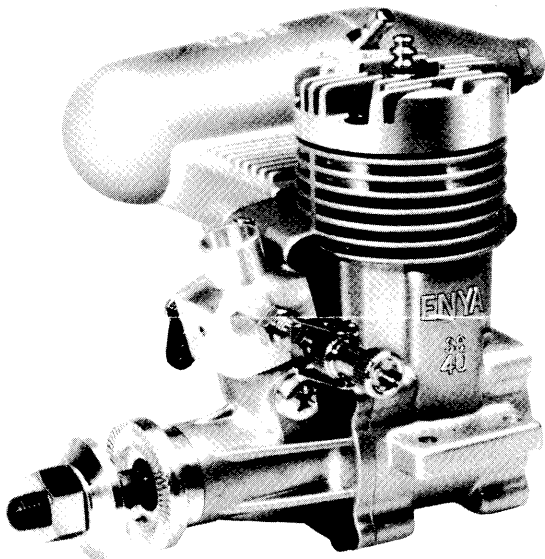


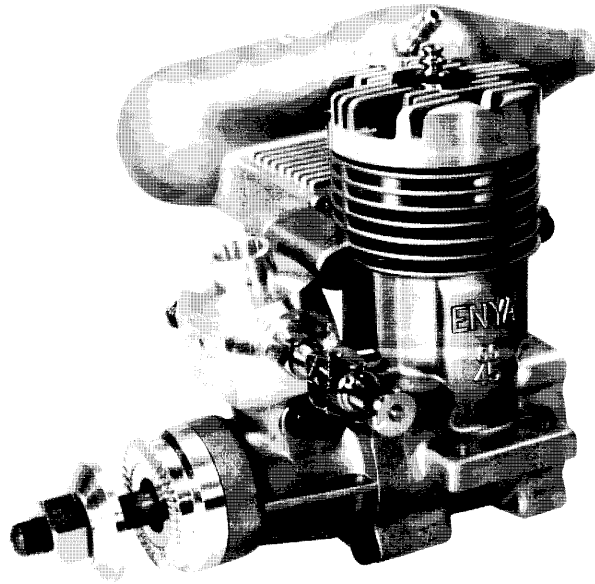
# ENYA

# Super Sport 40/50

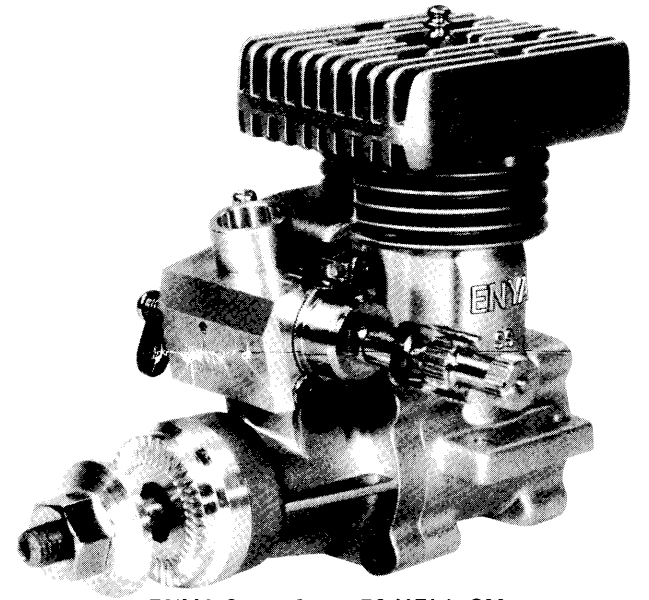
## OPERATING INSTRUCTION



ENYA Super Sport 40



ENYA Super Sport 45 Ring



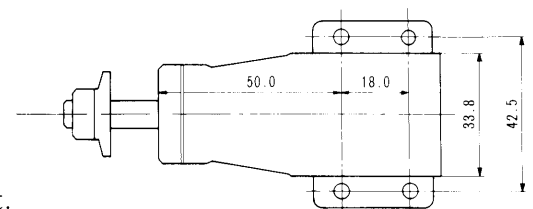
ENYA Super Sport 50 HELI. GM.  
ENYA Super Sport 50 Ring Marine  
40/50 MOUNT

### DISTINCTIVE FEATURES

1. HIGH POWER and TORQUE with excellent throttling
2. Suitable for model R/C aerobatic, sport, scale planes, and helicopters.
3. Study and dependable construction
4. Easy handling
5. SS50 Ring Marine is suitable for model R/C boats.

### SPECIFICATIONS

[Type] 2 cycle glow plug ignition, front induction, Schnuerle scavenging system with booster port.



