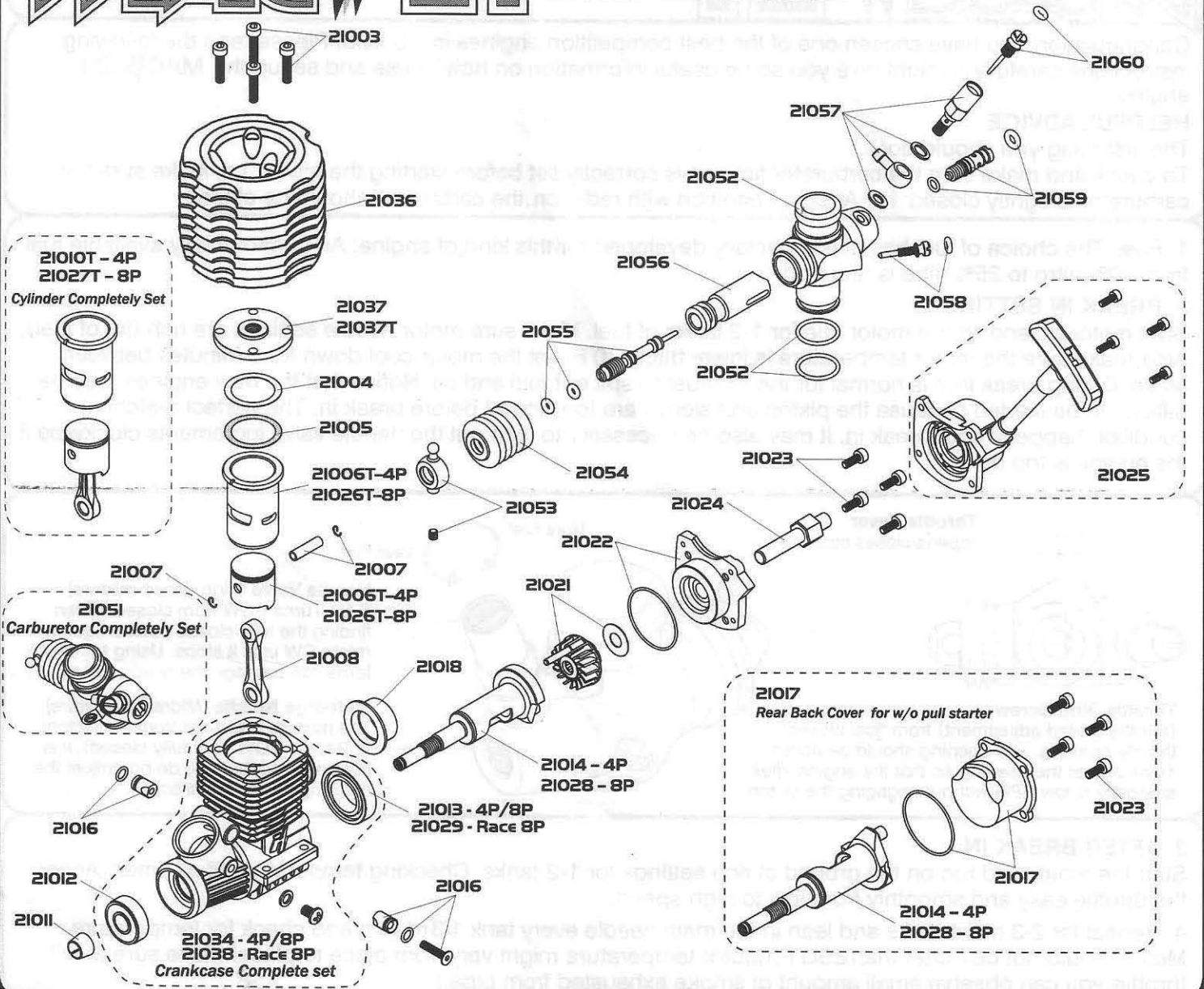


MAG 21

Nitro Engine Instruction

HIGH POWERFUL ENGINE

>>> Professional Best



MAG 21 Engine Parts List

Part #	Name	Part #	Name	Part #	Name
21003	Head-cap Screws, M14X3.5, 4 pcs	21022	Pull Rear Cover & O-ring 22x1.5	21051	Carburetor Complete set
21004	Head Gasket-brass-0.1mm, 2pcs	21023	Rear Cover screws-M3x8, 4pcs	21052	Carburetor main body o-ring 11.5x1.25mm, 2pcs
21005	Head Gasket-alu.-0.3mm, 2pcs	21024	Hex axle	21053	Throttle rod nut, screws 3x3mm
21006T	New Cylinder Sleeve-4P & Piston	21025	Pull starter-Complete set	21054	Throttle Rubber Cover
21007	Piston pin & "G" clips	21026T	New Cylinder Sleeve- 8P & Piston	21055	Sub Throttle needle valve o-ring 2x1.5mm, 2pcs
21008	Connecting Rod	21027T	New Cylinder Completely- 8P	21056	Carburetor Throttle
21010T	New Cylinder Complete Set - 4P	21028	Crankshaft SG- Race 8P	21057	Main needle hub valve set aul. Washer, 2pcs
21011	Brass cone/washer, 2pcs	21029	Ball Bearing 14x24x6mm-Race 8P	21058	Throttle adjustable screws o-ring 2x1.7mm
21012	Ball Bearing-7x19x6mm	21032	Booster Attachment set	21059	Supply fuel nozzle o-ring 2x1mm/ 2x1.85mm
21013	Ball Bearing-13x24x6mm- 4P/8P	21034	New Crankcase Complete set - 4P/8P	21060	Main needle valve o-ring 2x1.7mm
21014	Crankshaft-SG- 4P/8P	21035	Mac 21 Turbo Conversion set from standard to Turbo	21061	O-ring complete set
21016	Carburetor Bolt Setting pin/o-ring	21036	New Cylinder Head		
21017	Rear Back Cover & O-ring 22x1.5	21037	Alu. Burn Room for Mac 21-Standard version		
21018	Silicon Manifold seal, 2pcs	21037T	Alu. Burn Room for Mac 21-Turbo version		
21021	Turbo fan & Steel washer	21038	New Crankcase Complete set - Race 8P		

