

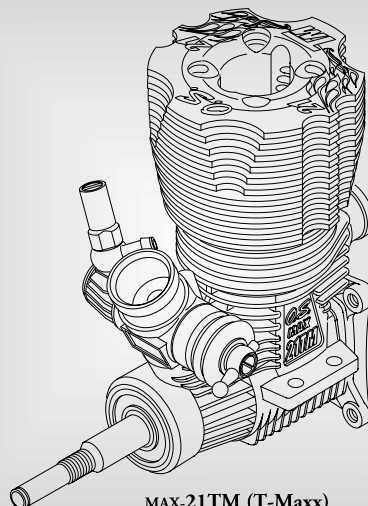
O.S. ENGINE

MAX-21TM w/T-Maxx or Revo Manifold

INSTRUCTION MANUAL

It is of vital importance, before attempting to operate your engine, to read the general '**SAFETY INSTRUCTIONS AND WARNINGS**' section on pages 2-5 of this booklet 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.
- Keep these instructions in a safe place so that you may readily refer to them whenever necessary.
- It is suggested that any instructions supplied with the vehicle, radio control equipment, etc., are accessible for checking at the same time.



MAX-21TM (T-Maxx)

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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 applies basically to ALL MODEL ENGINES and 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

- 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 an 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.



- 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.

- 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.





NOTES

- This engine is intended for model cars. 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 highspeed engines) may eventually impair your hearing and such noise is also likely to cause annoyance to others over a wide area.
- The wearing of safety glasses is also strongly recommended.
- Take care that the glowplug clip or battery leads do not come into contact with rotating parts. Also check that the linkage to the throttle arm is secure.
- For their safety, keep all onlookers (especially small children) well back (at least 20 feet or 6 meters) when preparing your model for running.

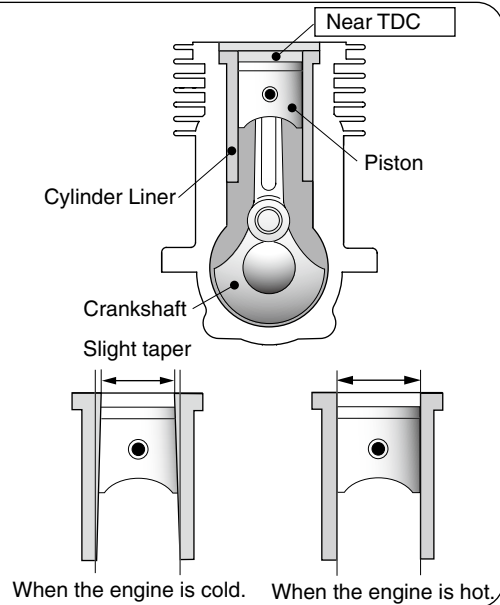


NOTES

- Before starting the engine, always check the tightness of all the screws and nuts especially those of joint and movable parts such as throttle arm. Missing retightening the loose screws and nuts often causes the parts breakage that is capable of harming you.
- To stop the engine, fully retard the throttle stick and trim lever on the trans-mitter, or, in an emergency, cut off the fuel supply by pinching the fuel delivery line from the tank.
- 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 abruptly restart if it is rotated over compression WITHOUT the glowplug battery being reconnected.

ENGINE CONSTRUCTION

With this engine, the piston will feel tight at the top of its stroke (TDC) when the engine is cold. This is normal. The cylinder bore has a slight taper. The piston and cylinder are designed to achieve a perfect running clearance when they reach operating temperature.

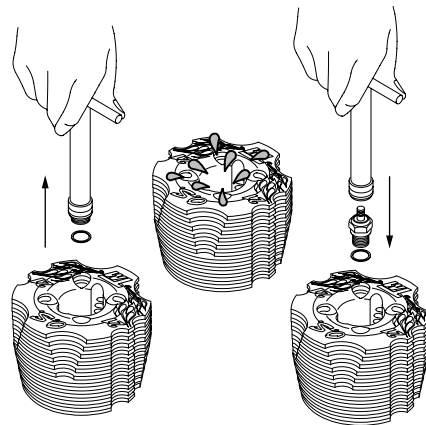


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NOTES WHEN APPLYING AN ELECTRIC STARTER

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 any pumped out fuel from getting into your eyes.





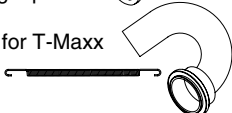

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ABOUT THE ENGINE

These engines are designed especially to power the T-Maxx or Revo. Purposely designed LC3 glow plug is supplied with the engine for improved power, fuel economy and durability. The carburetor offers easy handling as well as high performance.

T-Maxx and Revo are trademarks of Traxxas Corp.

