# Ultrascale Data Sheet

Issue: 003-120714

## Bachmann class 3F and Tender


## Fitting Instructions:

The Bachmann class 3F and Tender conversion pack comes as a fully assembled set of wheels, axles, bushes and gears. *(as shown above)*

The first thing that you will need to do is remove the original wheels from both the loco and the tender. The following is the basic procedure, so always refer to any instructions that may come with the model, that may help you with the removal of the wheels. The first thing to do as the tender and the loco are connected together by four wires is to separate these two items to make it easier to handle. To do this remove the brake gear from the tender and then remove the original wheels by gently opening up the tender side frames and dropping out the wheels. Once this is done you can unplug the wires from the tender and put the tender to one side as we will convert the loco first.

Now remove the brake gear from the loco, this will give you easier access to the screws to remove the chassis. To do this conversion you will need to remove the chassis from the body as the chassis base plate is hooked around the front of the chassis and can not be removed unless the chassis is removed first. To remove the chassis undo the two screws, one holding the draw bar and one right at the front. Then withdraw the chassis from the body. Once this is done remove the remaining three screws in the base plate and separate this from the main chassis block. This being done the wheels can then be removed. Having removed the wheels, unscrew the crank pins from these wheels and put the coupling rods to one side. These will be fitted to the new wheels on reassembly.

Having now removed the original wheels from both the loco and the tender we are ready to fit the new conversion pack wheels back into the model. However, I would at this stage recommend that you fit the balance weights to the new wheels before they are fitted into the model as it will be much easier then doing it after the model is back together. The fitting of the new conversion pack wheels is just the reverse of the procedure to remove the original wheels, but with some small changes to allow for the wider gauge depending on the conversion pack that you are fitting.

Now that the original wheels have been removed you are ready to fit the new conversion pack wheels. These are supplied fully assembled and ready to be dropped in where the other wheels came from. Fit the new driving wheels into the loco chassis first, making sure that the brass axle bushes fit correctly into the chassis each side. The biggest problem here will be the sanding pipes on the centre driving wheels. However, the wheels should fit without the need to bend or remove these items. Now the driving wheels are in place refit the base plate making sure to open up the pick ups to allow for the wider EM and 18.83 gauges, if required and check to make sure the brass axle bushes have not come out while the base plate was being refitted. Having done this, refit the three screws that hold the base plate to the chassis. The chassis can now be fitted back into the loco body and the last two crews that secure the body to the chassis can be refitted, making sure that you have the draw bar in the correct place before fully doing up the screw under the cab. Now the chassis has been fitted the brake gear can now be fitted back into place. Except for the coupling rods this now completes the conversion on the loco. The coupling rods, we will fit once the tender is complete.

Now reconnect the wires from the loco to the tender. Next, gently spring apart the tender side frames and drop the new tender conversion wheels into place. Once this is done the tender brake gear can be refitted. This completes the conversion on the tender.

All that is now left to do is to refit the coupling rods to the loco. To do this remove the hex. nut and front washer from each of the six crank pins. Now, doing one side at a time, refit the coupling rods to the new conversion pack wheels, refit a front washer and a hex. nut to each crank pin and gently hand tighten using a small pair of pliers. Repeat this on the other side of the loco and the model is now ready for testing. Test run the engine to make sure the conversion is working and that there are no problems with the new wheels. At this stage, do not run the model too long until you have secured the crank pin nuts fully as these may come loose. To secure the crank pins, cut off the excess crank pin screw flush with the hex. nut and then put a very small drop of Loctite on the end of the crank pin and let this go off, then wipe any excess Loctite from the end of the crank pin. Repeat this for all the crank pins and once complete the model is ready for use.

## Special Note

There are some points that the modeller may wish to note about converting this model to 18.83 gauge.

1. The modeller may need to remove some material from the inside of the splashers to allow for the wider 18.83 gauge and if the balance weights are fitted this will add to the overall width which may cause the balance weights to rub on the inside face of the splashers if some material is not removed.

2. The modeller may also need to remove a small amount of material from the underside of the footplate. When the crank pin on the driving wheels are at top dead centre, the coupling rod and crank pin assembly come very close to it and may foul underside of the footplate when in this position.

3. Some material may need to be removed from the face of the brake blocks as these can be very close to the flange of the wheel when the base plate is fitted. Removing

some material here will make sure that the wheels do not foul the brake blocks when in use.

As for the ‘OO’ and EM conversions, these were fitted without the need to modify the likes of the brake blocks etc. However, the above points can be checked for when fitting both the ‘OO’ and EM conversions just to make sure that there are no problems.

## Please Note

If you are not sure on how to disassemble the model then refer to the diagram/instructions sheet which comes with the model or any service sheets that may be available from the manufacturers web site.

## Recommendations after conversion

Minimum Radius: 3’ 6” (1066mm)

## Availability:

This conversion is available in 'OO', E.M. and 18.83 gauges.