



NOVAMUGEN ENGINE

MT12

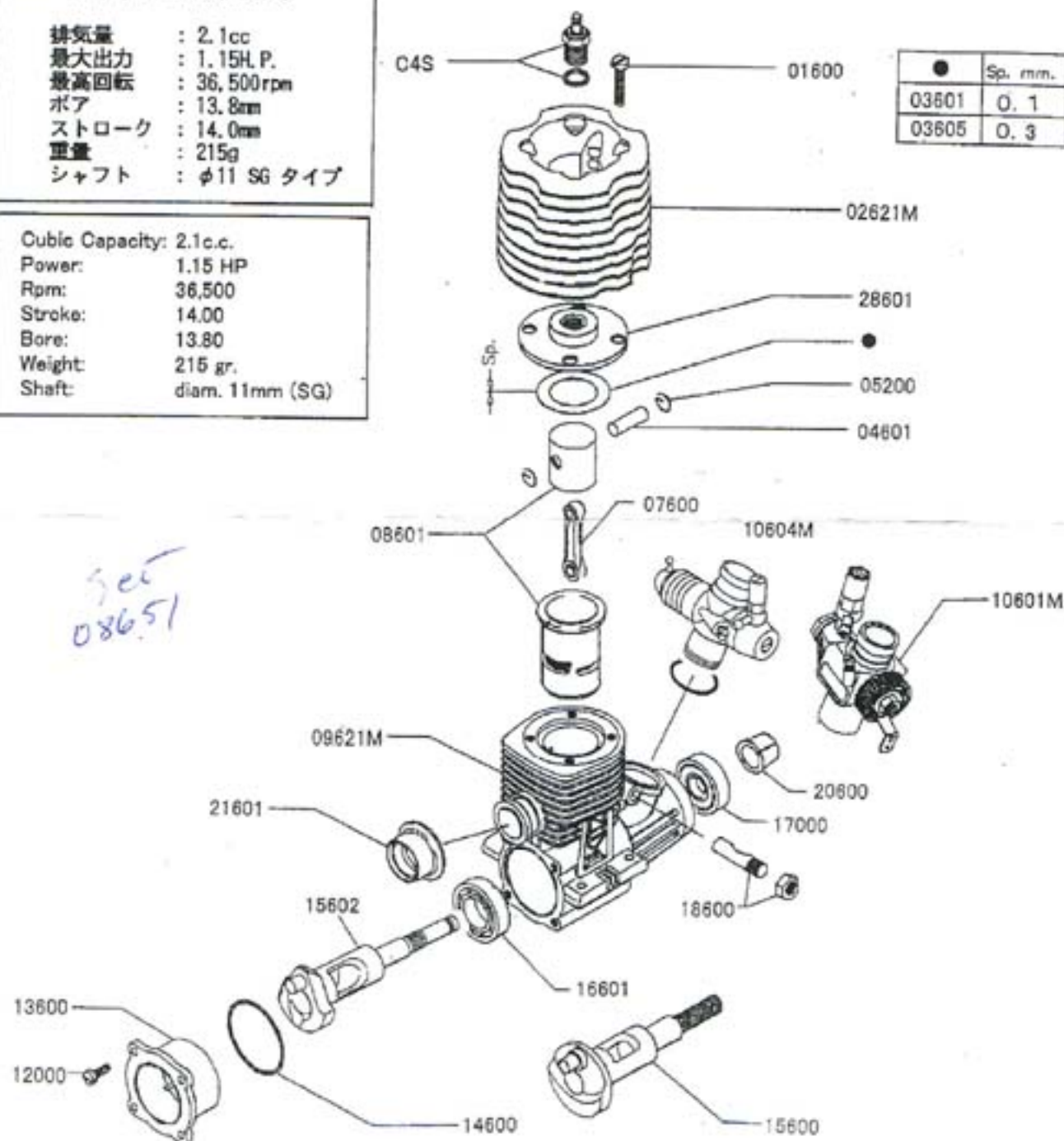
Rear Exhaust Engine

MT12 エンジン分解図

排気量 : 2.1cc
 最大出力 : 1.15H.P.
 最高回転 : 36,500rpm
 ボア : 13.8mm
 ストローク : 14.0mm
 重量 : 215g
 シャフト : φ11 SG タイプ

Cubic Capacity: 2.1c.c.
 Power: 1.15 HP
 Rpm: 36,500
 Stroke: 14.00
 Bore: 13.80
 Weight: 215 gr.
 Shaft: diam. 11mm (SG)

	Sp. mm.
●	0.1
○	0.3



株式会社 無限精機

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NOVAROSSİ MICROMOTORI di Cesare Rossi & C. s.n.c.

