FOXTECH REX340 EFI Engine Hybrid Drone User Manual

Contents

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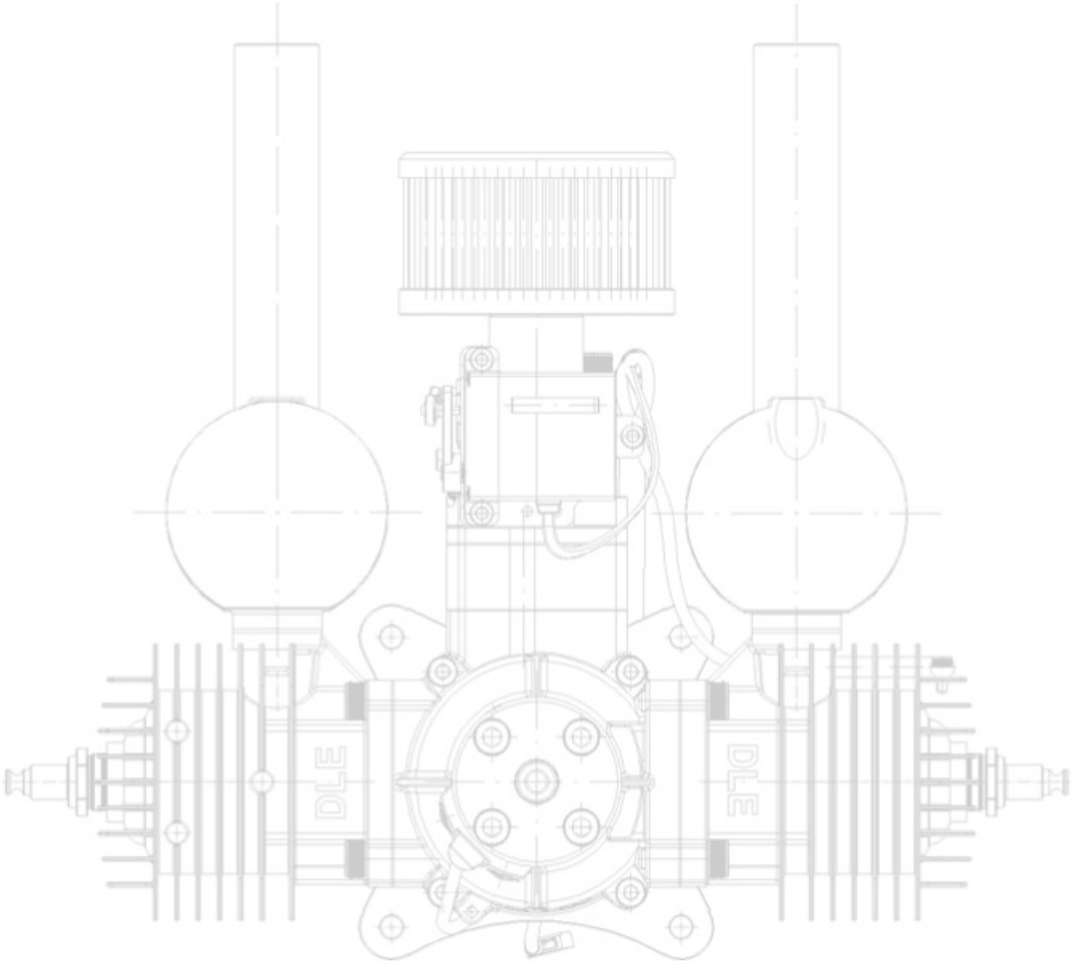


