O.S. ENGINE For Helicopter Engine MAX-37SZ-H RING OWNER'S INSTRUCTION MANUAL

It is of vital importance, before attempting to operate your engine, to read the general **'SAFETY INSTRUCTIONS AND WARNINGS'** in the following section and to strictly adhere to the advice contained therein.

- Also, please study the entire contents of this instruction manual, so as to familiarize yourself with the controls and other features of the engine.

SAFETY INSTRUCTIONS AND WARNINGS ABOUT YOUR O.S.ENGINE

Remember that your engine is not a " toy ", but a highly efficient internal-combustion machine whose power is capable of harming you, or others, if it is misused. As owner, you, alone, are responsible for the safe operation of your engine, so act with discretion and care at all times. If at some future date, your O.S. engine is acquired by another person, we would respectfully request that these instructions are also passed on to its new owner.

■ **The advice which follows is grouped under two headings according to the degree of damage or danger which might arise through misuse or neglect.**

⚠WARNINGS

These cover events which might involve serious (in extreme circumstances, even fatal) injury.

⚠ NOTES

These cover the many other possibilities, generally less obvious sources of danger, but which, under certain circumstances, may also cause damage or injury.

⚠WARNINGS

Never touch, or allow any object to come into contact with, the rotating parts.

Model engine fuel is poisonous. Do not allow it to come into contact with the eyes or mouth. Always store it in a clearly marked container and out of the reach of children.

Model engine fuel is also highly flammable. Keep it away from open flame, excessive heat, sources of sparks, or anything else which might ignite it. Do not smoke or allow anyone else to smoke, near to it.

Model engines generate considerable heat. Do not touch any part of your engine until it has cooled. Contact with the muffler (silencer), cylinder head or exhaust header pipe, in particular, may result in a serious burn.

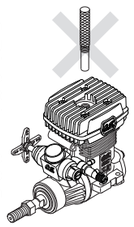
- **Never operate your engine in an enclosed space. Model engines, like automobile engines, exhaust deadly carbon-monoxide. Run your engine only in an open area.**

⚠ NOTES

- This engine was designed for model helicopters. Do not attempt to use it for any other purpose.
- Mount the engine in your model securely, following the manufacturers' recommendations, using appropriate screws and locknuts.
- Install an effective silencer (muffler). Frequent close exposure to a noisy exhaust (especially in the case of the more powerful high-speed engines) may eventually impair your hearing and such noise is also likely to cause annoyance to others over a wide area.
- Check the linkage to the throttle arm before each flight.
- Avoid sudden high r.p.m. immediately after the engine is started, as the clutch will engage and you may be struck by the rotor.
- After starting the engine, carry out any needle-valve readjustments after stopping the rotor by closing the throttle to the lowest r.p.m.. Stop the engine before attempting to make other adjustments to the carburetor.
- Use an electric starter. The wearing of safety glasses is also strongly recommended. Press the rotor head down securely.
- Take care that the glow plug clip or battery leads do not come into contact with rotating parts.
- Adjust the throttle linkage so that the engine stops when the throttle stick and trim lever on the transmitter are fully retarded. Alternatively, the engine may be stopped by cutting off the fuel supply. Never try to stop the engine physically.
- Take care that loose clothing (ties, shirt sleeves, scarves etc.) do not come into contact with the rotor. Do not carry loose objects (such as pencils, screwdrivers, etc.) in a shirt pocket from where they could fall through the rotor disc.
- For their safety, keep all onlookers (especially small children) well back (at least 20 feet or 6 metres) when preparing your model for flight. If you have to carry the model to the take-off point with the engine running, be especially cautious. Hold the rotor securely and keep well clear of spectators.
- Warning! Immediately after a glowplug-ignition engine has been run and is still warm, conditions sometimes exist whereby it is just possible for the engine to restart when turned over WITHOUT the glowplug battery being reconnected. Remember this if you wish to avoid the risk of accidents.

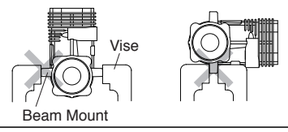
Notes on installing cooling fan and clutch

Do not use a tool which locks piston when installing a cooling-fan and clutch, or top of the piston may be damaged. Also, do not insert a screw driver or the similar into the exhaust port.



It is recommended to use Crankshaft Clamp 37 (Code No.71530600) available as an optional tool.

