Make Your Malagutti Scream!

Installing the MRP Performance Pack for Minarelli/Jog scooter motors

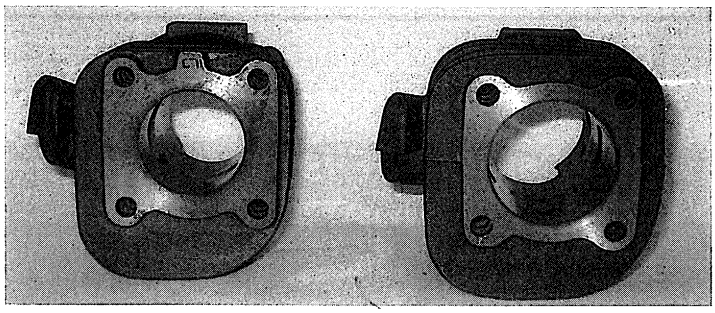
By Viktor Arellano, Technical Director, Martin Racing Performance

I was kindly asked by Scoot! Magazine to describe the installation of the MRP Minarelli/Jog Performance Pack. This is one of several packs MRP sells and works for all the Taiwanese and Chinese Minarelli clones (Including Vento, QJ, CPI, Pizaz, Eton, Jee Shang, CPI/MZ, Mondial, UM, TNG, Yumbo, etc.) both 10mm pin and 12mm pin versions are available. Sometimes the clutches and variators are of different diameter in the bikes produced on the Chinese mainland. In these instances you have to purchase additional parts to make the kit work properly. We have found that most mainland bikes have a 105 or 107mm clutch so before ordering make sure you have the correct clutch, variator, and piston size.

This particular power pack fits perfectly on the Malaguti Yesterday 50cc scooter. When ordering for the Malaguti Yesterday the correct part would be a MRP Performance Pack 10mm wrist pin, 105mm clutch. The pack includes the following: 28mm Keihin carburetor, intake manifold, 70cc air cooled cylinder kit, reed block, expansion chamber hand made 70cc exhaust, MRP stickers, variator, roller weights, clutch, and the torque spring.

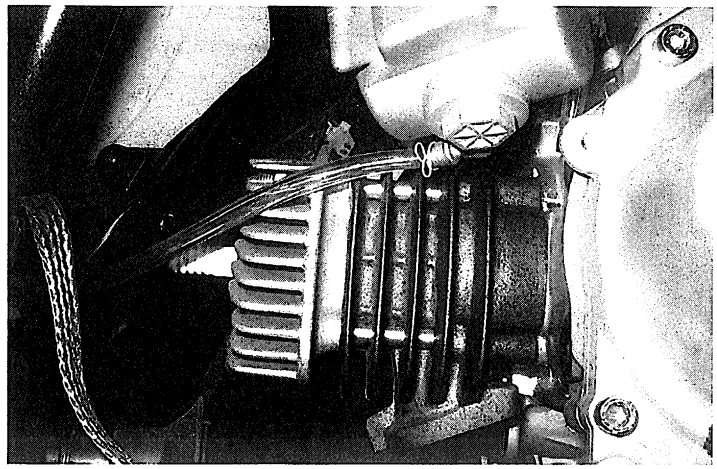
Please make sure to have the proper tools and to do this in the proper mechanical setting. This should be installed by a professional who has experience in tuning and has done performance kits in the past. I don't recommend installing this by yourself if you have never done a hop-up kit before. If not properly installed not only will you damage the bike you could cause yourself great harm when attempting to ride.

Let's begin.
Remove all the side panels from the scooter, remove the stock exhaust pipe, air box and then the carburetor and finally, the cylinder.

