

Victorian Railways R Class 4-6-4 (oil burner, R719, R748)

Supplementary parts for standard coal burning locomotive kit

Introduction

In August 1954 it was proposed that one R class should be converted to oil firing. R748, which had been stored at Newport workshops since April 1954 after rolling into the turntable pit at Geelong Loco, was selected for conversion. The work, which entailed modification to both the tender and the boiler was carried out at Newport and the engine returned to service on 27th June 1955. The tender was altered to accept a 2,000 gallon oil tank which had been used previously in an S class 4-6-2. This modification reduced the water capacity by 1,000 gallons to 8,000 gallons. Clamping dogs were installed on the smokebox door, and the firegrates were removed from the firebox and replaced by a floor with refractory lining and air slot openings. The Standard MB1 stoker was removed for use in other coal fired members of the class.

Following the success of this conversion it was decided to convert another three members of the class utilising the 2,000 gallon oil tanks and associated equipment salvaged from the S class Pacifics that had been scrapped in 1953-54. In the event, only one further R class was converted, R719, which was re-issued to traffic on 7th June 1957. The oil burning R class spent most of their time working on the Western line, where they demonstrated their greater availability and reliability, with R719 and 748 becoming the highest mileage locomotives in the class. They were popular with their crews and could be considered to be the "Hot-Rod" R class, rated the best in the fleet. R719 was withdrawn on 4th July 1966, with R748 following on 10th August 1967, being among the last R class to be withdrawn from regular VR service.

CONSTRUCTION

Construction of most of the locomotive is identical to the standard, coal burning version. These notes describe the areas that are different and should be read in conjunction with the instructions for the standard locomotive. Please also refer to the separate parts list and drawings 1, 2 and 3 that are packed with the additional parts for the oil burning R class.

LOCOMOTIVE

The only difference for the locomotive is the substitution of the smoke box front with clamping dogs WO1 for the standard casting W7, and the omission of the stoker motor W19 from underneath the cab.

TENDER

Assembly can proceed following the standard instructions for sections regarding the '**Bogies**', '**Tank**', '**Rear Details**' and '**Underframe Details**'.

When it comes to '**Tender Front**', the assembly is the same except EO5 and EO4 from the supplementary pack of parts should be used to replace the standard tender footplate E69 and coal doors E66 respectively. Drill two 0.4mm holes at the marks in the sand box WO2 and add a handle from 0.4mm wire. Secure the sand box to the tender deck, in the left side of the opening in the tender front.

Tender Tank Top

Bend the sides of the bunker opening down at 90° on the tender top deck EO3 and then bend the oil tank supports out at 90°. Locate the rear bulkhead EO1 at the back of the bunker opening and in the slots in the top deck. Solder the bulkhead in place, applying the solder from underneath the top deck and behind the bulkhead.

Form the tender deck coal space partition EO2 to shape and install the tags in the slots in the tender deck. Solder from underneath the tender deck. Add a handrail to the front of EO2 from 0.4mm wire and solder from behind the front bulkhead. Bend the toolbox support EO6 to shape and locate the tags in the slots in the top deck. Solder from underneath the top deck.

Insert the handles E91 and E92 in the holes in the top deck and solder from underneath.

Drill 0.4mm holes in the tank filler W44 and add a handle of 0.4mm wire. Drill two 0.7mm holes at the marks in the water treatment box W43 and add two 5mm lengths of 0.7mm wire. Locate parts W43, W44 and W45 in their respective holes in the tank top and solder from underneath with low-melt solder.

Drill a 3.0mm hole at the mark on the top centre of the tank WO3 and a 2.0mm hole in the underside towards the front. Add the filler WO7 and sump WO4, ensuring that the filler is orientated as shown on drg.2. Drill a 0.4mm hole at the mark on top of the filler and add a 'U' shaped vent from 0.4mm wire. Drill a 0.7mm hole at the mark on the front surface of the sump and through the oil valve WO8. Bend a piece of 0.7mm wire into an 'L' shape and thread the valve onto the wire.

Test the fit of the oil tank WO3 in the opening in the top deck. It may be necessary to file a small amount from the lower section of the back end of the tank to allow it to fit. Use low-melt solder to attach the tank to the feet incorporated in the bottom edge of the opening in the deck. Temporarily install the top deck in the tender tank. Adjust the length of the 0.7mm wire so that it locates in the hole in the sump and in the hole in the tender footplate. Secure the valve to the wire and the wire in the sump. The brackets WO5 and WO6 can be added with super glue.

Use a scribe or Olfa 'P' cutter to enlarge and deepen the half etched lines on the underside of the platform E92. The etched openings in the top surface of the platform make this section quite fragile, and it is difficult to make the necessary folds if the etched lines are not made deeper. Fold the sides of the platform down at 90°. Fold the railings E90/ E91 at 90° at the half etched line and solder them to the platform. The legs on E90/E91 should be positioned flush with the bottom edge of the platform framing. Solder the front railing E93 to the front of the platform and then add the platform to the oil tank, locating the front edge of the framing in the slot in the tank. The platform may be secured with super glue.

Final Assembly of Tender

Final assembly now proceeds in the same way as the standard tender except, of course, it is not necessary to add a coal load.

Etched number plates for R719 and R748 are supplied, which should be painted and applied in the same way as for a standard locomotive.