Do not grip the engine mounting beams with a vise, or the crankcase will be distorted which will result in engine breaking.

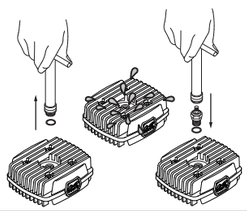


NOTES WHEN APPLYING AN ELECTRIC STARTER

Because of this initial tightness, a standard electric starter may have difficulty in rotating the engine when cold, before it has been adequately run-in. In this case, use a high-torque type starter.

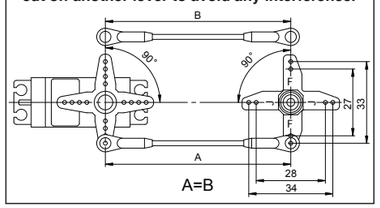
Do not over-prime. This could cause a hydraulic lock and damage the engine on application of the electric starter.

If over-primed, remove glowplug, close needle-valve and apply starter to pump out surplus fuel. Cover the head with a rag to prevent pumped out fuel from getting into your eyes.



Linking the throttle servo to the carburetor

Link the throttle servo to the carburetor using the throttle lever supplied. Throttle control rod A and B should be equal length. Set the linkage so that the servo output lever and throttle lever are parallel when the throttle stick on the transmitter is at middle position. Installing hole intervals on the F lever and on the J lever are different. Decide the lever to use according to the servo used. Be sure to cut off another lever to avoid any interference.



■ INTRODUCTION

This is a high performance engine designed for small-sized radio-controlled helicopters.
Since the mounting bolt pattern of the engine as well as silencer is the same as those of the 32SX-H, it can be directly replaced with the 32SX-H and most of other 32-39 size engines. This powerful engine is suitable for sport flight as well as 3D flight.

With some models, needle interferes the body and working on the body to avoid this would be required.

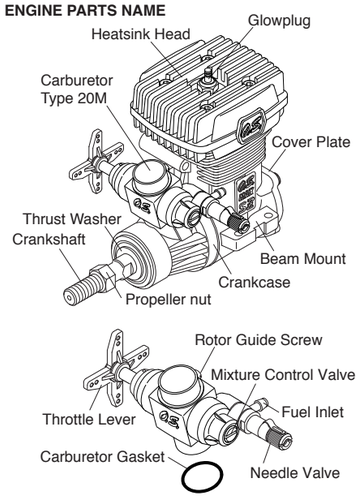
STANDARD ACCESSOIES

- Glow Plug No.8
  O.S. No.8 glowplug is supplied with the engine
- Throttle Lever Assembly

NOTE

Throttle lever is not installed on the carburetor when the engine leaves the factory.
Install it before using the engine.

■ ENGINE PARTS NAME



■ BEFORE STARTING

Tools, accessories, etc.The following items are necessary for operating the engine.

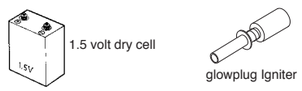
Items necessary for starting

Battery leads

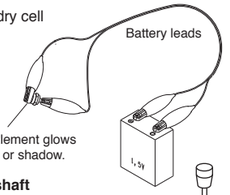
These are used to conduct current from the battery to the glowplug. Basically, two leads, with clips, are required, but, for greater conve-nience, twin leads with special glowplug connectors, as shown on the right, are commercially available.

Glowplug battery

The power source for heating the glowplug may be either a large heavy-duty 1.5volt dry cell, Ni-cd battery or glowplug Igniter.



In case of 1.5volt dry cell

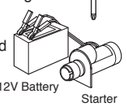


Hexagon starting shaft

This shaft mounted on an electric starting motor is driven into the shaft cup to turn the engine.

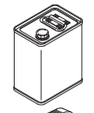
Electric starter and starter battery

An electric starter is recommended for starting.



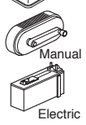
Fuel

Select, by practical tests, the most suitable fuel from among the best quality fuels available in your country for helicopter use. For the best throttle response, a fuel containing 10% to 30% nitromethane is preferable. Lubricants may be either castor-oil or a suitable synthetic oil (or. a blend of both) provided that they are always of top quality. For consistent performance and long engine life, it is essential to use fuel containing AT LEAST 18% lubricant by volume. Some fuels containing coloring additives tend to deterriorate and may adversely affect running qualities. If in doubt compare to a fuel known to be good.



