

QUALITY ASSURANCE

This engine No. 9911014 & 15 has been inspected and verified to conform to our high standards of quality and performance.

Deer

Signature of Head Inspector

Seal of Quality



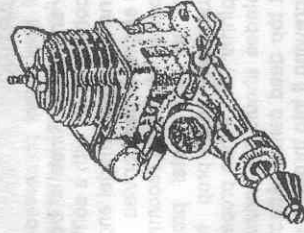
2244 East Enterprise Parkway
Twinsburg, Ohio 44087
tel: (330) 425-3630
fax: (330) 425-3935
email: <service@norvel.com>

For extensive technical information, engine sounds plus engine accessory, and parts purchasing, visit our website at <WWW.NORVEL.COM>



**BIG MIG .061 R/C Revlite™
Sport Engine**

Operating Instructions



No.	Part Name	Part Number
	Big Mig .061 R/C	B6R
1	Head	110131
2	Glow Plug	110138
3	Glow Head Gasket (qty 2)	
4	Glow Head Gasket	
	Replacement Gasket (qty 5)	1001175
5	Cylinder Head Screw (qty 4)	100125
	<u>Cylinder/Piston set:</u>	100402
6	Cylinder Head	
7	Piston	
8	Cylinder Head Gasket	
	Replacement Gasket (qty 5)	100112-035
	<u>R/C Carburetor Assembly:</u>	110159-RC
9	*Needle Valve Sub-Assembly:	100159-RC
	*Fuel Jet	
10	*Throttle Barrel	
11	*Needle Valve Spring	
12	*Needle Valve Nut	
13	*Needle Valve Screw	
14	Venturi O-Ring	120114

No.	Part Name	Part Number
15	Venturi	
16	Wire Net	
17	Ring	
18	Throttle Lever Stop Spring	
19	Throttle Lever Stop Screw	
20	Throttle Lever	
	<u>Muffler Assembly:</u>	110156
21	Muffler	
22	Muffler Pressure Spring	
23	Venturi Washer	100290
24	Venturi Screw	100291
25	Cover Plate	100100
26	Crankshaft	100110-03
27	Venturi Nut	100281
28	Crankcase	100108-03
29	Drive Gasket	100136
30	Rear Prop Hub	100124
	<u>Spinner and Screw Set:</u>	100151
31	Propeller Spinner	
32	Propeller Screw	

INTRODUCTION

The Big Mig .061 R/C is a two-stroke, air-cooled, sport engine for use with radio control aircraft. Made with exclusive Revlite™ cylinder/piston technology and high-precision machining, this engine offers a superior power-to-weight ratio, friendly performance and durability – all at a reasonable cost. With a custom hand-fitted piston/cylinder, one-piece crankcase, and very high-precision machining, this engine offers outstanding performance and durability. To assure the highest quality, each engine is closely inspected and tested by our team of quality control engineers.

BEFORE STARTING

Your engine has been preserved in a special lubricant for shipment. Rinse it before use with denatured alcohol and dry with a soft cloth.

- 1 Mount engine in plane or model engine test stand. Never hold engine in hand or vise.
- 2 Attach propeller. Maximum recommended size is 6"x3". Do not use metal propellers. Place propeller between rear prop hub (30) and propeller spinner (31). When propeller is secured, propeller blades should be horizontal when the piston is at top dead center. Attach needle valve by gently screwing it into throttle barrel (10).

2 DO NOT START THE ENGINE WHEN THE FUEL TANK, PROPELLER OR ENGINE IS NOT SECURED.

3 DO NOT SMOKE WHEN REFUELING OR OPERATING YOUR ENGINE.

MODEL FUEL IS EXTREMELY FLAMMABLE AND BURNS WITH AN ALMOST INVISIBLE FLAME.

4 DO NOT FILL THE FUEL TANK WHEN THE ENGINE IS OPERATING.

5 DO NOT PREPARE FUEL MIXTURE OR OPERATE YOUR ENGINE IN AN ENCLOSED SPACE. BE SURE THERE IS AN ADEQUATE VENTILATION.

6 METHANOL IS A POISONOUS SUBSTANCE. IF IT GETS ON SKIN, NOSE OR EYE MEMBRANES, WASH IMMEDIATELY WITH COLD WATER AND SEEK MEDICAL ATTENTION.

