

NEW ZEALAND GOVERNMENT RAILWAYS LOCOMOTIVE BRANCH	DROP-PIT RAMS, CYLINDERS, AND PUMPS	CODE No. 67
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EXISTING LOCO. CODES TO BE CANCELLED: NONE

(1) MANUFACTURE

Drop-pit rams, cylinders, and pumps must conform strictly to the following arrangement drawings:—

- 6-in.-diameter ram : Drawing X.10155
- 4-in.-diameter ram : Drawing 4367.

(2) INSPECTION AND TESTING

District Mechanical Engineers will arrange the inspection and testing of all drop-pit rams, cylinders, and pumps installed at depots under their control at intervals of three years and so that the inspections at each depot coincide as far as possible. These inspections will not necessitate the withdrawing of the cylinders.

Drop-pit ram cylinders are to be withdrawn for inspection at the following intervals:—

- (a) 6-in.-diameter: After completing fifteen years in service and thereafter every nine years.
- (b) 4-in.-diameter: Every nine years.

A close inspection of the pump plungers, packing glands, valves and valve seats, ram-glands and packing-rings, delivery-pipe lines and fittings is to be made during the three-yearly inspections and any defective components repaired or replaced.

Drop-pit ram cylinders are to be tested to a pressure of 33½ per cent, in excess of the working pressure. The working and test pressures are as follows

Type of Ram.	Working Pressure.	Test Pressure.
4-in.-diameter	600 lb. per square inch	800 lb. per square inch.
6-in.-diameter	500 lb. per square inch	670 lb. per square inch

Test pumps, master gauges, and couplings are located at Hutt and Hillside Workshops and are available when required for testing drop-pit equipment.

To carry out the pressure test, the ram is to be raised under the headstock of a locomotive or tender and pressure applied. The test pump, fitted with the master gauge, is to be connected direct to the delivery to the ram cylinder. When the test pressure is applied, all control valves are to be closed, and the loss of pressure for five minutes thereafter must not exceed 150 lb. per square inch. If the loss of pressure during the test exceeds 150 lb. per square inch, all leaky valves, valve seats, glands, or joints must receive attention until a satisfactory test is obtained.

Safety-valves must be reground and reset at the conclusion of each pressure test. Pipe ferrules cut to the required length must be fitted over the safety-valve studs to prevent the valves being set above the working pressure.

(3) WELDING

Fractured cylinders and worn rams must not be welded without authority from the Chief Mechanical Engineer.

(4) LUBRICATION AND MAINTENANCE

Officers in charge are responsible for the lubrication and the maintenance in good condition of drop-pit equipment under their supervision.

Tallow is to be applied to rams and pump plungers when required, and all other working parts must be cleaned and lubricated at frequent intervals.

(5) RECORDING TESTS AND INSPECTIONS

The date of each three-yearly inspection and test must be recorded on a brass plate affixed to all drop-pit pump tanks.

On completion of the three-yearly inspection of drop-pit equipment, District Mechanical Engineers will advise the Chief Mechanical Engineer the condition of the equipment at each depot and the results of the pressure tests. When cylinders are withdrawn for inspection, the condition of the cylinders must also be reported on.