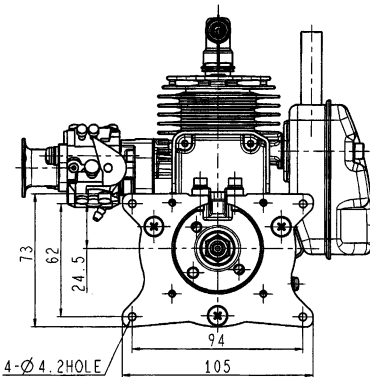
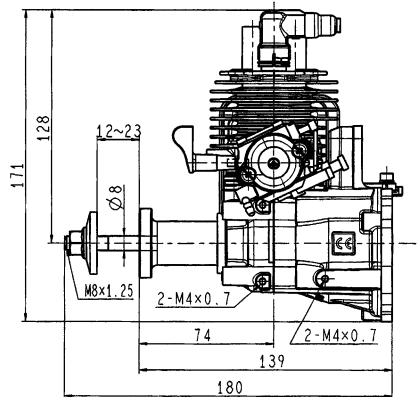
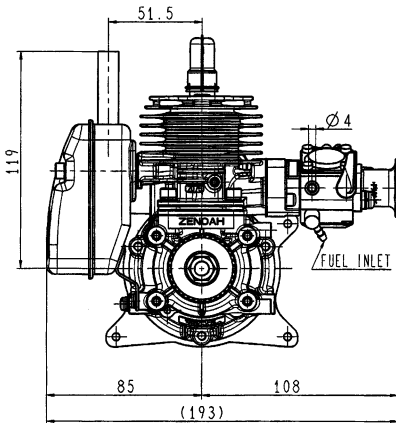


# OWNER'S SERVICE MANUAL

**MODEL:**

**G260PU-EI – for radio control Airplane**



## ⚠ WARNING ⚠

- These engines are designed for radio controlled products.
- When replacing parts, use only parts which have been certified by Zenoah.
- Zenoah assumes that no responsibility for these engines that are modified or used for any other applications.
- Purchaser has all responsibility against any laws and regulations existing in the countries, Zenoah is exempt from such laws and regulations.
- Read and completely understand this **OWNER'S SERVICE MANUAL** before operating these engines.

## **1. Safety Precautions**

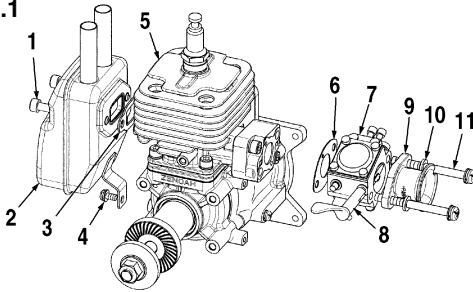
- **This manual describes the engine. For its mounting and control, see the instruction manual for the model airplane.**
- **Engine is designed for use on model airplane. If it is used for any other purpose, we cannot be responsible for its reliability, safety and any laws/regulations in the countries.**
- **Use genuine parts for replacement.**
- **Check the propeller, every time. If it is damaged, replace it with a new one.**
- **If the propeller hit something while the engine is in operation, immediately stop the engine and check it.**
- **Start the engine on a flat surface without pebble stones.**
- **When mixing the fuel, or operating the engine, carry it out in a well-ventilated place.**

## 2. Engine Assembling

The carburetor, muffler, air-funnel and sensor are not assembled at factory. Make sure that the assembling for such parts are done according to the 2.1 and 2.2.

