

1. Install the engine with the propeller intended for your model. Open the needle-valve to the advised starting setting and start the engine. If the engine stops when the glow plug battery is disconnected, open the needle-valve to the point where the engine does not stop. Run the engine for one minute with the throttle fully open, but with the needle-valve adjusted for rich, slow "four-cycle" operation.

2. Now close the needle-valve until the engine speeds up to "two-cycle" operation and allow it to run for about 10 seconds, then reopen the needle-valve to bring the engine back to "four-cycle" operation and run it for another 10 seconds. Repeat this procedure until the fuel tank is empty.

3. Re-start and adjust the needle-valve so that the engine just breaks into "two-cycle" from "four-cycle" operation, then make three or four flights, avoiding successive "nose-up" flights.

4. During subsequent flights, the needle-valve can be gradually closed to give more power. However, if the engine shows signs of running too lean, the next flight should be set richer. After a total of ten flights, the engine should run continuously, on its optimum needle-valve setting, without loss of power as it warms up.

5. After the completion of the running-in adjust the carburetor at optimum setting referring to MIXTURE CONTROL VALVE ADJUSTMENT section and SUBSEQUENT READJUSTMENT section.

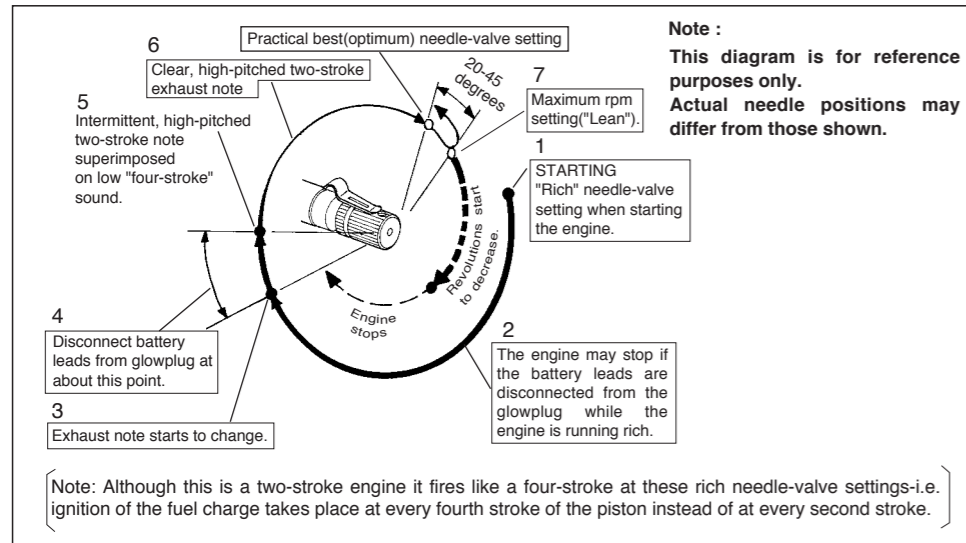
Optimum needle setting (1)

Slowly advance the throttle to its fully open position, then gradually close the needle-valve until the exhaust note begins to change. (4-cycle to 2-cycle)

Optimum needle setting (2)

As the needle-valve is closed slowly and gradually, the engine r.p.m. will increase and a continuous high-pitched exhaust note, only, will be heard. Close the needle-valve 10-15 degrees and wait for the change of r.p.m. After the engine r.p.m. increases turn the needle-valve another 10-15 degrees and wait for the next change of r.p.m. As the speed of the engine does not instantly change with needle-valve readjustment, small movements, with pauses between, are necessary to arrive at the optimum setting.

Needle-valve adjustment diagram



MIXTURE CONTROL VALVE ADJUSTMENT

With the engine running, close the throttle and allow it to idle for about five seconds, then open the throttle fully. If, at this point, the engine is slow to pick up and produces an excess of exhaust smoke, the mixture is too rich. Correct this condition by turning the Mixture Control Screw clockwise 15-30 degrees. If the mixture is excessively rich, engine rpm will become unstable: opening the throttle will produce a great deal of smoke and rpm may drop suddenly or the engine may stop. This condition may also be initiated by excessively prolonged idling.