Fuel Pump

Alternatively, one of the purpose-made manual or electric fuel pumps may be used to transfer fuel directly from your fuel container to the fuel tank.



O.S. Super Filter (Fuel Can Filter)

Install a filter to the outlet tube of your refueling container to prevent entry of foreign matter into fuel tank. O.S. 'Super Filters' (large and small) are available as optional extras.

Fuel Filter

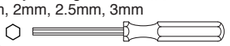
It is recommended to install a good in-line filter between the fuel tank and carburetor to prevent entry of foreign matter into the carburetor.

Silicone Fuel Line

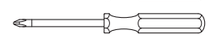
Heatproof silicone tubing of approx. 5mm o.d. and 2.5mm i.d. is required for the connection between the fuel tank and engine.

■ TOOLS

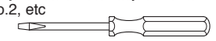
Hex Drivers Necessary for engine installation. 1.5mm, 2mm, 2.5mm, 3mm



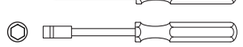
Phillips Screwdriver No.1, No.2, etc.



Screwdriver Necessary for carburetor adjustments. No.1, No.2, etc

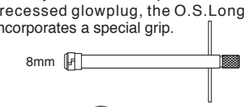


Socket Drivers 5mm, 5.5mm, 7mm



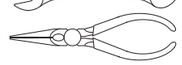
Long Socket Wrench With Plug Grip

Recommended for easy removal and replacement of the angled and recessed glowplug, the O.S.Long Socket Wrench incorporates a special grip.



End Wrenches 8mm, 13mm, 14mm, etc.

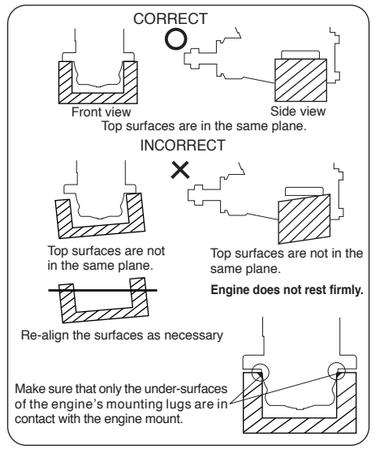
Needle Nose Pliers



■ INSTALLATION OF THE ENGINE

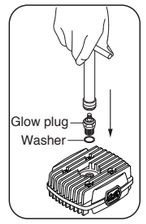
The under-surfaces of all O.S. engine beam mounting lugs are precision machined flat and exactly parallel to the engine's horizontal axis. It is essential that the engine mounts in the model are also accurately made and aligned. If they are not, they will cause stress and distortion within the engine itself, probably resulting in loss of performance and internal damage.
The recommended screws for securing the engine to the engine mounts in the model are 3mm or 4-40 steel Allen type. It is also advisable to use lock washers or LOCTITE to prevent nuts from loosening.

Make sure that only the under-surfaces of the engine's mounting lugs are in contact with the engine mount. Please note that crankcase volume of the 37SZ-H is a little larger than the 32SX-H's. If the crankcase body touches the mount, chamfer the edges of the mount.



INSTALLING THE GLOWPLUG

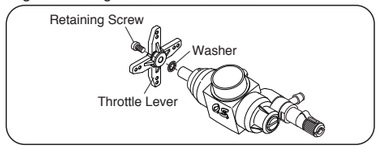
Install washer on glowplug and insert carefully into Heatsink-head, making sure that it is not cross-threaded before tightening firmly.



■ INSTALLATION OF THE STANDARD ACCESSORIES

INSTALLATION OF THE THROTTLE LEVER

Throttle lever is not installed on the carburetor when the engine leaves the factory. Install it before using the engine referring to the sketch below.



■ CARBURETOR CONTROLS

With a fixed-wing model, power failure is rarely a serious threat to the safety of the aircraft since it can usually glide down to a safe landing. In a helicopter, on the other hand, it is vitally imporant that the engine keeps running and that there is a quick and reliable response to the throttle in order to ensure safe ascent and descent of the model.

Two adjustable controls are provided on this carburetor.