Standard accessories

- Glow Plug LC3 
- Exhaust Seal Ring 1piece 
- Exhaust Manifold for T-Maxx 
- Exhaust Manifold for Revo 

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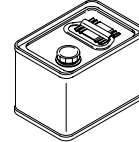
BEFORE STARTING


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


■ Items necessary for starting

FUEL

Generally, it is suggested that the user selects a fuel that is commercially available for model two-stroke engines and contains 10-30% nitromethane. As a starting point, we recommend a fuel containing 20% nitromethane, changing to a fuel containing more nitro if necessary. When the brand of fuel is changed, or the nitro content increased, it is advisable to repeat the running-in procedure referred to in the RUNNING-IN paragraphs. Please note that with high-nitro fuels, although power may be increased for competition purposes, glowplug elements do not last as long and engine life will be shortened.

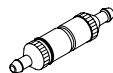


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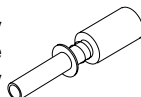
FUEL FILTER

To be installed in the fuel line between fuel tank and carburetor to prevent foreign matter from entering the carburetor.



GLOWPLUG IGNITER

Commercially available handy glowplug heater in which the glowplug battery and battery leads are integrated.



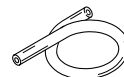
FUEL PUMP

For filling the fuel tank, a simple, polyethylene "squeeze" bottle, with a suitable spout, is required.



SILICONE FUEL LINE

Heatproof silicone tubing of approx. 5mm o.d. and 2mm i.d. is required for the connection between the fuel tank and engine.



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■ TOOLS

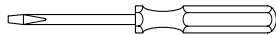
HEX SCREWDRIVER

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



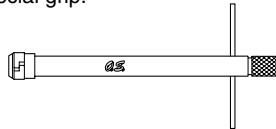
SCREWDRIVER

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

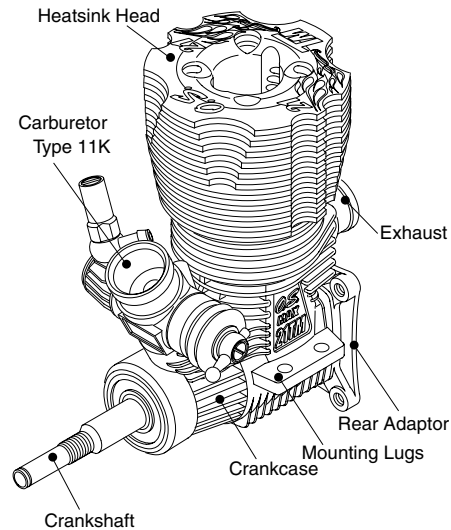


LONG SOCKET WRENCH WITH PLUG GRIP

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

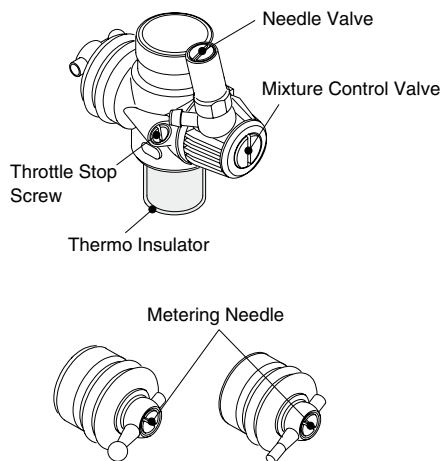


BASIC ENGINE PARTS



MAX-21TM (T-Maxx)

CARBURETOR CONTROLS 11K, 11K-R



Four adjustable controls are provided on this carburetor.

- **The Needle-Valve:**
For adjusting the mixture strength when the throttle is fully open.
- **The Mixture Control Valve:**
For changing the mixture strength at mid speed and acceleration. (Do not rotate the screw more than one turn.)
- **The Metering Needle:**
For adjusting the mixture strength at part-throttle and idle speed, to obtain steady idling and smooth acceleration to mid speed.
- **The Throttle Stop Screw:**
For setting the minimum idle speed:

NOTE: Readjustment may be necessary, occasionally to allow for changes in fuel formula gear ratio or clutch engagement point.

FACTS ABOUT GLOWPLUGS

Since the compatibility of glowplug and fuel may have a marked effect on performance and reliability, it may be worthwhile to choose the R/C type plug found most suitable after tests. Recommended O.S. plugs are LC3. Carefully install plug finger-tight, before final tightening with the correct size plug wrench.

The role of the glowplug

With a glowplug engine, ignition is initiated by the application of a 1.5-volt power source. When the battery is disconnected, the heat retained within the combustion chamber remains sufficient to keep the plug filament glowing, thereby continuing to keep the engine running. Ignition timing is 'automatic' : under reduced load, allowing higher rpm, the plug becomes hotter and, appropriately, fires the fuel/air charge earlier; conversely, at reduced rpm, the plug become cooler and ignition is retarded.

Glowplug life

Particularly in the case of very high performance engines, glowplugs must be regarded as expendable items.

