

# ROLLING ALONG NICELY

The 400 Four's a rolling chassis again, ready to take the rebuilt engine. Time for a quick sit down and a recap on how it came to this

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**'EVERY COMPONENT SEEMS TO REQUIRE A SPECIAL FITTING KIT'**

Next step is a lot of valve grinding as Rick reassembles the top end and tries to make some sense of the electrics. Meet you here next month!

No, you haven't missed an episode – we finally have some real progress. Last month I was getting desperate; nothing seemed to be happening, too much was away being sorted under Gez Kane's guidance and there didn't seem much I could get my teeth into. But suddenly this month it all fell into place, the doorbell sizzling as more and more deliveries arrived.

First was the plating, chrome and bright zinc from Central Engineering Design in Kent (ce-design.co.uk). They're bike-friendly platers who know the correct areas to mask off. Next to arrive were the wheels from Redditch Shotblasters (01527 529659) who have made a lovely job of powder-coating them satin black. Our initial choice was gold, but I think this is the right choice.

Powder coating is hard-wearing enough to resist bruising and chipping from tyre levers, as I was able to check the following day when I opened the door to receive a pair of Avon Roadrider tyres. Roadriders are the updated version of the old Roadrunners – they represent a good marriage of classic and modern rubber.

Most exciting of all was the return of the frame and other glossy black powder-coated chassis parts from Triple S Powder Coating in Bingley (triple-s.co.uk). Again, they'd masked off the parts that paint shouldn't reach and at that point there was a real chance of having something like a motorcycle on the bench in the near future.

Having already rebuilt the forks, it didn't take long to assemble the front end – but the rear was more troubled. Triple S had

returned the Dresda swingarm blasted but unpainted, having spotted some perforations. Close inspection revealed that although one was largely due to chain wear, the other was clearly corrosion. I built-up the dodgy areas with weld, but the box-section is thin gauge and it might ultimately be worth getting it retubed. It's only an afternoon's job to pull it out of the frame, and replacing the box-section legs should be quite a simple job for a specialist. I gave it a light coat of wheel-silver so we can keep a close eye on it. Some of these period accessories – and even fabricated Japanese frames themselves – were built from lightweight material and 30 years of weather later, corrosion can be an issue.

#### A PARTS PARADISE

Having been a parts manager in a Honda shop 20 years ago, opening all the parts supplied by David Silver Spares has been a trip down memory lane. I'm amazed at how much genuine Honda stuff is still available for the 400 Four, with gaps neatly filled by repro items. What's more, parts seem relatively cheaper than back in the CB400's day. Take the chrome rear mudguard; it's a nice-looking reproduction priced at £95. I'm sure genuine ones cost about that back in the late '80s – that's why our bike (and almost every other one you saw) sported a black glassfibre copy.

However, there is a flip side; despite having being fitted with the ubiquitous K&N filters, our bike still retained its original airbox. David Silver can supply a reproduction collector box with rubbers for £89. Sorted... but you also need the four

clips, the hose from collector to airbox, the hose from the box to atmosphere with its filter and the clips for that, and the filter retaining clip as well as the filter itself. On bikes of this era, every component seems to require a fitting kit, special clips, grommets and spacers. They're all specialist parts and add appreciably to the overall cost.

The bottom end and gearbox assembly was next. Despite the apparent complexity of Japanese fours, they are straightforward to assemble and I was well on course for getting the crankcase together until I noticed a missing gearbox thrust washer... groan. I ordered one and while I was waiting for it the rear shocks turned up from Hagon (hagon-shocks.co.uk). Slinky black, they have ten-position adjustable damping by an easily-accessed knob.

When the shims arrived I was able to complete reassembly of the crankcases and the combination of the bright zinc plated fasteners against the satin black cases was very pleasing. The next worry was fitting the cylinder. Aware that a) I have no suitable ring compressors and b) piston rings for the 460 big-bore kit are unobtainable, I knew I would have to be very, very careful. The crank design means fitting two pistons at a time but the cylinder remains supported by the studs to some extent, so luckily it was a fairly controlled operation and went on without trouble. As a sort of celebration, I dug out my oldest nylon hammer to seat the cylinder on its dowels. It's an original Honda workshop one I bought 30 years ago; it seemed appropriate to finish this part of the job using the proper factory tool! ▶▶

## STEP-BY-STEP

Sorting the rear end and top yoke



### STEP 1 PREP THE SWINGARM...

I welded up corrosion holes in the swingarm revealed by the blasting process. I've given it just a light coat of paint so we can keep an eye on it. Ultimately it may need to be refabricated.



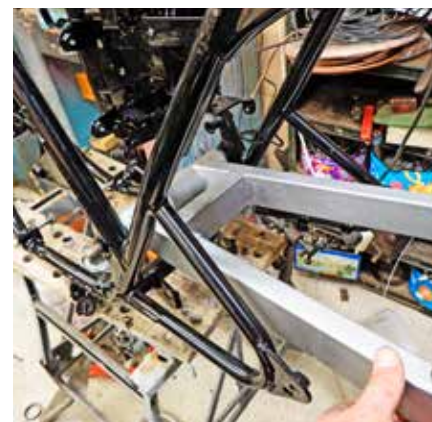
### STEP 4 GET YOUR BEARINGS

The wheel bearings fit into hub caps which fit into either side of the ARE wheel, presumably so that one wheel can fit various different bikes. Don't forget the centre spacer.



### STEP 7 ON WITH THE SHINY BIT

What a beauty; 400 Four rear mudguards were like gold dust 30 years ago; that's why our example was glassfibre. Now these really nice quality replicas are available from Dave Silver.