	Super Sport 40	Super Sport 40BB	Super Sport 40 RING	Super Sport 45 RING	Super Sport 50 HELI.	Super Sport 50 RING MARINE
Applications	Sport, scale, aerobatics aircraft	←	←	←	Helicopter	Boats
Cylinder bore x stroke	mm 20.9 x 18.9	←	←	22.3 x 18.9	22.3 x 20.6	←
Displacement	cc 6.49 (0.396 cu.in.)	←	←	7.38 (0.450 cu.in.)	8.05 (0.491 cu.in.)	←
Weight (without muffler)	g 300 (10.7 oz.)	330 (11.8 oz.)	325 (11.6 oz.)	315 (11.3 oz.)	375	325
Main bearing	Bronze	2 ball bearings	←	←	←	←
Cylinder liner	Hardened steel	←	←	←	←	←
Piston	Cast iron, plain	←	Lo-ex. Al. alloy, ringed	←	←	←
Carburetor	Normal barrel type	G type 7 mm or 2 needles type TN131N	←	←	GM9SB or 2 needle type TN131H	G type 7 mm
Power range	PS 0.9 ~ 1.1	1.0 ~ 1.2	1.0 ~ 1.2	1.1 ~ 1.25	1.20 ~ 1.40	1.1 ~ 1.3
Speed range	r.p.m. 8,000 ~ 15,000	8,000 ~ 16,000	8,000 ~ 16,000	8,000 ~ 16,000	8,000 ~ 16,000	8,000 ~ 16,000
Idling speed	r.p.m. 2,500 ~ 2,800	2,500 ~ 2,800	2,500 ~ 2,800	2,500 ~ 2,800	2,500 ~ 2,800	2,500 ~ 2,800
Glow plug	ENYA No. 3, 4	←	←	←	←	←
Propeller size	in. 10 ~ 11 x 7 ~ 5	←	←	10 ~ 11 x 9 ~ 6	←	←
Best propeller size	in. 10 x 7, 10.5 x 6	←	←	11 x 7, 10.5 x 7	←	←
Muffler	M402X	←	←	←	←	M402X
Tuned muffler (option)	TM 40/50	←	←	←	←	←

### SPECIAL ATTENTION

1. In general, a model engine is very powerful and runs at very high speed. Never handle it carelessly. "Safety first" is most important in all respects when you run a model engine.
2. Before you run your engine, take care of the following points.
  - o Tighten the engine mounting screws and propeller nut once again.
  - o Make sure that there is nobody near (except your assistant).
  - o When you fly your plane, or run your boat, it is most important to confirm that your radio control equipment works well. If you find a defective point on it, stop flying your plane, and repair it perfectly.

### FUEL

ENYA Super Sport engines will operate satisfactorily with most kinds of high quality glow plug engine fuel.

STANDARD VOLUMETRIC RATIO OF FUEL COMPONENTS		
	High power	Normal
Castor oil or high quality synthetic oil	20%	20%
Nitro-methane	10 ~ 15%	0 ~ 10%
Methyl-alcohol	70 ~ 65%	80 ~ 70%

### GLOW PLUG

ENYA glow plug No. 3 and No. 4 are suitable to SS40/50 engine.

### FUEL TANK

A fuel tank of about 250 ~ 300 cc is recommended for normal flights. For easiest engine starting, set the fuel tank at nearly same level as the carburetor. It is also recommended to pressurize the fuel tank with the exhaust pressure of the muffler to get the steady engine running during the maneuvers. Connect the fuel tank with the pressure nipple of exhaust muffler by a hose. After filling the tank with fuel, close the filler.

### PROPELLER

It is important to choose well balanced propellers of high quality for your engine. When you want the best power, choose a propeller which runs between 12,000 ~ 13,500 r.p.m. on the ground. And in case you want a quiet and moderate flight, choose a large propeller which runs between 9,000 ~ 11,000 r.p.m.

### PREPARATIONS BEFORE STARTING

1. Fix the engine onto the test stand or plane securely, and attach the muffler.
2. Connect the hose from the fuel tank to the carburetor.
3. Make sure that the battery heats the glow plug sufficiently.
4. Tighten the glow plug and propeller. Choose the best angle for the propeller at the compression stroke for finger starting.
5. Close the needle valve and fill the tank with fuel.

### THE FIRST STARTING OF A NEW ENGINE

The following process is recommended to start a new engine for the first time.