If, on the other hand, the mixture is too lean, this will be indicated by a marked lack of exhaust smoke and a tendency for the engine to cut out when the throttle is opened. In this case, turn the Mixture Control Screw counter-clockwise 90 degrees to positively enrich the idle mixture, then turn the screw clockwise gradually until the engine regains full power cleanly when the throttle is reopened. Carry out adjustments patiently until the engine responds quickly and positively to the throttle control.

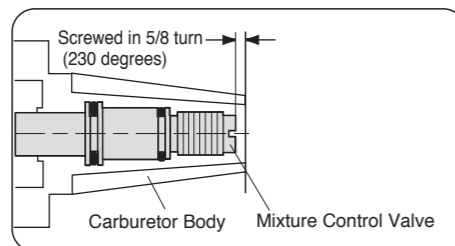
Note: Mixture Control Valve adjustments should be made in steps of 15-30° initially, carefully checking the effect, on throttle response, of each small adjustment.

REALIGNMENT OF MIXTURE CONTROL VALVE

In the course of making carburetor adjustments, it is just possible that the Mixture Control Valve may be inadvertently screwed in or out too far and thereby moved beyond its effective adjustment range. The basic position can be found in the sketch shown below.

Rotate the Mixture Control Valve until its slotted head is flush with the carburetor body, then screw it in 5/8 turn (230 degrees). This is the standard position.

When an optional extra E-4010A silencer is used, adjust the Mixture Control Valve same as the above.



CARE AND MAINTENANCE

Please pay attention to the matters described below to ensure that your engine serves you well in regard to performance, reliability and long life.

As previously mentioned, it is vitally important to avoid operating the engine in conditions where dust, disturbed by the propeller, may be deposited on the engine and enter its working parts.

Remember to keep your fuel container closed to prevent foreign matter from contaminating the fuel.

Install a fuel filter to prevent dirt and dust in the fuel container from entering the fuel tank. O.S. Super Filters (L) and (S) are available as optional extras.

Install an in-line fuel filter between the tank and carburetor to prevent dirt and dust in the tank from entering the carburetor.

Clean these filters periodically.

If these precautions are neglected, restriction of fuel flow may cause the engine to cut out, or the fuel/air mixture to become too lean causing the engine to overheat.

The use of modern high-performance alcohol based model engine fuels, while promoting cooler running, improved anti-detonation combustion and increased power, have the disadvantage of causing corrosion due to the acid by-products of combustion. The use of nitromethane in the fuel can also contribute to the problem.

Do not close the needlevalve and mixture control valve too far as this will cause a lean setting and over heating of the engine. This can, in turn, create nitromethane oxide leading to internal rusting of the engine. Always adjust the needlevalve slightly on the rich side of peak rpm.

Do not leave unused fuel in the engine at the conclusion of a day's flying. Accepted practice is to cut off the fuel supply while the engine is still running at full throttle, then expel as much fuel residue as possible by turning the engine over 5-10 seconds with the electric starter. Finally, inject some after-run oil through the glowplug hole and turn the engine over several times by hand.