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Congratulation. You have chosen one of the best competition engines in RC field. Please read the following instructions carefully, it might give you some useful information on how to use and set up the MAC 21 engine.

HELPFUL ADVICE

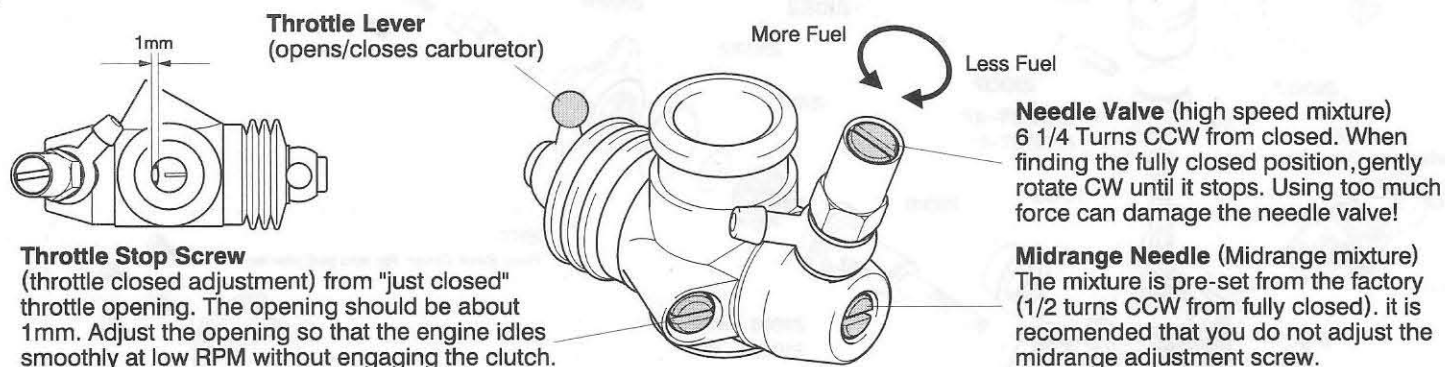
The first thing you should do:

To check and make sure the carburetor linkage is correctly set before starting the motor. i.e. Make sure the carburetor is tightly closed i.e. At slow condition with radio on, the carburetor should be closed.

1. Fuel. The choice of fuel has been specially developed for this kind of engine. An commercially available fuel from 10% nitro to 25% nitro is required.

2. BREAK IN SETTINGS:

Start motor up and let the motor idle for 1-2 tanks of fuel. Make sure motor needle settings are rich (lot of fuel). Also, make sure the motor temperature is lower than 170°F. Let the motor cool down for 5 minutes between tanks. During break in, it is normal for the exhaust to spit out fuel and oil. Notice that the new engines may be difficult to be started because the piston and sleeve are too closed before break in. The perfect matching condition happens after break in. It may also be necessary to lean out the needle valve increments clockwise if the engine is too rich.



3. AFTER BREAK IN:

Start the motor and run on the ground at rich settings for 1-2 tanks. Checking temperature at all times. Apply the throttle easy and smoothly from low to high speed.

4. Repeat for 2-3 more tanks and lean in the main needle every tank 1/3rd turn and check for temperature. Motor should not be hotter than 250°F. (Motor temperature might vary from place to place! Make sure at full throttle, you can observe small amount of smoke exhausted from pipe.)

5. For long life operation and high performance, make sure you always see trail of smoke exhausted from pipe. Notice that the main-needle is never set to lean. If the engine runs too lean, extra wears and damages might be caused in the engine. The damage will be irreversible when the engine does not exhaust through the pipe.

6. Proper maintenance can extend the life of the MAC 21 Engine. The air filter should be cleaned or replaced frequently. An in-line fuel filter is recommended to prevent particles from accumulating in the carburetor. Use fresh fuel whenever possible, old fuel is likely to have absorbed water, which might cause unstable engine operation. After you are finished racing, drain out the remaining fuel from the tank. The appearance of the engine can be cleaned with rubbing alcohol.

With proper maintenance, such as treating your engine with care, proper running in, sensible setting-not too lean, you will gain a lot of racing satisfaction and pleasure from you MAC 21 engine.