1. Inject about 10 drops of fuel into the inlet port of carburetor. (In cold weather increase the drops of fuel.)
2. Close the throttle valve by half.
3. Flick the propeller anti-clockwise 10 ~ 15 times quickly. The fuel will be sucked into the crank case and blown up into the cylinder and combustion chamber.
4. Connect the battery to the glow plug and flick the propeller quickly until the engine begins to pop and starts. (The running will continue 1 ~ 2 seconds.)
5. Once the engine starts, restarting is very easy. Inject further 4 ~ 5 drops of fuel and flick the propeller. The engine will start in 1 or 2 flicks.
6. Now, open the needle-valve 3 turns. (In case the tank is pressurised, 2 turns.) Close the intake port of carburetor with your finger, and flick the propeller until the fuel in the hose reaches the carburetor.
7. Inject a further 4 ~ 5 drops of fuel. Connect the battery to the glow plug again, and flick the propeller. The engine will start and continue running.
8. Once the engine starts, open the throttle-valve fully and detach the battery connection. Adjust the needle-valve slowly to the best running position.
9. After you find the best running position, open it again about ¼ turn. The mixture will become slightly rich. This is the best position of the needle-valve to fly your plane. It is most important for the engine to run always with slightly rich mixture.
10. If you find difficulty in starting the engine in cold weather, remove the glow plug, and inject several drops of fuel directly into the cylinder. The engine will start soon.

### BREAKING-IN

Run your engine with a rich mixture during first 1 hour. After this period, you may run it in full power. But it is very important to run the engine always with a slightly rich mixture. It will take 2 ~ 3 hours for the engine to reach its peak in power and smoothness.

### ENYA NORMAL BARREL TYPE CARBURETOR ADJUSTMENT

The construction of the normal barrel type carburetor is very simple and therefore adjustment is very easy.

1. After you start the engine, open the throttle valve fully, and adjust the needle valve to the best position for flight. (The mixture will be slightly rich.)
2. Close the throttle valve slowly down to idle. The normal idling speed is between 2,500 ~ 3,000 r.p.m.
3. You can control the idle speed and the richness of the idle mixture by adjusting the idling speed adjusting screw and the idling mixture adjusting screw respectively.
4. In case you want faster idling, screw in the idle speed adjusting screw a bit.
5. In case the idle is too rich and Lo-Hi response is too slow, open the idle mixture adjusting screw about ½ ~ 1 turn.
6. On the hand, if the idle is lean and Lo-Hi response is too fast, or the engine has the tendency to stop during the idle, close the screw about ½ ~ 1 turn.

(Continued to next page)

## ENYA "G-TYPE" CARBURETOR ADJUSTMENT

The ENYA "G-type" carburetor is especially designed and produced to feed the engine constantly with the most suitable (slightly rich) mixture at all speeds.

It has a machined, taper fuel-metering groove on the surface of the throttle barrel. And the size of the fuel passage changes in accordance with the movement of the throttle valve so as to feed the engine constantly with a slightly rich mixture at all speeds. Consequently, the engine response is very quick. And moreover, as the suction of fuel is always strong, the engine has no tendency to stop even if any hard speed controlling is made during the maneuver.

1. After you start the engine, warm it up for about 30 seconds at high speed. Then try Hi-Lo and Lo-Hi operations taking an interval of 5 ~ 10 seconds on each side.
2. If the idling speed is correct and the engine speed rises up smoothly from Lo to Hi within 1 or 2 seconds, it means all the setting are correct.
3. The adjustment method is the same as the normal barrel type carburetor.

## ENYA "TN TYPE" (2 needles) CARBURETOR

As to the "TN-type" carburetors read the special instruction for them.

## ENYA "GM TYPE" CARBURETOR ADJUSTMENT

ENYA SS 50 HELI. GM engine is equipped with "GM type" carburetor. The "GM type" carburetor is a highly modified version of the "G Type".

With this carburetor you can get the best mixture and throttle response you want at the medium speed range by adjusting the "Medium speed mixture adjusting lever". (+ means rich and - means lean). It is very important to set the mixture slightly on the rich side. The best position of the lever will change according to the fuel contents. (nitro-methane and oil)

Please read the special instructions on the "GM type" carburetor and ENYA helicopter engines.

## ENYA TUNED MUFFLER T.M.40/50

In case you need ultra-high power to fly your plane, it is recommended to try the ENYA tuned muffler TM40/50 on your engine. You can obtain without difficulty about 1,000 more r.p.m. and 20% higher power than with the normal muffler.