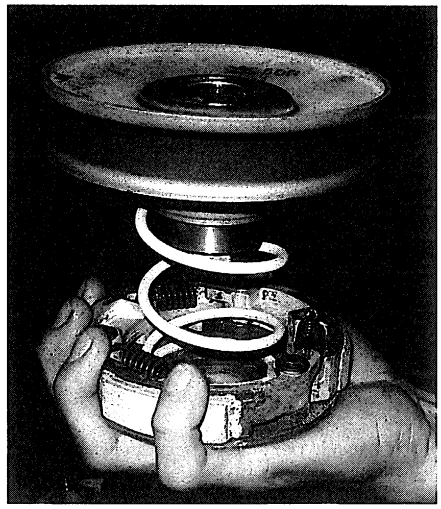


Begin by lubricating the new cylinder and piston. This is essential to secure their life in the engine and to get the maximum performance. I cannot stress how important it is to make sure it is properly lubricated. Place the rings on the piston. Place the piston on the rod. Make sure you follow the exhaust flow with the arrow on the piston. (Make sure you have removed the original base gasket and placed the new base gasket onto the scooter. When doing so you should make sure not to stack two gaskets on top of each other.) Let's continue by presenting the cylinder onto the Yesterday scooter. The piston rings must be compressed as you slide the cylinder over the piston. Make sure by physically holding them as you slide them. Now that that cylinder is all together, slide it all the way to the back of the base gasket. At this point, secure the cylinder with your hand as you turn the fan to ensure proper function of the piston.

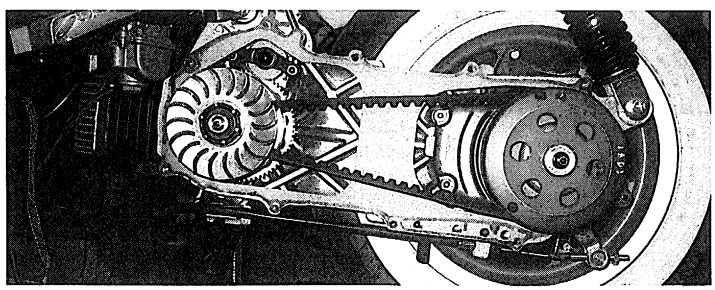
Next, we are ready to present the cylinder head. Slide the gasket over the cylinder. Place the cylinder head over the cylinder insuring that you have matched all the sides properly. Begin by hand screwing all of the nuts onto the stud bolts. In a cross pattern tighten down the nuts to a maximum torque of 10 lbs. Again spin the fan with your hand to ensure you have good clearance and that the piston is traveling freely.



You are now ready to mount the torque spring on the new clutch. Keep in mind that the new spring has one heck of a kick, so be sure to secure it well. Make sure that on the bike you are working on the clutch bell fits over the new clutch. If it does not, you are faced with a choice. Either buy a new clutch bell, or use the new springs from the clutch on the old clutch. The second choice is not your best option. If you are using this particular bike for professional racing then you will want to buy the new MRP non-slip clutch bell, air intake, and a Polini Kevlar belt, which MRP sells separately.



The VARIATOR
Next, you will mount half of the variator. Holding the backing plate of the variator with your fore fingers slide the variator over the crankshaft. Place the belt over the clutch. Compress the clutch with your hands and slide the belt over the clutch. Again, this clutch has a very stiff spring so this is going to be a tough task to undertake. With the belt mounted on the clutch, place the other end of the belt over the first half of the variator. Now place the other half of the variator over the belt. Tighten down the variator with an impact gun. Make sure you do this correctly, but not too tight or you might break something.

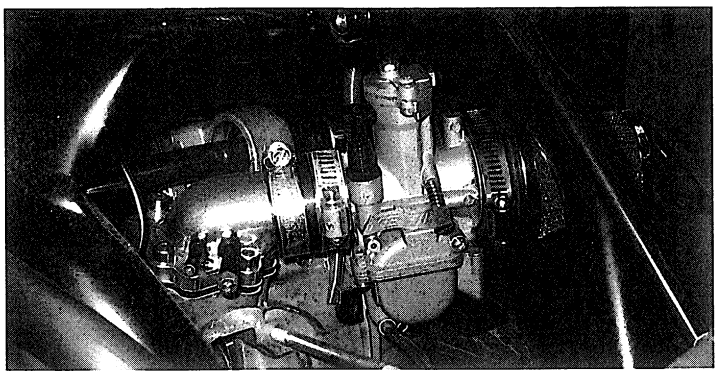


You are now ready to place the engine cover over the CVT. Before you do this, you might consider opening some vent holes into the case. Doing so will let the belt cool and add life to both it and the variator. The down side of this is that you run the risk of having all sorts

of debris enter the case. Either way, once the case has been closed, check the kick-start lever for proper return. If it's not returning then you have to take it apart and start over. More than likely there was a mistake somewhere in the procedure.

