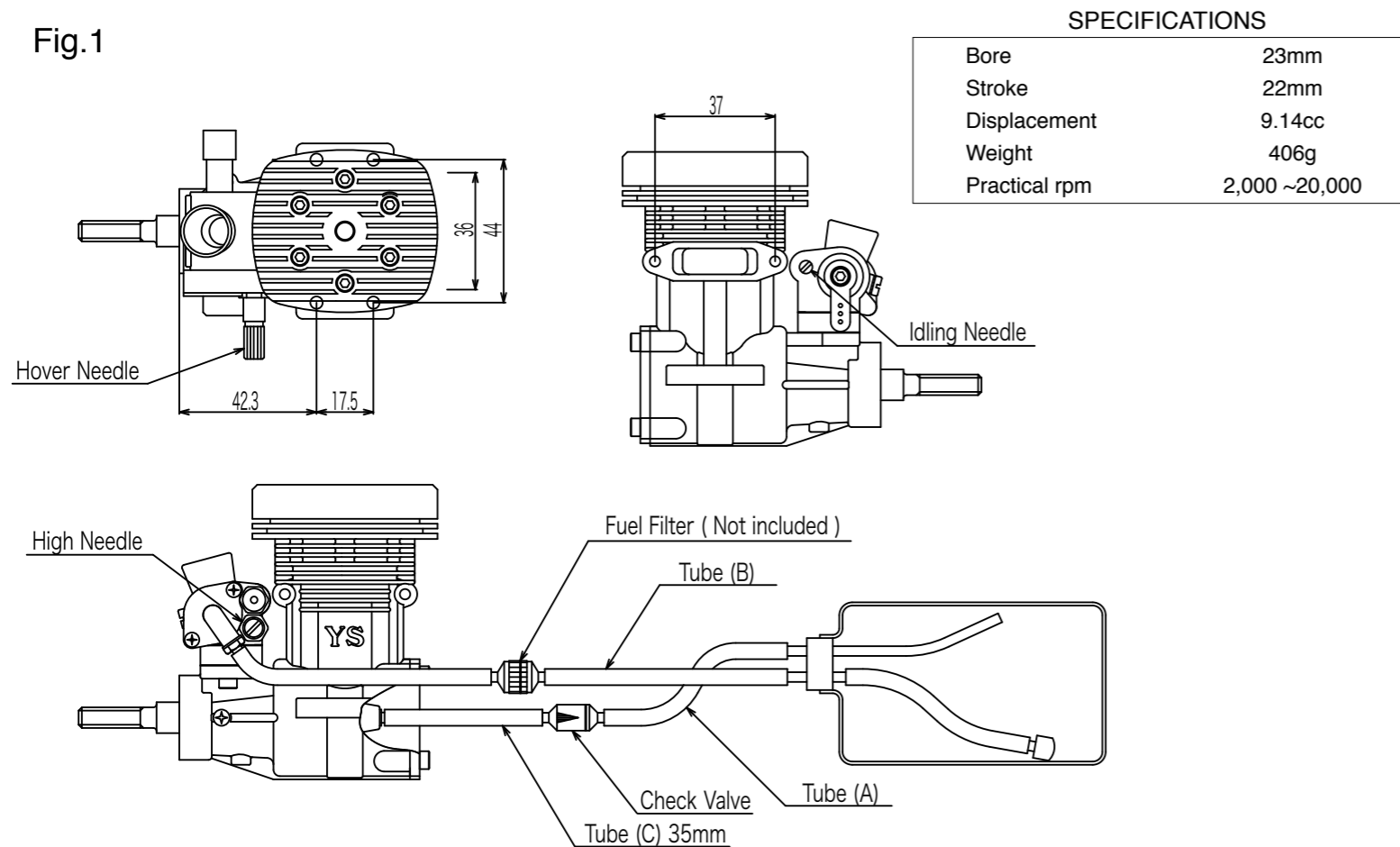


# OPERATOR'S MANUAL ( YS0015)

56SR (Helicopter Engine)

Fig.1



## FEATURES

The 56SR is the latest in helicopter engine technology from YS.

