

DLE

GAS ENGINE

USER MANUAL



DLE-111

⚠ CAUTION

Read the manual carefully before operation. Lethal failure occurs with an improper use.

使用说明书

USER MANUAL

本发动机是针对航空模型而设计的专业汽油机，具有马力大、重量轻、稳定性好的特点，是TOC模型飞机的理想动力装置。为了您能更好地使用该产品，请您在使用前仔细阅读说明书。

DLE series gasoline-engine is a professional design for the model airplane. With the advantages on the weight, power and stability, DLE provides you an opportunity on the power selection of TOC airplane. Please read the manual carefully before operation.

一、安全 (SAFETY INSTRUCTIONS)

1、该发动机并非玩具，请特别注意安全，由此引起的所有安全问题我们将不予负责：

Engine is not a toy. Please take care of your safety when you're operating it. We will not be responsible for any safety issues caused by the engine.

2、使用前请仔细检查螺旋桨、发动机架等相关部位，保证螺丝、螺母不松动，安装时最好使用螺纹胶（如：LOCTITTE 242）固定螺丝、螺母。

Before start the engine, please make sure the propeller and the engine mount are securing and tight. Any looseness on the Screws and bolts is not allowed. We strongly suggest that the screw sealant is used (such as LOCTITTE 242) while you are installing the engine.

3、请注意：如果要在试车台上磨合或测试发动机，必须有很好的减震装置，否则可能导致发动机部分零件的损坏，最好把发动机安装在飞机上进行磨合。

In the Break-in period, We suggest that the engine is running on the plane or a test bed with qualified shock absorber. Otherwise the vibration will rebound back to the engine and serious damages may happen during the period.

4、发动机在运行时，任何人不许在螺旋桨旋转平面前的位置。

For your safety, Please do not stand in front of the propeller when the engine is running.

二、发动机数据：(TECHNICAL DATA OF THE ENGINE)

1、性能：(Performance)

11.2HP/7500rpm (11.2HP/7500rpm)

怠速：1400 rpm/分钟 (Idle Speed: 1400 rpm/min.)

拉力25.5Kg/海拔100米 (25.5Kg Pulling Force / 100 Meters Altitude)

拉力22.3Kg/海拔1800米(22.3Kg Pulling Force / 1800 Meters Altitude)

适用螺旋桨规格：27×10；也可以试用其他规格的螺旋桨，比如：26×12；28×10
(The specification of the aircraft propeller: 27×10. Various propellers can also be used, for example: 26×12; 28×10)

适用火花塞型号(the type of the sparking plug): NGK CM6

2、参数：(Parameter)

排量(Exhaust Amount): 111.2cm³

缸径×行程(diameter×stroke) 845mm×35mm

压缩比(Ratio of compression): 7.6: 1

润滑比(Ratio of lubricating capacity): 30:1

重量：主机2500克；总重 2870克

Net weight: 2500g; Gross weight: 2870g

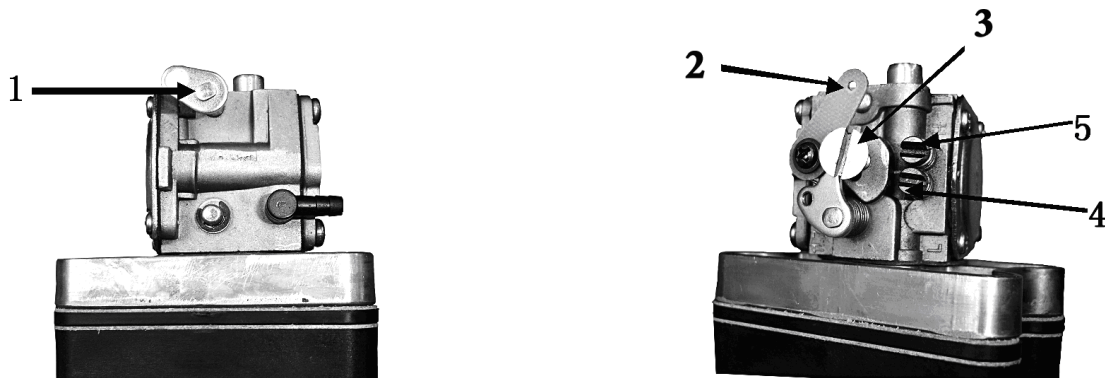
三、发动机的调整(ADJUSTMENT OF THE ENGINE)

1、每台发动机出厂时都经过了初步调整，用户可以直接使用。但各地区的海拔高度

将会影响化油器的正常工作，化油器油针可能需要进行微调才能达到最佳的工作位置。

Every engine has been preset before ex-factory; it can be used directly by the customers. However, altitudes will influence the performance of carburetor, to obtain the best output of DEL engines, slight adjustment at the carburetor is very necessary.

