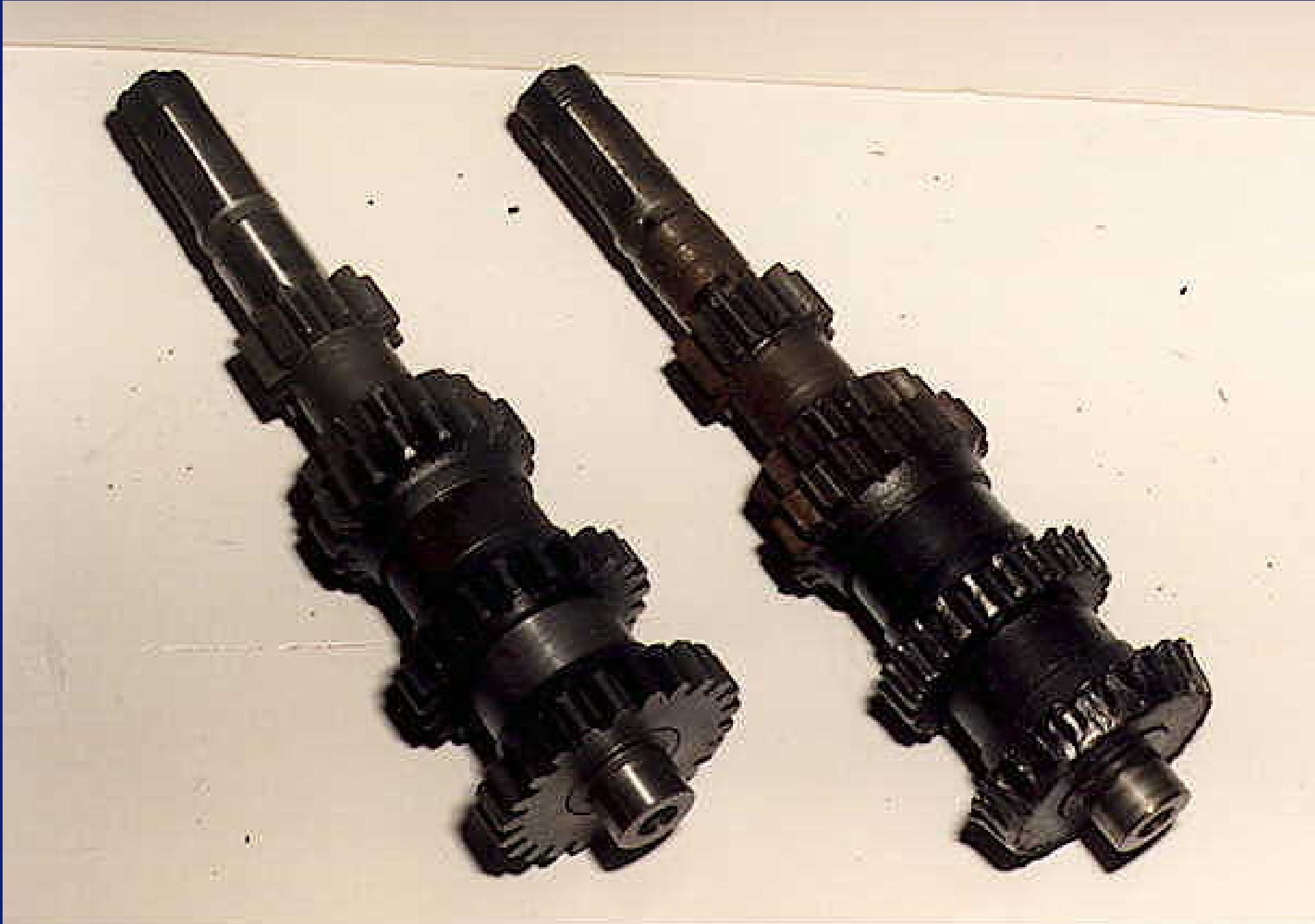


Suzuki T500 gearbox oil level modification

The most requested page in Suzuki 500 history!

The following pics demonstrate how the lower crankcase on a pre-1973 T500 needs to be modified to increase the amount of gearbox oil that actually stays in the gearbox.