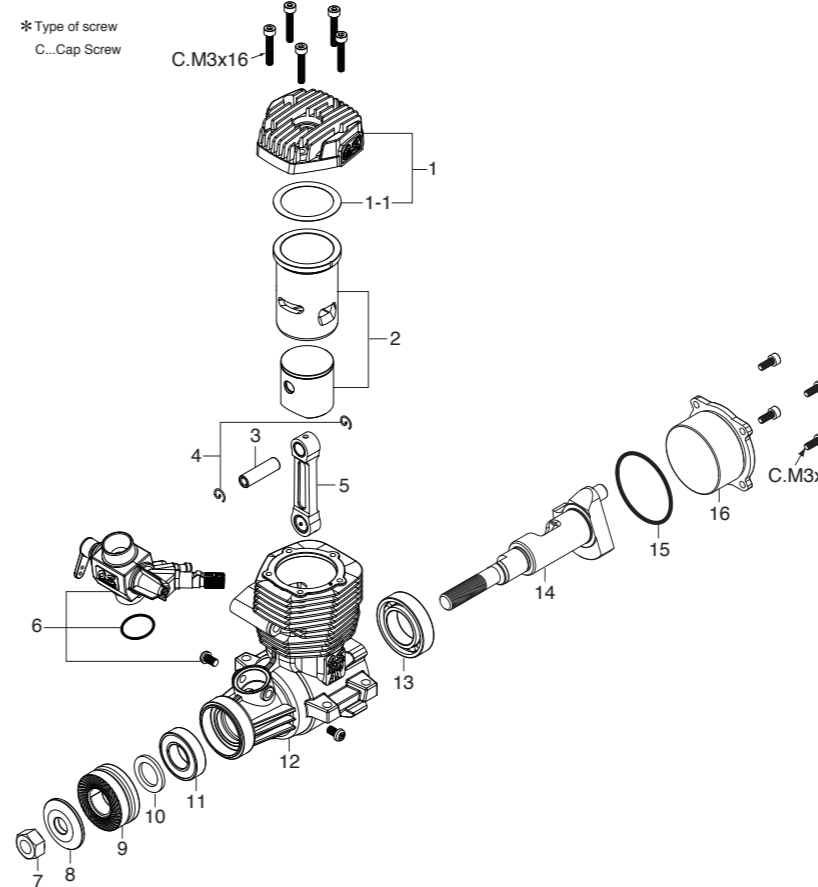
When the engine is not to be used for some months (for example, as between flying seasons), a worthwhile precaution is to remove it from the airframe and, after washing off the exterior with alcohol (not gasoline nor kerosene), remove carefully the carburetor, glow plug and all silicone tubing and put them safely aside. Then, immerse the engine in a container of alcohol. Rotate the crankshaft while the engine is immersed. If foreign matter is visible in the alcohol, rinse the engine again in clean alcohol. Finally, shake off and dry the alcohol, and inject some after-run oil in the glowplug hole and rotate the crankshaft several times by hand. Reinstall the carburetor and glowplug on the engine and keep it in a dry place after putting in a vinyl bag.

O.S. GENUINE PARTS & ACCESSORIES

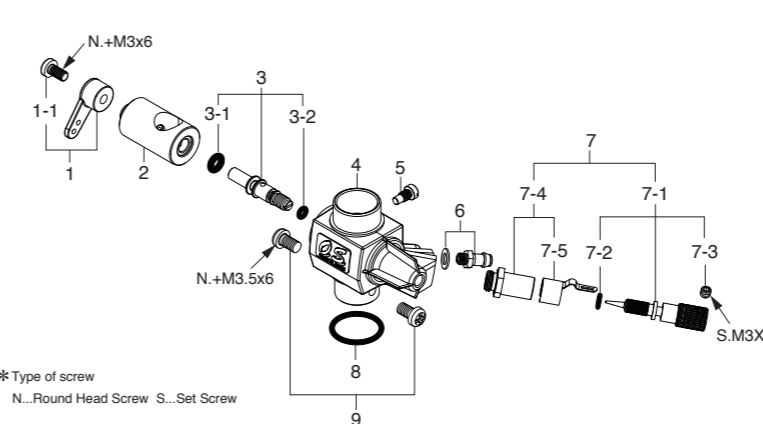
- RADIAL MOTOR MOUNT** (71905200)
- O.S.GLOW PLUG**
 - No.7 (71607100)
 - No.8 (71608001)
 - No.10 (Fomer A5) (71605100)
- SILENCER EXTENSION ADAPTORS**

	Width	Screw hole pitch
(26625340)	14.5mm	42.0mm
Long (26625500)	35.0mm	42.0mm
- SPINNER NUT** 5/16"-24 (45024000)
- SILENCER E-4010A** (26028050)
- LONG PROPELLER NUT SETS** 5/16"-24 (73101010)
- SUPER FILTER (L)** (72403050)
- NON-BUBBLE WEIGHT (S)** (71531010)
- NON-BUBBLE WEIGHT (L)** (71531010)
- FANG NUTS** (6pcs./sets) M3 (79870031)
- BLIND NUTS** (10pcs./sets) M4 (79870040)
- LOCK WASHER** (10sets) M3 (55500002) M4 (55500003)
- O.S. SPEED SILICONE FUEL LINE** (72506100) 2.5mm x 1000mm
- LONG SOCKET WRENCH WITH PLUG GRIP** (71521000)