E218 – R Class Oil Burner

PARTS LIST

ETCHINGS

- E-01 Tender Deck Rear Partition
- E-02 Tender Deck Coal Space Partition
- E-03 Tender Deck
- E-04 Tender Coal Hopper Door side plates x2
- E-05 Tender Front Floor
- E-06 Tool Box Support

- E90 Tender Oil Tank R/H Handrail
- E91 Tender Oil Tank L/H handrail
- E92 Tender Oil Tank Walkway
- E93 Tender Oil Tank Front Handrail

WHITE METAL

- W-01. Smokebox Door
- W-02. Sandbox
- W-03. Oil Tank
- W-04. Oil Tank Sump
- W-05. Oil Tank Fixing Plate x 2
- W-06. Oil Tank Fixing Brackets x 4
- W-07. Oil Tank Filler
- W-08. Oil Tank Valve

Fittings

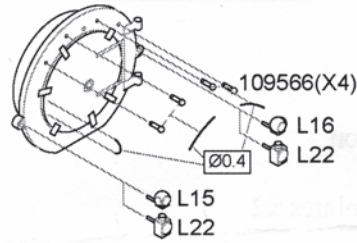
- | | | |
|--------|-------------------------------|-----|
| 109056 | Wire 0.4mm Straight Cut 300mm | x 1 |
| 109058 | Wire 0.7mm Straight Cut 150mm | x 1 |
| 109060 | Wire 1.0mm Straight Cut 150mm | x 1 |

E218

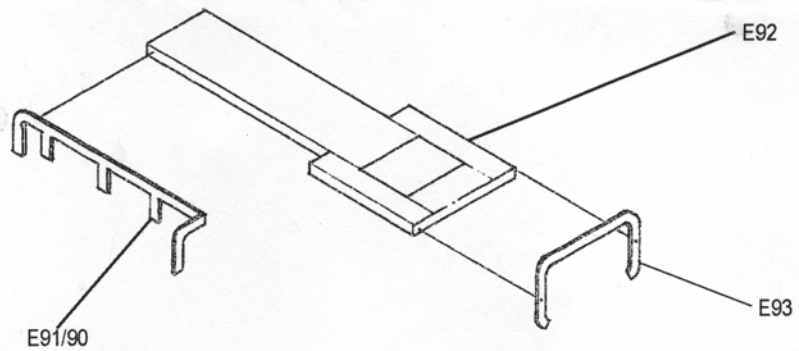
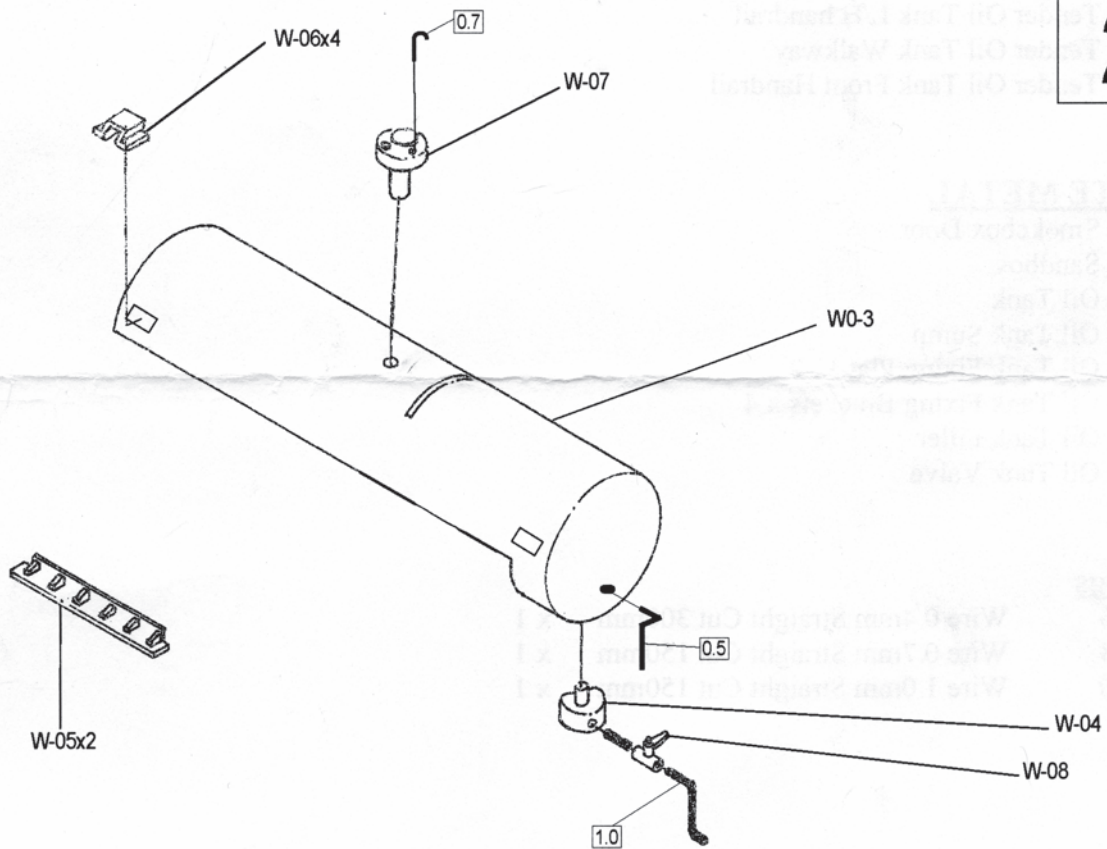
R Class Oil Burner

DRAWING NO:
1³

W-01 (Replacing Part W7)



DRAWING NO:
2³



E218

R Class Oil Burner

DRAWING NO:

3³