However, plug life can be extended and engine performance maintained by careful use, i.e.:

- Install a plug suitable for the engine.
- Use fuel containing a moderate percentage of nitromethane.
- Do not run the engine too lean and do not leave the battery connected while adjusting the needle.

When to replace the glowplug

Apart from when actually burned out, a plug may need to be replaced because it no longer delivers its best performance, such as when:

- Filament surface has roughened and turned white.
- Filament coil has become distorted.
- Foreign matter has adhered to filament or plug body has corroded.
- Engine tends to cut out when idling.
- Starting qualities deteriorate.

INSTALLATION



First, remove the original engine, from the engine mount.



Install the engine on the engine mount with ground wire.

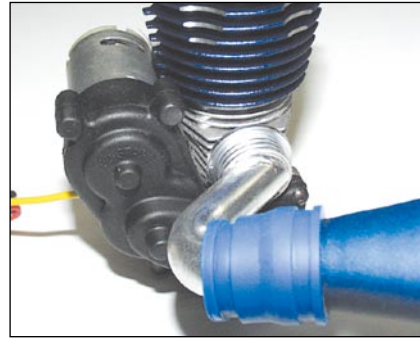


Install the flywheel and clutch.

T-Maxx



Revo



Install the electric starter taken from the original engine.

Install the manifold supplied with the engine.

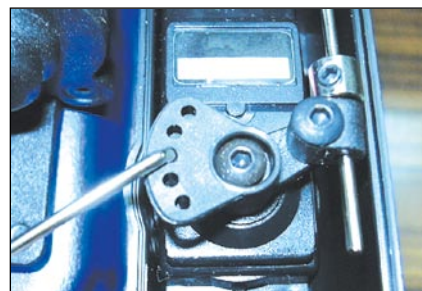
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T-Maxx



Adjust the plastic ball end so that the throttle linkage may be connected correctly.

Revo



Adjust the stopper end so that the throttle linkage may be made correctly.

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Revo



Finally, insert the wire for heating the glow plug.

T-Maxx



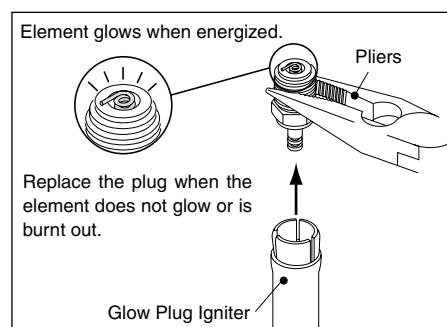
Finally, connect the wire for glow plug heating to the glow plug.

STARTING THE ENGINE & RUNNING-IN ('Breaking-in')

For long life and high performance, every engine needs to be 'run-in' or 'broken-in'. With care, running-in of the MAX-21TM can be carried out with the engine installed in the vehicle. Be sure to install the air-cleaner on the carburetor and use a muffler-pressurized fuel system.

- The somewhat violent changes of vehicle attitude that occur in off-road running, combined with the fact that, in buggy type cars, the fuel tank is often located some distance from the carburetor, means that fuel 'head' at the carburetor can vary and upset running. Therefore, it is recommended that a muffler pressurized fuel feed system be used.
- Never run your vehicle without installing the air cleaner. Dust and dirt that may otherwise be drawn into the engine will rapidly shorten its life.

- ◆ Fill the tank completely with fuel.
- ◆ Temporarily remove the glowplug to check that it glows bright red when energized.



- The carburetor on this engine has been set at the starting setting when the engine leaves the factory.
- Switch on the transmitter, and check that all the linkage moves correctly.

Remember!

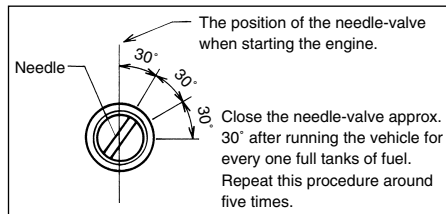
It is vitally important to set the throttle at the correct position before attempting to start the engine. If the engine is allowed to run with the throttle too far open under "no load" conditions, it will rapidly overheat and may be seriously damaged.



- When the engine starts, first allow it to operate in short runs on its very rich starting settings, with the glowplug battery still connected and with its driving wheels clear of the ground. The rich mixture will, under these conditions, provide adequate lubrication and cooling, indicated by profuse smoke from the exhaust.

- Next, disconnect the glowplug battery and try running the car on the track. If the engine stalls, open the throttle fractionally, but try to keep the engine running as rich as possible: if it stops because of being excessively over-rich, close the Needle-Valve 30° and try again.

- Run the car on the track until one tank of fuel has been consumed, then close the Needle-Valve 30°. Repeat this procedure again until five tanks of fuel have been consumed, during which time the throttle may be opened for brief bursts of increased power. If the engine stops at medium speeds, close the Mixture Control Valve 30°.



