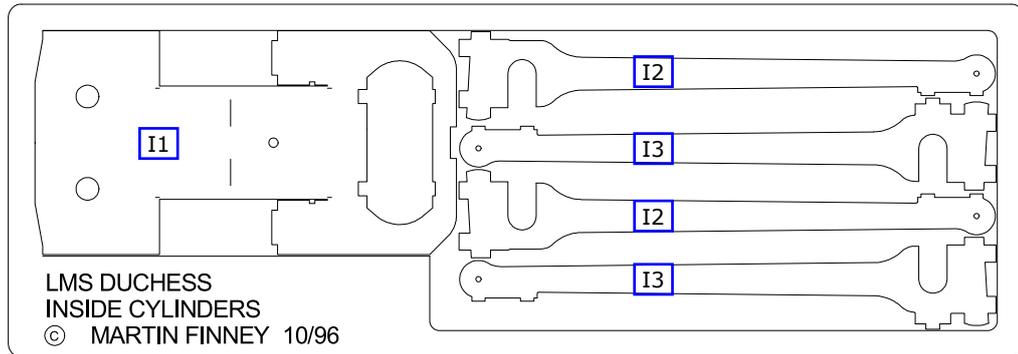


## PRINCESS CORONATION INSIDE MOTION

### COMPONENTS



#### ETCHED COMPONENTS

- I1 Inside cylinders and sidebar support
- I2 Connecting rod inner lamination (2)
- I3 Connecting rod outer lamination (2)

#### CAST COMPONENTS

- IC1 Slide bar upper (2)
- IC2 Slide bar lower (2)

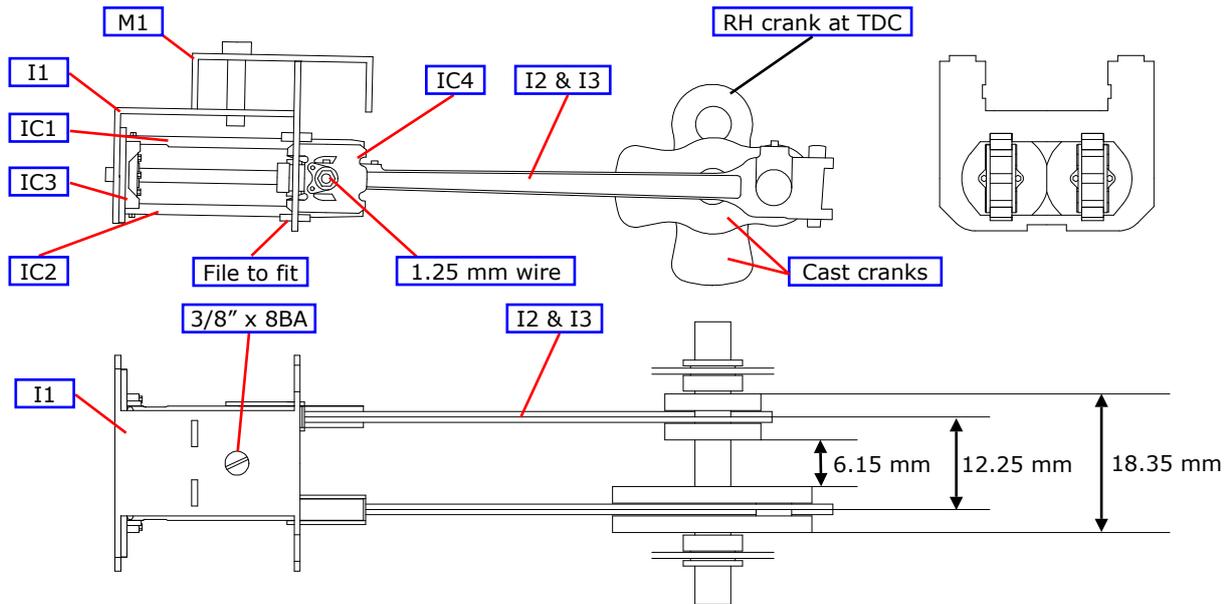
IC3 Cylinder cover and stuffing box (2)

IC4 Crosshead and piston rod (2)

#### OTHER COMPONENTS

- 1.25 mm wire
- 3/8" 8BA screw

The cast cranks are available separately from Finney 7 (Part No. LM6)



View Through the Left Hand Motion

### ASSEMBLY

Clean off all cusps from the inside cylinders and sidebar support (I1) and form both bends to 90°. Tap the hole in the top of the stretcher 8BA. Check that the tabs on the top of the inside cylinders and sidebar support and on the bottom of the Princess Coronation kit outside cylinders (M1) engage cleanly. Do not solder these two parts together at any stage.

File flats on the inside of the cylinder and stuffing box castings (IC3) so that they sit flat and centrally on the inside cylinder etch and solder in place. Check that the slide bar upper (IC1) and slide bar lower (IC2) fit parallel to each other and to the top of the inside cylinders and support bracket. The test build needed 0.25 mm removing from the bottom of the lower slide bar bracket on the casting to achieve this. Solder the slide bars in place and check that the crosshead and piston rod (IC4) is smooth and free in the slide bars for the full length of the travel. Check that the bottom of the crosshead does not strike the inside cylinders and slidebars support, and file the etch to clear if necessary.

Clean up the cast cranks, particularly the gap between the crank webs, and ream out the axle holes with a 3/16" diameter reamer. Push the cranks onto the axle. You should aim for a nice tight fit. The inside cranks should be positioned so that as the wheel is rotated in a forward direction in 90° segments, the crankpins at the top are in the order 1) outside right, 2) outside left, 3) inside right, 4) inside left. Solder the cranks to the axle ensuring that there is a fillet of solder all around the outside of the four axle to

crankpin joins. For further strength it is possible to drill 0.8mm through the crank and axle and to solder 0.8mm nickel silver rod through both.

Grip both inside crank webs in a vice (one side at a time) and gently cut the axle with a razor saw or piercing saw. Do not force the saw through the axle, a little cutting oil helps with this operation. Clean the resulting gap with a fine file until the axle is flush with the inside of the cranks and the connecting rods pass through cleanly.

Make sure the crank axle is the right way up, and solder together the connecting rod inner (I2) and outer laminations (I3), trapping the crank between them. Make sure that the cusp at the hole is removed and that the connecting rods revolve freely. Clean up the cusps on the connecting rods and blend into one piece using fine files and wet and dry paper. Attach the small end of the connecting rod to the crosshead with 1.25 mm wire.

The completed inside valve gear and the outside cylinder unit have to be attached to the chassis at the same time before any of the screws securing the outside cylinder unit can be tightened. Once located, the outside cylinders are screwed in place before the inside valve gear is attached to the outside cylinders by the previously tested tabs and a 3/8" 8BA screw.