- **The Needle Valve:**

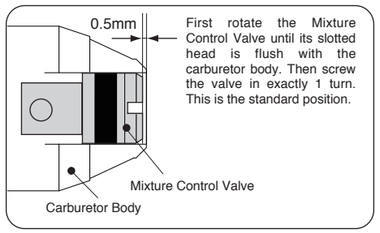
  When set to produce maximum power at full throttle, this establishes the basic fuel/air mixture strength. This is then maintained by the carburetor's automatic mixture control system to cover the engine's requirements at reduced throttle settings.

- **The Mixture Control Valve**

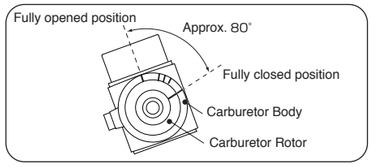
  For adjusting the mixture strength at part-throttle and idling speeds, to obtain steady idling and smooth acceleration to medium speeds. The Mixture Control Valve has been factory set for the approximate best result. First, run the engine as received, and re-adjust the Mixture Control Valve only when necessary.

■ 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.
Its basic setting can be reestablished as follows :



■ GRADUATIONS ON THE CARBURETOR BODY



As shown in the sketch, the carburetor has graduation marks. When the triangle mark on the carburetor rotor meets the most right mark, throttle is fully closed. When the triangle mark meets the top mark, throttle is fully open. The range is approximately 80 degrees. You may use other three marks as the reference marking of throttle opening to your preference when hovering.

WARNING!
Never try to check the triangle mark position while the engine is running and rotor is rotating, or you may be hit by rotating rotor which results in serious injury. Stop the engine and rotor before checking the triangle mark position.

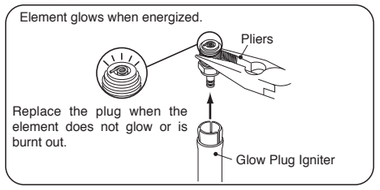
■ STARTING

Be sure to use an electric starter to start the engine.

Be sure to use a muffler pressurized fuel feed. Use the same fuel as you intend to employ for actual operation of your model.

Starting procedure is as follows:

1. Fill the fuel tank with fuel. When filled, prevent the fuel from flowing into the carburetor with a commercially available fuel stopper, etc. Release the stopper before starting the engine.
2. Make sure that plug element glows red, and install the plug in the cylinder head.



1. **Opening and closing of the Needle-Valve**

   Turn the needle clockwise to close the needle-valve, and turn the needle counter-clockwise to open the needle-valve as shown in the sketch.

2. **Opening the needle-valve**

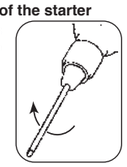
   Firstly, turn the needle clockwise slowly until it stops. The position it stops is the fully closed position of the needle-valve. Make note this position for reference..
   Open the needle-valve 1.5 turns.

3. **Preparation of the starter**

   Install the starting shaft to the starter securely. Poor installation swings the starting shaft, which is dangerous.

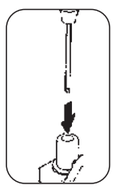
4. **Checking the rotating direction of the starter**

   Make sure that the starter rotates to the direction shown in the sketch. If the direction is reverse, reverse the leads on battery.



5. **Inserting the starter shaft**

   Insert the starting shaft into the shaft cup securely.



6. **Priming**

   Without heating the glowplug, open the throttle a little from the idle position. Turn the engine using the starter until the fuel is seen to reach carburetor.

7. **Preparation of starting**
Make sure that the transmitter throttle stick is at the fully closed position and the throttle trim at center position, and make sure that idle-up switch on the transmitter is off. Hold the rotor head by hand so that rotor cannot rotate when the engine is Started. Also, steady the model with a foot on the landing-gear skid.

8. **Starting**
Connect the battery to the glowplug and start the engine by applying the starter. When started, switch off the starter and withdraw the starting shaft after making sure the rotation of the starter shaft stops.

9. **Stopping the engine**
Fully pull down the throttle trim on the transmitter.

Note:
Make sure that the throttle linkage is made so that the throttle is fully closed when the throttle lever as well as trim lever on the transmitter are fully pulled down.

In case the engine does not stop.
Hold the rotor head, and pinch the silicone tube to stop the fuel supply. If it still does not stop, pull off the fuel tubing from the carburetor. It is necessary to readjust the throttle linkage so that the carburetor rotor is fully closed when the throttle stick and throttle trim on the transmitter are fully pulled down.

NOTE:
If the throttle response is poor or the engine stops due to a temporarily over-rich mixture immediately after the engine is started, pinch the fuel line for one or two seconds until the engine r.p.m. increase and the engine runs steadily.