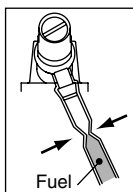
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Note:

If the engine should need to be disassembled (e.g. for cleaning or minor parts replacement), it is advisable to return the needle-valve to the original rich, starting setting and check whether further running-in time is required before the car is raced again. In the event of any major working parts (e.g. piston/cylinder liner assembly) being replaced or the fuel being changed, especially to high nitro fuel, the complete running-in should be repeated.

- ◆ To stop the engine, close the throttle to idle speed, then shut it off completely with the trim lever on the transmitter.

To cut off the fuel supply, pinch the fuel delivery tube to the carburetor.



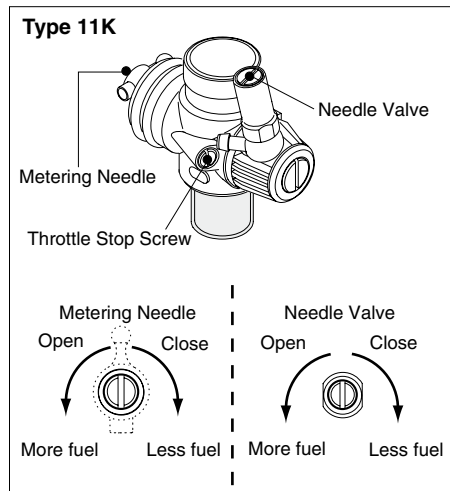
Warning!

Do not touch rotating parts, engine and silencer when stopping the engine as they become very hot, and contact with them may result in a serious burn.

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FINAL ADJUSTMENT

Final adjustment should be carried out only after the running-in has been completed.



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◆ Run the vehicle (with throttle fully open) over the longest available straight course, in order to observe the model's speed. Next return the car to the starting point, close the Needle-Valve 30° and repeat the run, taking note of the improvement in performance.

◆ Continue with further runs, gradually reducing the Needle-Valve setting and aiming to achieve the highest straight-line speed. Remember, however, that, if the Needle-Valve is shut down too far, the engine will overheat and, accompanied by visibly diminished exhaust smoke, the model will lose speed. At this point, throttle down immediately, stop the vehicle and reopen the Needle-Valve 30°.

◆ With the engine running, close the throttle and allow it to idle for about five seconds, then reopen the throttle fully. If, at this point, the engine puffs out an excessive amount of smoke and the vehicle does not accelerate smoothly and rapidly, it is probable that the idle mixture is too rich. In this case, turn the Metering Needle clockwise 30°. If, on the other hand, the engine tends to speed up momentarily and then cut out abruptly when the throttle is opened, the idle mixture is too lean. Correct this by turning the Metering Needle counter-clockwise 30°.

NOTE:

Metering Needle adjustment should be made in steps of not more than 30°, carefully checking the effect, on throttle response, of each small adjustment.

◆ Carry out adjustments patiently, under actual running conditions, until the engine responds quickly and positively to the throttle control.

Warning!

Mixture adjustments (whether via the Metering Needle, or the Needle-Valve) cannot be made accurately under 'no-load' conditions, which, in any case, are not advised, since such operation carries the risk of seriously damaging the engine through over-revving and overheating.

◆ With the optimum mixture control position, light smoke is visible during high speed running, and the engine rpm increases smoothly during acceleration. Remember that, if the engine is operated with the fuel/air mixture slightly too lean, it will overheat and run unevenly. As with all engines, it is advisable to set both the needle-valve and metering needle slightly on the rich side of the best rpm setting, as a safety measure.

◆ If the engine runs too fast with the throttle closed, the throttle stop screw should be turned counter-clockwise to allow the throttle opening to be reduced.

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- ◆ Finally, beyond the nominal break-in period, a slight readjustment toward a leaner needle setting may be required to maintain maximum performance.

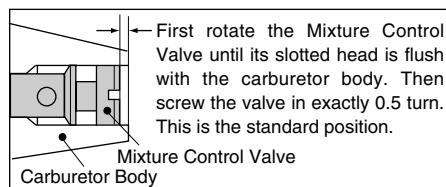
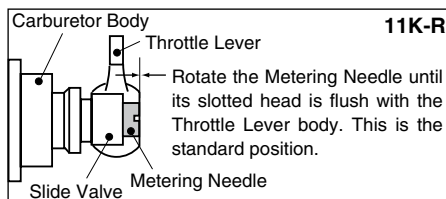
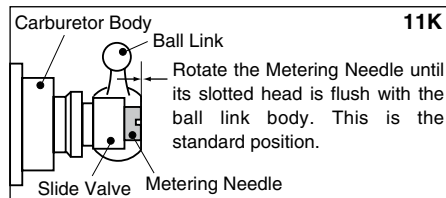
CARBURETOR CLEANLINESS

The correct functioning of the carburetor depends on its small fuel orifices remaining clear.

