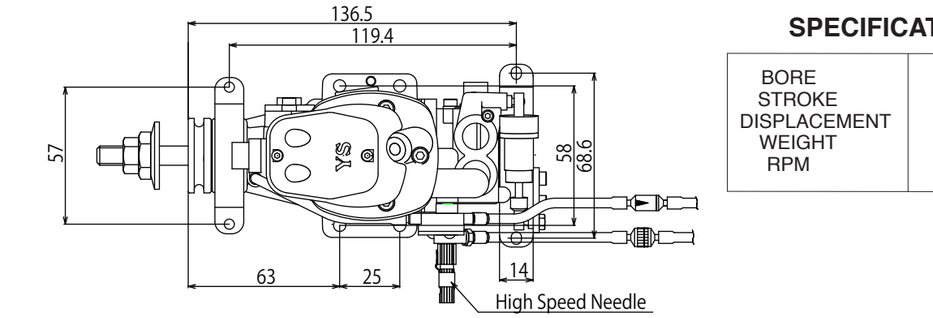


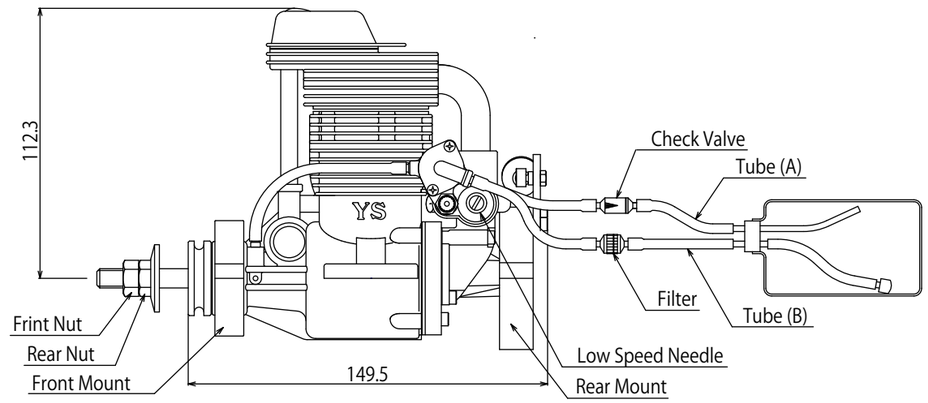


FIG.1

SPECIFICATIONS

BORE	34mm
STROKE	31.8mm
DISPLACEMENT	28.87cc
WEIGHT	915g
RPM	2,000 ～ 11,000rpm

INSTALLATION

1. Connect the engine to the tank as shown in FIG.1. Since high pressure is applied to the tank, tighten all connections carefully. Care must be taken to prevent pressure leakage due to undertightening of the check valve or by kinking the fuel lines.

2. Always uses a fuel filter (not included). We recommend the YS filter (YS1195).

3. Match the direction of the check valve arrow to FIG.1, with the arrow facing towards the tank.

GlOW PLUG

Select the most appropriate glow plug from those designed specifically for 4 cycle engines. Glow plug selection greatly affects the maximum engine output and low idle. If RPM's decrease or stop when the booster cord is removed, replace the plug. We recommend YS #4 (YS4GP) or OS Type F.

PROPELLER INSTALLATION

Due to the high torque of the FZ175S engine, we have equipped it with double locknuts for safety.

1. Mount the propeller and tighten the rear nut. Next, tighten the front nut as shown in FIG.1.
2. Select a good quality propeller that will turn in the 7,000 to 9,000rpm range. We recommend sizes 18x10, 18x11, 19x10.

START-UP

1. Remove tube(B) from the filter, remove tube(A) from the check valve, then fill the tank.
   Caution: If tank is filled or under pressure ,remove tube(A) first, then remove tube(B). Fuel will eject if tube(B) is removed first while the tank is pressurized.

