The E.T.A.S. unit must then be attached to the trailing vehicle of the train and an E.T.A.S. reading taken from the trailing vehicle of the train. By subtracting the kpa difference of the E.T.A.S. reading from the driving end of the locomotive and the rear of train, the information provided will give the Driver a total overview of the train air brake performance.

EXAMPLE

TRAIN PIPE FRONT TO REAR	004 kPa
E.T.A.S./LOCOMOTIVE AIR GAUGE	011 kPa
A TOTAL VARIATION OF	015 kPa

The integrity of the E.T.A.S. Unit has been validated.

e. Train Integrity

For the purpose of proving train integrity for safe working purposes, a consistent fluctuating E.T.A.S. train brake pipe reading will be required prior to confirming the arrival of the train complete at a station or loop.

f. Confirming the Train has Arrived Complete at a Station or Loop

Upon the train's arrival within the Crossing Station or Loop, the Driver must view the E.T.A.S. train brake pipe reading. If the reading is within the established train brake pipe fluctuating consistency, the Driver may then confirm the train has arrived complete.

1. Train Order Territory

Confirmation of the train having arrived complete will be confirmed verbally with the Train Controller.

2. Section Authority Territory

Where a crossing location is equipped with fouling point detection at both ends of the crossing loop, the Driver will maintain a message in the third line of the current authority to take loop, or a D.I.C.E. code which will read loop, in addition to a route setting code number. The Driver will proceed toward the fouling point indicator and when the train is clear of the arrival track circuit, the fouling point detection system will broadcast a voice message via the local radio, viz:- Vite Vite Loop-Up end clear, or, Vite Vite Loop- Down end clear, as the case may be.

The Driver may then return the Current Authority to the Section Authority System Workstation.

g. Confirming the Train has Departed a Block Point Location

Block Point locations on nominated Train Order and Section Authority territory corridors will be provided with a triangular sign with the location name, a marker post distance and the words 'Block Point'. The signs are located at the authority limit point for the single line section (Block Point). Where the E.T.A.S. system is authorised for use, a T.A.I.L.S symbol will not be provided on the Block Point sign. A location clearance sign will instead be placed 2000 metres from the Block Point in both Up and Down directions.

1. Train Order Territory

The Driver must be in possession of a Train Order to proceed into the next section. Upon passing the Block Point, the Driver must ensure that the E.T.A.S brake pipe reading is within the established brake pipe fluctuating consistency.

If the reading is maintained until arriving at the departure clearance point 2000 metres from the Block Point, the Driver may confirm the train has departed the location complete. This may be conducted either verbally with the Train Controller or by fulfilling the Train Order for the section to the rear.

2. Section Authority Territory

The Driver must be in possession of a Next Authority to proceed into the next section. When passing the Block Point location, the Driver must ensure that the E.T.A.S. brake pipe reading is within the established brake pipe fluctuating consistency.

If this reading is maintained until arriving at the departure clearance point 2000 metres from the Block Point location, the Driver may return the Current Authority for the section to the rear.

If the E.T.A.S. brake pipe reading is less than the established brake pipe fluctuating consistency due to the Driver making a brake application prior to passing or departing the E.T.A.S. Block Point location, the current Authority for the rear section must not be returned to the Section Authority System Workstation until the train brake has been released, and the E.T.A.S. brake pipe reading is within the established brake pipe fluctuating consistency.

Failure of E.T.A.S Unit or Reading Too Low

1. Train Order Territory

Should the E.T.A.S. unit fail, or the E.T.A.S. brake pipe reading is below the established brake pipe fluctuating consistency, the Driver must not confirm the train has arrived complete until a positive end of train sighting is obtained.

2. Section Authority Territory

Should the E.T.A.S unit fail or the E.T.A.S brake pipe reading is below the established brake pipe fluctuating consistency, the authority for the rear section may be returned to the Workstation after advising the Train Controller of the circumstances. The Driver must also request the application of a Section Foul blocking command to the applicable track section.

The Section Foul blocking command must remain in place until a positive end of train sighting has been received by Driver, who must inform the Train Controller accordingly.

UNDER NO CIRCUMSTANCES ARE TRAIN LOCOMOTIVE AIR GAUGES TO BE UTILISED FOR CONFIRMING THE TRAIN'S OVERALL INTEGRITY.

h. E.T.A.S. Brake Pipe Fluctuating Consistency

An established *Brake Pipe fluctuating consistency* is when an E.T.A.S. reading is recorded at a high point and consistently fluctuates between a lower and higher reading during a train's passage over a single line section. or a number of single sections.

The maintenance of an established *Brake Pipe fluctuating consistency* during the passage of a train over a single line section or sections will confirm to the Driver of the train that the train is complete. This will then allow the Driver to fulfill / relinquish the relevant safeworking authority when necessary.

A new Brake Pipe fluctuating consistency will be require to be established after shunting or any time the integrity of the Brake Pipe has been corrupted.