■ REALIGNMENT OF METERING NEEDLE AND MIXTURE CONTROL VALVE

In the course of making carburetor adjustments, it is just possible that the Metering Needle and the Mixture Control Valve may be inadvertently screwed in or out too far and thereby moved beyond its effective adjustment range.

The basic positions can be found by rotating the Metering Needle until its slotted head is flush with the ball link body or throttle lever body.



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CARE AND MAINTENANCE

1. The minute particles of foreign matter, that are present in any fuel may, by accumulating and partially obstructing fuel flow, cause engine performance to become erratic and unreliable.
O.S. 'Super-Filters' (large and small) are available, as optional extras, to deal with this problem.
One of these filters installed to the pickup tube inside your refueling container, will prevent the entry of foreign material into the fuel tank. It is also recommended that a good in-line filter be installed between the tank and carburetor.
2. Do not forget to clean the filters regularly to remove dirt and lint that accumulate on the filter screens. Also, clean the carburetor itself occasionally.

3. At the end of each operating session, drain out any fuel that may remain in the fuel tank. Afterwards, energize the glow-plug and try to restart the engine, to burn off any fuel that may remain inside the engine. Repeat this procedure until the engine fails to fire. Do this while the engine is still warm.
4. Then, inject some after-run oil into the engine, and rotate the engine with an electric starter for 4 to 5 seconds to distribute the oil to all the working parts.

Note:

Do not inject after-run oil into the carburetor as this may cause the O-rings inside the carburetor to deteriorate. These procedures will reduce the risks of starting difficulties or corrosion after a period of storage.

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5. Finally, when cleaning the exterior of the engine, use only methanol. Do not use gasoline, kerosene or any solvent that might damage the silicone fuel tubing.

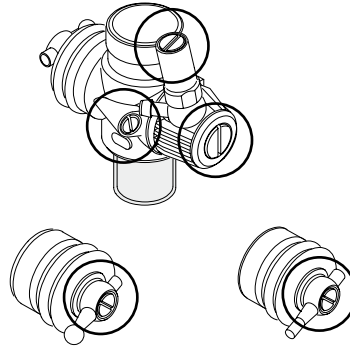
Caution:

The rear crankshaft bearing of this engine uses a special plastic retainer. If the front housing needs to be heated to remove or replace the bearing, do not allow the bearing to exceed 120°C (248°F), otherwise it may be damaged and rendered unserviceable.

■ **Installing Dust Caps** (Optional extra)

When storing the engine, install the cap on the exhaust port, carburetor, etc. to prevent dust from entering the engine.

Dirt and dust may lodge in ○ marked places.



CHECKING THE ENGINE

If the engine suffers a loss of performance after a long period of running it may be due to the wearing of parts. It is suggested that the worn parts be replaced when the following symptoms are detected.

- ◆ Engine sound changes and easily overheats.
- ◆ Power has dropped considerably.
- ◆ Idle is unstable and/or engine tends to stop at idle.

In most cases, ball bearings, cylinder & piston assembly, connecting rod and/or crankcase have become worn out or abnormal. Check the parts carefully and replace them if necessary.

TROUBLE SHOOTING

Symptom	
Engine fails to fire.	
Cause	Corrective action
Fuel tank is empty. Fuel not reaching the engine.	Fill the tank with fuel and repeat Priming procedure.
Glowplug element is burnt out. Glowplug battery discharged	Replace glowplug. Recharge or replace the battery.
Clogged fuel filter Air cleaner and silencer inside is dirty.	Clean or replace fuel filter. Replace cleaner element and clean inside silencer.
Over priming	Remove glowplug and pump out excess fuel.
Fuel tubing is disconnected. Fuel tubing is kinked, split or has a hole.	Connect fuel tubing securely. Check the tubing carefully and replace if necessary.
Incorrect servo linkage	Connect correctly after setting servo at neutral.
Reverse rotating direction of starter box.	Make sure it rotates counter clockwise seen from crankshaft side.

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Symptom	
Engine fires intermittently but does not run.	
Cause	Corrective action
Insufficient fuel in the tank.	Fill the tank with fuel.
Deteriorated glowplug	Replace glowplug.
Clogged fuel filter Air cleaner and silencer inside is dirty.	Clean or replace fuel filter. Replace cleaner element and clean inside silencer.
Engine overheated	Wait until engine is cool.
Incorrect clutch release	Adjust the tension of clutch spring.
Starting battery disconnected too soon.	Do not disconnect plug battery and wait until r.p.m. becomes stable.
Vibration causing air bubbles in fuel.	Install "O" rings to the tank screws to prevent bubbles.