7 BE CAREFUL WHEN ADJUSTING YOUR RUNNING ENGINE. STAND BEHIND ENGINE WHEN OPERATING.

8 A MODEL ENGINE IS VERY HOT. DO NOT TOUCH ANY PART OF YOUR ENGINE UNTIL IT HAS COOLED.



STARTING THE ENGINE

- 1 Set the throttled carburetor to a open position by moving the throttle lever (19) to the rear of the lever's full range of movement (towards the rear of the engine).
- 2 Close needle valve (14) by turning clockwise. DO NOT FORCE OR OVERTIGHTEN.
- 3 Fill fuel tank and attach fuel line to R/C fuel jet (9).
- 4 Keep throttle lever to rear (open). Open needle valve 1-2.5 counter-clockwise turns.



5 Put 3-5 drops of fuel into the venturi and rotate propeller 3-4 times counter-clockwise. This procedure primes your engine. Another option is to place your finger over the carburetor and rotate propeller until fuel draws from fuel tank, through the fuel line, and into the carburetor.

6 Attach a 1.2 volt power supply to the glow plug (2) using a glow head clip.

7 Start the engine using a safety stick or an electric starter. Using a safety stick, slowly turn the propeller counter clockwise through the compression stroke of the engine. If the engine has fuel, air and a good glow plug, you should feel a bump against this movement. When you feel the bump, give a quick flip to the safety stick and the engine should start.

3 Locate fuel tank so centerline of tank is on level with fuel jet.

4 Break - in time is approximately 15 minutes, but engine operation may improve over the first hour of running time.

5 Recommended fuel for break-in is NORVEL NVX15™ (15% nitro) fuel. Many other fuels work fine, but some fuels will cause problems with glow plug life. See our website <WWW.NORVEL.COM> for more information on NVX™ fuel or other recommended fuels.

6 It is VERY IMPORTANT not to use a rubber fuel bulb or syringe with black-rubber plunger for transferring fuel into your fuel tank. Use a plastic bottle or a NORVEL NO-RUB™ fuel filler syringe (Part #NVL0800).

SAFETY INSTRUCTIONS

1 DO NOT USE METAL PROPELLERS. A propeller, which has been damaged with nicks, chips, cracks, or one, which has been altered in any way, can break apart during operation of the engine and can cause serious injury to you and others. Inspect propeller before each use. Discard and replace nicked, chipped, cracked, or altered products. Use only propellers that have been approved for use with your engine.

8 Using an electric starter, bring the starter into contact with the spinner nut or spinner and depress the starter switch for a few seconds. When the engine fires, withdraw the starter immediately.

NOTE: electric starters can cause damage to your engine. This damage occurs when the starter is applied to an engine that is flooded with fuel. Because of the high torque of the starter and the fact that you cannot feel the resistance caused by the flooding, there is a possibility that you will damage one or more parts of your new engine. Whenever you use an electric starter, be sure to flip the propeller through several compression cycles (without glow plug battery attached) without feeling a heavy resistance to this action. Only then should you attempt to start the engine with the electric starter.

9 If, after a few attempts the engine does not start, open the needle valve another half turn and repeat steps 5, 6, and 7. If engine still doesn't start, refer to trouble-shooting section in this instruction or visit <WWW.NORVEL.COM> for extensive online technical information.

10 Once the engine is running, keep the glow clip on the glow plug for 30 seconds to allow glow plug to warm up, turn the needle valve screw clockwise until a high-pitched exhaust note begins to be superimposed on the lower-pitched sound. After this period disconnect glow clip. When adjusting the rotation speed of the engine, always turn valve very slowly (no faster than 0.5 turns per 5 seconds).
(FOR BREAK IN ONLY: After 30 more seconds, turn the needle valve screw counter-clockwise to enrich the mixture and lower the RPM's. Run the engine at this setting for 2-3 minutes. Alter the needle valve setting back and forth from lean to rich every 2-3 minutes for a total of 10-20 minutes.)

