

# MB Services – Alloy welding

## MB SERVICES – ALLOY WELDING

From my first Lambretta I learnt you always need to know someone who can weld aluminium.

Not just weld it – but weld it right!

In the early days we would sub out this work to various welders. When we moved from Grimsby to Doncaster every Friday I would load up the car with the weeks engineering – heads, inlet manifolds, pistons and rebore and aluminium casings and castings to be welded and would head off back to Grimsby to drop it off to our old engineering companies and whilst I was there I would pick up the jobs I had left the week before! This became one hell of a bind!

In the end I found similar companies in Doncaster making life a bit easier! Daily I would load my Lambretta and head off into town dropping off these jobs!

It was always a bind – always waiting on others and not always happy with the repairs.

So I took the plunge and bought a great big welding set to weld the casings. This welder came from British Oxygens training center so was a good one. I was never trained to alloy weld, but was gas welding and the process was very similar. In the 80's I was invited to a trade tooling show. One of our suppliers was on a welding stand and asked if I would have a go on the alloy welding demo set. Id never welded alloy at all at this point, they told me what to do and I set about running welds, when I was finished the rep said 'your a ringer, your a welder' 'Nope, first time Ive tried it' and I went away feeling quite happy with my self.

When the new old welding set turned up, the supplier, set it up and again I was put to the torch! And once again another welding experts said 'Well I don't need to show you what to do, you're a natural'.

My first job was to weld a massive plate onto a Lambretta casing to mount a new Yamaha YZ250 cylinder – not my best job, I later found out I didn't have enough gas on, it welded perfect but looked a mess.

Since then I've had another three sets and still have my first one over 30 years later. Our latest one, I'm told by our supplier – 9 out of 10 Formula 1 teams use the same set as I have now! Thats says something of the quality of the set and how well it welds!

Over the years I've welded, repaired, machined and fettled hundreds and hundreds of Lambretta engine casings, mag housing, side casings, front and rear hubs, headset tops and bottoms, horn castings, levers, lever mounts, cylinders, cylinder heads and much more.

I've used it to make one off jobs and I've used it to strengthen common parts that always break. I've not just welded Lambretta and Vespa casings but also motorcycle parts and cars parts and even a kids toys or two.

I don't just weld and repair for retail customers but I regularly weld the same parts for Scooter Dealers.

To do the job right theres a long winded process. All parts have to be cleaned of oils and grease, this we use our ultra sonic cleaner, steam cleaner, degreaser and power washer comes in. Then they need drying off.

Broken parts and cracks need grinding away to clean down to bare metal and ground around the weld before you can weld. Larger parts need pre heating before you can weld. Once warmed up you can weld. Our welding set is pre set with a memory so will weld any job down to the thinnest 1mm part to a part 20mm thick!

Cast alloy is not always the easiest material to weld. Until you start welding you never know how it will go. Every casing is different – you just never know! It doesn't matter if it's Italian, Spanish or Indian. One casing will weld perfect one will spit back exploding soot everywhere! Experience does pay doing casings. It's not uncommon to start welding to see all this soot appear which you can't weld over and you have to let it cool to grind out the soot and holes and start again – you may need to do this 3 times! Even after that When you grind back to fettle the welding, holes can appear that you couldn't see when welding, so you have to grind again, pre heat and weld again!

These jobs take time, some take longer than others, some are easy and some are not!

The worst jobs I get are casings poorly welded by someone else. In the past I've trusted their welding only to find it leaks after an engine rebuild! Today I don't trust anyones welding, I grind it all out and I'm always finding cracks and holes under the weld, where theres been no decent preparation and penetration! These jobs cost even more. Give me a casing with a clean break and it's so much easier to do!

We bought the latest welding set as an ex demo, so was like new and it still cost a fortune! Then don't get me going about gas prices! We have 2 gas bottles just in case we run out in the middle of a job – we can't afford down time with days waiting on delivery so 2 bottles give a better service.

But it's not just about the welding, it's about the fettling – machining and cleaning up so you can not tell it's been welded. For this you need a milling machine and tooling. You need a show full of hand grinding tools and you need a bead and aqua blaster!

If you haven't got this equipment then you have to sub out work – then your'e back to where I started – frustrated waiting and unhappy.

