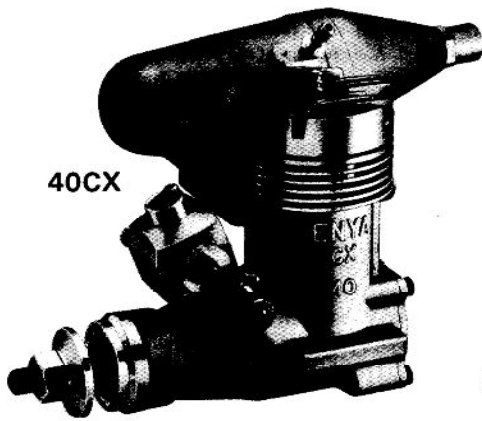


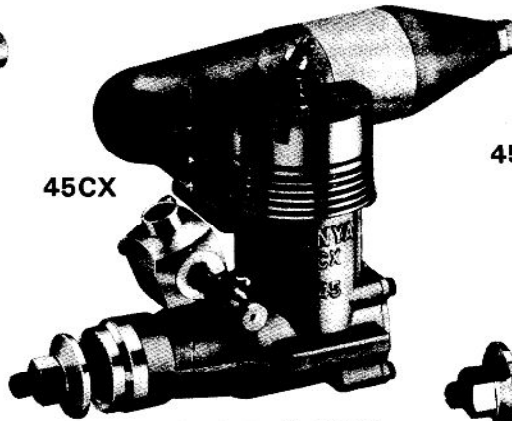
# ENYA

## 40CX 45CX 45CX Marine



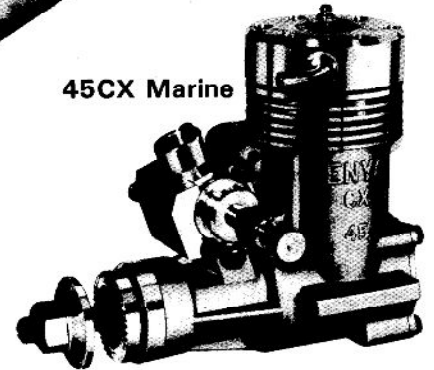
40CX

This photo is equipped with muffler M402X



45CX

This photo is equipped with muffler SM402X



45CX Marine

### ✦ DISTINCTIVE FEATURES

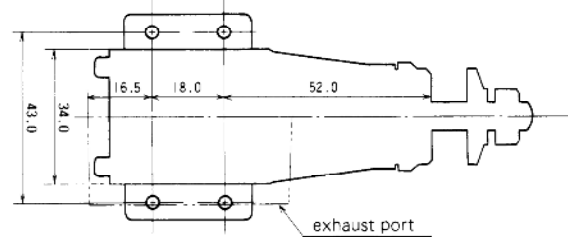
- Exceptional performance
- Excellent speed control
- Smooth running
- Minimum break-in period
- Long life and great dependability
- Sturdy construction
- Precise workmanship

### ✦ SPECIFICATIONS

Type: 2 stroke cycle glow plug ignition, Schnuerle type scavenging system with booster port. Front induction, with 2 ball bearings. Special aluminum cast cylinder liner is chromed, and fitted with ultra low-expansion aluminum alloy piston. (Al-Chrome system)

### ✦ TECHNICAL DATA

	40CX	45CX	45CX Marine
Main uses	40 class sports, scale, stunt planes	40 class sports, scale, stunt planes	45 class motor boat
Displacement	6.49 cc (0.369 cu.in.)	7.48 cc (0.456 cu.in.)	7.48 cc (0.456 cu.in.)
Bore x Stroke	20.9 x 18.9 mm	21.6 x 20.4 mm	21.6 x 20.4 mm
Weight	345 g (12.3 oz.)	355 g (12.7 oz.)	380 g (13.6 oz.)
Carburetor	ENYA G type 7.0 mm	ENYA G type 7.0 mm	ENYA GM 9SB
Max. power with no muffler	1.2 HP	1.3 HP	1.5 HP
Power with normal muffler	0.7 ~ 0.9 HP	0.8 ~ 1.0 HP	
R.P.M.	2,500 ~ 17,000	2,500 ~ 17,000	3,000 ~ 20,000
Propeller size	10 ~ 12 x 6 ~ 7 in.	10 ~ 12 x 6 ~ 7.5 in.	
Glow plug	ENYA No. 4, 3	ENYA No. 4, 3	ENYA No. 5, 4, 3
Muffler	ENYA M402X or SM402X	ENYA M402X or SM402X	
Tuned muffler	ENYA TM40/49	ENYA TM40/49	ENYA TM40/49