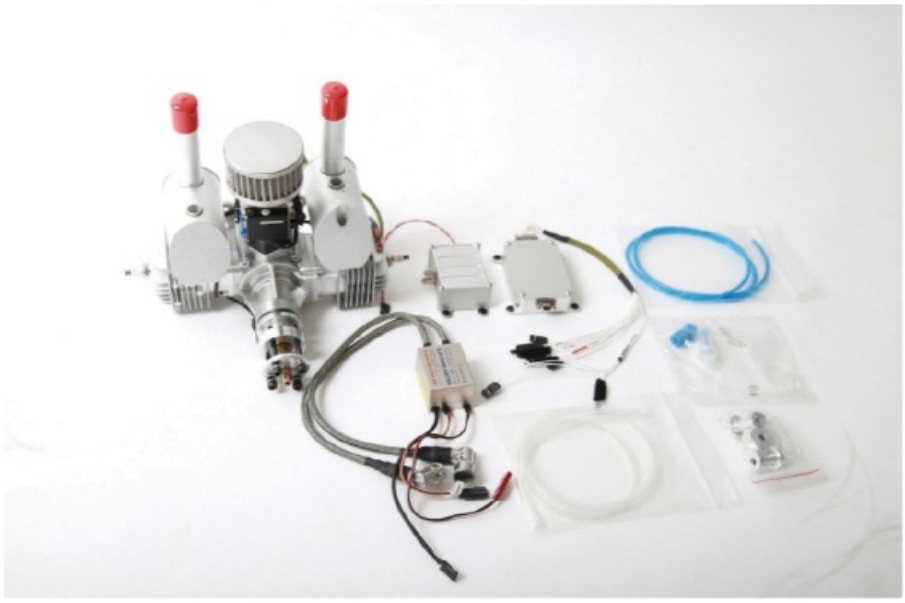
Unpacking

Note: There are many cables connected to the body of the engine. Please be careful when taking the engine out of the box.

Packing List:

1. Engine
2. Electronic Control Unit
3. Capacitor Discharge Ignition
4. PUMP
5. Fuel filter;
6. Cables
7. Engine mounting accessories
8. User Manual

Components and Descriptions



REX340 EFI Packing List

Security Common Sense

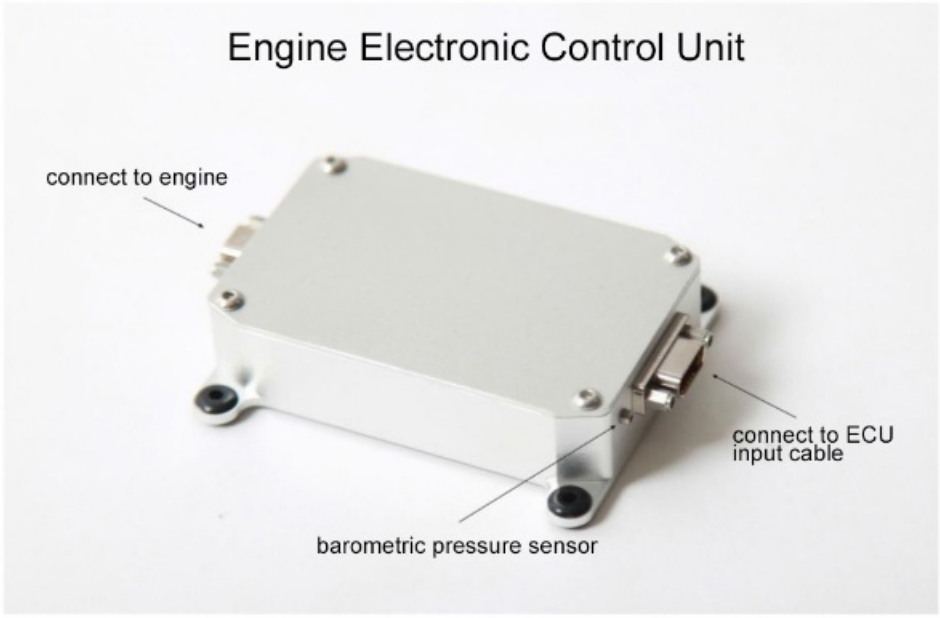
Please read and understand the manual carefully before using.Be sure to understand product control, follow correct procedure to avoid unnecessary accident.