2. Open the needle valve 1 1/2~ 2 from the fully closed position.

3. Open the throttle about 10% from the idle position and slowly turn the propeller ten turns. This primes the system by pressurizing the tank and sending fuel to the carburetor.

4. Pour several drops of fuel into the carburetor.

5. Close the throttle to the idle position and connect the glow plug cord. The engine is now ready for starting.

Do not attempt to start at full throttle, as this is very dangerous.

BREAK-IN

To maximize engine performance and increase durability, please follow this break-in procedure:

1. Use the same size (or slightly smaller) propeller than you intend to use in flying.

2. Use a good quality fuel which contains 15-30% nitromethane and an oil content of 15-20%. Synthetic or castor oil can be used, or a combination of synthetic and caster. Do not use four cycle fuel due to low oil content.

3. The needle valve should be set so that the engine is running at a rich setting. Run the engine approximately 20 minutes with this setting.

4. Mount the engine to the model and fly ten times with this setting. This concludes the break-in procedure. It is advisable to always use a slightly rich setting to keep the moving parts lubricated, even after the break-in period.

HIGH SPEED ADJUSTMENT

1. Adjustment of high speed is done by the high speed needle valve. When it is turned clockwise, the mixture is leaner. When it is turned counterclockwise, the mixture is richer. A good starting position for the high speed needle valve is 1 1/2 - 2 turns open from fully close position.

2. When the engine is started, open the throttle gradually. Next, find the peak position (highest RPM) by adjusting the needle valve. Then the needle valve should be opened approximately 1/8 of a turn from full RPM to achieve best performance. The engine may stop if the throttle is opened to full immediately after starting. Wait unit the engine temperature rises and then open the throttle slowly.

3. For flying, it is advisable to use a slightly richer mixture setting. By using a richer mixture, the engine temperature is maintained and RPM stability improves.

LOW SPEED ADJUSTMENT

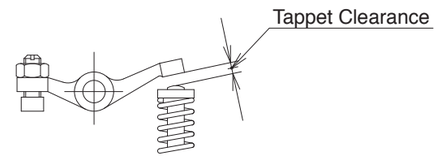
This engine is equipped with a low speed needle valve to adjust the mixture from low to mid throttle. This needle valve is located on the side of the throttle barrel opposite the throttle arm (FIG.1).

1. Open the low speed needle to 2 turns from fully closed position.

2. The low speed needle valve should be set after the high speed needle valve has been adjusted. Close the throttle gradually to a idle (approximately 2,000rpm). Let it idle for 20 to 30 seconds and then slowly advance the throttle. The adjustment is satisfactory at low speed if transition is smooth at this time.

3. If the engine is running rough on idle, the low speed mixture is rich. If the engine starts to speed up and dies on idle or starts to detonate, when advancing the throttle, the mixture is lean.
   Turn the low speed needle valve clockwise to richen and counter-clockwise for a leane mixture (note that the direction of the low speed needle valve is opposite the high speed needle valve).
   Adjustments to the low speed needle valve should be 1/8 to 1/4 of a turn increment at a time to achieve smooth throttle response.

FIG.2



TAPPET CLEARANCE ADJUSTMENT

1. Tappet clearance is factory preset. No adjustment is necessary unit after 1 hour of operation(includiing break-in period).

2. Clearance adjustment should be done when the engine is cool. When the engine temperature is high, clearance is higher due to thermal expansion.

3. The proper clearance setting should be at 0 - 0.1mm. The adjustment is achieved by loosing the locknut (FIG.2) and turning the adjusting screw. Tighten the locknut after the adjustment is achieved. After the initial 1 hour adjustment, this procedure should be performed after every 2 hours of use.

CAMGEAR TIMIING ADJUSTMENT

If for some reason you have to disassemble your engine, please follow these important steps on reassembling the cam gear.

1. Remove the carburetor and backplate assembly. Notice the impression made on the crankshaft counterweight. Position it directly straight down or in line with the case outer seam line.

