

Speedo Issues

First of all, speedo issues are fairly common to all British motorcycles. When diagnosing anything like this you want to start at one end and work to the other. That is, don't take a helter-skelter approach and jump around. The best method is to start at the rear wheel and work forward, one piece at a time doing all the annual maintenance work that's probably long over due anyway.

Start at the rear wheel drive unit by disconnecting the cable. To do this hold the cable sheath stationary while loosening the hex nut. All fasteners on Smiths equipment are Whitworth, so you'll either need the special British wrenches or a medium adjustable wrench. It is quite common for the sheath to want to initially spin with the nut, and a 1/2 turn is OK, but not more. If the cable insists on turning, then douse the area with penetrating oil and try again. The cable ends, nuts and drive nipple are made of brass and aluminum to prevent seizing together due to rust. But on the other hand they are also very soft metal and clinching any of the parts with non-slip pliers is going to leave nasty marks, or worse yet, destroy the part you are trying to save. Bottom line: work slowly and carefully or you can easily blow an additional \$100.

Once the cable is removed, with the rear wheel up in the air, you can spin the wheel and see if the small piece inside the speedo drive unit also spins. If it does, then the unit is OK. If it does not, then you'll want to remove the rear wheel and find out why. These are very simple units consisting of 2 gears. Almost everything that goes wrong with these units is because the owners forget to lube the units each year. See the grease nipple? Lube the unit via the nipple or by removing the unit and inserting the grease manually. You'll need about 2 tablespoons of high quality water-proof grease, such as boat trailer wheel bearing grease. You can get this at any auto parts store in a small tub.

The drive unit also has 2 tangs that engage slots in the end of the drive tube on the rear wheel. Sometimes people get in a hurry and forget to line the tangs and slots up, so the tangs get flattened when the axle is drawn up. Make sure the tangs are OK and coat them in waterproof grease.

Sometimes the brass tips that support the smaller gear are pushed out of the die cast aluminum drive body. If this is the case, then clean the surfaces really good and use Loctite or super glue as you push the unit back together in a bench vise.

If the rear wheel unit is bad and will not turn the inner cable at a constant speed as the rear wheel is turned, then you'll need to replace the speedo drive unit. It cannot be repaired. The new unit should be lubricated before being put into service.

If the drive unit is found to be OK, then we inspect the cable. Loosen the cable at the gauge end. Pull the inner cable all the way out from the gauge end of the sheath. Don't loose the little green o-ring at the gauge end, and don't let the cable land on the floor. If the cable is not broken, then wipe it down over its entire length with waterproof grease. Same type grease as above. Force some extra grease down in the outer sheath and re-insert the inner cable. These

cables should be lubed like this once a year. If they are not lubed regularly then they rust and break.

So if you can spin the rear wheel and the cable at the gauge-end spins, then your problem is inside the gauge itself. Smith's gauges are sealed units and there is nothing you can do inside. If the instrument is your problem, then I highly suggest you send your gauge off to your local Smiths repair depot. You will get back what is in essence a brand new gauge: fully repainted, new glass, new chrome bezel, fully lubricated and adjusted. The needle will be rock solid. A rebuilt gauge is a beautiful thing and is actually a better purchase than a NOS unit.

Tachometers

Tachometer issues are diagnosed the exact same way. Since the drive gears are lubricated by engine oil they hardly ever have problems. Other than lubricating the drive cable with waterproof grease, major issues are usually associated with the instrument itself. Again, rebuilding the gauge is the best solution.

The places I can recommend for rebuilding are:

Joel Levine
(GABMA member)
Decatur, GA
<http://www.joellevinecompany.com/>

Nisonger USA
Mamaroneck, NY
<http://www.nisonger.com/>

Hope this helps!

RF Whatley
Rodi British Bikes