

TORQPRO TP-70

70cc four stroke engine single:best for 50-60cc aero and scale

Lightweight, high-powered, long life, great sound

Specifications

Displacement	70cc
Bore	50mm
Stroke	36mm
RPM	1300~6800RPM
Weight	2040g (engine) 105g (ignition)
Fuel	Mix gas1/40 Fully synthetic two stroke oil
Prop	23*12 . 24*8. 24*10 .

Accessories

Iridium Spark Plug
Ignition module
Exhaust pipe
Standoff

The specifications are subject to alteration for improvement without notice

Safety instruction

READ THIS!

WARNING!

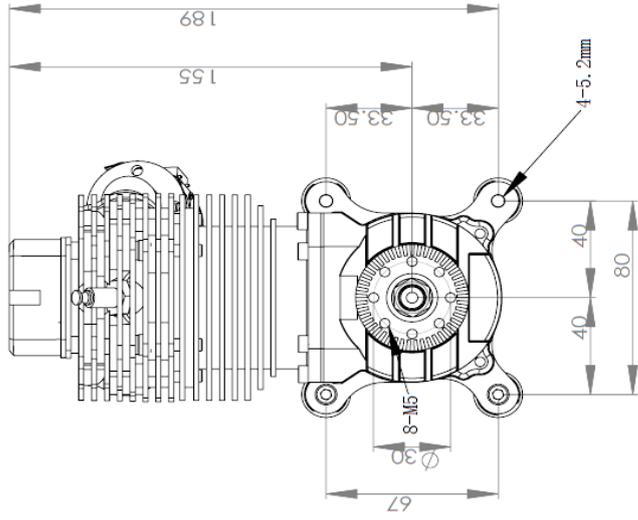
This engine is not toy. If misused or the safety precautions and instructions are not observed, may cause severe harm to you. Torqpro is not responsible for any loss, injury or damage resulting from the miss-use of its products.

You alone are responsible for the safety operation of your engine.

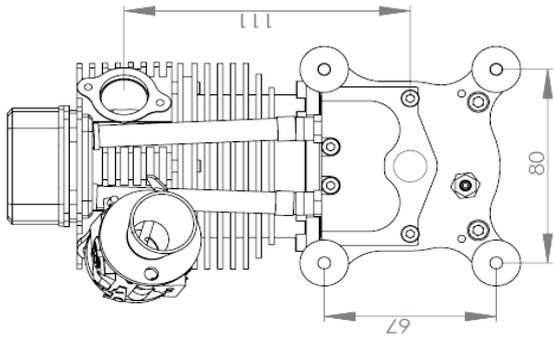
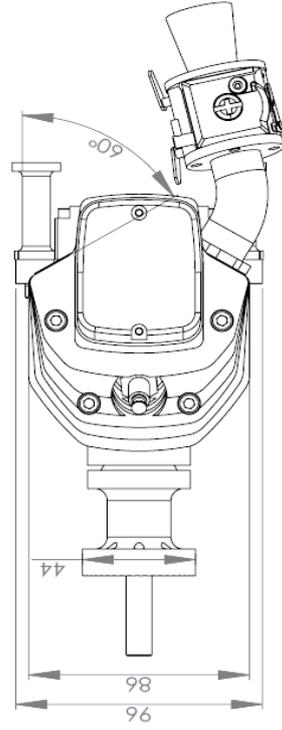
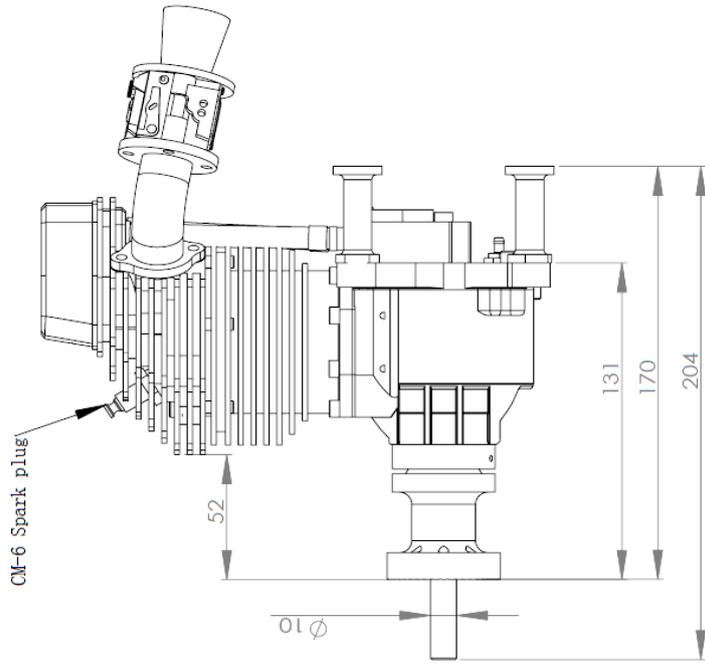
This engine can stop at any time, for a variety of reasons.