2. When reinstalling the cam gear, the side with a point mark should be facing the opening of the gear box. Note that it should also be mounted with the point mark located towards the top of the engine just below the cam followers.

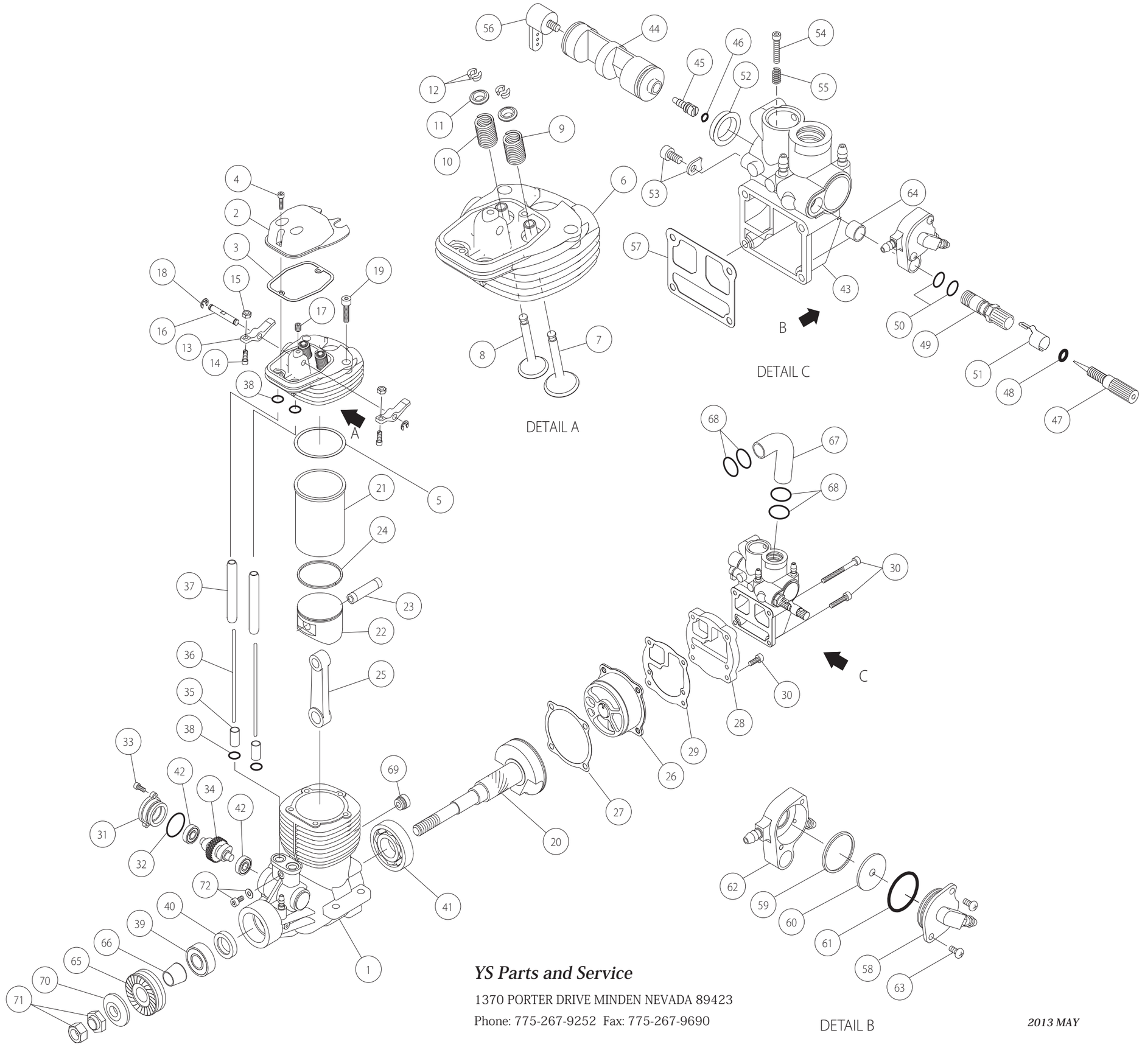
IMPORTANT! Silicone rubber is used in many parts of the YS engine. Use only glow fuel or methanol for cleaning. Gasoline and other volatile solutions will damage the silicone if used.

