

ANPR 715

Protecting Type F Level Crossings

Applicability

NSW

SMS

Publication Requirement

External Only

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Introduction

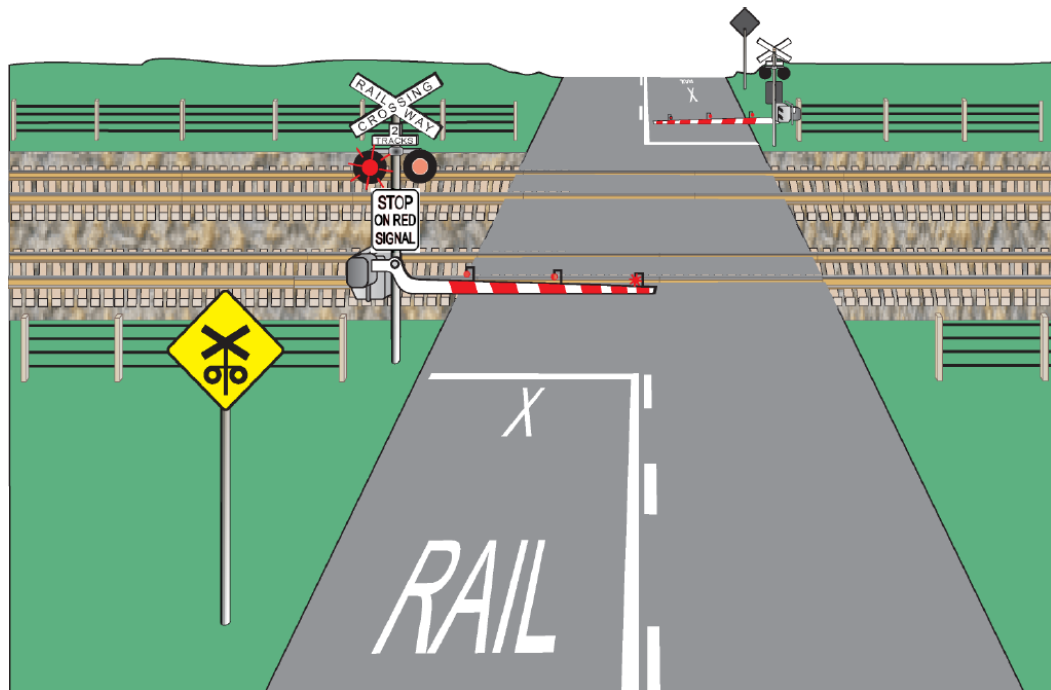
Handsignallers protect Type F level crossings when roadside or pedestrian warning equipment is faulty or cannot be activated.

Roadside warning signs and equipment

Type F level crossings have roadside advance warning signs and flashing warning lights. Some Type F level crossings have one or more of:

- bells and other *audible warning devices*
- full-booms or half-booms that lower across a road to stop road traffic
- booms or gates to stop pedestrian traffic
- advance warning lights, which give a more distant warning to road users.

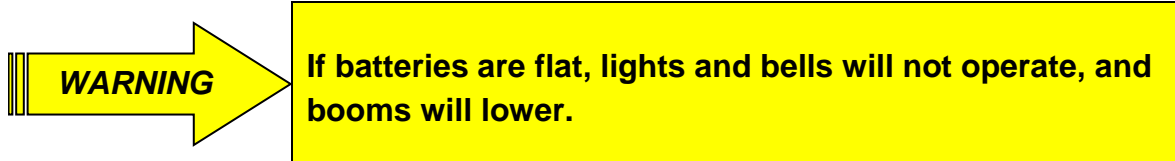
Figure ANPR 715-1



Layout of a typical Type F level crossing road approach

Type F level crossing warning equipment is of *failsafe* design. While there is power in the battery, if the controlling *track-circuit* fails:

- lights and bells operate, and
- booms lower to stop road and pedestrian traffic.



The warning equipment continues to operate until:

- the fault is fixed, or
- operation is cancelled by the Emergency switches.

Type F level crossing switches

Switches to control warning equipment are located in locked boxes at or near level crossings.