We have all this equipment in house and now we don't sub out any of this engineering work.

As we can not predict how a job goes, it's near impossible to do a quote. We charge by the minute so it costs what it costs as we say – but at least you know it's done right.



*Over £5K second hand*





*Compared to our old set this is tiny, and 2 bottles so we don't run out.*



*A bit of an explosion! Chain snapped!*





*Welded and built up*



*Built up and shaped to replace the stud holes*



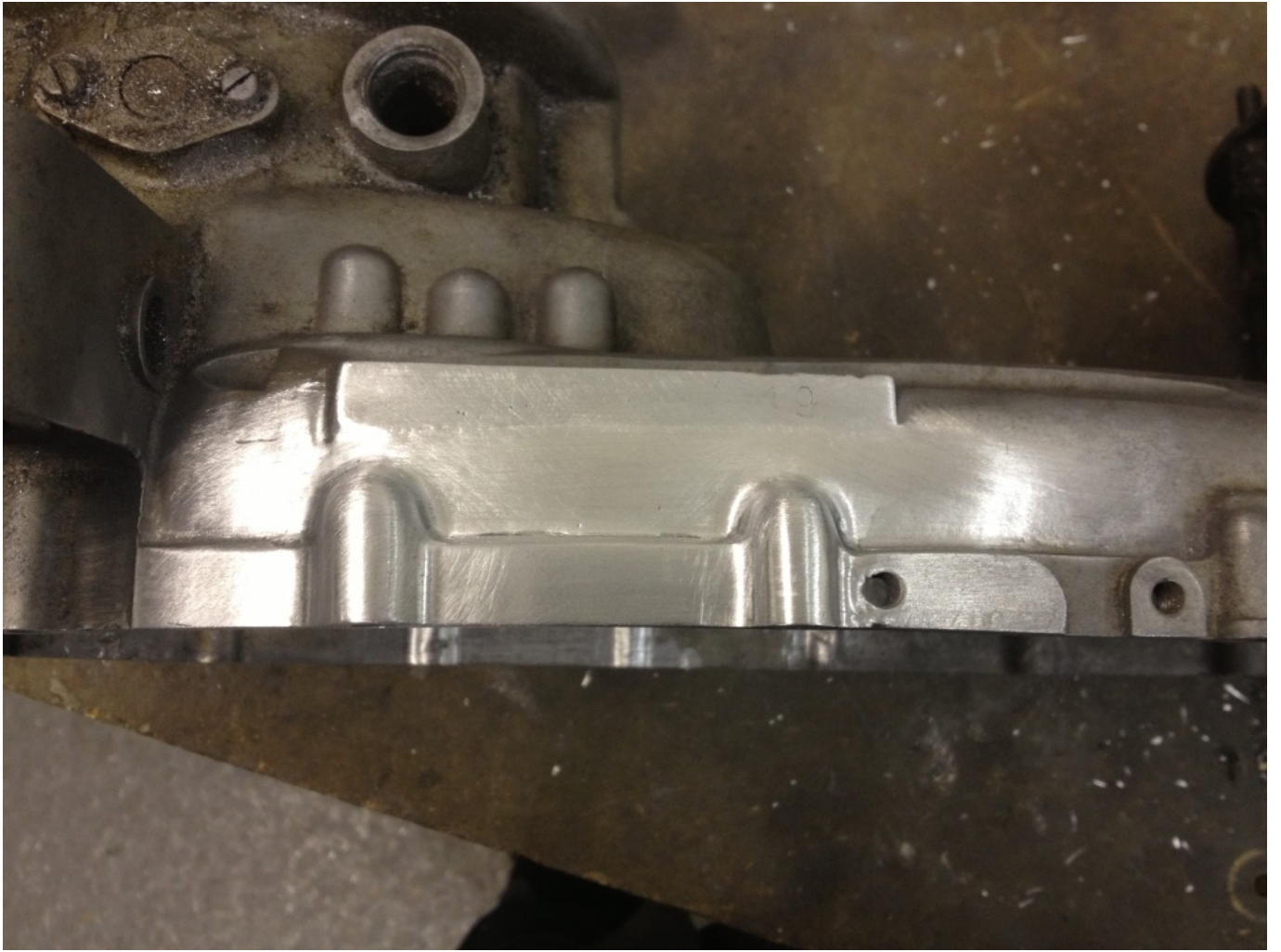


*Once welded it needs fettling!*





*Machined faces need attention on our milling machine, you can't file and hope for the best!*



