

## BR 9F Crib Sheet

These notes are to cover the construction process for the new Accucraft / Aster BR 9F and to help builders complete a successful model. Information is based on the successful test builds completed in the UK by David Stick and Phillip Taylor. I also thank Joel Taylor & Jim McDavid from the USA for their input. Further input from builders will be gratefully received and these notes amended as appropriate.

Items **highlighted yellow** are supplied separately. Decals for cabside number and tender crests are also ready.

### General

If you are familiar with building Aster kits, then you will probably know that a few tools (additional to those mentioned on Page 4 of the Instruction Manual) are useful. Builders have found that 2.0mm, 1.7mm & 1.4mm taper taps will come in handy for cleaning threads. Aster Hobbies (UK) will advise on sources.

### Section 1

Part 1-1 Drain Valve Pistons can be usefully worked back and forth in the cylinder block 1-3 with plenty of oil to ensure a free-running fit. It has been found that the Drain Valve Handle 1-21 can slip on Drain Valve Shaft 1-22 due to the load of moving the valves back and forth in the cylinder under steam. Also, careful work on the drain cock operating linkages to ensure smooth action will be repaid later by not having to remove the boiler to correct the situation!

Part 1-17 Actuation Rod should be gently bent downwards (not upwards) at the firebox end to avoid fouling.

Part 1-19 Crosstie requires some work. The alignment of the Bearing 4-23 for the Reverser Shaft 4-14 is not in alignment with the holes in the frame. This is a precise alignment. Gentle bending of 1-19 is permissible but the better solution is to open the holes in the frame with a needle file so that reverser rod passes through without binding.

### Section 4.

Careful work with needle files to get a good finish on 4-5 Die Block to run freely in the Expansion Link 4-4 will be repaid later. Please observe carefully the drawing Top LH on Page 4.

Part 4-1 Radius Rod (and similar Fork Ended parts). This is one area that will need careful attention. Similar situations with Fork Ends follow elsewhere, so take a moment to ensure this is understood and then done correctly.

1. Examine Forked End of component 4-1 Radius Rod and ensure forks are parallel. If not carefully work a needle file gently on the inside faces of the forks and of the mating component until a smooth finish is achieved.
2. Present the mating component to the forks and check for fit. If tight, continue to file the faces of the mating component until a smooth fit is achieved.
3. Now check the Forked component to ensure both holes are exactly in line. If necessary, relieve the non-threaded hole with a round needle file.
4. Clean the threads of the forked component by careful use of a taper tap which should be introduced through the non-threaded hole and maintained square to the face of the fork.
5. After running the tap right through remove any dirt from the tap before withdrawal.
6. Check that the forks remain parallel and that the component is still a smooth fit.
7. If so proceed to assemble the joint with a spot of thread locker such as Loctite 222 introduced from the outside of the threaded hole.
8. Check that the pin is now secure and that the joint moves freely

### Expansion Link

Having ensured free movement of die block Part 4-5 in the expansion link Part 4-4, assemble the Expansion Link Unit shown in Fig. 11 using C M1.4-7 screws provided in the kit.

Should the screws protrude insufficiently to fully engage with the threaded portion of Expansion Link Pivot Inside 4-2, then consider the two options below.

#### Option A

Disassemble the parts and carefully countersink the holes in Expansion Link Outside, Part 4-7. Care should be taken to remove only sufficient material to allow the C M1.4-7 screws provided to sit deeper in the prepared holes. On assembly, there should now be sufficient thread into Part 4-2 to secure the unit.

#### Option B

Supplied separately to the kit are **4 x M1.4-8 screws**. Complete the Expansion Link Unit with these screws and trial assemble the complete Expansion Link Unit into position with Expansion Link Support 4-12 in place. Check for free movement of the Expansion Link Unit ensuring that the upper M1.4-8 screws in particular do not foul the inside portion of Expansion Link Support 4-12. Should they do so, clearance can be achieved by

disassembly and careful filing of the tip of the offending screws. During reassembly check for free movement of the Expansion Link Unit.

Either Option - a spot of Loctite 222 or similar is essential on the threads.

Builders may choose to brighten-up the coupling rods, connecting rods and other valve gear parts to match usual Aster practice. Use a fibreglass pen to gently burnish the parts.

### Section 8

Pay particular attention to ensure that the upcoming pipe from the lubricator fits correctly.

- a) ensure lubricator pipe fully engages with header.
- b) ensure the joint does not become cross threaded when GN5-2 is pulled up.

### Section 12

A new **Pressure Gauge siphon** will be supplied to replace Part 12-9 and Part 12-11 which were found to be liable to leakage.

### Section 14

Part 14-1 Boiler Ring has been found to be incorrectly drilled in one test build. Please check position of tapped holes and report any problem.

### Section 15

A **FG-8** fibre Gasket (not shown) is require under 15-5 Plug.  
Safety Valve O rings should be **PS5-1.9 x 2** and not as shown.

### Section 18

Part 18-15 Conduit and associated brackets are not required for this model although mentioned in the Instructions but not in the parts list.

### Section 20

Careful work with a file on 17-1 Reach Rod Guide will improve alignment of with 20-1 Reverser Cover & 20-2 Dummy Reach Rod.

### Section 22

Ensure Part 22-17 Water and Fuel Tank Seat is the right way up to avoid dismantling the section later when the hole to receive the ladder is not apparent! Parts 25-2 and 25-3 front steps should be assembled in this section.

### Section 26

Part 26-9 Water Tank Cover is not a good fit. Consider removing the rear flange from this part. Alternatively, the rear of the water tank 22-15 could be filed before installing into the tender body.

### Templates

It has been pointed out that the template drawings are not scaled to fit the model. Scaled Templates are available on request.

Andrew Pullen  
Aster Hobbies (UK) LLP  
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