Figure ANPR 715-2



Level crossing switch boxes

Switch	Purpose
TEST	Activates all warning equipment
Manual Operation	If fitted, activates all warning equipment.
EMERGENCY	Switches off power to bells, lights and (if fitted) booms, which remain in the lowered position. Emergency switches are key-locked in the ON position
SHUNTERS	If fitted, activates all warning equipment

Emergency switches

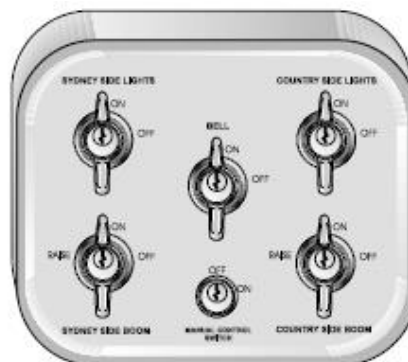
Emergency switch boxes may have a Manual Control switch to allow operation of boom using the Boom switches.

Figure ANPR 715-3



Level crossing Emergency switches

Figure ANPR 715-4



Level crossing Emergency switches including Manual Control switch

If warning equipment cannot be operated

Warning equipment may not operate due to mains and battery power loss, or because of damage.

If warning equipment cannot be operated, refer to the Procedure *ANPR 717 Using emergency roadside warning equipment*.

If rail traffic movement does not activate warning equipment

Some *rail traffic* movements (e.g. *wrong running-direction* movements) may not activate track-circuits, and so not operate warning equipment.

Competent Worker

1. Get the Test keys from the controlling *location*.
2. Get the *Network Control Officer's* permission to manually operate the level crossing.
3. Open the Test box
4. Set the Test switch to TEST to activate warning equipment and stop road and pedestrian traffic.
5. After road and pedestrian traffic has stopped, give a *PROCEED handsignal to the Driver or track vehicle operator*.
6. When rail traffic has fully cleared the level crossing, and if no other rail traffic is approaching, set the Test switch to NORMAL to allow road and pedestrian traffic to proceed.
7. Lock the Test box.
8. Return the keys to the controlling location.

Preparing to manually operate warning equipment

Handsignaller

1. Get the Test and Emergency keys, a hand-held STOP sign and rope from the controlling location.
2. Get the *Network Control Officer's* permission to manually operate the level crossing.
3. Compile an Infrastructure Booking Advice to manually operate warning equipment in accordance with the requirements of Rule ANWT 312 Infrastructure Booking Advice.

4. Open the Test and Emergency boxes.
5. Insert the keys in the Emergency switches.

Isolating warning equipment

If Manual Control switch is not fitted

Isolating warning equipment that is operating continuously

Warning equipment may need to be isolated because a fault or track-circuit failure is making it operate continuously.



Do not switch off warning equipment that is operating continuously before you have spoken to the Network Control Officer and made sure that there is no rail traffic approaching.

Handsignaller

1. Set the Boom switches to OFF.
2. Keep Boom switches in the OFF position until the warning equipment has been restored to normal operation.
3. Make sure that all other Emergency switches are ON.
4. Tie a rope to the top cross-brace of each road boom. Lift booms by hand, and tie them securely in the fully raised position.



Be careful not to damage the booms.

5. Do not tie pedestrian boom arms.
6. Set the Light switches and Bell switches to OFF.



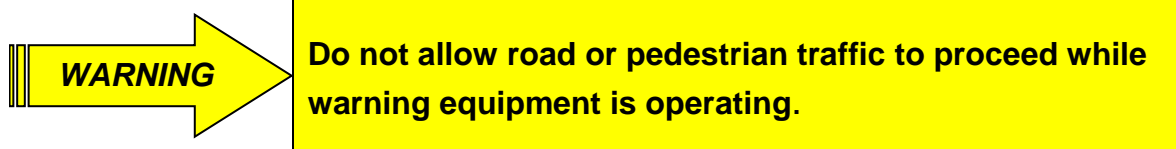
Do not allow road or pedestrian traffic to proceed while warning equipment is operating.