- New stroke design for superior operation
- New carburetor design for easier adjustments.
- Factory preset fuel regulator.

## INSTALLATION

1. The fuel lines should be connected to the fuel tank as shown in the above figure. Be careful to install the check valve in the correct direction. Since the tank is exposed to high pressures, be sure that all connections are tight to prevent pressures leakage.
2. Since the engine is sensitive to dirt in the fuel, a fuel filter must be used.
3. Tube(C) should be set exactly at 35mm between the engine and check valve. DO NOT use any other type of check valve. The check valve is designed exclusively for the 56SR.
4. Adjust your throttle linkage and curve using the alignment indentations on the carburetor body located on the throttle arm side of the carb body. PLEASE NOTE that the hover position is at 40% see FIG 2.

## START UP

1. Always remove Tube(A) at the check valve first before fueling. The fuel tank is pressurized and you need to relieve the pressure first. Disconnect Tube(B) at the filter and fill the tank. Reconnect Tube(A) and (B).
2. From the fully closed (clockwise) position, turn the needle valves counter clockwise as follows.
3. Close the throttle to the idle position and connect the glow plug driver. The engine is now ready for starting.

### STARTING SETTING / OPERATING SETTING

- Hover Needle 2 times open / 1.0~2.0
- Idling Needle Factory Set ( 0.5 ) / 0.2~1.0
- High Needle Factory Set ( 1.0 ) / 0.5~1.5

## BREAK-IN

It is not necessary to mount this engine on a set stand for break-in. However, the engine should be adjusted slightly on the rich setting ( Hover Needle 2 times open) for the first few flights to insure proper break-in. Always use a good quality fuel which contain 15 ~30% nitromethane and an oil content of 18 ~23% low viscosity oil.

## NEEDLE VALVE ADJUSTMENT

Idle, Hover and High needle valves all work the same way. Turning the needles clockwise will lean the fuel mixtures and counter clockwise will richer the fuel mixtures.

1. Set needles as described in START-UP.
2. Start the engine and check idle. Adjust as needed.
3. Lift helicopter into a hover and check for the correct rotor RPM recommended by the kit manufacture. Once this is done take note of the amount of smoke being produced by the muffler. The mixture is correct for hover when there is a steady stream of smoke being produced.
4. Land the helicopter for approximately 20~30 seconds. Lift the helicopter into a hover again taking note of the transition from idle to hover. If the engine exhibits a large amount of smoke and the throttle response is sluggish, you will need to adjust the idle and or the hover needle leaner to achieved a smooth transition. If the engine detonates and the smoke is inconsistent or a small amount is produced, the mixture is too lean.
5. High Needle refines the fuel mixture for forward flights without affecting the hovering adjustment. After the engine is started and warmed up, lift-off into a hover and check that the engine is running smooth with a good trail of smoke. If everything is fine, open the throttle and enter forward flight. Take note of the amount of smoke like we did in a hover adjust ment. It is correct when you see a noticeable steady smoke trail. Adjust the high-speed needle valve to obtain slightly rich but consistent setting.

## STOPPING THE ENGINE

1. Fully close the throttle barrel to stop the engine.
2. As soon as the engine stops running, be sure that a fuel line clamp is used in Tube(B) to prevent fuel from flowing into the engine.
3. On the final flight of the day, the fuel line clamp should be used to stop the engine in order to prevent rust and corrosion.

## FUEL AND GLOW PLUG

We have found that the fuel and glow plugs listed below will give the best engine performance.