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Symptom	
Unstable idle	
Cause	Corrective action
Unsuitable glowplug	Use suggested glowplug in the instructions.
Unsuitable fuel	Do not use extremely high nitro or low oil content fuel.
Extremely light flywheel	Add heavier flywheel.
Silencer is disconnected or has play	Install silencer securely.
Symptom	
Not reaching expected peak r.p.m.	
Cause	Corrective action
Insufficient warming up or running-in.	Set the needle only after warming up. Complete running-in.
Silencer or manifold is not securely connected or disconnected.	Replace seal ring. Check the connections and secure them.
Fuel tubing from tank is split or broken.	Replace the tubing.

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Symptom	
Poor response	
Cause	Corrective action
Deteriorated glowplug	Replace glowplug.
Incorrect carburetor settings	Readjust low r.p.m. range with metering needle and mixture control valve.
Incorrect setting of transmitter Exponential function.	Check the transmitter setting.
Incorrect linkage	Make sure the throttle servo linkage does not bind and is connected correctly.
Symptom	
Poor r.p.m. drop	
Cause	Corrective action
Throttle position open too far.	Close metering needle to adequate position to lower idle r.p.m.
Carburetor not fully seated	Install carburetor securely.
Metering needle closed too far.	Open the metering meedle a little.

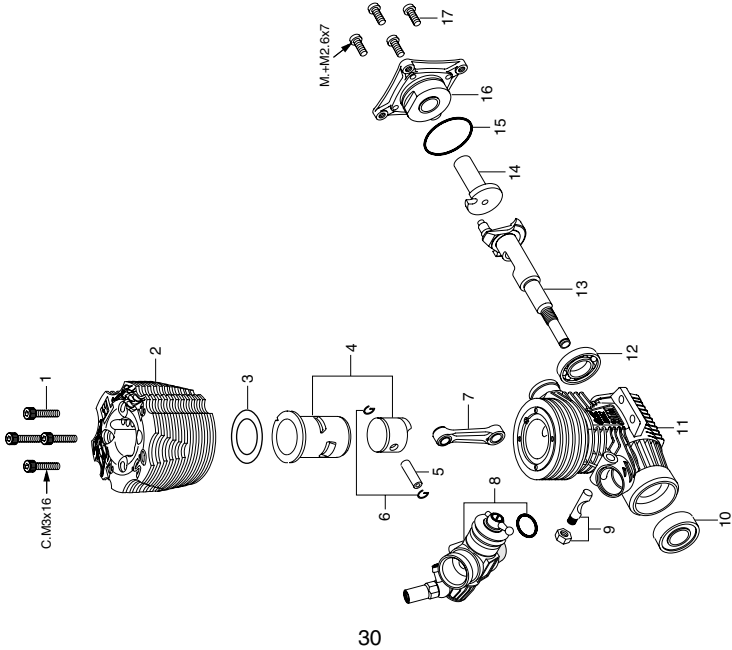
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21TM (T-Maxx) ENGINE PARTS LIST

No.	Code No.	Description
1	79871160	Cylinder Head Retaining Screw (10pcs.)
2	21914200	Heatsink Head
3	21921400	Head Gasket (1pc.)
4	21913300	Cylinder & Piston Assembly
5	23906000	Piston Pin
6	21817000	Piston Pin Retainer (2pcs.)
7	21915000	Connecting Rod
8	21982000	Carburetor Complete (Type 11K)
9	25381701	Carburetor Retainer
10	23731000	Crankshaft Ball Bearing (Front)
11	21921000	Crankcase
12	21931000	Crankshaft Ball Bearing (Rear)
13	21912000	Crankshaft
14	21922000	Starting Shaft
15	21921800	Cover Gasket
16	21911800	Rear Adaptor
17	79860070	Rear Adaptor Retaining Screw (10pcs.)
	71653000	Glow Plug LC3
	21427200	Exhaust Seal Ring (2pcs.)
	72103800	Exhaust Manifold M1020
	72106172	Manifold Spring (2pcs.)

The specifications are subject to alteration for improvement without notice.

21TM (T-Maxx) ENGINE EXPLODED VIEW



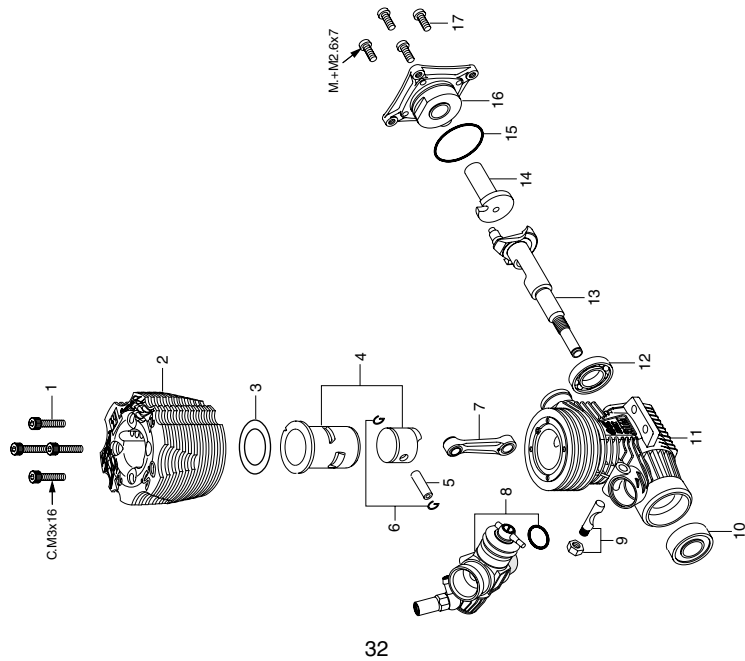
*Type of screw C...Cap Screw M...Oval Fillister-Head Screw
F...Flat Head Screw N...Round Head Screw S...Set Screw

