PMVK0001 variator kit with 14.5gr rollers, 1.5mm outer shim and red TQ spring (+10% over stock) (Black TQ spring is stock) has been optimized on our dyno for the following set up.

- PM59 Exhaust
- Stage 2 Carb kit (PM990)
- PM Gear up kit (PMGK0101 125cc)
- PM Pro-Street 172cc cylinder kit (PMCK0007)
- PM 52mm Race Crankshaft (PMRC0007)
- Kevlar drive belt type:
  - option 1 Polini PO248_018 use 14.5gr
  - option 2 Malossi M611273 X belt use 13.5gr
- Malossi delta clutch
- PM clutch bell (PMCB0001)

A selection of 20x17mm (PMVR2017) variator rollers can be purchased from our website in order to custom calibrate the variator for alternative set-ups.

The basic task of the variator and roller combination is to maintain peak RPM power during acceleration, right up to the point where the pulleys are fully extended and finalised. At this point the motor will go into over-rev (above peak HP rpm) to further increase terminal speed.

The idea of the roller weights is to keep the variator on the sweet spot. For example, if the above set-up produces peak power at 8200 rpm, then a correctly set up variator should show 8200 rpm target all the way up the speed range to a point where the variator is fully extended.

If the motor runs below 8200 rpm then lighter rollers will be needed, above 8200 rpm -heavier rollers will be needed. The drop or increase in weight to achieve this depends on how far off the target rpm is.

As a general rule of thumb 0.5 gr usually equals a change of around 100-150 RPM when working within 500 RPM of target peak power, anything outside 500 RPM of peak power and a 0.5 gr change can make a considerable difference.

PM roller weights are available in increments of 0.5GR and if required two different weights can be mixed as long as they are placed alternately in the variator ramps in order to maintain the balance. Use the lightest black TQ spring to start with, usually suitable for motors under 24 HP at the rear wheel, red +10% for machines over 24HP.

Because there are so many variables the above information is only intended as a guide, the best way to optimise rollers/belt and TQ spring combination is to dyno test with an experienced operator.

PM Tuning is a UK registered trademark.
Thank you for purchasing a Pro-Street Variator Kit.

The PMVK0001 - The end product of many years of dyno research and development. It represents the best all round performance/torque outputs and will last for many years if fitted and maintained correctly. This Variator Kit is optimized to suit modified machines listed; as part of our tuning program, see https://www.pmtuning.co.uk/index2.htm

Please follow our step-by-step guide on how to fit our PMVK0001.
(Due to the fact that this kit fits multiple machines, we have not shown the removal of crankcase cover and associated parts. Please refer to your workshop manual.)

IMPORTANT: Please note that variator rollers, plastic sliders and centre slider should not be greased in any way as these parts are self-lubricating.

For optimum performance we recommend a new Kevlar drive belt be fitted. Use either: Malossi- M611273 or Polini- PO248_018. As well as the basic tools required for fitting, we recommend the following workshop tools to aid the fitting of this variator kit: BZ5633, BZ5654, PM9403, BZ5425.

To purchase: enter the part numbers into our online search at www.pmtuning.co.uk.

---

1. Place water/oil pump drive belt gear then 28 x 6.5mm PM spacer.
2. Place 6 rollers, plastic sliders and centre slider as shown above. Slide onto crankshaft. Ensuring the assembly is kept firmly together to avoid the rollers from dropping out of the channels.
3. Fit inner shim washer, 32 x 1mm, before outer pulley.
5. Replace standard spring with:
   - Black: For motors under 24hp.
   - Red: For motors over 24hp.

** Ensure drive belt is kept down in the rear TQ pulley. In order to provide sufficient slack for the front outer pulley etc to be fitted.

** Large/TQ clutch nut: 40-44 ft lbs.