## MAINTENANCE

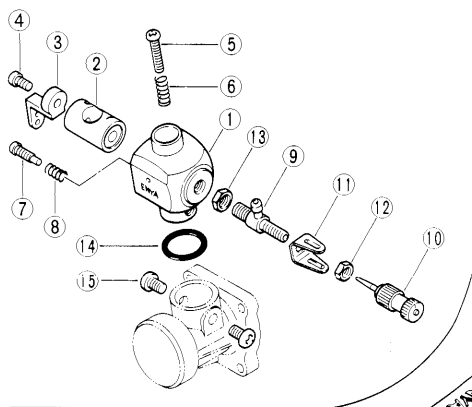
1. ENYA Super Sport 40/50 engines are very robust and dependable. But do not disassemble them needlessly.
2. Do not screw up the cylinder head too tightly in order to avoid distorting the cylinder liner.

## \* PARTS LIST \*

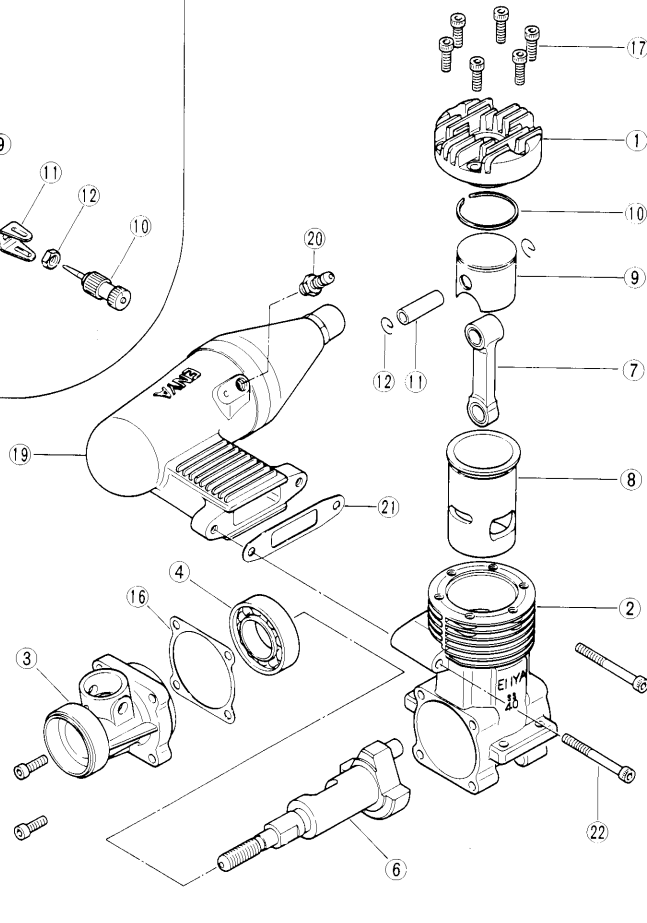
### ENYA Super Sport 40/45/50 (without carburetor)

No. in drawing	Name of part	Qty.	Part No.		
			SS40, 40BB 40 RING	SS45 RING	SS50 HELI. SS50 Marine
1	Cylinder head (for plane)	1	S4001	S4501	
	Cylinder head (for helicopter)				S5002
	Marine cylinder head (for boats)				S5001M
2	Cylinder block	1	S4003	S4503	S5003
3	Front housing (ball bearing type)	1	S40B07A	S40B07A	S40B07A
	Front housing (plane bearing type)	1	S4007		
4	Ball bearing A	1	40107B	40107B	40107B
5	Ball bearing B	1	60207C	60207C	60207C
6	Crank shaft (ball bearing type)	1	S40B08	S40B08	S50B08
	Crank shaft (plane bearing type)	1	S4008		
7	Connecting rod	1	S4005	S4005	S5005
	Cylinder liner & piston assy.(ring type)	1	S40R04	S45R64	S50R04
	Cylinder liner & piston assy.(plane type)	1	S4004		
8	Cylinder liner (ring piston type)	1	S40R04A	S45R04A	S50R04A
	Cylinder liner (plane piston type)	1	S4004A		
9	Piston (ring piston type)	1	S40R04B	S45R04B	S50R04B
	Piston (Plane piston type)	1	S4004B		
10	Piston ring	1	S40R04C	49X04C	49X04C
11	Piston pin	1	40X06	49X06	49X06
12	Piston pin stop ring	2	40X61	45X61	45X61
	Thrust washer (for plane bearing)	1	29526		
13	Drive washer (ball bearing type)	1	45B10	45B10	45B10
	Drive washer (plane bearing type)	1	S4010		
14	Propeller washer	1	294S12	294S12	294S12
15	Propeller nut	1	294S14	294S14	294S14
16	Gasket of front housing	1	40116	40116	40116
17	Cylinder head setting screw	6	354C15A	354C15A	354C15A
18	Front housing setting screw (ball bearing type)	4	49X15A	49X15A	49X15A
	Front housing setting screw (plane bearing type)	4	40X15A		
	Muffler assembly	1	M402X	M402X	
19	Muffler body	1	M402XA	M402XA	
20	Pressure nipple	1	M603J	M603J	
21	Gasket of muffler	1	M402XK	M402XK	
22	Muffler setting screw	2	40CX15A	40CX15A	