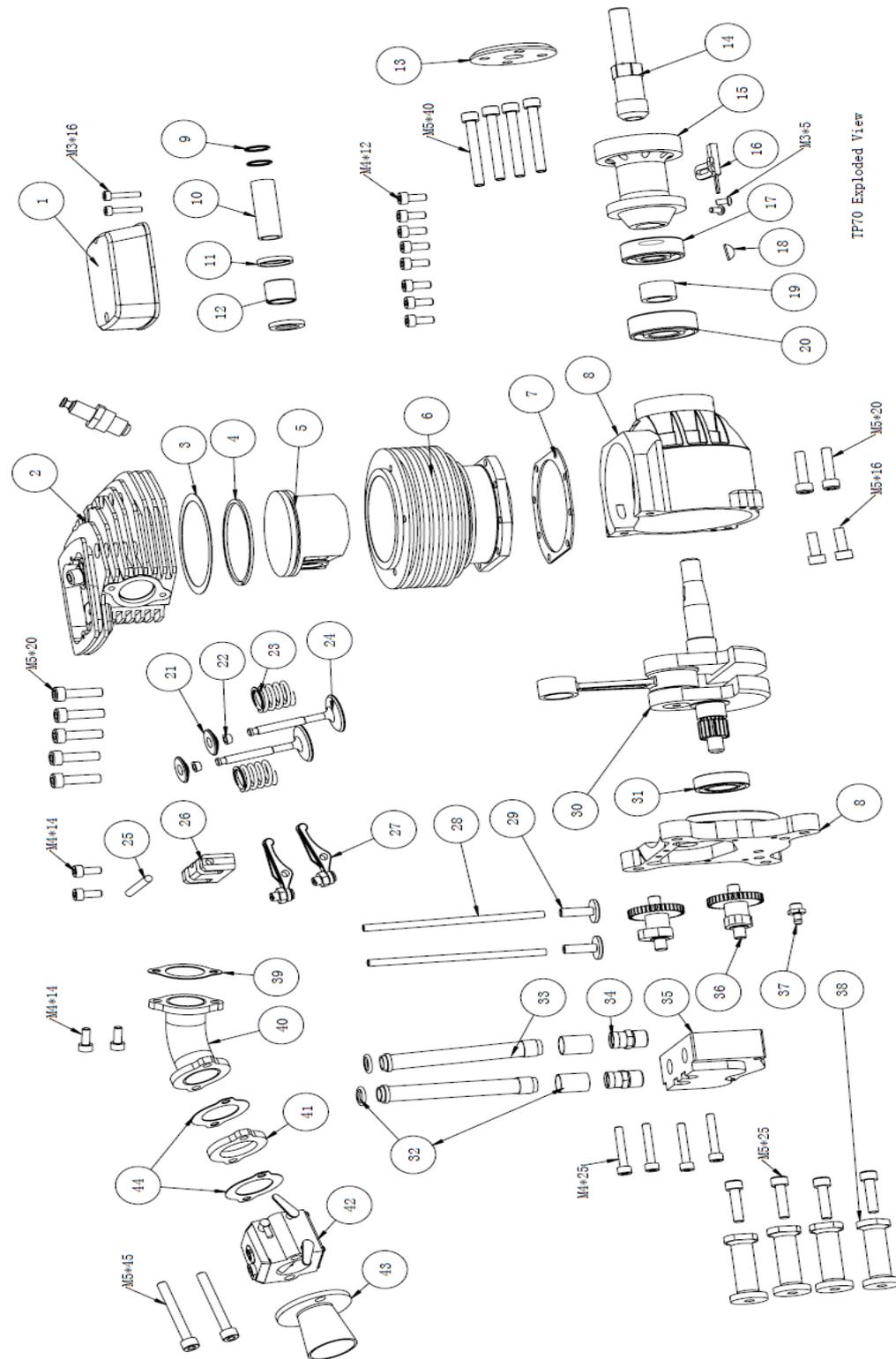
Do not fly your plane in such a way that may cause damage if the motor stops running.