21TM (Revo) ENGINE PARTS LIST

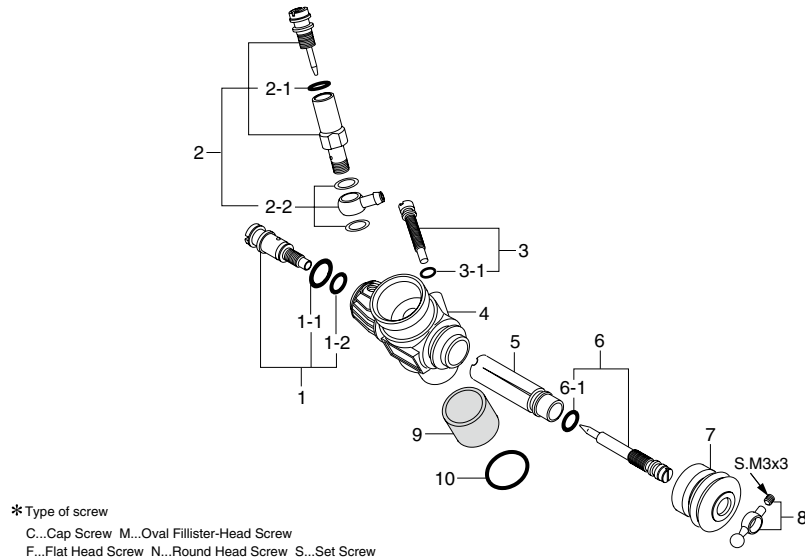
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3	21921400	Head Gasket (1pc.)
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5	23906000	Piston Pin
6	21817000	Piston Pin Retainer (2pcs.)
7	21915000	Connecting Rod
8	21982010	Carburetor Complete (Type 11K-R)
9	25381701	Carburetor Retainer
10	23731000	Crankshaft Ball Bearing (Front)
11	21921000	Crankcase
12	21931000	Crankshaft Ball Bearing (Rear)
13	21912000	Crankshaft
14	21922000	Starting Shaft
15	21921800	Cover Gasket
16	21911800	Rear Adaptor
17	79860070	Rear Adaptor Retaining Screw (10pcs.)
	71653000	Glow Plug LC3
	21427200	Exhaust Seal Ring (2pcs.)
	72103810	Exhaust Manifold M1021
	72106172	Manifold Spring (2pcs.)

The specifications are subject to alteration for improvement without notice.

21TM (Revo) ENGINE EXPLODED VIEW



11K CARBURETOR EXPLODED VIEW



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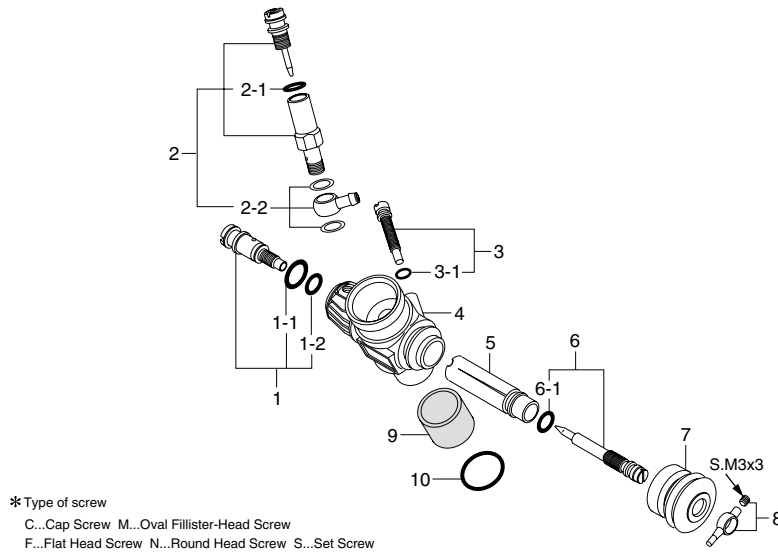
11K CARBURETOR PARTS LIST