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ATTENTION BEFORE USING THE ENGINE, PLEASE READ THESE INSTRUCTIONS CAREFULLY

Extensive technological research into materials, and high quality precision engineering combine with 40 years experience of manufacturing small gas engines, to ensure your NOVAROSSİ engine comes to you as the best of its class.

We ask you to read these pages to ensure that you obtain not only the best performance from your engine, but also a long life.

This way you will not be disappointed, and you will not have you to repair your engine because of faulty maintenance.

RUNNING IN:

Ideally we suggest you run in the motor on a test bench after fitting a propeller to the crankshaft.

The carburettor is set at the factory, and only needs adjustment to control the idle speed, and full power (which can only be carried out satisfactory when engines is in use).

The fuel you use for this first phase is very important. It must have at least 15% of PURE unguimed castor oil, (with acidity lower than 0,5).

The engine should be run at 15-20,000 rpm, for between 30, and 60 minutes.

The longer the running in period, the better the engine will bed in, and the better performance you will get during competitions.

FUEL:

We do not recommend that you use synthetic oils internally. In our opinion the best lubricant is castor oil, which not only prevents overheating, but assists the lubrication of all the moving parts, such as bearing, crank pin, and piston and sleeve.

During running in:-
15% unguimed pure castor oil (first pressing, acidity lower than 0,5).
80% pure methanol.
5% nitro.

After running in:-
10% unguimed castor oil as before.
65-75% pure methanol.
10-25% nitro.

ATTENTION: Some kinds of nitro used to make fuel contains a certain quantity of formic acid, which in time, oxidizes and rusts all metal parts. For this reason we do not recommend you use too high a percentage of nitro in your fuel.

COMPETITION DRIVING HINTS:

To obtain the best from your engine benefit from the experiences of some of the worlds best drivers. (Collari, Fantini, Colombini, Roem, Sanada, Culver, etc.

They all confirm the following:- Avoid hard acceleration. It is very important to feed the fuel to the engine wisely, allowing the pipe to resonate as properly as possible, and avoiding useless time wasting wheel spinning. Many times engines are broken at the start of a race because of the drives excessive use of the throttle. A sudden acceleration of the engine revs, causes the balls to "skid" in their housings, and creates excessive wear.

C.D.H. cont.

We advise that you replace the rear ballrace before an important competition. To do this it is necessary to heat the crankcase to between 100/200 deg. c. The expansion of the crankcase with the heat, will permit the bearing to fall out easily.

A special tool is available to fit the new bearing, (art. 6/39).

MAINTENANCE ADVICE:

Before the engine is put away after use we recommend the following procedure:-

A) Ensure NO fuel remains inside the engine. To do this: empty the fuel tank, disconnect the fuel feed line, and start the engine, until all fuel has been used. This will help prevent the oxidization and rusting.

If fuel is left inside the engine for any length of time it will create an acidic solution containing alcohol, water, and nitro, which will eat irreparably into the engine. The conrod for instance will turn a lead colour, and the crankshaft, and bearings, in the affected areas will be a dark colour.

B) Cleaning the engine outside. For this you should use Petrol mixed with 5/10% lubricating oil, and a small brush.

C) The same mixture can be used to clean the inside of the engine, but BEFORE doing this remove the air filter, glow plug, and rear cover.

To clean the air filter, AND IT IS VERY IMPORTANT TO DO THIS:-

Wash with petrol mixed with 10% oil blow from inside to outside to eject all collected dirt recoat with the special NOVAROSSİ oil reflex to engine, ensuring that the retention band is fixed firmly **CORRECT MAINTENANCE OF THE AIR FILTER IS THE BIGGEST SINGLE SAFEGUARD FOR THE RELIABLE OPERATION OF YOUR ENGINE.**

To sum up - Correct maintenance from

DUST AND SAND:

Any dirt of any kind sucked into the engine will very quickly cause excessive wear of the piston and the crankshaft pin which can become smaller of 0,10 mm. on the diameter.

30 seconds running on a dusty track without an airfilter can completely ruin a new engine. There is a danger that the conrod can wear so badly that it will seize and break.

