



Materials and Tools

If you are going to purchase as many components as possible, and only make those which can be made with the use of hand tools (and possibly an electric drill), then you will need to acquire the following materials.

1.5mm (16 gauge, 1/16 inch) mild steel, approx ¼ width for:- Frames; Keeper strips; Buffer beams; 2nd stretcher; rear boiler saddle; bogie frames.
 ¼ x ¼" brass angle (approx 1 foot for all that is needed).
 1/8 inch (3mm) brass, ¾ inch wide for:- front stretcher, bogie stretcher.
 ¼ inch square bass for 2 rear stretchers.
 1/8 steel x or 3/8" (3mm x 10mm), approximately 3 inches long for:- bogie pivot arm, coupling rods, connecting rods.
 Brass or steel sheet 0.030" (21 or 22 swg) (0.7mm) for footplate.
 Brass sheet, 21 or 22 swg for tanks and sides
 Handrail knobs + wire
 Piano wire for springs

If you intend to make the Smoke box, you will require:- 52 mm OD tube for the wrapper, 1.5mm brass for front ring, 0.8mm brass rear ring, 22g brass for saddle, 10mm OD tube for chimney retainer and some 3/16" sheet for smoke box door.

For the boiler, you will require:- 54mm diameter (18 swg ~ 1mm thick) copper tube main barrel (~135mm long) and 60mm diameter (18 swg) copper tube (~75mm long). 19mm (3/4 inch) diameter copper flue tube. Bushes: gunmetal or bronze: largest is 16mm diameter. Copper for the tube plates (spare tube for 1 x 60mm dia and 1x65mm dia) and silver solder and flux.

Rivets – 1/16" x ¼" long, round head. (Iron, or brass will do.)

Tools:

Taps: all BA:- 6, 7, 8, 10, 12
 Drills (all mm.) 1.0mm, 1.4mm, 1.5mm, 1.8mm, 2.3mm, 2.9mm.
 3/16x40 tap and drill (4.0 mm).
 Centre punch
 Clamps
 Hand files, one normal size for rough work and needle files
 Superglue
 Countersink
 BA bolts: all BA, 6,7,8,10,12. I mostly prefer the small size hex head screws available from EKP Supplies.
 Solder and flux
 Hack and fret saw
 Light hammer for riveting
 Usual hand tools, pliers etc