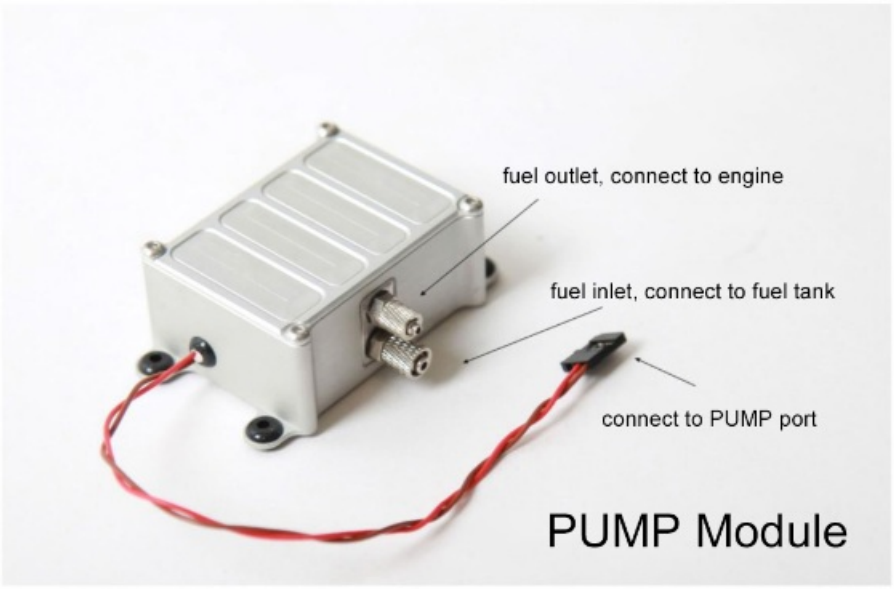
Operator notice:

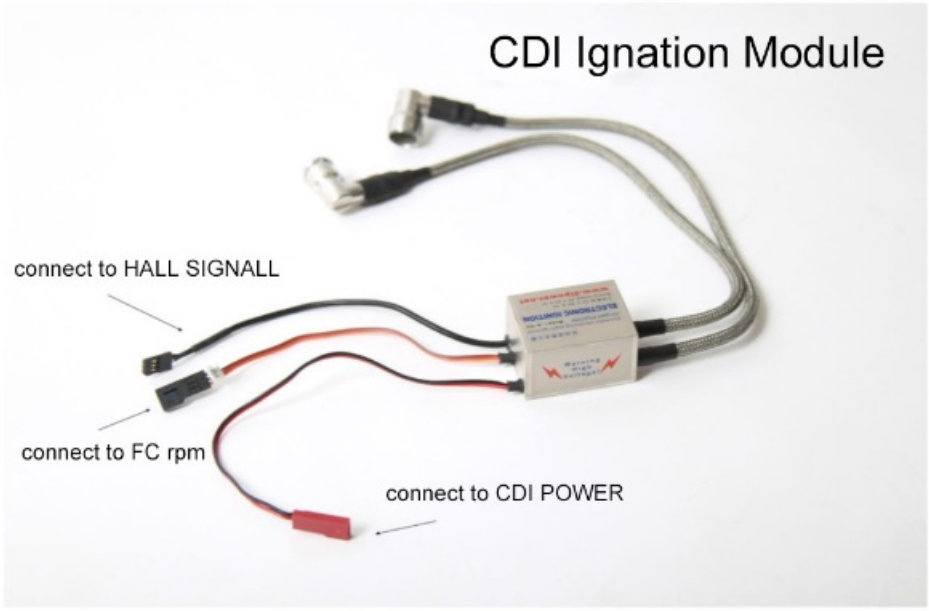
1. In the event of an emergency, the operator should know how to quickly stop the engine.
2. An unmanned barrier-free safety zone should be set up near the propeller. If possible, please equip the propeller with protective devices.

