

Installing rocker gear.

By Neil Wakeman

The procedure for installing rocker gear is clearly explained in the workshop manual (Page C 26). If you don't have a manual, here is the relevant section:

REMOVAL AND REPLACEMENT OF THE ROCKER-SHAFT AND ROCKERS

Remove the air cleaner.

Remove the cylinder cover.

Knock down the ends of the lock plates and remove the eight bolts securing the rocker-shaft.

Remove the shaft complete with the rockers.

Remove the circlip, washer and spring from the end of the rocker-shaft.

Remove the rockers, springs and brackets from the shaft.

Replacement is carried out in the reverse manner to that detailed for removal.

NOTE :—Fit the rocker-shaft with the rocker oil feed holes uppermost, and with the single oil feed hole at the bottom in No. 4 bracket. Make sure that the “ D ” washers are fitted to Nos. 1 and 4 brackets and the plain circular washers to Nos. 2 and 3 brackets, so that they engage with the keyways in the shaft. Fit new lock plates to bolts.

Adjust valve clearances.

Commencing at Engine No XPAG/SC/16831, a redrilled rocker-shaft is introduced together with exhaust valve rockers with longer bosses and bushes. The long spacer spring is replaced by a medium spring and the medium springs are replaced by short ones. Ten shaft washers are added. The illustration on page C-28 shows the earlier rocker-shaft assembly.

There's two ways to install the rocker shaft so pay particular attention to the “Note” – install it the wrong way and oil will not reach the rockers. (Murphy's Law says that, if you don't follow the book, you'll probably install it the wrong way round!)



How it works:

The oil supply comes up through the head via a gallery at the back of the head, under No 4 pedestal. It travels up through the rearmost rocker shaft pedestal (underside shown in picture above). The oil gallery in the pedestal matches a hole in the underside of the hollow rocker shaft, and oil is then distributed to each of the eight rockers through a hole in the rocker shaft under each of the rockers.

This picture shows the topside of the rocker shaft.



The rocker shaft is aligned by the use of circular spacers in the two centre pedestals – the rear part of each spacer fits into keyways machined into the rocker shaft. As noted in the manual, the front and rear pedestals have D shaped spacers. Warning: Just because the circular spacers fit into the keyways does not mean that the shaft is correctly installed. The spacers will fit whether the shaft is fitted back to front or upside down. The function of the circular spacers and keyways are simply to HOLD the shaft in alignment for the lower rearmost hole to be over the oil feed from the rear pedestal.

All the pedestals are the same part number, and are identical – they all have an oil gallery up their middle, but this is only used for the pedestal installed at the rear. Therefore, it doesn't matter if you don't install each pedestal in its original position.

What else can go wrong?

Do not forget to insert the spacers in the pedestals – without them, you will break the pedestals as soon as you start to tighten up the bolts! See below.



What else to look for?

When you have completely disassembled the shaft, look for wear on the bronze bushes due to poor oil flows. Replace with new ones if you are in the least bit concerned. Similarly if the shaft is excessively scored or worn replace that too. Minor marking and scoring can be machine polished out without difficulty. Check too that the oil outflow holes are clear and not blocked by sludge or debris using compressed air through the inflow hole on the underside.

Moral of the story – read the manual first. It's really a very straightforward process!