*And this all takes time, time is money as they say!*



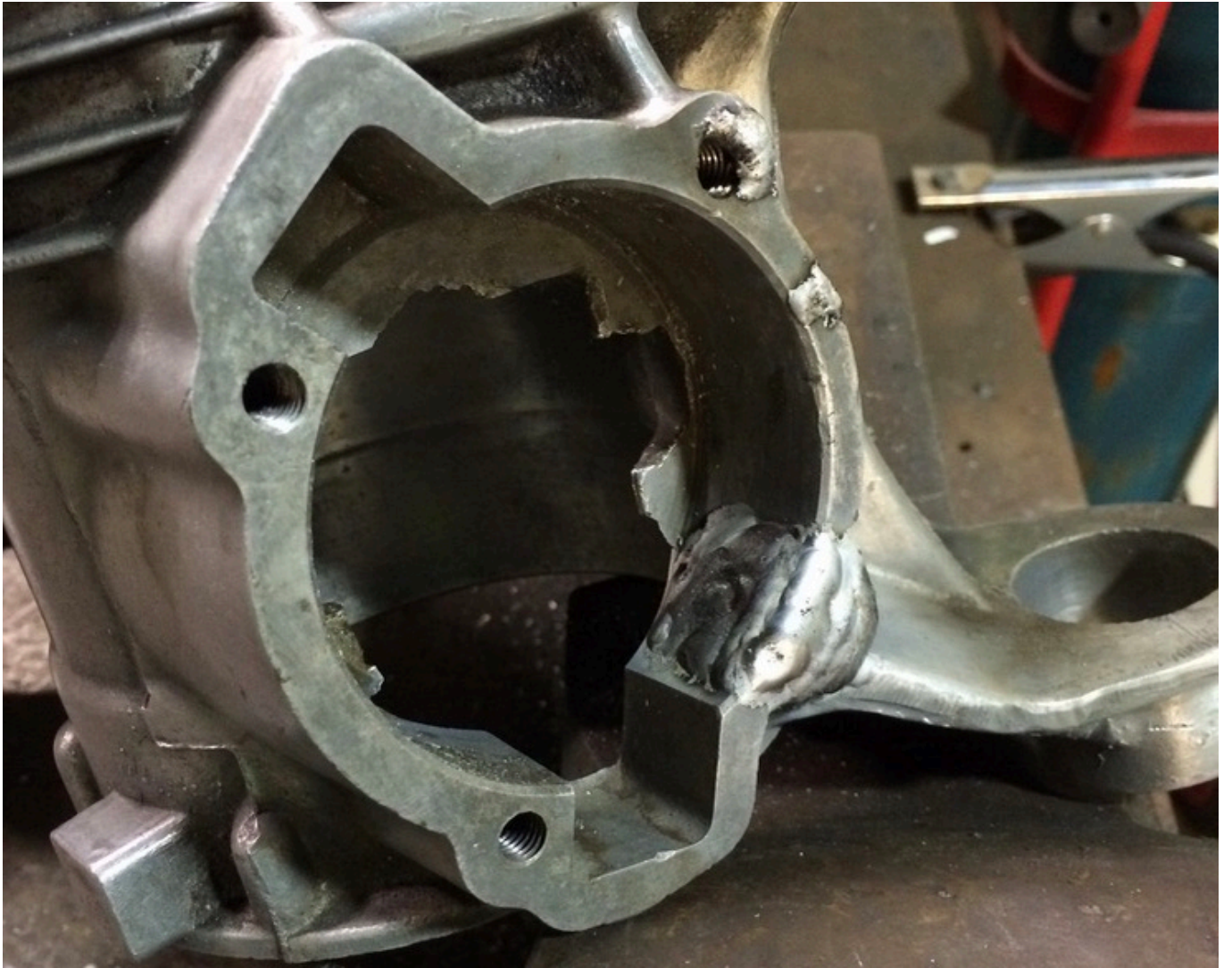


*A regular job cylinder studs broken and cracked*





*You have to grind to clean metal, but look closely theres little black dots,  
these will explode with black oily soot*