■ RUNNING-IN ("Breaking-in")

All internal-combustion engines benefit, to some degree, from extra care when they are run for the first few times known as running-in or breaking-in.

This allows the working parts to mate together under load at operating temperature.

However, because O.S. engines are made with the aid of the finest modern precision machinely and from the best and most suitable materrials, only a very short and simple running-in procedure is required and can be carried out with the engine installed in the model.

For the first few flights with a new engine i.e. while the engine is being run-in set the needle-valve for a slightly rich mixture not excessively rich as this may result in poor throttle response and cause the engine to stop.

About one half turn open from the nomal setting will usually suffice.

■ ADJUSTMENT

The following adjustments are approximately correct when using a fuel containing 18-25% lubricant and 10-30% nitromethane.
Bear in mind that fuels containing relatively large percentages of power-boosting nitromethane operate at richer mixture settings than are needed for mild fuels and will, therefore, require the Needle Valve to be readjusted accordingly. The type and percentage of lubricant used is also a factor here, as noted later in these instructions.

This carburetor is not equipped with a throttle stop screw. Instead, idle speed is adjusted by means of the throttle trim lever on the transmitter.

Ⓐ This enables the full r.p.m. range, from idling to full power, to be controlled by the throttle stick, and then allows the engine to be stopped, from the transmitter, by closing the throttle completely with the trim lever.

Set up the throttle linkage as follows:
With the transmitter throttle trim lever fully retarded, adjust the throttle servo linkage so that the throttle rotor is (a) fully open when the transmitter throttle stick is fully advanced and (b) fully closed (i.e. engine stopped) when the stick is fully retarded. The idle speed is then set by advancing the throttle trim lever to the point where the engine runs, steadily and reliably,at the desired idle speed.

Ⓑ As a safety measure, first check the transmitter controls, including the throttle stick and trim lever positions, and hold the main rotor securely before starting the engine.

Ⓒ Warm the engine by allowing it to idle for about 30 seconds. If the engine stops, advance the throttle trim lever slightly to increase the idle rpm. Then open the throttle sufficiently to 'float' the model above the ground.

Ⓓ If, at this time, 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 Valve clockwise. If the mixture is extremely 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 an excessively prolonged warming-up period.

Ⓔ 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 Valve counter-clockwise to enrich the mixture.

Ⓕ Turn the Mixture Control Valve 15 degrees at a time.

Ⓖ Having provisionally set the idle mixture, the next step is to adjust the mixture for hovering flight.

Ⓗ Hover the model and actuate the throttle to observe response over the medium speed range. If the engine smokes excessively and throttle response is poor, the mixture is too rich ; in which case, land the model and turn the Needle Valve clockwise. Do not close the Needle Valve too much, keeping it a little on the rich side at this stage.

Ⓘ If, on the other hand, hovering is not stable and response to the throttle is over-sensitive, or if the engine tends to overheat, this indicates that the mixture is too lean and should be corrected by turning the Needle Valve counter-clockwise.

Ⓙ When satisfactory hovering flight has been achieved, land the model again and re-check the engine's idle qualities.

Ⓚ After about 10 seconds of idling, open the throttle to 'float' the model. If the transition is smooth, the idle mixture is O.K. If the symptoms of either rich or lean running are observed, readjust the Mixture Control Screw accordingly.

Ⓛ Now adjust the Needle Valve to achieve the best performance when the model is flying at full throttle. If, at full throttle, acceleration is poor, the exhaust unduly smoky and the model fails to reach expected straight line speed, the mixture is too rich and the Needle Valve setting will need to be reduced. If, however, after smoothly accelerating to satisfactory high-speed straight and level flight, power is lost when the model is pulled up into a climb, the mixture is too lean. In this case, land the model immediately and readjust Needle Valve to a richer setting.

Ⓜ Now re-check hovering performance and, if necessary, fine-tune the mixture for hovering flight.