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 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 nomal charge for parts and labor. The use of four cycle fuel due to the low oil content will also void warranty.

NO.	ITEM NO.	NAME	QTY
1	YS6755	Crankcase	1
2	YS0505	Valve cover	1
3	YS0510	Valve cover gasket	1
4	YS0515	Valve cover screws	2
5	YS5905	Head gasket	1
	YS6760	Head assenbly	
6	YS6765	Cylinder head	1
7	YS0216	Inlet valve	1
8	YS2165	Exhaust valve	1
9	YS5915	Inlet valve spring	1
10	YS5920	Exhaust valve spring	1
11	YS2175	Spring retainer set	2
12	YS2180	Spring retainer clips	4
13	YS0555	Rocker arm set	2
14	YS0560	Tappet adjusting screws	2
15	YS0565	Tappet adjusting nuts	2
16	YS0570	Rocker arm shaft	1
17	YS0575	Rocker arm screw	1
18	YS0580	E rings	2
19	YS2615	Head screws	5
20	YS6770	Crankshaft	1
21	YS5930	Cylinder liner	1
22	YS6547	Piston	1
23	YS5940	Wrist pin	1
24	YS5125	Piston ring	1
25	YS6550	Connecting rod	1
26	YS5980	Back plate assembly	
27	YS0645	Back plate gasket	1
28	YS4550	Carburetor insulator	1
29	YS4705	Insulator gasket	1
30	YS4560	Back plate screw set	6
31	YS0655	Cam gear cover	1
32	YS0660	Cam gear cover O ring	1
33	YS0665	Cam gear cover screws	2
34	YS4565	Cam gear	1
35	YS6085	Cam followers	2
36	YS6775	Push rods	2
37	YS6780	Push rod covers	2
38	YS0690	Push rod cover O rings	4
39	YS0695	Front bearing	1
40	YS1730	Front bearing oil seal	1
41	YS0701	Rear bearing	1
42	YS0705	Can gear bearings	2
	YS6785	Carburetor assembly	
43	YS6790	Carburetor body	1
44	YS6795	Throttle barrel	1
45	YS2050	Low speed needle	1
46	YS2080	Low speed needle O ring	1
	YS2740	Needle valve set	
47	YS2690	High spped needle	1
48	YS2695	High speed needle O ring	1
49	YS6480	Needle socket	1
50	YS6330	Needle socket O rings	2
51	YS2710	Needle valve detent	1
52	YS2255	Throttle barrel seal	1
53	YS1090	Throttle barrel retainer	1
54	YS0785	Throttle stop screw	1
55	YS0790	Throttle stop spring	1
56	YS0200	Throttle arm set	1
57	YS4760	Carburetor gasket	1
	YS6335	Regulator assembly	
58	YS5330	Regulator body A	1
59	YS5340	Diaphram	1
60	YS5395	Regulator valve	1
61	YS5345	Regulator valve O ring	1
62	YS6340	Regulator body B	1
63	YS6345	Regulator screws	2
64	YS6485	Regulator spacer	1
65	YS2715	Drive washer	1
66	YS2720	Drive washer retainer	1
67	YS6000	Intake pipe	1
68	YS0840	Intake pipe O ring	4
69	YS5965	Wrist pin access plug	1
70	YS0825	Propeller washer	1
71	YS6145	Propeller nut set	2
72	YS4723	Wrist pin access screw	1
	YS6855	Gasket set	4
	YS6860	O Ring set	13
	YS0405	Check valve	1



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