

## Replacing Forward Heads Pipes in a Moody 376.

### Voyager IV of Emsworth

**Work force. Jeremy Hunt, Skipper. William (Sam) Parker, Watchleader**

The heads piping passes into the bulkhead behind the WC and then reappears either, in the case of the inlet pipe, in the starboard forward under bunk locker, or in the case of the outlet pipe, in the starboard side under seat locker in the saloon.

From previous technical papers written by a helpful 376 owner it seemed that both pipes pass right to the deckhead behind the two upper lockers in the heads. Both then descend behind the hand basin at which point they divide.

The inlet pipe passes through the forward bulkhead in the basin cupboard just under and behind the basin itself. This brings it easily into the forward under bunk locker at top of that locker. The seacock itself is approximately one metre forward of the bulkhead just to starboard of the central fore and aft line. There is another seacock in this locker which exits on the waterline, this is the shower drain seacock and does not concern us here.

The outlet pipe descends to the bottom of the basin locker, turns sharply aft and passes under the WC pedestal and through the aft bulk head of the heads and into the starboard under seat locker at the forward end of the saloon. The seacock lies in the middle of this locker. There is a schematic of all this at the end of the article.

This sets the scene as we began the replacement.

We needed to remove the WC pan from its pedestal. The problem here was that that access to the underside of the pedestal where the nuts are, was through a small circular access panel at the vertical front surface of the pedestal. This 'hole' is filled with the shower outlet pipe, two water supply pipes to the basin and the 1 ½ in discharge pipe from the heads. Using a ....17mm ? ring spanner it was just possible to hold the nut whilst the screw heads on the WC base were turned. We needed to remove the WC because the pipes passed through a bulkhead panel directly behind it and that panel needed to be removed .We could not get to the screws holding the panel in without first removing the WC. This panel had been screwed back in onto new battens tightly with some adhesive and then the resulting disfiguring seams had been covered with the sort of tape one can iron on to the end grain of plywood. Although difficult to remove we did it with an old chisel and then eventually unscrewed the corroded screws .We are guessing that this panel was not original and despite the difficulty of removing it, it helped the whole operation once it and the WC had been moved away. Once the panel was moved the pipes were seen descending below the rest of the heads paneling. (See picture) Clearly they were being suspended somewhere above behind the upper lockers.

We cut a hole in the forward upper locker in the heads above the shelf with a tank cutter. This resulted in us making a hole with the drill in the INLET pipe, which we had not intended to replace! . However this revealed the two pipes, which were suspended rather high up behind the locker back by a plastic cable tie of impressive proportions. Unable to get at it from the forward locker hole we then cut into the aft heads locker, again above the top shelf with a tank cutter and enlarged the hole with further tank cutter cuts and a small hack saw. (See Picture)

Realising that if we cut the cable tie the pipes would collapse behind the locker and

possibly jamming, we decided to pass a stiff garden hose through the whole of the 1 1/2 inch discharge pipe. We cut the discharge pipe away from the seacock and inserted the hose from that end. This proved fairly easy since there was no scale at that end. The garden hose got stuck at approximately the apex of the pipe behind the locker at the top. This was because the scale was very thick around the pipe walls at that point. Deciding that we could probably feed the hose onwards to the bottom behind the bulkhead on its own we then cut the discharge pipe away from around the hose and then the hose and the cut away pipe were drawn to the bottom together. We then cut the large cable tie with a hacksaw blade using heavy duty rubber gloves with which to grip it. We suspended the pipe inside the locker with some line.

We then passed the new white odour free pipe over the far end of the garden hose, from the WC end and began feeding it up to meet the old pipe at the apex. With some juggling we got it past the apex and over the line mentioned above so that the new pipe and the old pipe met at the top. We then pushed the old pipe along the hose with the new one and with a lot of pulling and pushing the new pipe appeared in the locker. We then pulled the garden hose out of the new pipe (See picture) and the main job was done.

The Inlet pipe was somewhat simpler. The old pipe came out from the seacock end without much trouble. It is important to keep the pipe suspended until the last of it passes the apex. It is a good idea to tie a length of line to the WC end of the pipe and try to keep the pipe vertical from the apex point as it is pulled through from the forward locker otherwise it tends to stick at the basin level as it falls down behind the panel.

