
CISON
ENGINE

Glad to buy CISON ENGINE!

When you first see this engine, I believe you think of panhead engine.

Yes, I reduced it and redesigned it into some designs suitable for micro engines.
Many machines can not be completely copied and reduced. I participated in my own design.
For example: distributor, rocker arm, roller, spark plug, oil pump, etc. if it needs to be fully realized, it will cost a high cost, but I hope everyone can afford it.

Maybe he is not perfect, but I believe you will love it.
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Parameter description

.Brand: CISON
.Model: FG-9VT
.Item: V-type two-cylinder four-stroke gasoline engine
.Form: finished product (assembled)
.Cylinder: V-type two-cylinder;
.Stroke: Four-stroke
.Displacement: 9(4.5*2)cc
.Bore: 16.67mm
.Stroke: 21mm; Angle: 45°
.Speed: 2000-8000rpm
.Power: 0.8ps
.Starting power: 2S-3S lithium battery.

Parameter description

.Cooling method: air cooling
.Starting method: electric drill start
.Fuel: gasoline (mixed lubrication 25:1).
.First use running in suggestion 20:1
.Product Weight: 1500g
.Package Dimensions: 20 x 20 x 25cm
.Package Weight: 2000g
.Packing: Graphic Carton
.CDI voltage : 6-12v (12V is recommended to obtain good spark)

Important

Before starting,

A) please check whether the CDI is normally powered on, turn on the switch, and then rotate the flywheel to observe whether there is a high-voltage spark at the top of the spark plug. If there is no high-voltage spark.
1. Please check whether the power supply is connected.
2. Whether the voltage is normal.
3. Whether the hall sensor is damaged, etc.

B) please open the carburetor throttle to the maximum, then block the air inlet by hand, rotate the flywheel for 3-5 turns or more to let the fuel enter the cylinder in advance, and then start the engine with a hand drill or motor

C) The fuel used in the factory test may be different from yours, so the carburetor needle may be slightly different. If you can't start, please try

D) Adjust the main oil needle to 0.8-1.5 turns and try to start it, but it may not be accurate. Ambient temperature, tank height and so on may affect it. Please operate according to your experience.

Important

Oil: The engine is designed to run on gasoline next at 25:1 ratio with 2 stroke engine oil. Zippo fuel may also be used, mixed at a 25:1 ratio with 2 stroke engine oil.

Fuel Tanks: Various fuel tanks/containers can be used, that are made for use with gasoline. We also sell fuel tanks that can be purchased separately. For additional fuel tubing, please use Tygon type tube and NOT silicone, as it is not appropriate for gasoline-based fuels. The included fuel line can be easily attached to the carburetor's inlet nipple gently using a pair of small needle-nose pliers.

Needle: The engine carburetor's high-speed fuel needle is accessible from the flywheel side of the engine. This needle is factory preset but may need to be adjusted in small increments due to fuel type/humidity/altitude. Turn needle adjustment clockwise to lean mixture and counterclockwise to richen fuel mixture.

Important

Idle speed: Idle speed may be adjusted by turning the small hex screw on the side of the carburetor. This screw determines the throttle barrel position. Turning the screw clockwise increases the idle speed, turning counter-clockwise decreases idle, by closing the throttle barrel opening.

Tool: The FG-VT9 engine is started by using a starter shaft in a cordless drill. The drill needs to be rotating in a counter-clockwise rotation. Please note that it's normal to see a prominent vibration "signature" for 45-degree Vee angle engine.

Ignition: The Hall-type ignition system sends power to the spark plugs. We recommend using a LiPo battery with JST type plug from 6v to 7.2 volts. Connect spark plug leads to each spark plug. Make sure the spark plug wires will not come in contact with the flywheel once started.

Exhaust: Insert a green NBR O-ring into each exhaust port, and attach exhaust tubes to the engine by threading the exhaust pipe nuts clockwise in each cylinder exhaust port. Snug the exhaust nuts using a 10mm open-end wrench. Do not over-tighten.

Important

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Connection: Connect the ignition's 3 wire connector plug to the engine's ignition plug. The single solid black wire is the ignition's ground wire. Connect the wire's ring terminal to the bolt threaded in the rear of the engine. An M3 nut or a couple of M3 washers can be used for a spacer when attaching the ground ring terminal to the engine.

Now it's time to start your engine!

1. When the engine is ready to be started, please add 10ml of 2-stroke oil to the hole designated for the starter motor/generator location. This will lubricate the bottom-end of the engine, camshaft & camshaft drive for its initial start.
2. Before connecting the ignition's battery source, open the throttle lever all the way, and place your finger over the carburetor opening.
3. Rotate the flywheel 3 complete revolutions by hand to prime the engine. Return throttle lever to the idle position.

Important

4. Connect the 6v - 7.2v battery to the ignition module.

5. Using a cordless drill set to turn counter-clockwise and included starting shaft, insert the starting shaft into the center bearing on the flywheel and start the engine. Once the engine starts, engine RPM can be adjusted by moving the throttle lever arm.

6. We recommend keeping engine RPM low during the first few runs to allow the engine to be lubricated properly and - short “breaking-in” period.

7. The FG-VT9 dissipates heat efficiently when a small desktop-type fan is used while running. Engine & exhaust parts do get hot, so avoid touching cylinders and exhaust while running.

8.The brass nipple located at the front of the engine is used as a crankcase vent. Do not block this nipple; oil vapor will exit through this fitting, which is normal.

Common problem

1. Carburetor does not feed oil

A: Probably the needle valve is completely closed or blocked

2. Carburetor injection

A: Incorrect valve timing, valve leakage, too small valve clearance (correct 0.1mm)

3. Compression but not start-up

A: The CDI igniter is damaged, the sensor is damaged, and the power supply is dead.

4. Idle speed too high

A: Incorrect commissioning of carburetor, unbalanced operation of left and right cylinders, insufficient cylinder pressure and incorrect valve timing

5. Suddenly start without compression

A: It is likely that the valve structure is misaligned or that the valve has foreign material.

6. Crankshaft abnormal sound

A: Because the crankshaft is a split structure, it is very likely that the crankshaft will be loose.

Common problem

7. Engine Overheating

A: Make sure there is heat dissipation, whether thinner gaskets have been replaced to improve the compression ratio, whether lubricants have been added to the fuel

8. How to Achieve Ultra-Low Idle Speed

A: Replace the oversized flywheel and reduce the compression ratio

9.If the engine cylinders become flooded from an excessively rich fuel and air mixture, remove the spark plugs (and the spark plug sealing washers) with a 9mm metric socket, invert the engine, and rotate counter-clockwise to clear excess fuel from the cylinders. Wear eye protection to avoid fuel possibly getting into your eyes. If flooded with excessive fuel, the engine will not rotate.

Important: Do NOT attempt to start or rotate the flywheel if flooding occurs. Engine damage can occur.