### STEP 2 ... AND FIT IT

Taper rollers aren't ideal here. They should be adjustable and have some free play, but here all you can do is tighten the spindle, making sure the arm has free movement before fitting the shocks.



### STEP 5 MUDGUARD MADE GOOD

The front half of the rear mudguard is in pretty good shape, although being made of plastic it looked pretty shabby. A good polish up with some boot-blackening made it look a lot prettier.



### STEP 8 ON TO THE TOP YOKE

Sand off surplus paint beneath the bottom steering bearing so it can settle. Originally there was a thin washer and seal, but for this taper roller kit a thick spacer goes on first.



### STEP 3 WHEELY LOVELY FINISH

I'm really pleased with the satin black powder coating on the wheels. It's tough enough to resist tyre lever damage when fitting the tyres. We've chosen a pair of Avon Roadriders to wrap around them.



### STEP 6 ON GUARD

The mudguard bolts at the top and then flutes in with side clips over tabs welded onto the frame – simple and effective. Next on was the battery box. Less simple, brackets everywhere...



### STEP 9 BEARING FALSE START

Unless you have a sleeve of exactly the right diameter, fit the outer race to prevent damaging the bearing cage. It all had to come off again, though; I realised the headlight bracket lug is missing...



## STEP-BY-STEP

Putting the engine back together



### STEP 1 BACK TO BLACK

The cases were scruffy and corroded. Vapour blasting is good, but we wanted to stick with black, so I heated the cases and sprayed them with satin case paint.



### STEP 2 PLASTIGAUGE IS GO

The smallest size (black) big end shells were checked for fit using Plastigauge. Compressing the plastic filament between shell and journal squashes it.



### STEP 3 PLASTIGAUGE STAGE TWO

Checking the squashed width against the card supplied in the Plastigauge kit gives the thickness and therefore clearance. pretty clever, don't you think?



### STEP 4 READYING THE CRANK

I assembled all the rods onto the journals they came from with a little clean engine oil and torqued down to the setting in the manual leaving the crank ready to fit.



### STEP 5 THE TENSION BUILDS

Fit the tensioner and lock it, fully down with the bolt. The bolt must locate the flat on the rod to give the range of movement. Check the bolt locks and releases it.



### STEP 6 PLATFORM ONE

Temporarily replacing the head/barrels provides a platform for the inverted top crankcase. Fit seals either end, both chains, oil shells and lay crank in bearings.



### STEP 7 SLIDE IN SELECTOR

Slide in the selector drum, retained by an external locking plate and bolt, and starter idler gear (retained by bolt and tab washer inside the crankcase, so fit them now).



### STEP 8 BEARING DOWN

You can't shrink-fit bearings into a split crankcase, so the Honda bearings have dowels and half-circlips to retain them and prevent spinning. Carefully locate them.



### STEP 9 FIT GEARBOX SHAFTS

Now fit the gearbox shafts complete with gears, engaging them carefully with the selector forks. It's easy to see which go where. Squirt in a generous amount of oil.



### STEP 10 GET HOOKED UP

Now hook the primary sprocket-cum-starter ratchet assembly into the primary chain. The shaft for it fits in the top half, so let it rest on the gears for now.



### STEP 11 ARE U KEEPING UP?

Refit the camchain tensioner U-bracket, Loctiting the bolts. This is an upgraded, machined aluminium reproduction part, available from Dave Silver.



### STEP 12 PRIMARY SCHOOL

Before assembling the crankcases, fit the primary shaft bearings. One is retained by a circlip either side, the other butts against the case with a circlip to hold it.



### STEP 13 SEALING THE DEAL

Apply a THIN coat of sealant. I used Wellseal applied with an artist's brush – oil any remaining bearings and fit the crankcase together.



### STEP 14 APPLY THE Mallet

Tap the cases to seat the dowels, then replace the bolts. Nip up the M8 main bearing bolts lightly with a spanner, then lightly tighten the gearcase bolts topside.



### STEP 15 LET'S START TORQUING

Check everything's still spinning freely and torque down, starting with crankshaft bolts in the correct order described in the workshop manual. Check rotation again.



### STEP 16 PRIMARY SHAFT BEARING

You can fit the primary shaft bearing after the shaft, but with the tight new chain it's easier to insert with the bearing/spacer wedging the starter clutch in place.



### STEP 17 FIT THE PRIMARY GEAR

With primary shaft spacer, bearing and circlip installed, fit the primary gear. At least there's no mistaking which way the cupped washer goes; Loctite the bolt.



### STEP 18 JIGSAW PUZZLE

The selector assembly is another jigsaw puzzle of arms, pivots and springs, but follow the pictures in the manual and it all goes together. Check that all gears select.



### STEP 19 BOTTOM END IN

I decided now was the time to put the crankcase back in the frame; it was a lot more manageable than when I removed it in one piece and saves chipping the paint.



### STEP 20 ASSEMBLE THE CLUTCH

I found it easiest to assemble the clutch on the bench – plates onto pressure plate, slide the lot into the basket, aligning the external tangs – then fit it as a unit.



### STEP 21 SPRAY THE BARRELS

I fitted the old base and head gaskets for masking, using some bolts to locate them and weight them down, then sprayed the barrels satin black to match crankcase.



### STEP 22 I'LL RING YOU

With 460cc rings unobtainable, fitting the cylinders was a nerve-racking process, although the cylinder studs help support barrel while you feed in the rings.



### STEP 23 ALL TOGETHER NOW

Phew, got away with it! Cylinder needed a tap to seat the dowels, so to celebrate I decided to use my old Honda nylon hammer, just like the one in the manual!