

# TASSO WORKS TUNING GUIDE

MODEL : ROYAL ALLOY 125i AC (GT,GP)

ENGINE: 1P52QMI E4

DATE : JULY 2020



This guide looks at the tuning possibilities available for the Royal Alloy (RA) 125cc AC motor, engine ID 1P52QMI produced by Hanway, China. The factory that originally made the earlier Scomadi TL125. When production of the Royal Alloy started the engine was built in house, replacing the Longjia engine that continues to be used in the Scomadi TT125 model. At first glance they are similar engines, based loosely on a gy6 setup, but both are far superior in quality to the usual gy6 engines found in many low cost scooters. The RA and Scomadi motors share many parts, variator and cylinder stud pattern however this is where similarities end. The RA has a larger cylinder head, valves and cam. The valves are in an offset position to allow for the larger inlet valve. The RA gearbox, drive shaft and final gearing is different lowering gear ratio by 7% giving a higher top speed. Engine casings are also different, rear shock support, gearbox casing, the scomadi has a manual kick start, the RA does not. Electronically whilst both use the DELPHI fuel system, the ECU settings, lambda sensor and coil are different.

So when tuning it can't be assumed parts that work in the RA will also work the same in the Scomadi. For example a remapped ECU for the RA will not work in the scomadi TT and vice versa. Whilst this guide is written for tuning an RA we have noted parts that are compatible with the Scomadi TL125 (e3) and TT125 (e4).

Remapping is easy, you simply unplug your ECU and post it to us, we remap and post it back to you.

When deciding to tune your motor, we must advise that changes to your engine could effect your manufacturers warranty, that said we have fully dyno tested all parts offered to make sure your motor runs in a safe zone whilst delivering increased performance. When tuning we recommend changing parts in the following order S1-S8.

## S1 - EXHAUST

Mainly the exhaust offers looks and sound. Thats said a good flowing exhaust, correct bore downpipe will improve performance at the higher RPM. Aftermarket exhausts will often lean the system, which is compensated by the lambda sensor so are plug and play.

**PROD ID**

**PRICE**

[TE302](#)

£179.95

[TE301](#)

The Tasso Works [TE302](#) is a full stainless exhaust, with internal DB filter and lambda sensor boss. The [TE301](#) is suitable for the 180 kit and early SCOMADI TL e3 models that do not require a lambda sensor.

## S2 - VARIATOR

The variator will alter the way the scooter accelerates up until it gets to its final gearing, when the pulley is fully extended. It alters the gearing ratio and depending on the roller weights selected will change the acceleration and/or mid range but marginally change the top end. Top end is determined by the final gearing. Two top tuning companies Polini and Malossi offer very high quality variators.

[TP241723](#)

£125

[TM5114273](#)

Tasso recommend the polini, our variator kit supplied includes dyno calibrated roller weights, matched to the RA. Also included in the kit a higher torque clutch spring to grip the belt.  
( Fits SCOMADI TL & TT )

### S3 - AIR FILTER

Will increase air flow over the standard airbox and filter. The original is fairly restrictive and allowing your engine to breath added with more fuel means a bigger bang ! Its advised you add the airfilter at the same time as the remapping as this will add more fuel at the best throttle and rpm settings possible.

[TS037](#)  
[THFA5101](#)

£15  
£7.95

Tasso offer a double gauze hi-flow pod filter that attaches to the back of the throttle body, the airbox will then no longer be required.  
( Fits the SCOMADI TT, THFA5101 for SCOMADI TL )

### S4 - REMAP 125

The engine is fuel injected and is controlled by an ECU, the settings are preset by the factory to meet emission regulations and longevity of the engine. The 4 sensors are TPS, Lambda, MAP and Temp. The engine is factory set on the lean side, around 15.5 AFR for lean town cruising. Remapping makes changes to the settings based on fitting S1-3 tuning parts. It increases the fuel across the rpm range and advances the spark giving more performance. You can expect to see increases of 25% at midrange and 10-15% at WOT top end. The richer setting helps reduce the engine temperature from a lean burn setting. We recommend using SUPER unleaded 98 octane fuel.  
( Remap 16H is required for SCOMADI TT )

[TS090](#)

£175

### S5 - CYLINDER KIT 180

The RA benefits from a larger cylinder head, valves and cam. Sharing the same engine casing at the RA GP180i your motor can be upgraded very easily with just a few changes giving extra torque.

[TS080](#)

£175

The Tasso 180 cylinder kit assy, includes cylinder, piston assy and gaskets and is matched to the std RA 125 head and casing.  
(Fits the SCOMADI TL & TT )

### S6 - GEARBOX 180

Now you have the displacement its time to add some extra legs to your gearing. Changing the gearing will increase your top end. The 180 gearbox will increase gearing by a further 20%.

[TS082](#)

£175

This gearbox includes drive shaft, countershaft, final gear and gasket.  
(Will not work in the SCOMADI)

### S7 - FUEL INJECTOR LC

The 125 fuel injector is limited to the amount of fuel it can dispense. The LC fuel injector from the RA 200 LC model will increase the amount of fuel. Note; must be fitted with the remap 180.  
(Fits the SCOMADI TT )

[TS084](#)

£37.50

### S8 - REMAP 180

As with our 125 remap, this has been tailored to match the 180 kit and assuming you have S1-3 and 5-7 tuning parts fitted. This remap looks at all throttle positions, enriching fuelling to 13.2 AFR by removing the lambda sensor which holds back performance regulating the AFR to a leaner hotter burn. ECU error is fixed also so no management light is shown that the lambda is disconnected all other functions are retained. 15,5hp rear wheel output can be achieved.  
( Fits the SCOMADI TT )

[TS096](#)

£175

TO ORDER, simply go to [www.tassoparts.co.uk](http://www.tassoparts.co.uk) and enter the above codes into the search box.