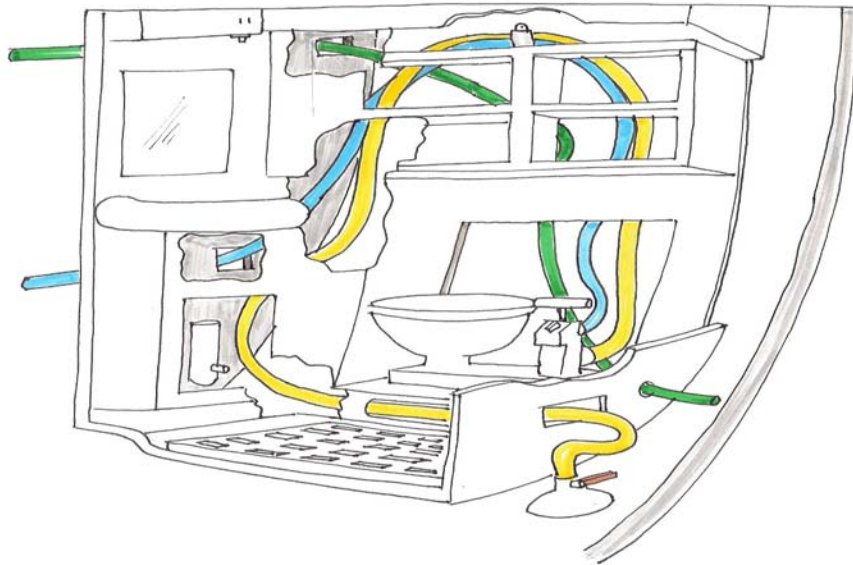
For the new pipe we used new 3/4 inch white pipe and dropped the WC end down behind the heads paneling (from the top aft cupboard hole) until it arrived at the bottom. We then suspended it at the apex and fed the other end down the hole in the forward locker until it arrived in the locker just behind the basin. It was then possible to feed the end through the hole passing into the forward locker. A friend with a long arm is a useful friend to have. If one is not available then insert some wire in the end of the inlet pipe with a loop and pass another piece of wire through the hole from the forward locker to 'catch' the end and draw it through. Wire coat hangers are excellent.

We thought it important to suspend the pipes again at the apex and using the open end of the old rather large cable tie, which we had sawn through earlier, did this. We passed a smaller cable tie through the hole (see picture)

One point about another (yes, yet another pipe) which one sees passing up behind the heads paneling. This is a 3/4 inch pipe travelling diagonally from the saloon/heads bulkhead to the area near the apex. This is the freshwater breather pipe and exits into the anchor windlass well in the bow. We managed to avoid drilling through this one.

The attached drawing shows the basic layout of all the pipes with exception of the shower pipe and the breather pipe.

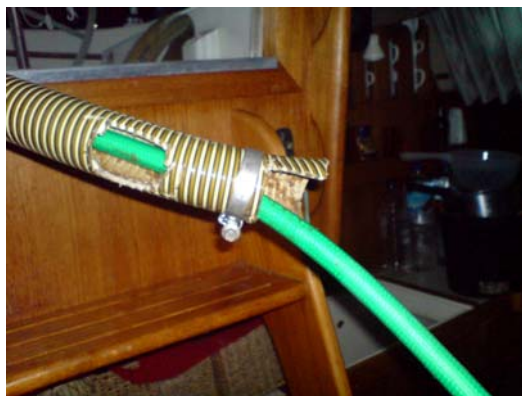
Basically after this it is all re assembly and making new backs for the heads lockers. We cleared out the heads pan and assembly with vast quantities of Harpic lime scale remover (no I don't work for them). We did buy a new pump unit from Jabsco which is an easy retrofit.



Schematic of arrangement. Shower discharge pipe not shown  
(Courtesy of William Parker watchleader)



Holes cut in Upper heads lockers. (CUT THE AFT ONE FIRST)



This shows the old outlet pipe on its way to the rubbish bins. It shows the use of the garden hose.



Shows panel removed from behind the WC and the new white pipe being pushed up behind the paneling. Green pipe hanging down is the old inlet pipe. Diagonally from right to left is the fresh water tank breather pipe. At the bottom is a piece of the old discharge pipe we cut away



Shows garden hose pipe still protruding from the new pipe at the end of the job. In the background is the shower discharge filter. We had to cut the pipe to ease the passage of the 1½ in pipe through the hole. We re-fixed it afterwards. On the right is the fresh water filler pipe.



This shows the use of the “old” cable tie as a support for the new one.



Difficult to see, but the iron on plastic tape normally used for end of kitchen shelving made of chipboard can be ironed on to conceal the screw holes of the panel. The cross tape is insulating tape used to hold the white tape on during the ironing process.



Pristine heads back in position.