Fuel  
Powermaster 30% Special Heli Blend  
Cool Power 30% Special Heli Blend

Glow Plug \_ YS #2 Enya #3 OS #8

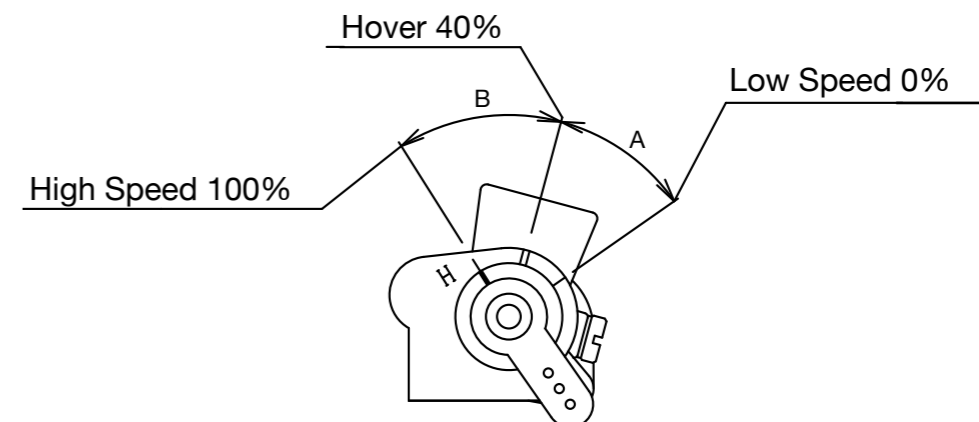
## IMPORTANT!

Silicone rubber is used in many parts of the YS engine. Use only glow fuel of methanol for cleaning. Gasoline and other volatile solutions will damage silicone if used.