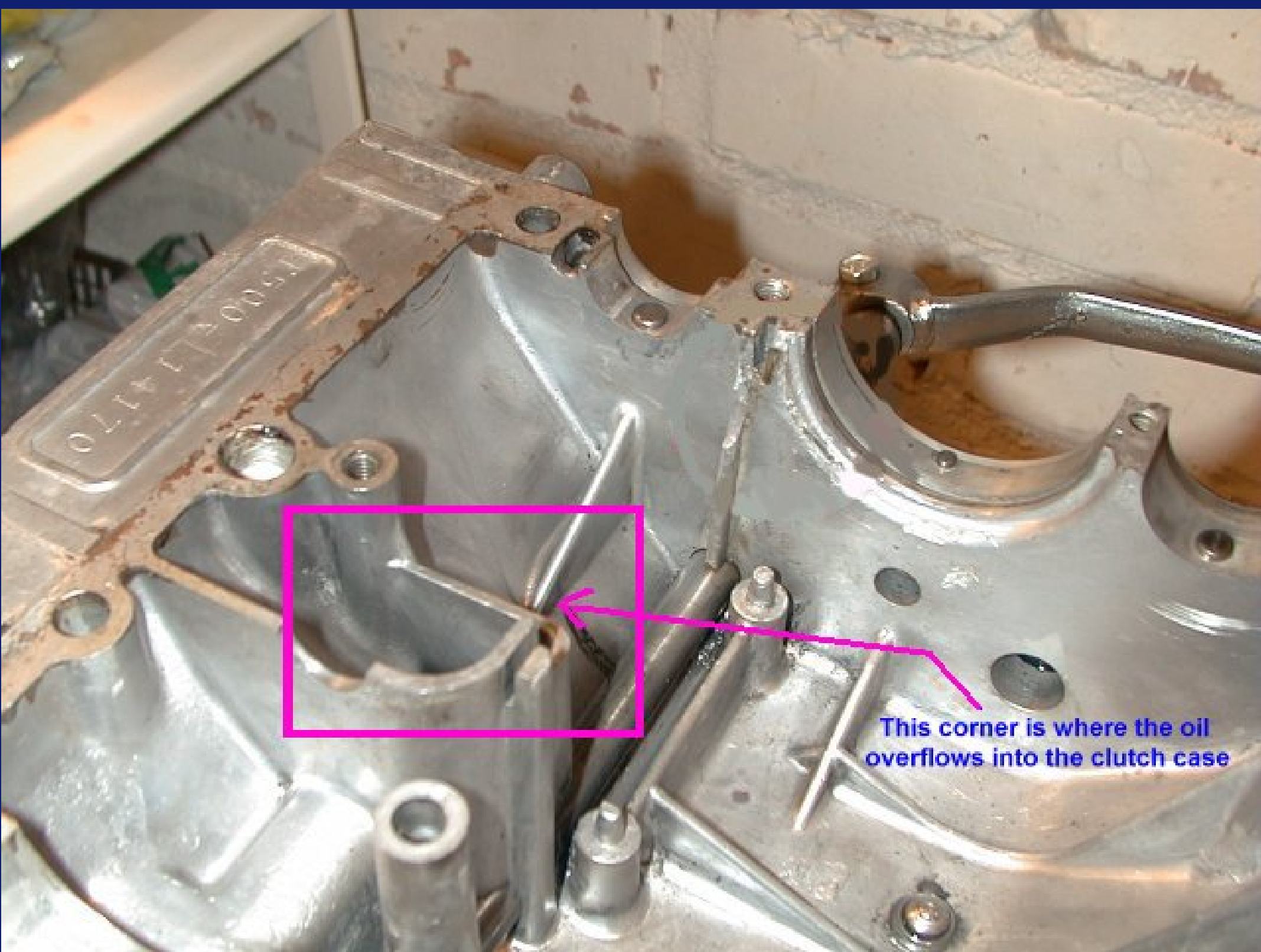


This is what will happen if you don't keep your gearbox level up to 1400cc!!!  
The gear shaft on the left is a new one, the one on the right is an old one with a totally ratshit 4th and 5th gear.

What happens is that of the standard 1200cc of oil that goes into a pre-73 gearbox a fair proportion of it overflows into the clutch case.

Starved of oil the 4th and 5th gears lose their case-hardening and at first become pitted and finally once the hardening is fully eroded, the gear teeth begin to collapse under the heat and pressure. In the meantime the bits of metal don't do much good for the rest of the box either. It is easy to tell when the teeth are going as the box will start to whine and the whole thing eventually sounds like a steam engine clanking away.

It is easy to fix though. Follow these basic home handyman hints.



If you can't source a post 1974 crankcase then you will need to strip your current motor. (The post 1973 crankcases have been modified by the factory to address the problem and they take 1400cc of oil as standard.)

The pic above shows where the problem lies. Back near where the kick starter shaft goes there is a webbing wall which has a indent, this is where the oil overflows to the clutch case.



Close up of the overflow wall



The simple solution. Build up the wall with a piece of tin araldited around the corner , or with whatever clever modification you can think of. Frustrated at losing three sets of gears over a year or two I finally had a snip out of a Coke can araldited in place and it worked like a treat.

This modification increases the amount of oil by about 200ccs thus ensuring that the 4th and 5th gears get sufficient oil to stave off disaster.

--o-o-o-o-----o-o-o-o--

Some people still don't believe that this modification is necessary and I've had some mail from people who have ridden 45,000 miles without a problem. Lucky them. Well I got pretty snakey after a while and wrote back....