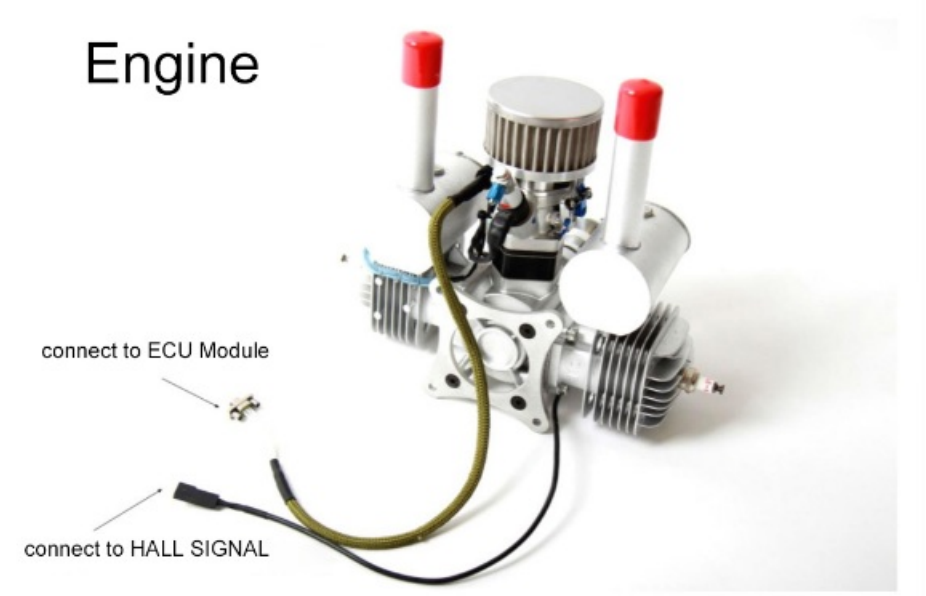
Warning

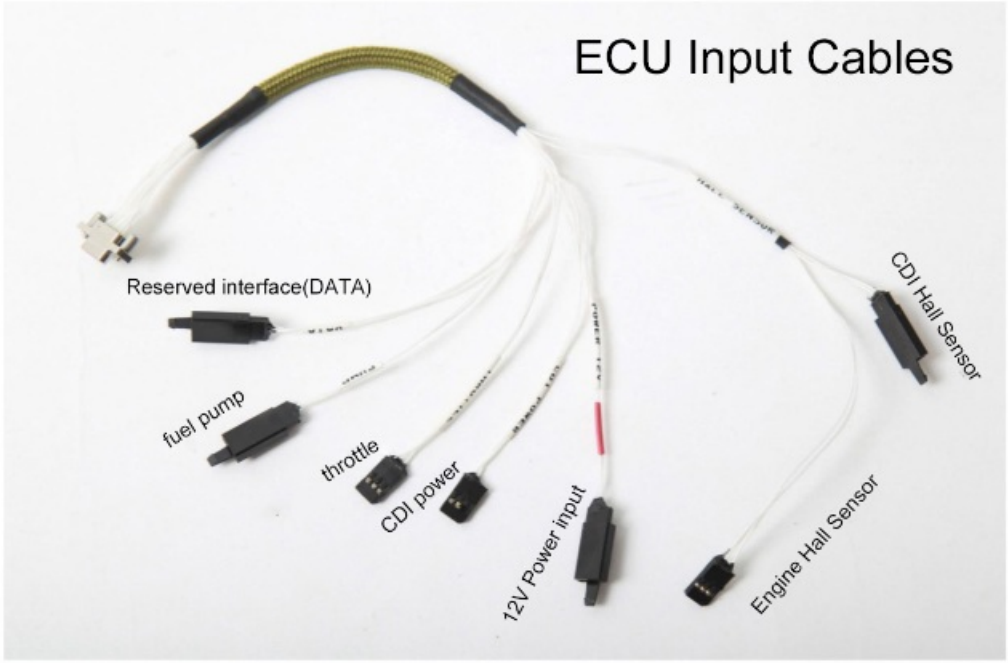
1. Take safety precautions when working near the propeller.
2. The exhaust gas from the engine contains carbon monoxide (colorless, odorless, highly toxic gas). Inhalation of excessive carbon monoxide may cause shock and even death.
3. Do not run the engine in a closed space and maintain proper ventilation.
4. Please take protective measures at the muffler. The higher temperature during the exhaust process will ignite some materials.
5. Keep flammable materials away from the engine.
6. Gasoline is very flammable and will explode under certain circumstances. Do not smoke while operating the engine, and fireworks are strictly prohibited.


Engine Electronic Control Unit
connect to engine
connect to ECU
input cable
barometric pressure sensor


fuel outlet, connect to engine
fuel inlet, connect to fuel tank
connect to PUMP port
PUMP Module


CDI Ignation Module
connect to HALL SIGNALL
connect to FC rpm
connect to CDI POWER


Engine
connect to ECU Module
connect to HALL SIGNAL


ECU Input Cables
Reserved interface(DATA)
fuel pump
throttle
CDI power
12V Power input
Engine Hall Sensor
CDI Hall Sensor

Note: It needs to be wired strictly according to the instructions. Wrong wiring may cause the oil pump and ECU to burn out.

