

MB Products – Top Slipper

The Lambretta top chain guide has always been a cheap unsafe idea from the factory. Even in low powered standard engines if the chain was allowed to wear it would cut through the rubber of the guide and into the metal part and would either cut through it or the top would fall off breaking the spot welds potentially locking up the motor. Later SIL and copy top guides were even worse! As I started tuning Scooters in the early 80's we needed to address the problem. Various people had different ideas and the main ones at the time were;

- Weld two triangle pieces under the bottom plate to stop it bending downwards, not a very good idea welding near rubber, it was a pain and I did see some fail, but it was cheap and it worked ok, I first saw this from AF Rayspeed
- An alloy box section was supplied as a support to stop the bottom guide breaking, again it worked but still the bottom guide could wear through, this was MSC idea
- An alloy casting was made to fit under the guide, this worked really well supporting the bottom guide better but you still had a poor rubber guide which wore out. This was an excellent idea from Kegra

When I set up in business in 1987 a local brought an engine in with a Kegra strengthener as it sat around the workshop I was in and out of the MOT shop who was a kart racer and did all the local bikes. One day I noticed some plastic on a swinging arm obviously to stop the chain rubbing away at the alloy arm. This got me thinking 'if a bike can use plastic then I wonder if it could be used in a Lambretta engine'. That was it, I've always made and designed parts even going back to my very young days making model air planes, building train sets, Scalextrix, Mecarno, Lego, Skateboard ramps you get it I was always doing something, even fiddling with bits of metal at my Grandads garage making knives from old hacksaw blades for my Action man.

This chain guide was not my first Scooter part I made, I made Liquid Cooled cylinders at 18 and run and tested them which are still around today, really the list was endless, little did I know it would end up in the hundreds of ideas that I would design. So with a little knowledge I visited a plastic supplier and asked the question or basically told them my idea! With Kegra casting in hand we found a special black plastic which was designed for conveyor belts to run on and had self lubricating properties..... Perfect, but would it work?

I drilled the Kegra support and mounted the new piece of plastic, fitted it and tested it with the customer and it worked!

I was already making alloy cast parts from wooden patterns and bits of alloy. So I set about redesigning a new support where I could mount the plastic slipper and that was it. I made the alloy pattern, had some cast, got the plastic parts cut up and assembled it to make what I've always called the MB 'Top chain slipper' rather than 'guide' as it used this new slipper plate. I think the first real slipper was fitted to Martin's bike who was the brother

in law at the time and ended up working for me for 10 years and it's still in his bike working today 20 years later. I do believe it was his engine I took a photo of and did a new product in Scootering or whatever it was called in 1987/88.

At this point the dealers of the day said it will never work, but it did and they did an exact copy with in 2 months and of course I found out! But what could I do I couldn't afford these 'Patents' or afford to enforce 'Copyright' I had no money to afford a solicitor so considered it a pat on my back that other longer established dealers would copy my idea! Since then this idea has been copied by dealer from Lancashire, Wales, Nottingham, Italy and India by various other people. And for everyone I've seen I've had a pat on my back. BUT knowing what I know now I wished I'd taken advice and done something about it. I would have no qualms in taking these people to court as I've learnt in the last year there is no friends in business, with hard times it would have been nice to have had some royalties coming in. Hey but I'm a nice trusting guy and let these things slip.

What these copiers didn't get right is my first casting was designed with only one support which when we bolted the plastic together the plastic twisted a bit. So I redesigned it to get the plastic and screws central to avoid this twisting distorting effect which can not be helped.

What others didn't do is research the types of plastic available like I did and they all went for the plain white plastic, where as I opted for the more expensive self lubricating plastic.

And that was it, over 20 years later we still make them. I've never known a failure and never seen one wear to the screws, but I have with the white plastic so beware of cheap inferior products! In a conversation..... sorry bollocking with Ian Frankland of Taffspeed who had done a copy version he cracked it straight on the head where he stated 'Us English tend to over engineer an design' and it's true I always have I make sure my ideas last forever, the amount of times I've said to customers this will out last you! Ours only scuffer where the chain runs the sharper sides of the chain may cut in a bit but as soon as the rollers hit the slipper nothing happens any more, not the case with copy items!

OK ours are more expensive, well I designed it and to make one you have to make patterns, of which a box was made to make multi items. I have to pay a casting company to make them, I have to buy the plastic cut in pieces, I've had buy tools to fettle the casting, these are not cheap... polished/grinding equipment and die grinders which wear out over time and then I need the time to drill the plastic and bolt the slipper tight, added some fasteners then have the load slipper plate laser cut! And then there is over heads and wages to pay so it costs what it costs!