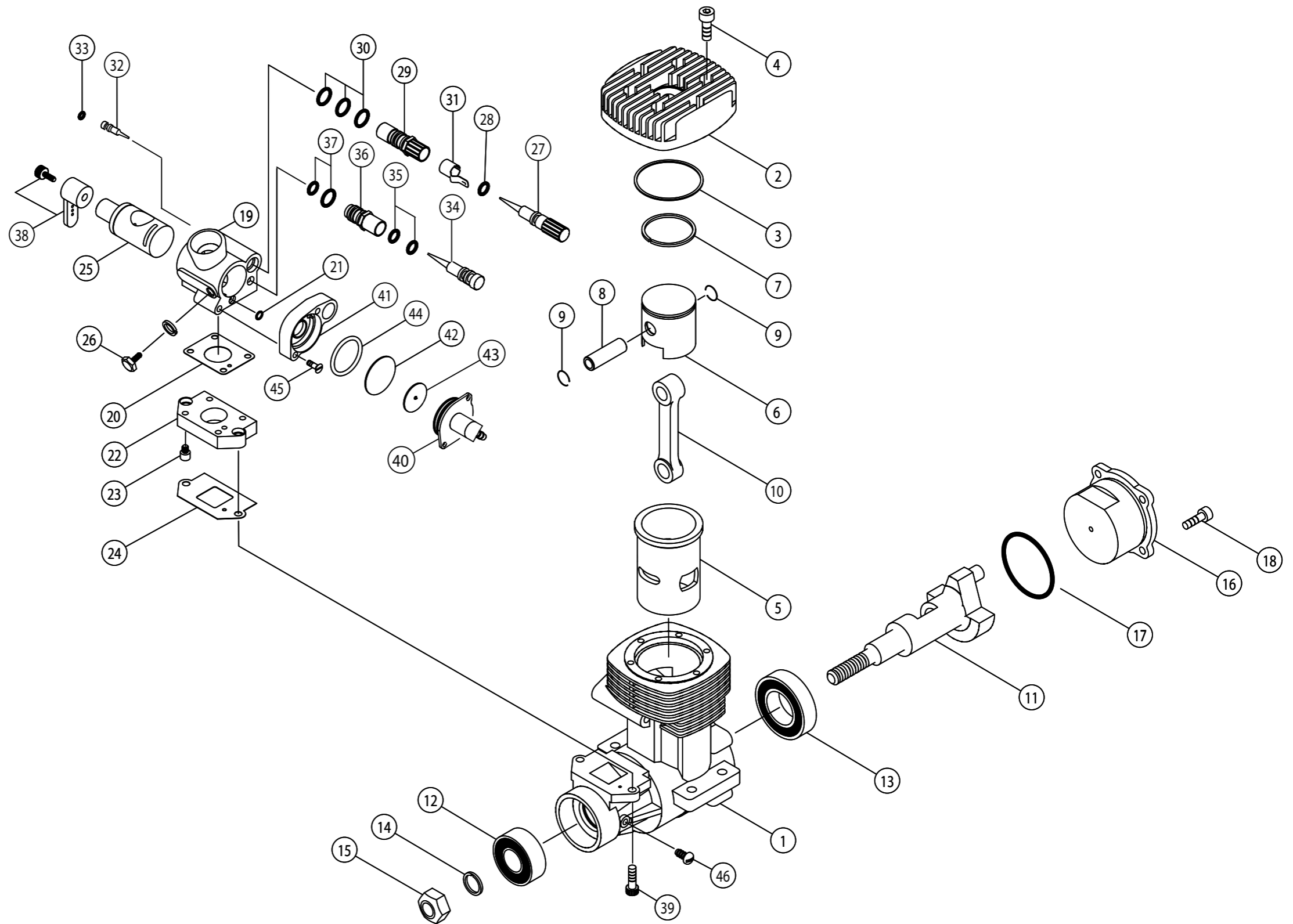
## WARRANTY

Strict quality control is implemented by our factory in all phases, from parts manufacturing to final assembly. If performance deteriorates or a part fails due to a manufacturing error, YS engine will repair or replace the engine at no charge in the period of one year from date of purchase. Warranty does not cover normal maintenance. Should the engine be modified, incorrectly assembled or abused, there will be a normal charge for parts and labor.

Fig.2



NO.	PART#	DESCRIPTION	QTY
1	YS6150	Crankcase	1
2	YS6155	Cylinder Head	1
3	YS6160	Head Gasket	1
4	YS5195	Head Set Screws	6
	YS6165	Liner and Piston Set	
5	YS6170	Liner	1
6	YS6175	Piston	1
7	YS6180	Piston Ring	1
8	YS5220	Wrist Pin	1
9	YS5225	Wrist Pin Retainers	2
10	YS5230	Con Rod	1
11	YS6185	Crankshaft	1
12	YS1050	Front Bearing	1
13	YS5240	Rear Bearing	1
14	YS5243	Drive Washer Spacer	1
15	YS5245	Prop nut	1
16	YS6190	Back Plate	1
17	YS5255	Back Plate O Ring	1
18	YS5260	Back Plate Set Screws	4
19	YS6195	Carburetor Body	1
20	YS5275	Carburetor Gasket	1
21	YS6200	Carburetor O ring	3
22	YS5285	Carburetor Insulator	1
23	YS6205	Insulator Set Screws	4
24	YS5295	Insulator Gasket	1
25	YS6210	Throttle Barrel	1
26	YS6215	Throttle Barrel Set Screw	1
	YS5305	Hover Needle Set	
27	YS5310	Hover Needle	1
28	YS2695	Hover Needle O ring	1
29	YS5315	Hover Needle Socket	1
30	YS5320	Hover Needle Socket O Ring	3
31	YS2710	Needle Valve Detent	1
32	YS4845	Idling Needle	1
33	YS4150	Idling Needle O ring	1
34	YS6220	High Needle	1
35	YS6225	High Needle O Ring	2
36	YS6230	High Needle Socket	1
37	YS6235	High Needle Socket O ring	
38	YS0200	Throttle Arm set	1
39	YS6240	Carburetor Screws	2
40	YS6245	Regulator body A	1
41	YS6250	Regulator body B	1
42	YS5340	Diaphragm	2
43	YS5395	Regulator Valve	1
44	YS5345	Regulator O Ring	1
45	YS5360	Regulator Set Screws	2
46	YS5365	Crankcase Plug	1
	YS2510	Check Valve	1
	YS5370	Gasket Set	2
	YS6255	O Ring Set	14



YS Parts and Service

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