- **Never operate the engine alone.**
- Read all instructions carefully before operating your motor.
- If you do not wish to be completely responsible for the injury or damage caused during the operation of the engine, do not operate it.
- Do not operate the motor indoors.
- When operating the engine, always stand behind the propeller. When operating the motor, please keep a distance away.
- Make sure the aircraft is safely secured when operating the engine, as it can create tremendous thrust
- Inspect motor mount bolts and firewall integrity before operating the motor.
- Anyone near the motor should use some form of eye protection during the operation of the motor.
- Ensure that spectators are at least 30 feet away when operating the motor.
- Ensure that the motor is turned before making any adjustments to it.
- Always use the correct length propeller bolts. Do not use spacers behind the propeller.
- Spinner cones must not touch the propeller.
- Thinner props may require using shorter prop bolts, especially if not using a spinner back plate. Make sure your prop bolts do not bottom out in the propeller hub.
- Tighten the propeller before every flight.
- Always remember to install an ignition kill switch in order to stop the motor.
- Adjust the carburetor linkage for the motor to stop when the carburetor is completely closed.
- Be ware of any sparks from electrical contacts such as fuel pumps, battery charger, etc. Smoking in the area of your fuel supply or motor is not allowed. Store fuel in approved containers and in well ventilated areas.
- Allow the motor to cool for a while before touching or fueling it.
- Flip the prop a few times after running the motor to discharge the ignition system.
- Do not touch the ignition system as it develops extremely high voltage. Never use a damaged, modified, or repaired prop, or a prop that has struck the ground or any other object. Small damages that are difficult to spot could turn into disaster when the prop is operating at thousands of RPM.



TP-70FS
70cc 4-Stroke Gasoline Engine
3-view





NO.	Code No.	Description
1		Rocker Cover
2		Cylinder Head
3		Head Gasket(1pcs.)
4		Piston Ring
5		Piston

6		Cylinder
7		Cylinder Gasket
8		Crankcase
9		Piston Pin Retainer (2pcs./1pair)
10		Piston Pin
11		Needle bearing Washer
12		Needle bearing
13		prop washer
14		prop shaft
15		prop driver
16		Rotation Sensor
17		Crankshaft Ball Bearing(Front)
18		Woodruff Key
19		bearing spacer
20		Crankshaft Ball Bearing(milddle)
21		Valve Spring Retainer (2pcs.)
22		Split Cotter (4pcs./2pair)
23		Valve Spring (2pcs.)
24		valve (2pcs.)
25		Rocker Arm shaft
26		Rocker Support
27		Rocker Arm (2pcs)
28		Push Rod (2pcs)
29		Cam Follower (2pcs.)
30		Crankshaft and Connecting Rod
31		Crankshaft Ball Bearing(Rear)
32		Push Rod Cover seal (4pcs.)
33		Push Rod Cover (2pcs.)
34		Cam Follower Cover (2pcs.)
35		cam case
36		cam (2pcs.)
37		breather nipple
38		standoffs (4pcs)
39		Intake Manifold Gasket
40		Intake Manifold
41		Thermo Insulator
42		Carburetor Complete
43		Velocity Stack
44		Carburetor Gasket Set (2pcs)
45		Exhaust Pipe
46		Ignition Module
47		Spark Plug CM-6

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Fuel

Must need to use high octane gasoline, alcohol based glow fuel cannot be used in TP70 engine. TP70 engine use 40:1 ratio mix gas fuel , must use fully synthetic two stroke oil .Follow the oil manufacturer's recommendations concerning the mixture ratio of gasoline and oil . A 400cc tank will provide 10-15minutes normal flight, use a tank designed for gasoline.

Prop

Make sure that the propeller is well balanced. The choice of prop depends on the design and weight of the aircraft and on the type of flying in which you will be engaged. Determine the best size and type after practical experimentation.

Suggested Props: 24*8, 23*12, 24*10TH(Mejzlik),24*12(Mejzlik).

Make a habit of always checking the tightness of the prop before starting the engine.

tp70 on the ground test, 5400-6400rpm appropriate speed. Excessive load and high speed will cause engine damage.

Running-in/Starting

WARNING:

When ground running the engine, avoid dusty or sandy locations. If dust or grit is drawn into the engine, this can have a ruinous effect, drastically shortening engine life in a matter of minutes.

Initial needle position: When starting the engine for the first time, set **the high speed needle 1.75 turns open** and **the slow speed needle 1.5 turns open** from the fully closed position. With this position both high and slow speed mixtures will be rich. If the settings are upset, come back to this setting and adjust them according to procedure in the needle setting section.

Use a fuel with increased oil content and set the needle a little on the rich side. Too rich a needle setting may cause misfiring or erratic running due to fouling of the plug.