2、功能及调整 (Functions and Adjustments)



(1)、风门，冷启动时使用；Choke Arm (The Choke Arm is used under the circumstance of cold start-up.); (2)、油门；Throttle; (3)、怠速调节螺丝；Idle Adjustment Screw; (4)、低速油针；Low-speed Needle; (5)、高速油针；High-speed Needle;

调整：顺时针转动怠速螺丝3将增大怠速转速，同时要配合低速油针4一起调整，顺时针转动低速油针减少油量（一般是把油针拧到底再退回1.25圈）；高速油针5（退回1.5圈）最好使用转速表来调整，使发动机达到最高转速，加减速顺畅为最佳。

- **ADJUSTMENT:** Turn the Idle Adjustment Screw (See No.3) clockwise will increase the idle speed. At the same time, turn the Low-speed Needle (See No.4) clockwise to reduce the gas. Normally, the preset from factory is screw down the Needle and then turn back about 1.25 loops. High-speed Needle (See No.5) is turn back about 1.5 loops. But we suggest it should be adjusted with the tachometer to obtain the maximum speed. For the best performance, engine should be accelerating and decelerating smoothly.
- 调整化油器高速油针时请注意：混合气调整过稀将导致发动机严重过热和火花塞烧毁。燃烧后火花塞的颜色应该是黄色,说明混合气浓度比较合适。
- **Caution: A lean gas mixing causes engine overheat and spark plug will burned. So please pay attention when you adjust the High speed needle. With a proper gas maxing, spark plus will appear to be yellow at the ignition point.**

3、发动机的启动 (Start-up the engine)

(1) 关闭风门(热车时可不关闭而直接启动)，加大油门, 打开点火电源。

Step 1: Close the Choke (Start up directly if the engine remains warm) and turn on the ignition power supply with full throttle.

(2) 用力转动螺旋桨，(最好用启动棒)直到发动机发出爆炸声. 发动机会运转1-2秒而自动熄火。（首次启动或长时间不用可能需要转动多次螺旋桨）。

Step 2:, Spinning the propeller hardly with a Start-up Stick or hand until explosive sound is heard. Engine will stop automatically as a result of a rich mixing gas. (The engine will need propeller spinning few times for the first start-up or Has not been used for while)

(3) 打开风门，油门开至怠速或比怠速稍大一点, 启动发动机，进入正常工作状态。

Step 3: Open the Choke to idle or little higher and start up the engine again referring steps 2.

(4) 热车启动：打开风门，油门开至怠速或比怠速稍大一点，直接启动发动机。

Step 4: Start the engine directly if engine remines warm. Referring Steps 3.

四、发动机的保养 (MAINTENANCE OF THE ENGINE)

1、请使用清洁的93 # 汽油，和机油的比例为30: 1；禁止不同厂家、牌号的润滑油混合使用，否则将会引起化油器严重阻塞。

Please use the clean petrol 93 # . The ratio of petrol and engine oil is 30:1; **Carburetor will be seriously obstructed if the engine oil be mixed up with from different manufacturers or brand.**

2: 发动机长时间低速运行，可能导致火花塞积炭严重。

If the engine is running in an idle speed too long, spark plug might be serious carbonized.

3、随时检查油箱至化油器之间的管路，不许有漏气情况。

Always check and secure the tube between the fuel tank and the carburetor, make sure there is no air leaking.

4、保持发动机表面清洁，保证散热良好。

Keep the surface of the engine clean. Be sure the engine is well heat dissipation.

5、请特别注意：在一定周期内清洁化油器里面的燃油滤网，否则将引起油针调节失灵，发动机工作不稳等情况。

NOTICE: Please clean the fuel filter in the carburetor periodically, otherwise failure occurs with needle adjustment and the engine may work unsteadily etc.