### ✦ SPECIAL ATTENTION

1. In general, 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 model engine.
2. Before you run your engine, take care of the following points.
  - Tighten the engine mounting screws and propeller nut once again.
  - Make sure that there are nobody near around (except your assistant).
  - 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 to fly your plane, and repair it perfectly.

### ✦ FUEL

ENYA 40CX and 45CX will operate satisfactorily on most kinds of high quality fuel for model glow plug engines. But it is recommended

to use fuel which contains 20% castor oil or high quality synthetic oil.

#### Standard mixing ratios of components (volumetric)

	No. 1	No. 2
Methanol alcohol	75 ~ 70%	65 ~ 60
Nitro-methane	5 ~ 10%	15 ~ 30%
Castor oil or synthetic oil	20	20

### ✦ GLOW PLUG

Almost all the 1/4"-32 thread glow plugs are available for ENYA 40CX and 45CX. But as the glow plug has a very delicate nature, it is recommended that you test your engine with different kinds of glow plug to get the best performance.

ENYA glow plug No. 3, No. 4 are most suitable.

### ❖ PROPELLER

It is very important to choose high quality propellers made of hard wood or fiber-glass nylon to run the engine safely and to get good results.

### ❖ BREAKING-IN

Run your ENYA 40CX or 45CX with 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 slightly rich mixture. It will take 2 ~ 3 hours for the engine to reach its peak in power and smoothness.

### ❖ PRESSURIZED FUEL TANK

It is indispensable to pressurize the fuel tank by leading the exhaust pressure of the muffler to get the steady running during the maneuvers, because the G-7 mm carburetor has a wider venturi size than average to get bigger power. Connect the fuel tank with the pressure nipple of exhaust muffler by a hose. After filling the tank with fuel, close the filler.

### ❖ STARTING AND ADJUSTING OF THE NEEDLE-VALVE

You can start ENYA 40CX and 45CX quite easily by proper handling. But as the compression is rather strong, it is recommended to put on gloves when you flip the propeller.

The following is one of the typical starting process of ENYA 40CX and 45CX.

1. Open the needle-valve 2 turns. (In case you use an unpressurized fuel tank, the proper opening of needle-valve for starting is 2 ~ 3 turns.) Close the air intake port of carburetor with your finger, and turn the propeller 3 or 4 times. Then, the engine is choked and the proper amount of fuel for starting will be sucked into the crankcase.
2. Close nearly 90% of the throttle valve opening, and connect the battery to glow plug.
3. Flip the propeller repeatedly until the engine begin to pop and start. In case all the conditions are good, you can start it by 2 or 3 flips.
4. Once the engine starts, open the throttle-valve fully and detach the battery connection. Then adjust the needle-valve slowly to the best running position.
5. After you find the best running position, open it a bit again. The mixture will become slightly rich. This is the best position of needle-valve to fly your plane. It is most important for the engine to run always with slightly rich mixture.

### ❖ MUFFLER

There are 3 kinds of muffler for ENYA 40CX and 45CX.

#### 1. Standard muffler (M402X)

Conventional expansion chamber type. Weight: 70g

#### 2. Special muffler (SM402X)

This muffler has a special inside construction to reduce the exhaust noise. The noise level is very low and soft. (75 ~ 80 dB A scale at the distance of 10m on the ground.) Weight: 100g

#### 3. Tuned muffler (TM40/49)

In case you need ultra-high power, it is recommended to try ENYA tuned muffler TM40/49 on your 40CX or 45CX. You can obtain without difficulty about 1,000 more r.p.m. and 20 ~ 25% higher power than with normal muffler. Moreover, the noise level is rather lower than usual.