Use a 40:1 fuel/oil mixture if the particular brand of oil states 50:1 mix. Set only the high speed needle 200RPM below maximum rpm. The low speed needle need not be richened.

No need to carry out running-in on a bench nor with the model fixed. Just fly the model with the above mentioned fuel and needle setting. A total of 10 flights(3~4 liters fuel) are required. Avoid prolonged full throttle running at initial stage, and gradually extend the full throttle running time.

It is suggested to use an electric starter for safety.

Starting with a chicken stick or gloved hand

- 1: Close the choke valve, turn on the ignition switch
- 2: Pull down the throttle to 1/8 opened position .
- 3: Flip the propeller until the fuel reach the carburetor and you hear explpsion several times .
- 4: open the choke valve .
- 5: flip the propeller with a chicken stick to start the engine .

Ignition module

Consumption current is 400mA/6000rpm/6V. User a power source of more than 1000mah capacity

Install the ignition module taking sufficient anti vibration measures

The voltage of power source is 4.8-6V

Initial needle postion

When starting the engine for the first time ,set both the high speed needle 1.75turn open, the slow speed needle 1.5turn open .with this position both high and slow speed mixtures will be rich.if the settings are upset,come back to this setting and adjust them according to procedure in the needle setting section.

Installation

Use a strong enough material for the mounting face of the model ,such as birch ply firewall of more than 8mm thick.

Make sure the mounting face of the model is flat.If it is uneven,work on it to be flat.engine mounting face has been high-precision machined flat.make sure mounting face of model is also flat.

Use 5mm steel hex socket head bolts to install the engine. Also use the nord lock washers and other anti-loosening washer or apply locking agent.

Note

Close the choke in the intake stroke can be repeated rotating propeller several times, to make it easier for the fuel into the carburetor.

After the end of a flight, again before the start of the intake stroke of the engine propeller rotation several times repeatedly, you can make it easier to start

Generally,a gasoline engine is sensitive to a lean mixture compared with a glow engine ,and will stop without warning hesitation and stops with over heating.It is recommended that the engine be run with a slightly richer mixture. In particular, the low-speed needle must be oil-rich in order to ensure smooth transition throttle.

30 second warm-up is required as with TP70 gasoline four stroke engine. After the completion of engine warm-up to full throttle work.

After starting later in the 2000-3000rpm engine warm-up 30 seconds before stability.

Cooling is more citally important to a four stroke engine than to a two stroke engine.If overheating symptoms (loss of power at full throttle or exhaust note at mid speed changes from cloudy one to clear one)are observed during flight,immediately stop flying and carry out the following countermeasures.

Enlarge the air intake and outlet cutout on the cowling.install an air guiding plate on the fuselage and cowling so that cooling air may be guided to the cylinder portion of the engine and muffler.

Maintenance

Maintenance after the day's flights

- 1: About once every 20 hours to check valve clearance adjustment, intake valve clearance: 0.08-0.12mm, exhaust valve clearance: 0.13-0.17mm
- 2: Check carbon deposits of valve and spark plug, carbon deposits severe if the valve, please clean up carbon deposits.
- 3: Check engine seals, if oil spills or damaged, replace the seals
- 4: When you save the engine, move the propeller to the engine's compression stroke, which can reduce the valve spring pressure, prevent dust from entering the cylinder.
- 5: Check the tightening of each screw
- 6: To make the engine more stable, it is recommended to use Torqpro genuine Iridium spark plugs.

TP70 WARRANTY

**Your TP70 engine and ignition system covered with a 30h run times warranty
by Torqpro, starting from the date of purchase.**

- This warranty covers defects in workmanship and materials only.
- Do not disassemble the engine or ignition system. Improper disassembly or assembly of the motor ignition system will void the warranty on the item.
- Any modifications to the engine, or the ignition system, other than those authorized by Torqpro , will void this warranty.

This warranty does not cover the following:

- Damage caused by a crash
- Shipping expense to and from Torqpro for warranty service.
- Damage caused by improper handling, operation, or maintenance.
- Damage caused by using improper fuel or additives.
- Damage incurred during transit to Torqpro. **WRAP AND PACK ENGINE CAREFULLY!!**

NOTE: TORQPRO WILL NOT SHIP ANY WARRANTY REPLACEMENT ITEMS UNTIL THE POSSIBLY DEFECTIVE ITEMS IN QUESTION ARE RETURNED TO AND RECEIVED AND DEEMED DEFECTIVE BY TORQPRO.

Remember! This engine can stop at any time, for a variety of reasons. Do not fly your plane in a way that damage or harm will result if the engine stops running. Torqpro will not be responsible for damage caused in engine-out situations.