Isolating warning equipment for planned work on track

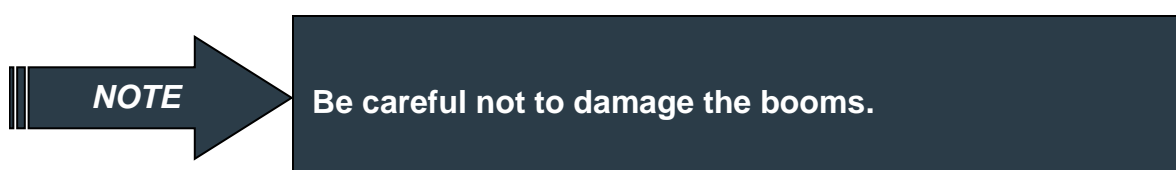
Warning equipment may need to be isolated because planned *work on track* might make it operate continuously.

Handsignaller

1. Compile an Infrastructure Booking Advice to manually operate warning equipment in accordance with the requirements of Rule ANWT 312 Infrastructure Booking Advice.
2. Set the Test switch to TEST to activate the warning equipment and stop road and pedestrian traffic.



3. Tie a rope to the top cross-brace of each road boom.
4. Set the Test switch to NORMAL to allow road and pedestrian traffic to proceed.
5. Tie road booms securely in the fully raised position.



6. Do not tie pedestrian boom arms.
7. Set the Emergency switches to OFF.
8. Keep Boom switches in the OFF position until the warning equipment has been restored to normal operation.

If a Manual Control switch is fitted

Warning equipment may need to be isolated because:

- a fault or track-circuit failure is making it operate continuously, or
- planned work on track might make it operate continuously.



Do not switch off warning equipment that is operating continuously before you have spoken to the Network Control Officer and made sure that there is no rail traffic approaching.

Handsignaller

1. Set the Manual Control switch to ON.
2. Set the Boom switches to RAISE
3. Set the Light switches and Bell switches to OFF.



Do not allow road or pedestrian traffic to proceed while warning equipment is operating.

4. If a road boom has failed in the lowered position, and the boom cannot be raised with the Manual Control switch:
 - tie a rope to the top cross-brace of the boom, and
 - lift the boom by hand, and
 - tie the boom securely in the fully raised position, and
 - do not operate the Boom switch for the tied boom before the warning equipment has been restored to normal operation.



Be careful not to damage the booms.

5. Do not tie pedestrian boom arms.

Managing road and pedestrian traffic

1. Raise pedestrian booms or open gates, as required, to allow pedestrians to cross.
2. When rail traffic approaches the level crossing, to activate the warning equipment:
 - set the Light switches and Bell switches to ON, and
 - set the Test switch to TEST.
 - for booms that are not tied up, set Boom switches to ON.
3. If booms cannot be lowered, use a hand-held STOP sign to stop road and pedestrian traffic.
4. Make sure that pedestrian gates are closed or pedestrian booms are lowered.
5. After road and pedestrian traffic has stopped, give a PROCEED handsignal to the Driver or track vehicle operator.
6. When rail traffic has fully cleared the level crossing, and if no other rail traffic is approaching, to allow road and pedestrian traffic to proceed:
 - set the Light switches and Bell switches to OFF, and
 - set the Test switch to NORMAL, and
 - for booms that are not tied up, set Boom switches to RAISE.

Resuming normal operation

Network Control Officer

When told by the *Maintenance Representative* that the warning equipment is *certified* as working correctly:

1. Tell Handsignallers to test the level crossing and restore it to normal operation.
2. Record the details in *permanent form*.

Handsignaller

3. Make sure that the Test switch is set to NORMAL.
4. Make sure that all Emergency switches are ON.
5. Make sure that the Manual Control switch (if fitted) is OFF.
6. Remove the keys from the Emergency switches.
7. Untie ropes securing booms in the fully raised position.
8. Set the Test switch to TEST.
9. Check that all warning equipment works correctly.
10. Untie ropes from the top cross-brace of road booms.
11. Return the Test switch to NORMAL.
12. Check that all warning equipment stops operating.
13. Lock the Test and Emergency boxes.
14. Tell the Network Control Officer that the level crossing is operational.
15. Complete the Infrastructure Booking Advice once the TEST has been completed and the equipment has been certified as working correctly.
16. Arrange for the Test and Emergency keys, rope and the hand-held STOP sign to be returned to the controlling location.

Related ARTC Network Procedures

ANPR 704	Using Infrastructure Booking Advices
ANPR 716	On-Site testing of Type F level crossings
ANPR 717	Using emergency roadside warning equipment

Effective Date

23 February 2020