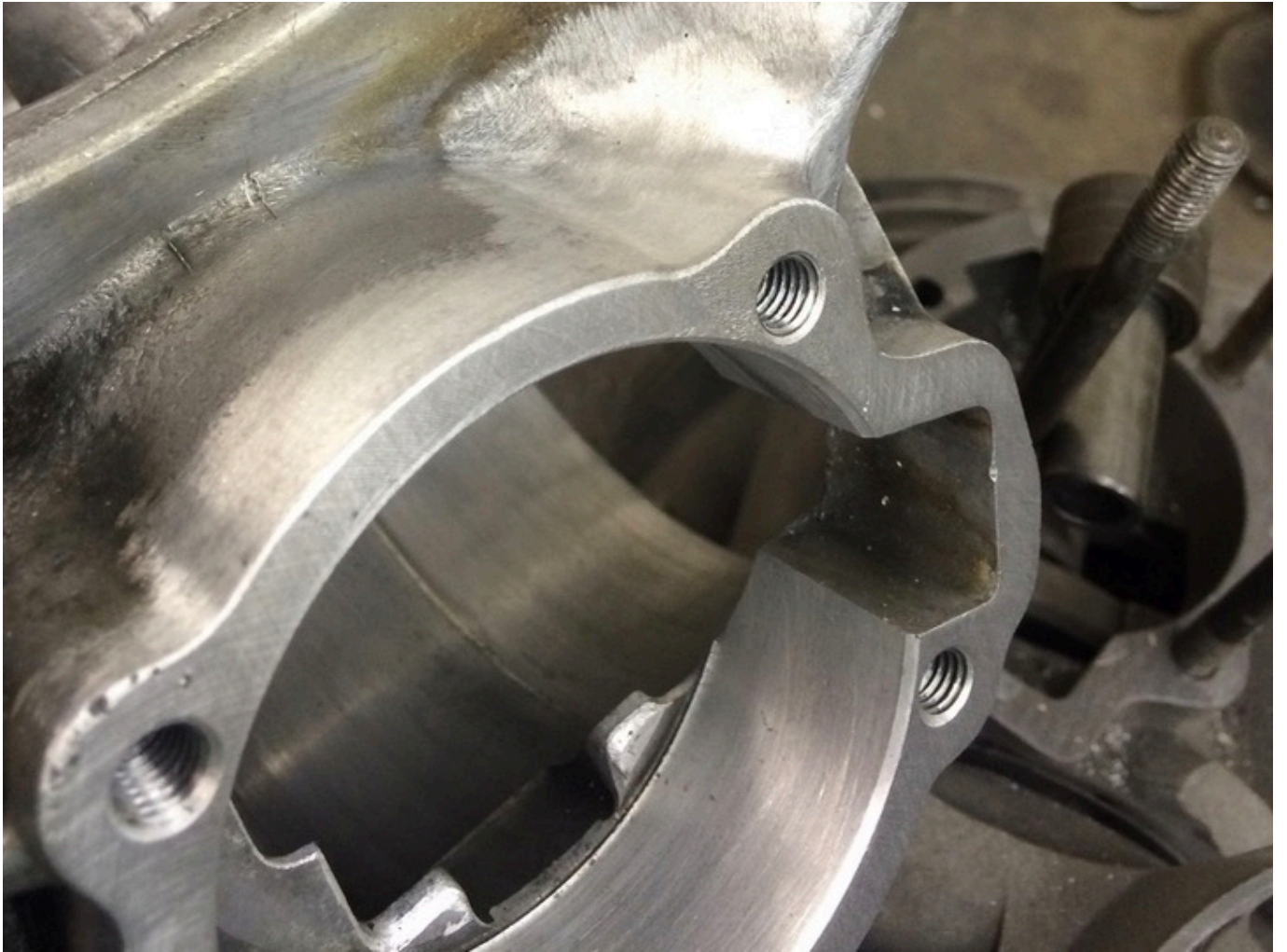
*You have to weld and build up to shape*