### ENYA G type Carburetor



### AN EXAMPLE OF EXPLODED VIEW ENYA Super Sport 40 Ring



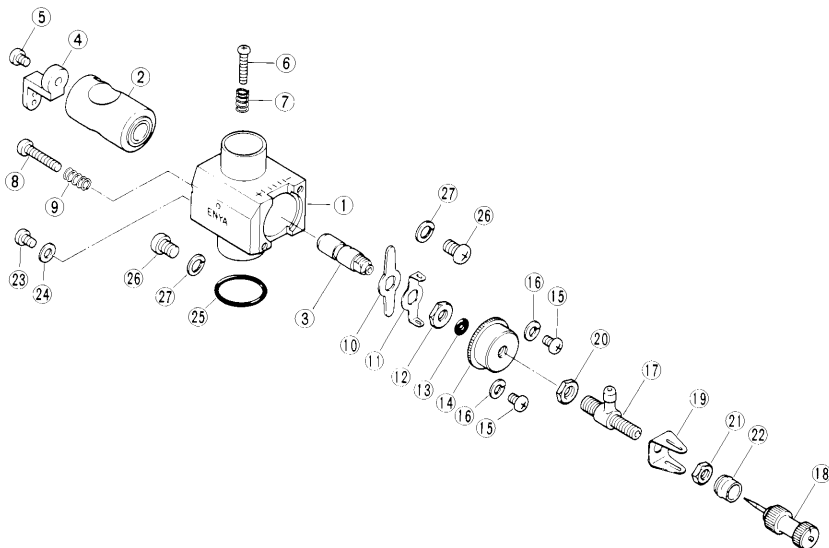
### G7 & Normal barrel type Carburetor

No. in drawing	Name of part	Qty.	Part No.	
			G7 type	Normal barrel type
1~15	Throttle valve assembly	1 set	49X40	S4040
1	TV body	1	40X40A	S4040A
2	TV valve	1	49X40B	S4030B
3	TV lever	1	19X40C	19X40C
4	TV lever setting screw	1	60330E	S2540E
5	Idling speed adjusting screw	1	60330H	60230H
6	Locking spring	1	60330I	60230I
7	Idling mixture adjusting screw	1	60230J	29430J
8	Locking spring	1	60230K	15240K
9~13	TV needle valve assembly	1 set	60331F	29440F
9	Spray bar	1	60331F2	29440F2
10	Needle	1	60331F1	29440F1
11	Needle setting spring	1	15220C	15220C
12	Spring setting nut	1	09230F5	09230F5
13	Spray bar setting nut	1	29440F4	29440F4
14	Gasket of TV	1	60223	60223
15	TV assembly setting screw	2	60230GA	S2540GA

### GM type Carburetor

No. in drawing	Name of part	Qty.	Part No.
1~26	Throttle valve assembly	1 set	49X60
1	TV body	1	49X50A
2	TV valve	1	49X50B
3	Nozzle	1	49X60LP
4	TV lever	1	19X40C
5	TV lever setting screw	1	15240E
6	Idling speed adjusting screw	1	60X50H
7	Locking spring	1	60330I
8	Idling mixture adjusting screw	1	60230J
9	Locking spring	1	60230K
10	Medium speed mixture adjusting lever	1	60X50M
11	Lever setting spring	1	60X50N
12	Lever setting nut	1	60X50O
13	O-ring	1	60X50P
14	Side plate	1	60X60Q
15	Side plate setting screw	2	15240E
16	Spring washer	2	60X50R
17~22	TV needle valve assembly	1 set	60331F
17	Spray bar	1	60331F2
18	Needle	1	60331F1
19	Needle setting spring	1	15220C
20	Spring setting nut	1	09230F5
21	Needle valve setting nut	1	29440F4
22	Seal of needle	1	60X60M
23	Thrust washer setting screw	1	15240E
24	Thrust washer of valve	1	60X50Y
25	Gasket of TV	1	60223
26	TV assembly setting screw	2	60230GA
27	Spring washer		

### ENYA GM type Carburetor



Specifications are subject to change without any notice.

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