11 Adjusting the throttle lever stop screw (19) will vary the operating range of the throttle lever (20), which varies the operating range of RPM. Adjust the screw to obtain the best operating range.

TO OBTAIN MAXIMUM PERFORMANCE

1 Maximum power is obtained by increasing engine compression. Remove one or two copper gaskets from underneath the glow plug to decrease the size of combustion chamber, thus increasing compression.

2 Or, use a fuel with higher nitromethane content. NORVEL NVX25 (25% nitro) has extra nitro for extra power. NORVEL NVX35 (35% nitro) has the maximum recommended amount of nitro for your engine and gives ultimate power. Using more nitro will shorten engine life proportionally.

3 Use the pressure fitting on the muffler to improve performance and fuel draw. Connect one end of small fuel tubing to the pressure tap on the muffler and the other end to your fuel tank. If your tank has more than two outlets, plug one or use a different tank.

MAINTENANCE AND ENGINE CARE

1 Protect engine from impact, dust, dirt, and moisture. Disassemble and clean engine when it is dirty. Always disassemble after a crash or when you suspect any dirt has contaminated engine parts. Dirt in engine will drastically shorten engine life.

2 To clean engine, remove head (1) and rear cover plate (25). Wash with denatured alcohol and rotate crankshaft (26). If engine will not be used for 24 hours, oil it completely. Do not use any type of brush when oiling.

3 When replacing glow plug (2) or head (1), never remove when it is still hot. A hot glow plug will stick and forced removal may damage cylinder. To cool glow plug or head in emergency condition, pour fuel over it.

4 When disassembling and assembling engine, clean moveable parts with a soft cloth and lubricate with After-run oil, available from NORVEL. Before storage, lubricate engine and put it into a plastic bag or wrap in soft cloth.

5 For engine disassembly and assembly order wrench (Part#NVL230131) at <WWW.NORVEL.COM>.

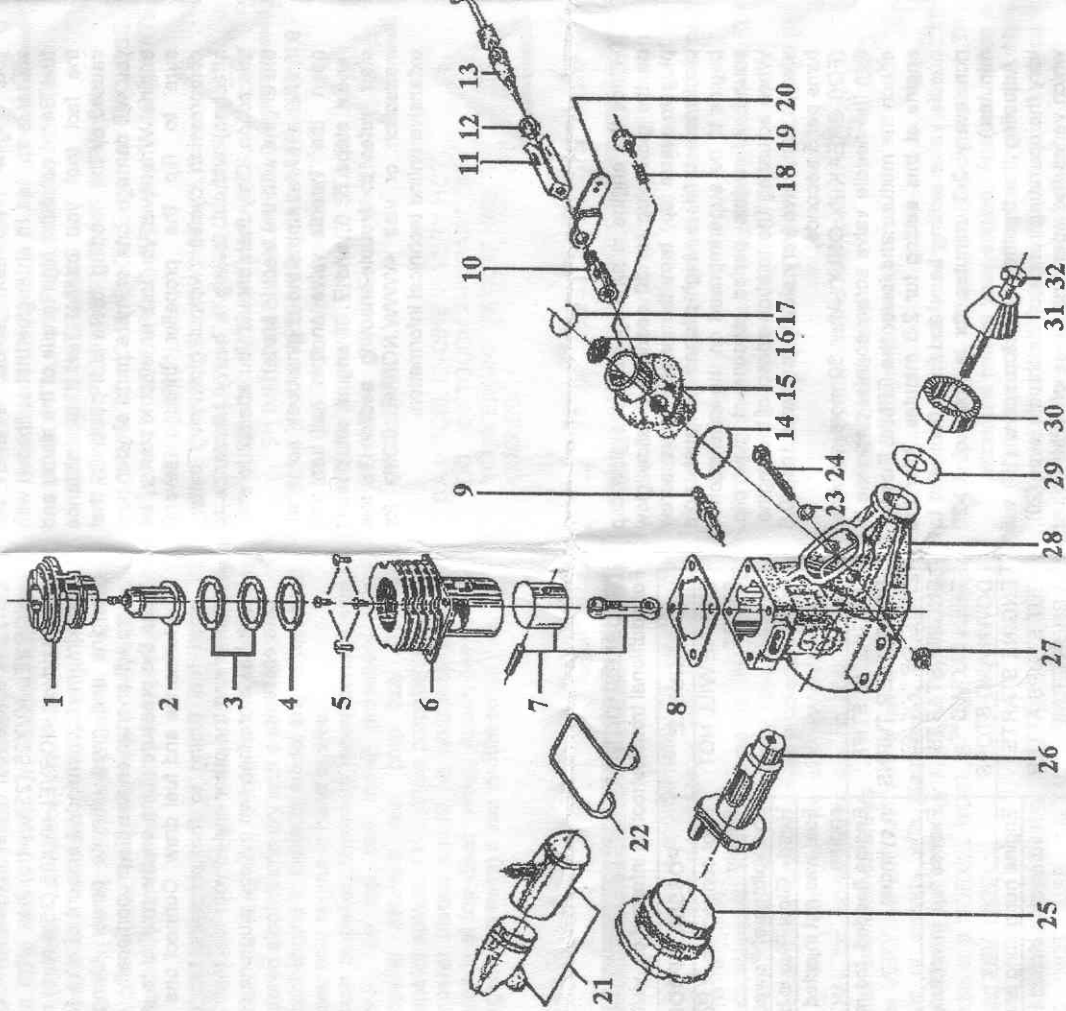
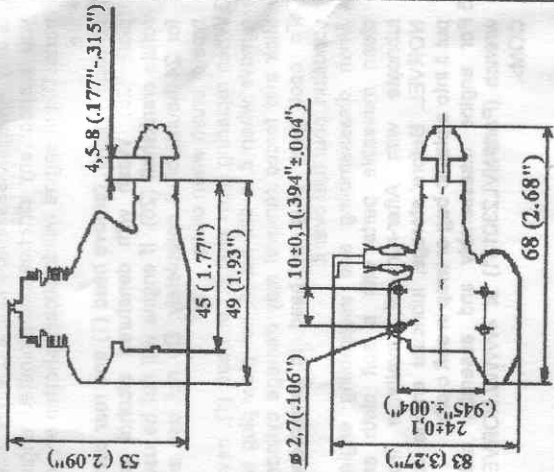
TROUBLESHOOTING