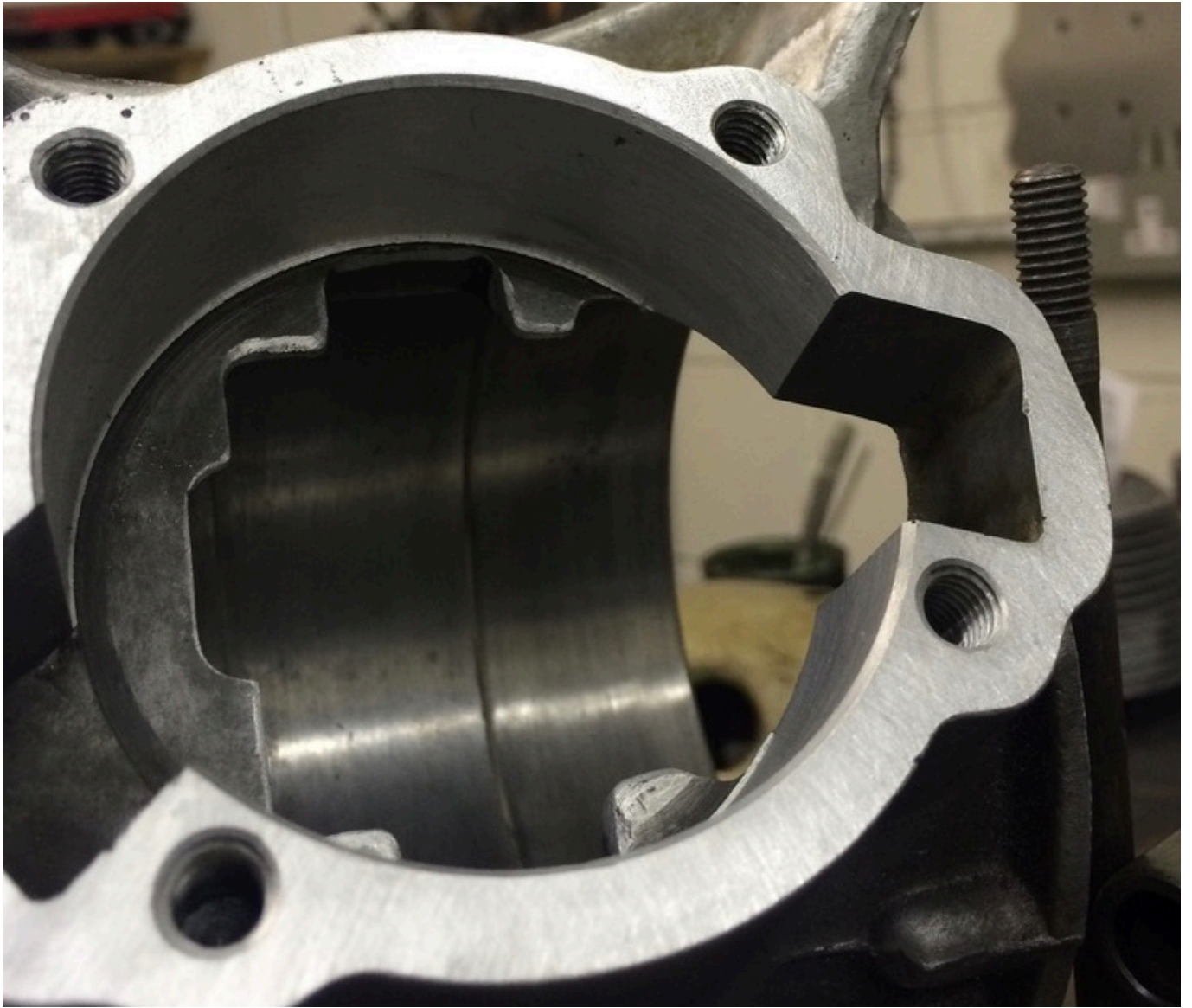


*You can see black on the welds, this has to be brought from the bottom to the surface*





*Welds needs grinding to shape so you don't know its been welded afterwards*



*Faces always should be milled after welding*

Any questions ask Mark [mark@mbscooters.co.uk](mailto:mark@mbscooters.co.uk)