

**Fitting Instructions**

Remove steam dome from safety valve.

Remove 8BA body retaining nut from just in front of safety valve.

Disconnect the gas pipe from the jet holder and remove the jet holder from the gas burner as described in the operators manual.

Remove 8BA body retaining nut just in front of rear coupling.

The body can now be care fully removed by lifting upwards and manoeuvring it to clear steam fittings and gas pipe etc.



Using the box spanner provided, remove the plug from the bottom of the boiler through the hole in the rear footplate.

Replace it with the bottom water gauge fitting using the special bolt and copper washers. Note that all banjo bolts require two washers to seal correctly, one between the hexagon head of the bolt and the banjo, and the second between the other face of the banjo and the bush to which it is clamping.



With the loco upside down, place one copper washer on the bottom boiler bush then pass the larger end of the fitting through the space between the foot plate and the bottom boiler. Pass the banjo bolt with a copper washer already pushed on, through the fitting and screw it into the boiler bush. Ensure that the bottom gauge glass fitting is the correct way round with its open end facing up and positioned in the hole in the footplate.

Tighten the bolt with the box spanner whilst keeping the fitting within the cab floor cut out as shown in the picture.

With the loco the right way up, fit the brass alignment rod supplied, into the bottom gauge glass fitting and make sure that it stands vertical when viewed from all sides. You can use the rod to align it as the copper tube will bend quite easily.

If you have a pressure gauge fitted, remove it now at the banjo fitting into the top boiler turret.

Disconnect the steam pipe from the steam regulator and remove the top boiler turret complete with regulator using the box spanner.

Remove the regulator from the old turret. This is fitted with a small amount of thread sealer so may be a little tight to start off.

Using a new fibre washer(s), fit the regulator to the thread on the new steam turret so that the water filling connector faces out to the right hand side of the cab as shown in the diagram. Ensure that the steam take off from the regulator ends up pointing down to the right at about the 4 o'clock position, to line up with the steam pipe connector. Two fibre washers are provided of different thickness to aid in this, or one of the fibre washers can be filed thinner by rubbing on a file or emery paper until correct position is achieved.

Fit the new turret to the top of the boiler with new copper sealing washers and tighten the top nut with the box spanner. Re-connect the steam pipe to the regulator.

Remove the brass blanking plug from the boiler bush to the left of the steam turret and replace it with the top water gauge fitting as shown in the diagram, using the banjo bolt and copper sealing washers. Remove the small brass plug from the top and, using the brass alignment rod again, pass it down through the top gauge glass fitting and align it so that the rod slips smoothly and easily down into the bottom fitting. The two must be aligned correctly, or damage to the glass will result.

Check that the glass will also slide smoothly and easily down through the top fitting and into the bottom fitting, if not use the brass alignment rod again until it does.

Once you are happy with the fit and alignment, carefully slip the glass tube down through the top fitting and slide the glands on in the following order – top 2 'O' rings - top gland nut, thread side up – bottom gland nut, thread side down – bottom 2 'O' rings. Now slide the glass right down into the bottom fitting.

Starting with the bottom fitting, push the gland nut over the 'O' rings and screw it onto the bottom fitting, nipping it up but not over tight.

Repeat for the top gland.

Screw the blanking plug into the top fitting not forgetting the sealing washer, and nip it up.

Take care when fitting and tightening any of these items, and hold the copper tubes to stop the fittings moving, or you may damage the glass tube.

If you had a pressure gauge, it can now be re-fitted.

It is better to carry out the first test steaming with the body off to check for leaks.

Re-fit the gas jet holder and carefully connect the gas pipe as detailed in the operators manual.

Prepare the loco for running but keep a careful eye on all the new fittings as pressure rises, checking for any water leaks. If any are evident, turn off the gas immediately, allow the loco to cool then carefully nip up the offending fitting a little and try again.

Fill the water bottle from your usual water supply.

To use the pump bottle, push the end of the plastic tube into the open end of the water filling valve on the right hand side of the turret whilst steadying the locomotive, but be careful what you touch if the engine is hot.

Pump the handle and this will inject water into the boiler.

You will often see water and air bubbles passing through the sight glass as you pump so allow the level to settle after a few pumps.

Carefully pull the plastic pipe out of the water filling connector whilst still steadying the engine.

Sometimes, small particles of dirt will find their way in with the water and may cause the water filling connector to leak back a little when the pipe is removed. If this should happen, re-connect the pipe and give a further pump or two of water to clear it.

If all goes well, once you start running your loco you will see the water level in the gauge slowly dropping. Note that air bubbles may sometimes form in the gauge giving a false reading but these can be pushed out by connecting the pipe from the water pump to the water filling connector – and injecting some water.

It is better to pump small amounts of water into the boiler at frequent intervals rather than large amounts as the pressure drop will be much less and you will be back up to working pressure much quicker.

Aim to keep the water level between  $\frac{1}{2}$  and  $\frac{3}{4}$  up the gauge and re-fill the gas tank as detailed in the locomotive operating instructions whenever it is empty. In this way, you can keep the loco in steam and at working pressure as long as you like.

Don't forget to re-fill the displacement lubricator about every 30 minutes.

Once you are satisfied that all is working well and there are no leaks, let the engine cool and replace the body as follows.

Disconnect the gas pipe and remove the jet holder as before.

Lower the body over the loco manoeuvring it as necessary to clear fittings and pipes. The dummy sand pipes sit between the frames and will need holding in once they have passed over the boiler as you lower the body.

Ensure that the front of the cab sits outside the front lip on the foot plate and that the two mounting screws pass up through their respective holes in the body. Replace the 8BA nut to the fixing stud in front of the safety valve and rear coupling and nip up but do not over-tighten.

Replace gas jet holder and re-connect gas pipe as before.

Replace steam dome.



[www.roundhouse-eng.com](http://www.roundhouse-eng.com)

## **Roundhouse Engineering Co. Ltd.**

Units 6 to 9 Churchill Road, Churchill Business Park,  
Wheatley, Doncaster, DN1 2TF. ENGLAND  
Tel: 01302 328035 Fax: 01302 761312  
e-mail: [sales@roundhouse-eng.com](mailto:sales@roundhouse-eng.com)



[www.roundhouse-eng.com](http://www.roundhouse-eng.com)