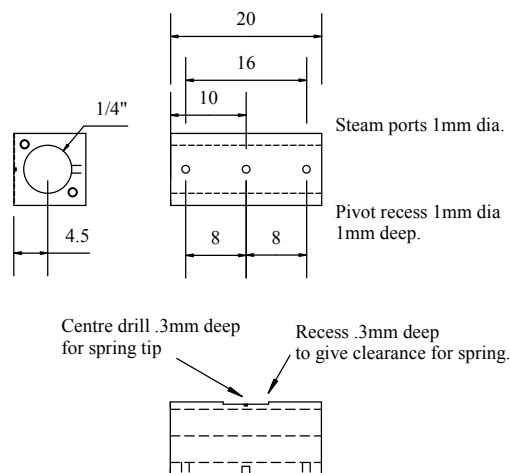
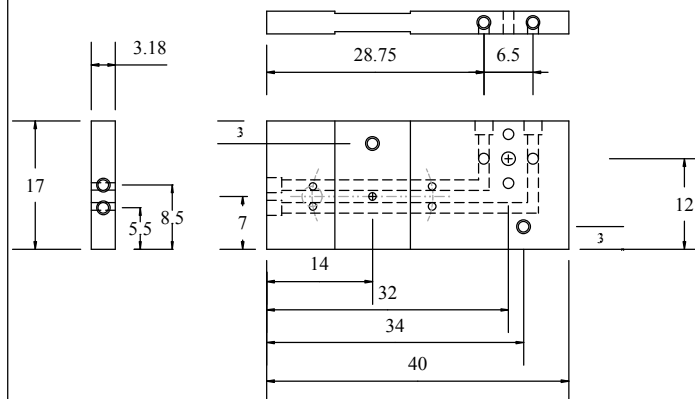


Cylinder 3/8" square brass.

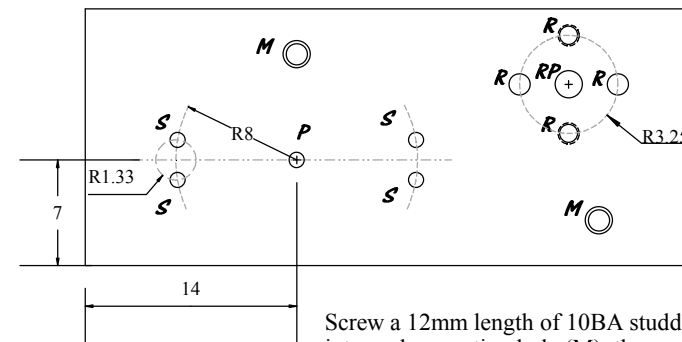


Cylinder pivot is a short length of 1mm silver steel rod

Port block from 1/8" brass.
Steam passages drilled 1.4mm,
tapped and plugged 10BA.
Steam ports (S) drilled 1mm. Rotary reverser ports (R) 1.4mm.
Cylinder pivot (P) 1mm. Reverser pivot (RP) 1.8mm.
Mounting holes for fixing to frame (M) 1.4mm, tap 10BA.
Mill or file recess .2mm deep both sides.



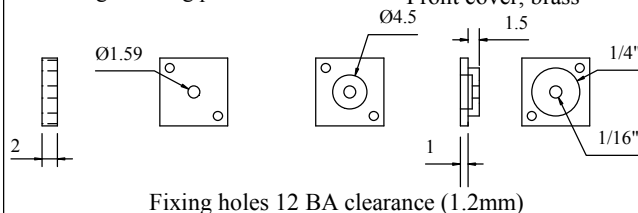
Marking out steam ports, twice full size



Screw a 12mm length of 10BA studding into each mounting hole (M), then screw engine supports on either side. Secure to frame by short 10BA bolts through frames into the outside end of the engine supports

On right hand side, open out upper and lower rotary reverser ports 3/32" to a depth of 1/16" for steam and exhaust pipes. Soft solder these in place.

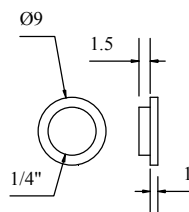
'O' ring retaining plate



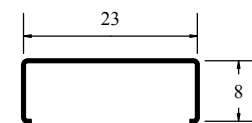
Fixing holes 12 BA clearance (1.2mm)

Covers 9mm square, with spigot 1.5mm deep to fit cylinder bore. Recess is for 1/16" nominal section 'O' ring. Secure to cylinder with 12BA screws on diagonal at 9mm centres.

Back cover, brass

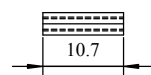


Soft solder back cover to cylinder



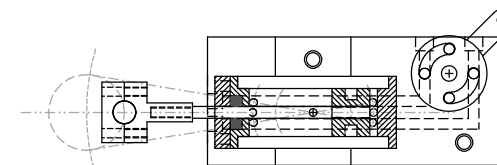
Cylinder retaining spring
22 gauge piano wire

Engine supports, 4 off, 5/32" hex brass, check length from job



Reversing valve, mill from solid or fabricate from two pieces of 1.5mm brass sheet with quadrant slots cut before soldering together. Reversing valve is located on left hand side of locomotive, pivoting around a 10BA stud. It is held on port face by a spring around the stud and a 10BA nut. Don't forget the engine is back to front.

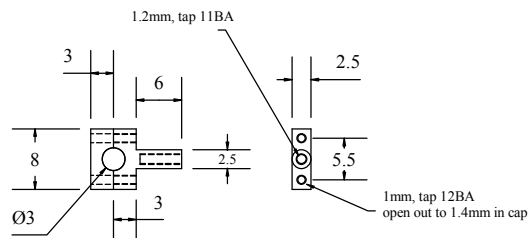
Cross section of assembly



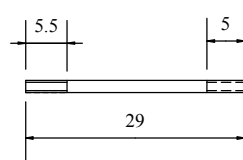
Bagnall Brick 210/1879
16mm scale,
modified to 32mm gauge

Oscillating engine
(design inspired by Tony Bird's Aderyn)

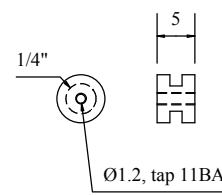
Copyright Dave Watkins 17/12/2010



Split big end, tap 11BA for piston rod, and 12BA for cap retaining screws.



Piston rod, 1/16" stainless steel, thread 11BA.



Piston, brass, groove depth to suit 1/16" nominal 'O' ring (1.5mm), groove width 1.7mm