Ⓝ For helicopters, good throttle response at medium r.p.m. (e.g.hovering speeds) is most important, since this is a power range widely used in helicopter flight. The optimum fuel/air mixture strength at medium speeds is dependent on obtaining balanced adjustment of both the Needle Valve and the Mixture Controlof both the Needle Valve and the Mixture Control Valve. If both controls are already at their optimum setting, some modification to these settings may be necessary to achieve satisfactory mid-range throttle response, but such readjustments should only be made within the range where idle reliability and high-speed performance are not unduly compromised. Readjustments should therefore be carried out as follows:

Ⓞ If the mid-range throttle response is not rapid and positive (indicating a rich mid-range mixture), turn the Needle Valve 2 or 3 clicks clockwise, or turn the Mixture Control Valve 1-3 degrees clockwise.

Ⓟ If, on the other hand, the response to mid-range throttle movement is too sensitive (indicating a lean mid-range mixture), turn the Needle Valve 2 or 3 clicks counter-clockwise or turn the Mixture Control Valve 1-3 degrees counter-clockwise.

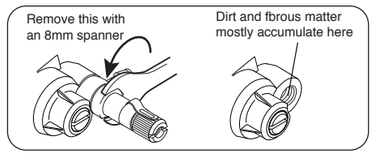
Ⓠ Throttle response at hovering speeds is also affected by the relationship of the main rotor pitch angle to throttle opening. If the optimum mid-range throttle response cannot be obtained by the carburettor adjustments described above, try adjusting the helicopter's pitch control characteristics.

■ SUBSEQUENT READJUSTMENTS

Once the engine has been run-in and the carburetor controls properly set up, it should be unnecessary to alter the mixture settings, except to make minor adjustments to the Needle Valve occasionally, to take account of variations in climatic condisitions.
The use of a different fuel, however, particularly one containing more, or less, nitromethane and / or a different type or proportion of lubricating oil, is likely to call for some readjustment of the Needle-Valve.
Remember that, as a safety measure, it is advisable to increase the Needle Valve opening by an extra half-turn counter-clockwise, prior to establishing a new setting. The same applies if the silencer type is changed. A different silencer may alter the exhaust pressure applied to the fuel feed and call for a revised Needle-Valve setting.
The use of a different glowplug, or changes to the mainrotor and its pitch angles may also require compensating carburetor readjustments.

■ CARBURETOR CLEANLINESS

The correct functioning of the carburetor depends on its small fuel orifices remaining clear. The minute particles of foreign matter that are present in any fuel can easily partially obstruct these orifices and upset mixture strength so that engine performance becomes erratic and unreliable. It is recommended that fuel is passed through a filter when the tank is filled and that a good in-line filter is installed between the fuel tank and carburettor and, furthermore, that this filter is frequently cleaned to remove dirt and lint that accumulates on the filter screen. Finally, occasionally remove the needle-valve holder from the carburetor as shown in Photo and extract any remaining foreign matter that may have lodged in the location shown in right.



■ 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.

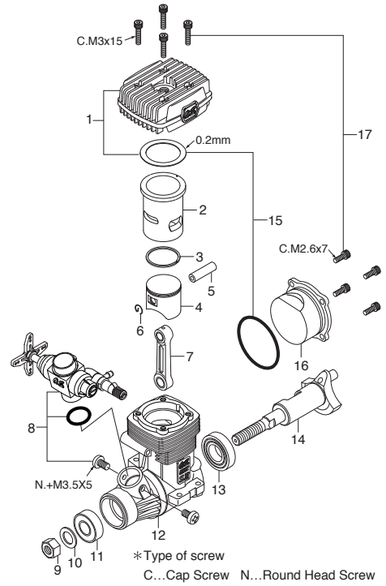
- As previously mentioned, it is vitally important to avoid operating the engine in conditions where dust, disturbed by the propeller, may be deposited on the engine and enter its working parts.
- Remember to keep your fuel container closed to prevent foreign matter from contaminating the fuel.
- Install a fuel filter to prevent foreign matter 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 foreign matter 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 needle-valve 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 with intake pipe, 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 with intake pipe and glowplug on the engine and keep it in a dry place after putting in a vinyl bag.

■ O.S. GENUINE PARTS & ACCESSORIES

- **GLOWPLUG**
No.7 (71607100) **No.8** (71608001)
No.10 (Former A5) (71605100)
- **CRANKSHAFT CLAMP 37**
(71530600)
- **SUPER FILTER (L)**
(72403050)
- **NON-BUBBLE WEIGHT**
(S) (71531010)
- **LOCK WASHER (10set)**
M3 (55500002)
- **O.S. SPEED CILICONE TUBE**
(72506100) 2.5mm x 1000mm
- **O.S. SPEED MAINTENANCE OIL**
(71430010)
- **LONG SOCKET WRENCH WITH PLUG GRIP**
(71521000)
- **O.S. SPEED PISTON PIN RETAINER PLIERS**
(71492000)

The specifications are subject to alteration for improvement without notice.