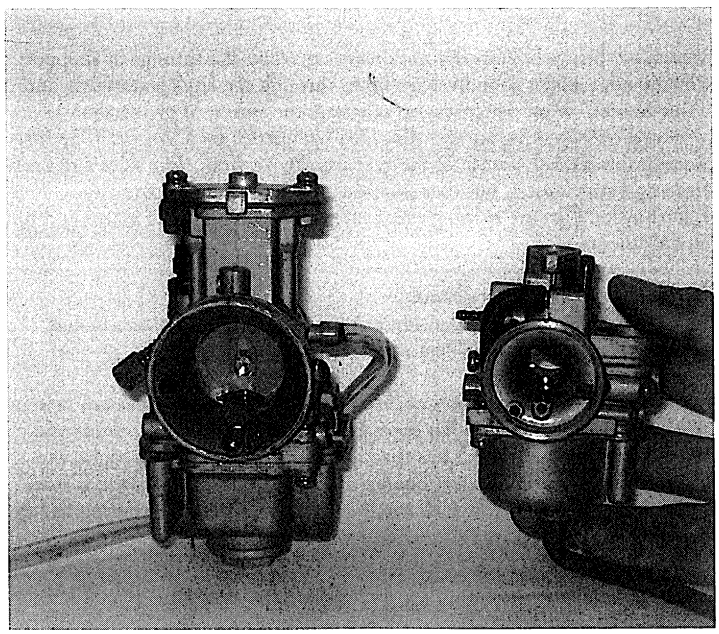
We are now at the point where we can mount the reed block. You will notice that the new reed block is much larger then the original. In some cases you will need to cut open the case to have it fit. If this is the case, use a grinding tool such as an air grinder or a dremel. What you are going to cut back is a hairline at most. Don't get carried away when cutting back the line. Place a wet rag inside the case to catch any debris. Before you place the new reed block inside the case, check that you have only one gasket under the reed block. Confirm that it is well seated inside the case so that you have no vacuum leaks.

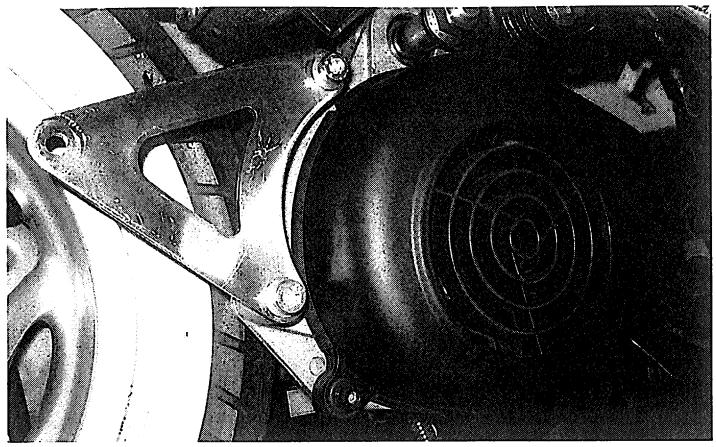
Next step is to place the intake manifold over the reed block. Place the second gasket over the reed block. The new intake manifold has two vacuum plugs. You can choose to use the smaller of the two for the oil pump or by-pass the oil pump and pre-mix. The other plug must be blocked off. I recommend fitting a setscrew in its place.



The Carburetor

The MRP pack comes with a standard 28mm carb. Upon request we can replace this with the 21mm, 24mm, 26mm, or larger. Believe it or not, the 28mm is your best bet. We have tested every combination and besides the 21mm the 28mm performs the best overall. (That's why it's included.) Your new carb has a much larger aperture for air intake, thus the length of the existing cable might be too short to open the throttle all the way. You can adjust the slack from the control side all the way to shorten the over all length of the sleeve. You might find you are forced to cut a small portion of the sleeve to allow the slide to open up all the way. This new beast means business and requires a knowledgeable technician to finely tune it. I recommend mounting it with the jets that it comes with, running the bike for about 30min. to check the status of the plug. And adjust it from there.





With the new carb in its place all we have left to do is mount the exhaust pipe in its place. This is a straightforward affair that is almost a no-brainer. However, this exhaust pipe comes in two pieces. The tendency is to place one end on the cylinder and then "slip" the expansion chamber over it. This is not a good practice. The fact that it comes it two parts is because it was intended to give you a little play to adjust the pipe to your mounting bracket. Mounting it first to the cylinder then slipping the other half in place might cause an air leak— one that will rob you of all pick-up on the low end. Outside of that, you will mount this pipe the same as you would any other.

Time to turn it over to hear your new creation. It should be loud and the fastest thing your block has every seen. We can guarantee it.