"I'm getting sick of this debate....the factory issued a Bulletin advising that there was insufficient oil in the gearbox, the factory issued a part (no longer available) to fix the problem, from 1973 on the factory produced all T500s with 200cc extra oil capacity in the gearbox....why? Not because of racing, but because stacks and stacks of road riding owners wore out 4th and 5th gears riding sedately on the road. Because someone is lucky does not reverse years of experience and factual factory advice to overcome the problem. Wrecker yards are littered with stuffed gearboxes and gear box parts are hard to find because so many gearboxes shat themselves.

(Name deleted to protect the innocent).....your machine is an early one and I suggest that if you intend to ride it much or cruise at highway speeds then next time you are renovating the engine, upgrade the gearbox with the easy fix which is on the website. I replaced three gearboxes in 1972 before hitting on the fix and no I wasn't racing my bike then.

(Name deleted to protect the innocent), you have been lucky, blessed even, others don't have half your luck. Keep on riding but lets keep others riding too."

Helpfully, I received this email, which hopefully clears the matter up and quietens the doubters, with photos of the factory fix for the earlier motors. Unfortunately this part is no longer available but Jim's pics give a good idea of what it looked like and how it was fitted.

Hey Murray!

I came across this a while back and thought I'd shoot some pictures of it to show people how to modify their T500 gearboxes. I should have known you would have already covered the subject. In case anyone wants to search for the Suzuki part it's: 24833-15990 PLATE, MISSION OIL , at least that's it here in the U.S.

The mission plate itself feels to be made out of the same rubber as any other seal Suzuki made. At it's lowest point it extends the total height of the dead space wall by 3/8" (the mission plate is 1/2" high at that point and includes a 1/8" groove in the bottom to notch onto the dead space wall).It's about a 1/4" thick. I am not sure how well this will seal without some Hondabond (Yama/Suzu/Kawabond) to adhere it to the case so you might still be better off with JB Weld or Araldite & Coke cans instead!

Thanks!

Jim (James Winters)



Thanks Jim for that, and I'm sorry if I get a bit snippy about this; but when people say this mod isn't necessary I don't think they are thinking of the problem they are causing for others . Prevention is the best cure. I know it is a lot of work, but life wasn't meant to be easy. That's all folks, for now.

Hi Murray, I'm surprised that people don't believe you. I bought a brand new GT500A in 1976 from The Suzuki main dealers at the time (Heron Suzuki - remember Barry Sheene's bikes?) Good deal, great bike, excellent dealer service. In 1979 the Suzy suddenly developed a very loud grinding noise in 4th gear. Well, I was 120 miles from home, so I had to ride it back. I lost 4th gear, & 5th was jumping out when I eventually got home. Anyway, I stripped it down saw the damage, the whole gearbox was virtually shot, I think I managed to rescue one of the shafts, and some of the lower gears. Every bearing was on its way out. I replaced the lot with brand new parts, having to go to a number of dealers because not one dealer had everything I needed, I can't remember the cost now, I think it was about £200.00 (about \$550Aus). I was clinically clean when I reassembled the box, every moving surface was painted with the grade and make of oil I was going to use in the box. The engine was put back in the bike, the "correct" amount of oil was put in the gear box, 1200cc as cast in the crankcase by the gearbox oil filler, Bel-Ray oil. Great, back on the road at last, change the oil at 100 miles, then at 500, then at 1000 miles. 1500 miles after the rebuild I heard a grinding etc etc. Strip it down, virtually identical damage, I was not a happy person . So on the advice of a colleague at work I complained to Suzuki GB about it. (Even though the vehicle is out of warranty, genuine replacement parts should last the warranted period) They were very sympathetic, but pointed out that I didn't have the work done by a dealer, so I might have assembled it incorrectly, And could I take it to a local dealer so he could assess whether or not it had been assembled right. My local dealer said no problem, examined it, could find no faults with my workmanship, and said the cause must be faulty parts. I got onto Suzuki to ask what they were going to do about it. They tried everything to get out of it, even down to saying it was my fault because a dealer had not changed the oil!! I said not to talk daft, changing the gearbox oil was simple, undo one plug, drain it whilst warm, refit the plug, remove rubber bung and refill with 1200cc of top grade gearbox oil. The telephone went very quiet, then I was informed that it was my fault for not using enough oil (should be 1400cc) I argued with them saying that they were wrong because 1200cc was cast into the cases. They said there had been a service update increasing the oil quantity etc etc. I went to my local dealer telling him the story, he fetched the chief mechanic out, and repeated what I had been told by Suzuki, to which the mechanic said "B.....s, I always put in 1200cc, it is cast into the crankcases " Eventually , with the backing of dealer, Suzuki agreed to refund the cost of whatever replacement parts were required to put it right.

I used 1400cc of oil after that! Now, twenty years later, I find someone else who knows about the problem!!!! and not only that, but he has a cure.

Regards  
Paul Grosvenor, United Kingdom

Murray Barnard, July 2000