For additional troubleshooting information, visit our website at <WWW.NORVEL.COM>.

TROUBLE	POSSIBLE PROBLEM	REMEDY
ENGINE WILL NOT START	Poor connection of Power Supply Low voltage of Power Supply Head - Glow Plug is burned out Fuel was not injected into engine	Check wire and connection to glow plug Replace Power Supply Replace Head - Glow Plug Inject a few drops of fuel into venturi and start again
"ENGINE IS STIFF, PROPELLER TURNS HARD OR "KICKS"	Engine flooded, too much fuel in cylinder	Close needle valve completely. Remove power supply from glow plug. Drain all fuel from engine. Unscrew needle valve 1-2.5 turns and start again
ENGINE STARTS THEN SLOWS DOWN AND STOPS	Excess fuel in venturi	Close needle valve. Start engine to burn extra fuel. Unscrew needle valve 2.5 turns and start again
ENGINE STARTS BUT STOPS AFTER A SHORT TIME	Engine not getting enough fuel Needle valve closed too much	Check fuel level and fill if required Unscrew needle valve .5 turn and start engine Repeat this procedure, opening needle valve an additional .5 turns each time
ROUGH SOUNDING, SLUGGISH, WEAK POWER	Fuel line blocked Loose Head - Glow Plug	Clean fuel line Tighten Head - Glow Plug

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Dimensions: BIG MIG .061 R/C
(mm)



SPECIFICATIONS

Displacement	.06 cu.in.	.99 cc
Bore	.44 in.	11.25 mm
Stroke	.39 in.	10 mm
Compression Ratio	9.5-11.0	
Average Performance	4,500 - 18,500 RPM TORNADO 6X3	
Direction of rotation (facing front of engine)	Counter-clockwise	
Voltage	1.2 Volt	
Fuel consumption	8.45 fl. oz./hour	250 grams/hour
Weight	1.83 oz.	.052 kg