■ ENGINE EXPLODED VIEW



＊Type of screw
C…Cap Screw N…Round Head Screw

■ ENGINEN PARTS LIST

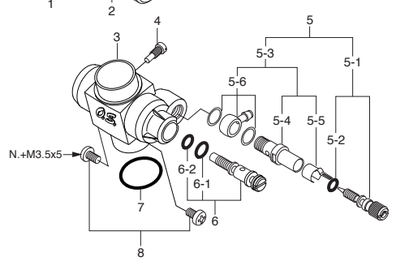
No.	Code No.	Description
1	23414300	Heatsink Head
2	23413100	Cylinder Liner
3	25403400	Piston Ring
4	23413200	Piston
5	23406000	Piston Pin
6	24517000	Piston Pin Retainer (2pcs.)
7	23415000	Connecting Rod
8	23483000	Carburetor Complete (20M)
9	23210007	Propeller Nut
10	22620003	Thrust Washer
11	22831000	Crankshaft Bearing (Front)
12	23411000	Crankcase
13	23730000	Crankshaft Bearing (Rear)
14	23412000	Crankshaft
15	23424000	Gasket Set
16	23427000	Cover Plate
17	23411300	Screw Set
	29085140	Throttle Lever Assembly
	71608001	Glow Plug No.8

The specifications are subject to alteration for improvement without notice.

CAP SCREW SETS (10pcs./sets)

Code No.	Size	Pcs. used in an engine
79871020	M2.6x7	Cover Plate Retaining Screw (4pcs.)
79871150	M3x15	Cylinder Head Retaining Screw (4pcs.)

■ CARBURETOR EXPLODED VIEW



＊Type of screw
C…Cap Screw N…Round Head Screw

CAP SCREW SETS (10pcs./sets)

Code No.	Size	Pcs. used in an engine
79871110	M3x8	Throttle Lever Retaining Screw (1pc.)

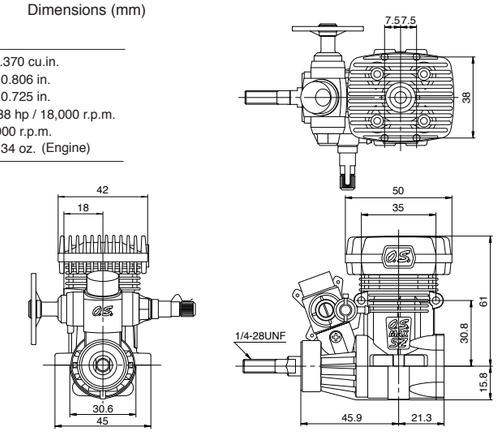
■ CARBURETOR PARTS LIST

No.	Code No.	Description
1	29085140	Throttle Lever Assembly
1-1	22826131	Throttle Lever Retaining Screw (2pcs.)
2	23483200	Carburetor Rotor
3	23483100	Carburetor Body
4	45581820	Rotor Guide Screw
5	27081900	Needle Valve Assembly
5-1	27981910	Needle Assembly
5-2	24981837	"O" Ring (2pcs.)
5-3	46181940	Needle Valve Holder Assembly
5-4	46181941	Needle Valve Holder
5-5	26711305	Ratchet Spring
5-6	46181950	Fuel Inlet (w/Gasket)
6	21285600	Mixture Control Valve Assembly
6-1	46066319	"O" Ring (L) (2pcs.)
6-2	22781800	"O" Ring (S) (2pcs.)
7	22615000	Carburetor Rubber Gasket
8	23081706	Carburetor Retaining Screw (2pcs.)

The specifications are subject to alteration for improvement without notice.

■ THREE VIEW DRAWING

Dimensions (mm)



SPECIFICATIONS

■ Displacement	6.07 cc / 0.370 cu.in.
■ Bore	20.5 mm / 0.806 in.
■ Stroke	18.4 mm / 0.725 in.
■ Output	1.4 ps / 1.38 hp / 18,000 r.p.m.
■ Practical R.P.M.	2,000-21,000 r.p.m.
■ Weight	293 g / 10.34 oz. (Engine)

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