To avoid all this kind problems it is very important a diligent and correct maintenance of the air filters.

RUST AND OXIDIZATION:

It is very important always to use a good quality fuel. NOVAROSSİ have established that there are on the market many inferior fuels, which not only reduce the engines performance, but also ruin the internal parts. Alcohol, for example, if it has been badly stored, can contain a high percentage of water, which it has absorbed from the atmosphere.

Nitro also, is frequently now not of the first quality. (Mainly because the worlds main supplier in U.S.A. has been out of production due to fire damage). If you are finding oxidization within your engine, we strongly suggest you stop using your present nitro, and revert to a mixture of alcohol and oil only.

Good fuel consists of:-
Alcohol without water
Good nitro with low acidity
Ungummed castor oil first pressing, acidity lower than 0,5.

OVERHEATING:

Never run to engine on a too lean mixture or with a too low percentage of oil.

If an engine overheats it can reaches a temperature of 300°C and the shaft pin turns blue so we recommend you to change the crankshaft and also the conrod which exceeding 180°C due to overheating changes in the metal characteristics and could lead to failure.

Generally when the piston has been subject to overheating, it will seize near the exhaust and will no longer be usable.

Overheating can also lead to failure of the glowplug spiral. Small pieces can damage both the piston and combustion chamber.

OVER-REVVING:

Many of the causes of over-revving the engine are due to failure of gears, clutch, or radio control, and as such are not the fault of the engine. The rear cover should always be removed to check for any damage to conrod pin, and bearing.

If there is excessive play, these items must be replaced before running the engine again.

REAR BALL BEARING:

NOVAROSSİ have co-operated with one of the finest manufactures of Ball Bearings in the world, who are based in Switzerland, to bring you a bearing with the optimum specification for the job it does. Look after it, and it will give you good service.

PLEASE NOTE!

NOVAROSSİ WILL ALWAYS TRY TO USE THE BEST MATERIALS AVAILABLE.

AND TO MAINTAIN THE HIGH QUALITY AND RELIABILITY OF THEIR PRODUCTS BUT: WE RESERVE THE RIGHT TO MAKE CHANGES WITHOUT NOTICE.

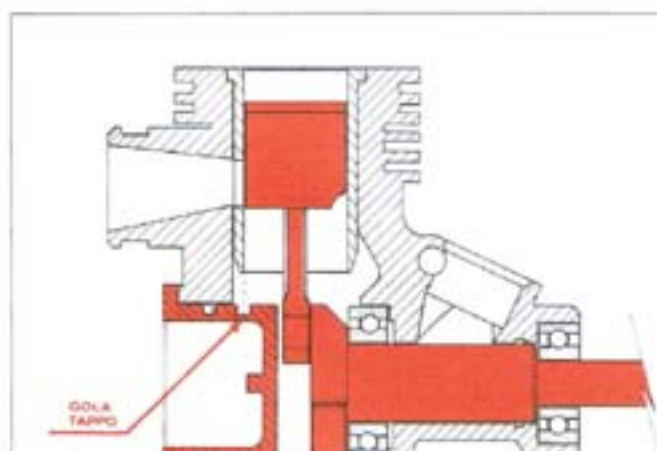
BECAUSE OF THE PROBLEMS BEING EXPERIENCED WORLD-WIDE WITH INFERIOR FUEL AND LUBRICATING OIL, OVER WHICH WE HAVE NO CONTROL. WE ARE NO LONGER ABLE TO GUARANTEE BALL BEARINGS, OR CON-RODS.

Conrods break because of sudden leanings of the engine due to bad working of the gear box or due to over revving accrued also in the past but above all the breakage of conrods is due to use of improper fuels, to avoid all these kinds of problems we advise you to use our **Tornado** fuel.

NOVAROSSİ also doesn't guarantee the wearing of the pin of shaft caused by dust which come into engines just to avoid these troubles we suggest you to use our air filters.

NOVAROSSİ are always available to give you more information.

Consider in any case we can't guarantee any engines or spare parts which after examination present one of the faults mentioned here above.



ATTENTION

Please before you take off the rear cover from the crankcase be sure that the piston is placed on the higher dead point just to avoid to break it against the throat of the cover.

During the running-in we recommend you to use a rich fuel/air mixture burning out the first liter at 15%-20% oil and 5% nitro, if possible make the running-in at bench using an 8/4 or 9/4 propeller turning at 15.000 - 20.000 RPM.