ENGINE EXPLODED VIEW



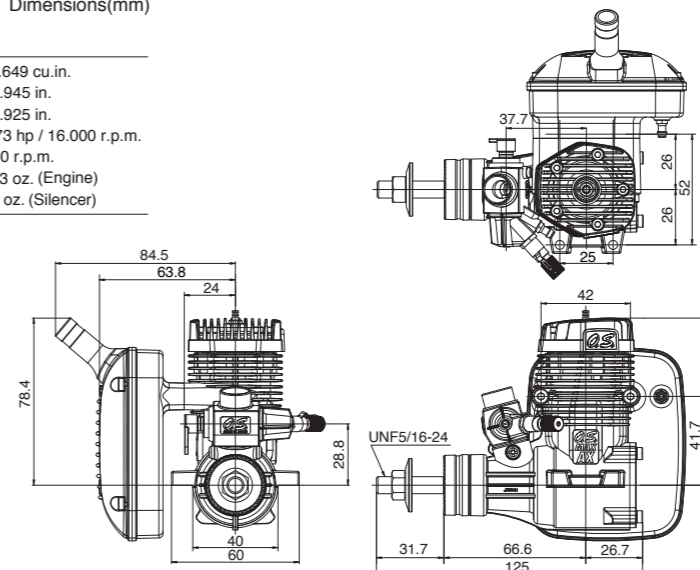
CARBURETOR EXPLODED VIEW



THREE VIEW DRAWING Dimensions(mm)

SPECIFICATIONS

Displacement	10.63 cc / 0.649 cu.in.
Bore	24.0 mm / 0.945 in.
Stroke	23.5 mm / 0.925 in.
Output	1.75 ps / 1.73 hp / 16,000 r.p.m.
Practical R.P.M.	2,000-17,000 r.p.m.
Weight	497 g / 17.53 oz. (Engine) 128 g / 4.52 oz. (Silencer)



ENGIN PARTS LIST

No.	Code No.	Description
1	26904000	Cylinder Head
1-1	26904160	Head Gasket
2	26903000	Cylinder & Piston Assembly
3	26606008	Piston Pin
4	27917000	Piston Pin Retainer (2pcs.)
5	29115000	Connecting Rod
6	26981000	Carburetor Complete (Type 61D)
7	45010002	Propeller Nut
8	28009002	Propeller Washer
9	26908000	Drive Hub
10	29320000	Thrust Washer
11	27731000	Crankshaft Ball Bearing (F)
12	26901000	Crankcase
13	27130020	Crankshaft Ball Bearing (R)
14	26902000	Crankshaft
15	24625118	Cover Gasket
16	26907000	Cover Plate
	71608001	Glow Plug No.8
	72200080	Needle Valve Extension Cable Set
	27426000	E-4050 Silencer Assembly
	79871120	Assembly Screw (C.M3x10 10pcs.)
	22681957	Pressure Nipple (No.7)
	26625210	Silencer Retaining Screw (C.M4x40 2pcs.)

CAP SCREW SETS (10pcs./sets)

Code No.	Size	Pcs. used in an engine
79871110	M3x8	Cover Plate Retaining Screw (4pcs.)
79871160	M3x16	Cylinder Head Retaining Screw (5pcs.)

CARBURETOR PARTS LIST

No.	Code No.	Description
1	22081408	Throttle Lever Assembly
1-1	22081313	Throttle Lever Retaining Screw
2	26981200	Carburetor Rotor
3	25781600	Mixture Control Valve Assembly
3-1	46066319	"O" Ring (L) (2pcs.)
3-2	22781800	"O" Ring (S) (2pcs.)
4	26981100	Carburetor Body
5	45581820	Rotor Guide Screw
6	22681953	Fuel Inlet (No.1)
7	25581900	Needle-valve Assembly
7-1	22681980	Needle Assembly
7-2	24981837	"O" Ring (2pcs.)
7-3	26381501	Set Screw
7-4	27381940	Needle-valve Holder Assembly
7-5	26711305	Ratchet Spring
8	46215000	Carburetor Rubber Gasket
9	25081700	Carburetor Retaining Screw

O.S. ENGINES MFG.CO.LTD.

6-15 3-Chome Imagawa Higashiumiyoshi-ku
Osaka 546-0003, Japan TEL. (06) 6702-0225
http://www.os-engines.co.jp FAX. (06) 6704-2722