I've no idea how many we've made but it's in the thousands and imagine with no failures then there are all the copies sold so it must be in the tens of thousands over the years!

Vittorio stated in an interview once that the Lambretta engine design wasn't

as good as the Vespa because of the chain idea, at some point you do need to strip the crankcase side and adjust the chain and thats even if the sprockets are shimmed up correctly! Imagine what happens when an engine is assembled by most people who don't spend time adjusting the rear and front sprockets. I do and always swear by it, if anyone, dealers included do not set up the sprockets then beware..... the chain will wear even with the best Iwis chains that we sell. Fit a shit Rolon Indian chain and expect to replace it in 1000 miles!

With our MB Top Slipper I suggest adjusting as per manual to get around 6mm up and down lift between the front sprocket and slipper. You do get a slight whirring noise from the slipper but you also do in a standard engine, some have asked is it right and the answer is yes it says so in the manual. I designed the slots so on full adjustment you can not push the slipper too far pushing the chain in to the casing. If using the very popular chain set up of 19 x 46 with a GP125 gearbox and using a new chain the chain is still sloppy especially with worn sprockets, unfortunately its the nature of the job. Don't set the crownwheel shimming correct and within a few miles the chain WILL be hitting the casing. With a chain on full adjustment the casting is exposed on the bottom studs, I say studs as these ended up been more reliable over standard screws. This only leaves one stud holding it tight, so I designed our slipper plate which we sell loads separately as no one else who copied addressed this idea! This slipper plate spreads the load across the alloy casting and holds it tight. Originally I was going to make a GP and Li type version, but the slipper plate let me make one casting. Occasionally when using 15 x 46 with a new chain the bottom of the alloy casting needs a bit of a file as it makes the chain too tight, this is the only mod one might need as they are a fit and forget item.

But is this upward adjustment correct?

No it is not.

Innocenti got it wrong, the natural way the chain should be adjusted is the other way, the chain turns anti clockwise and tends to stick to the front sprocket and create a sag. Whilst we're at it the sprockets are not good in smaller sizes of 14, 15, 16 and 17 tooth, ideally the set up should use at least a 18 – 19 tooth sprocket to look after the chain. But we know it works so lets not argue too much.

I have addressed this issue and the fact the chain needs adjusting at some point. After the 'Top Slipper' was put into production for a number of years, I had to strip my then old Astra Mk1 and removed the timing chain adjuster for a new one. I looked at this adjuster and thought 'here we go again' 'If I make a plate and weld this adjuster it will fit into a Lambretta and will self adjust the chain! So I did, it worked, it was on show for years and when people asked 'how much' it was more money than my 'Slipper' and no one bought it and it never took off, well it was in the early 90's!

To my knowledge that was the first constant adjusting chain guide fitted in a Lambretta. Today others have addressed these issues and made down ward adjusting adjusters. Some are ok, some are crap and some are very good. I

addressed the downward adjusting issue in Rob Milers group 4 race bike in the 90's using rollers but found the adjuster would move loosening the two screws! In the end we had bolts holding it together right through the casings and gave up on the idea, I still use this casing as the exhaust jig! And that idea has been copied using slots and counter sunk screws, having seen the problems we had with Robs motor I wouldn't touch these top slippers with a barge pole!

The idea has never left me in all this time, so I've re designed a new guide which adjusts on it's own downwards using a clutch spring on a cam and this works well but I've not put this into production as I wasn't 10% happy and knew there was a better idea when I could think of it.

I have re addressed the downward constant adjusting chain guide idea and have a new design, you can set it up with any sprocket combination and for race bikes as with Robs you can use one chain with a few different sprockets!

Top chain slipper

Top and bottom chain slipper



A batch done by Mark, 2012 is the first year since 1987 that Mark hasn't got an engineer to do these jobs so he's back on production again



MRB Mark's Initials found printed on lots of products but mainly all the tuned cylinders he's done



A fitted top slipper, with load spreading plate, studs and nyloc included



And what happens if a chain isn't adjusted correctly or wears too much



A

nd a one off constant adjusting chain guide



The one off MB constant adjusting top chain guide



This one off had a slipper plate shaped and bolt in place at the bottom so no bottom guide is needed, but slipper isn't needed after testing



And a taster for the new constant adjusting guide



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