Technical Bulletin 005/17

Date: 03 November 2017

Subject: **Starter Shaft Assembly 8000C4242**

Product: **MV Agusta 3 cylinder models (all versions)**

Dear Dealers / Importers,

Following an extensive analysis of the starter system and all related components, including all mechanical parts and engine control algorithms, MV Agusta is introducing an updated Starter Shaft Assembly coupled together with dedicated engine maps for each individual 3-cylinder engine type and model.

The durability test cycle employed to characterize the starter system reliability was developed in a way to separate the wear patterns of the 3 principle damage inducing modes: positive torque applications that occurs during engine starting, sliding contact that can occur during normal engine running and instantaneous torque spikes that can occur during engine shut-down. Using the resulting test cycles the previous starter system and engine control software were characterized to establish a baseline to which all proposed solutions were then compared. Following the multiple tests and analysis of the tested starter assemblies, various areas were targeted to improve the reliability.

The starter shaft assembly was modified in a number of ways including the implementation of a all new one-way clutch assembly that utilizes an additional element to reduce the relative movement between the assembly races and one-way clutch assembly. A new needle bearing was also introduced with a tighter tolerance to reduce the axial play between the inner and outer races increasing the concentricity of the system. Finally, the engine control algorithms were also updated with re-defined start/stop strategies to reduce engine kick-back that can damage the starter shaft assembly.

After countless engine dyno, vehicle dyno and road tests on multiple MV Agusta models, all of the updated tested assemblies exceeded the target of 50.000 start/stops which correlates to an equivalent of over 200.000 km traveled!

We apologize for the long time passed to find a solution of this issue

Thanks in advance for your cooperation, we remain at your disposal for any needs about.

Best regards,

MV AGUSTA MOTOR S.p.A.