### ❖ CLEANING THE CARBON

After many flights, if you find some considerable power loss or tendency of biting of the piston to cylinder liner, it is recommended to disassemble your engine and clean the carbon on the piston and cylinder liner carefully with #500 or #1000 emery-cloth. After clean-

ing, wash all the parts in gasoline, lubricating them, and assemble again. The engine will be refreshed and run powerfully once again.

### ❖ OTHER NOTES

1. It is recommended that you check the screws of the engine sometimes. But never screw them up too strongly.
2. Do not disassemble your engine needlessly.

### ❖ THE ENYA "G-TYPE" THROTTLE VALVE

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

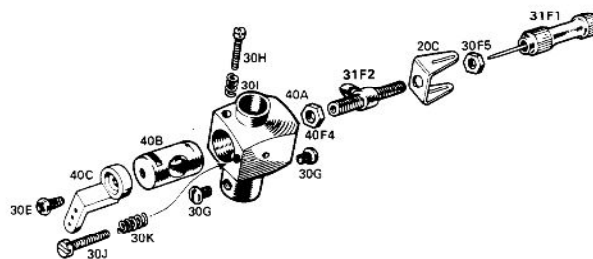
It has a precisely machined, taper fuel-metering groove on the surface of the throttle drum. And the size of the fuel passage changes in accordance with the throttle valve moving so as to feed the engine constantly with a slightly rich mixture at all speeds. Consequently, the response of the engine to the throttle valve moving becomes 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 be made during the maneuvers.

### ❖ ADJUSTMENT OF THE G-TYPE THROTTLE VALVE OF ENYA 40CX AND 45CX.

1. Usually, the best idle running position of the "G-Type" throttle valve is where it is opened about 0.5 ~ 1.0 mm. The best possible idling speed is about 2,500 r.p.m. And the safety idling is 2,500 ~ 3,000 r.p.m.
2. Start your engine, and warm it up about 30 seconds at high speed. Then try Hi-Lo and Lo-Hi operations taking an interval of 5 ~ 10 seconds on each side.
3. In case the idling speed is proper and the engine speed raise up smoothly from Lo to Hi within 1 or 2 seconds, it means all the conditions are good.
4. If the idling mixture is too rich and the Lo-Hi response is slow, open the idling mixture adjusting air valve (30J)  $\frac{1}{4}$  ~  $\frac{1}{2}$  turn.
5. If the idling is too slow or lean, open the throttle valve 0.2 ~ 0.4 mm by screwing-in the idling speed adjusting screw (30H) a little bit.
6. It is recommended to make the final test before flying. Start your engine and warm it up, and turn your fuel over vertically upwards with your both hands. Then repeat Hi-Lo and Lo-Hi operations 2 or 3 times. In case all the adjustments are right, the Lo-Hi response must be quick and the engine will never have any tendency to lean out.

### ❖ MAINTENANCE OF THE "G-TYPE" THROTTLE VALVE

1. Make sure that your fuel is clean. Never use a dirty fuel. It is recommended to set a filter between the fuel tank and the engine.
2. If the fuel passage is stopped up by some dirt, remove the needle valve and throttle drum, and clean them with a piece of wire and a brush, washing with gasoline.
3. When you install the spray-bar on the TV body, screw-in it, 3 turns, and never too far.



### ❖ PARTS LIST OF THE "G-TYPE" THROTTLE VALVE FOR ENYA 40CX AND 45CX (49X40)

Part No.	Description of Part	Qty.	Part No.	Description of Part	Qty.
49X40	Throttle valve assembly	1 set	29440F4	5 mm nut	1
40X40A	Throttle valve body	1	09230F5	4 mm nut	1
49X40B	Throttle valve	1	60230G	T.V. assembly setting screw	2
49X40C	Throttle lever	1	60330H	Idling speed adjusting screw	1
60330E	Throttle lever setting screw	1	60330I	Looking spring A	1
60331F	T.V. needle valve assembly	1	60230J	Idling mixture adjusting air valve	1
60331F1	T.V. needle only	1	60230K	Looking spring B	1
60331F2	T.V. spray bar				
15220C	Needle setting spring				