No.	Code No.	Description
1	21982700	Mixture Control Valve Assembly
1-1	27881820	"O" Ring (L) (2pcs.)
1-2	22781800	"O" Ring (S) (2pcs.)
2	21285901	Needle Valve Assembly
2-1	27881820	"O" Ring (2pcs.)
2-2	21881950	No. 14 Universal Nipple Assembly
3	21982620	Throttle Stop Screw
3-1	22781800	"O" Ring (S) (2pcs.)
4	21982100	Carburetor Body (w/Thermo Insulator)
5	21982200	Slide Valve
6	21982540	Metering Needle Assembly
6-1	22781800	"O" Ring (S) (2pcs.)
7	21982520	Dust Cover
8	23818430	Ball Link No.5
9	21982900	Thermo Insulator
10	22615000	Carburetor Rubber Gasket

The specifications are subject to alteration for improvement without notice.

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11K-R CARBURETOR EXPLODED VIEW



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11K-R CARBURETOR PARTS LIST

No.	Code No.	Description
1	21982700	Mixture Control Valve Assembly
1-1	27881820	"O" Ring (L) (2pcs.)
1-2	22781800	"O" Ring (S) (2pcs.)
2	21285901	Needle Valve Assembly
2-1	27881820	"O" Ring (2pcs.)
2-2	21881950	No.14 Universal Nipple Assembly
3	21982620	Throttle Stop Screw
3-1	22781800	"O" Ring (S) (2pcs.)
4	21982100	Carburetor Body (w/Thermo Insulator)
5	21982200	Slide Valve
6	21982540	Metering Needle Assembly
6-1	22781800	"O" Ring (S) (2pcs.)
7	21982520	Dust Cover
8	23818440	Throttle Lever
9	21982900	Thermo Insulator
10	22615000	Carburetor Rubber Gasket

The specifications are subject to alteration for improvement without notice.

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■ O.S. Glow Plug



■ Exhaust Seal Ring
(21427200) (2pcs.)



■ Manifold Spring (2pcs.)
(72106172)

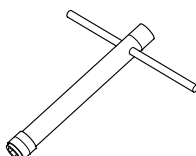


■ Dust Cap Set

Ø3 (73300305)
For Carburetor Nipple
Ø7 (73300712)
For Silencer
Ø12 (73301212)
For Carburetor



■ Long Socket Wrench
With Plug Grip
(71521000)

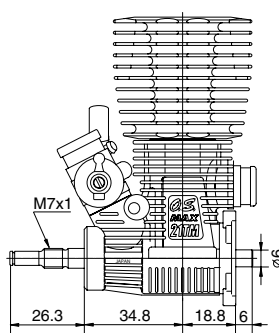
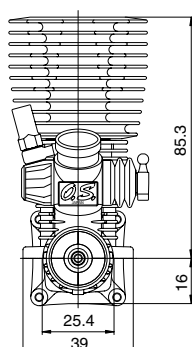
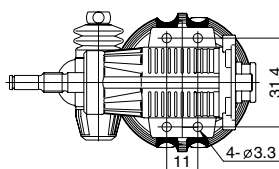


The specifications are subject to alteration for improvement without notice.

21TM (T-Maxx) THREE VIEW DRAWING

SPECIFICATIONS

■ Displacement	3.41cc (0.208 cu.in.)
■ Bore	17.0mm (0.669 in.)
■ Stroke	15.0mm (0.590 in.)
■ Practical R.P.M.	3,000-35,000 r.p.m.
■ Power output	1.8 ps / 1.83 hp / 29,000 r.p.m.
■ Weight	243g (8.57 oz.)

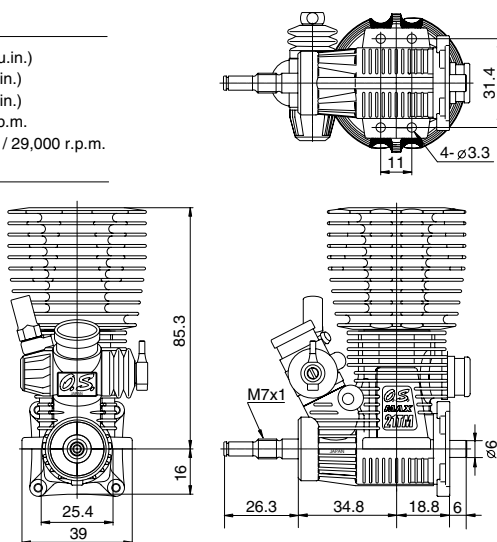


Dimensions (mm)

21TM (Revo) THREE VIEW DRAWING

SPECIFICATIONS

■ Displacement	3.41cc (0.208 cu.in.)
■ Bore	17.0mm (0.669 in.)
■ Stroke	15.0mm (0.590 in.)
■ Practical R.P.M.	3,000-35,000 r.p.m.
■ Power output	1.8 ps / 1.83 hp / 29,000 r.p.m.
■ Weight	243g (8.57 oz.)



Dimensions (mm)

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