Installation and Start

Hardware Installation

1. Please do not install the ECU on the engine or the engine bracket, because the violent vibration during work can easily cause damage to the hardware. Please install the ECU in the place with the slightest vibration inside the aircraft;
2. Please refer to the wiring diagram to ensure the correct connection of the EFI system cable;
3. When the engine is installed on the fuselage, check that the connecting cables are connected correctly and the reliability of the cable connection. At the same time, it is necessary to make sure the wires do not rub against the body parts;
4. When the engine is installed on the fuselage, corresponding shock absorption is required, and screw glue is used to ensure reliable installation;
5. Connect the thin oil pipe from the output port of the oil pump to the oil inlet of the throttle valve, and tighten the blue screw of the oil inlet. There should be no bends in the oil pipe to ensure a smooth oil path;
6. The oil pump is installed close to the oil tank, it is recommended not to be higher than the oil level, and to ensure that the oil inlet pipe and the oil outlet pipe will not bend;
7. Install the oil filter between the oil pump inlet and the oil tank Install the oil filter between the oil pump inlet and the oil tank, confirm that the oil pipe is connected in place, and the oil pipe anti-falling nut is locked;
8. It needs to use 3S lipo battery (12.6V) to supply power. The 2000mA/h battery can supply power for the engine to run continuously for two hours (5000 rpm).

Throttle Setting

1. The throttle can be controlled by the receiver or the flight controller of the UAV. The power supply of the throttle servo is provided by the receiver or the flight controller. The voltage range is 6V-7.4V.
   Before using the engine, you need to adjust the pulse width of the throttle channel to make the throttle opening in the correct range.Incorrect throttle settings, such as rudder suffocated, or excessive throttle stroke, will cause the engine to work abnormally or even be damaged.

2. The EFI system does not require an additional special flameout switch. When the throttle valve is fully closed, the engine will stop and turn off, and the power to the oil pump will be cut off at the same time.

Fuel Ratio

The engine uses a mixture of gasoline and two-stroke lubricant, and the ratio of gasoline to lubricant is 40:1. The fuel injection system and the engine can be operated normally by using the fuel of this type and mixing ratio.

Use high-quality 92# pure gasoline, and prohibit the use of ethanol gasoline.

Lubricant model: Red Line 2T. MOTUL 710/800.

Starting the Engine for the First Time

1. When starting the engine for the first time (or without starting for a long time), first pull out the oil pipe from the throttle valve inlet pipe;
2. Intermittently energize the ECU every 5 seconds until fuel flows out of the fuel pipe, re-insert the fuel pipe and tighten the fuel pipe nut. Unless the engine fuel is exhausted or the oil circuit is disconnected for any reason, there is no need to perform the first start process mentioned above;
3. Keep the throttle position at about 30%;
4. Use the starter to turn the propeller, and the engine starts and works.
   Note: Since the engine needs to expel air from the oil circuit, it may be difficult to start the engine in the first few minutes, it needs to be started several times. It is not recommended to use manual start mode, this mode may not be able to start the engine.
5. Let the engine run for a few minutes to warm up.
6. Keep the full throttle for 15 seconds to ensure that the air in the fuel system is exhausted, and then reduce the engine to idle speed

Maintenance

The engine uses a mixture of gasoline and two-stroke lubricant, and the ratio of gasoline to lubricant is 40:1.

Maintenance Schedule:

Item	Before every flight	Every 50hours	Every 100hours	Every 300hours
Fuel Mixing	√			
Spark Plug Checking		√		
Spark Plug Replacement			√	
Air Filter Replacement		√		
Fuel filter replacement		√		

Users must strictly follow the above table to do regular maintenance and make corresponding paper and electronic records!

Specification

1. Performance
   Idle speed: 2300rpm/min

Maximum speed: 7800rpm/min

Thrust: 15kg/100 meters above sea level

Applicable propeller: 22X10; 23X8; 23X10; 23X12; 24X10

Applicable spark plug model: NGK CM6

2. Parameters:

Displacement: 61cc

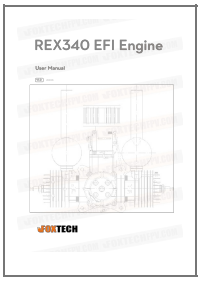
Compression ratio: 7.6:1

Lubrication ratio: 40:1

Weight: main engine 1900g, ECU 190g, oil pump 180g, ignition box 160g

ECU power consumption: 12V, 10W (5000 rpm)

Documents / Resources

	FOXTECH REX340 EFI Engine Hybrid Drone [pdf] User Manual REX340 EFI Engine Hybrid Drone, REX340, EFI Engine, Hybrid Drone