### 2.1 Carburetor muffler and air-funnel assembling

Fig.1



1. Bolt (01252-30550)
2. Muffler (T2075-15110)
3. Gasket (1140-13141)
4. Screw (0263-30408)
5. Engine
6. Gasket (T2075-13150)
7. Carburetor (T2075-81000)
8. Lever, choke (T2070-82410)
9. Air-funnel (848ES08300)
10. Spacer (1142-83110)
11. Screw (0263-30555)

Tightening torques: see page 9

### 2.2 Sensor assembling

Fig.2

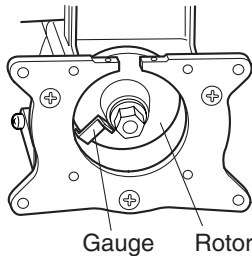


Fig.3

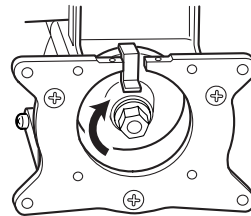
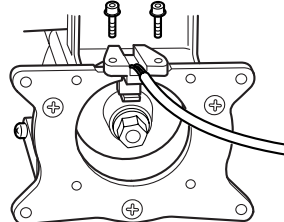


Fig.4



- Fig.2: Affix the gauge to magneto.  
Fig.3: Turn the crankshaft until gauge position at top.  
Fig.4: Fix the sensor on the mount while pushing the sensor.

- Take away the gauge from the rotor.

#### CAUTION

Make sure that gasket and carburetor are mounted as the picture. If carburetor is mounted upside down position, the engine does not start as carburetor does not work correctly.

### 3. Engine Mounting

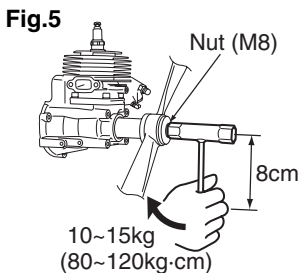
Make sure that the G260PU-EI is mounted on the aircraft grade plywood with more than 8mm of thickness or a mount of equivalent strength and is firmly fixed with 4 bolts. If necessary, please reinforce the firewall and the around.

#### [ NOTE ]

1. Be sure to set flat washers or metal plate on the reverse side of the mount to prevent bolts from sinking into the mount. Before be sure to check for loose bolts.
2. Since the engine is equipped with a float-less carburetor with a diaphragm pump, the direction of cylinder and position of fuel tank can be freely selected .
3. The Fuel head between carburetor and bottom of fuel tank must be less than 100 mm (4 inches).
4. If the rubber joint is placed between the engine and the body for anti-vibration, check if the rubber is too week and select the proper hardness of the rubber, in order to avoid the unexpected vibration under operating engine RPM zone.
5. Tighten the nut (M8) with a torque of 80~120 kg·cm applying about 10~15 kg by hand as shown in the figure.

#### (NOTE)

Do not tighten the nut (M8) with too large torque, that may damage the stud.



### 4. Ignition Unit Mounting

1. Make sure to install the power switch. (switch is not supplied)
2. Push the sparkplug cap all the way over the sparkplug. (use gloves)
3. Fixate the unit within the fuselage, as shown in the diagram. Do not wrap the unit by the sponge, cloth or the like.
4. The temperature of the bottom surface (D) of the unit, in particular, will rise. Thus, when fixating surface (D), make sure to leave sufficient space (a gap).



**The temperature of the unit may rise to as high as 70~80°C, depending on the operating environment and conditions, but this is not abnormal. However, make sure not to touch this part or you could risk being burned.**

Fig.6

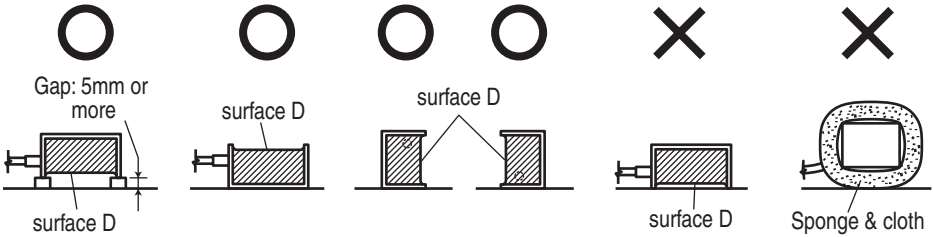
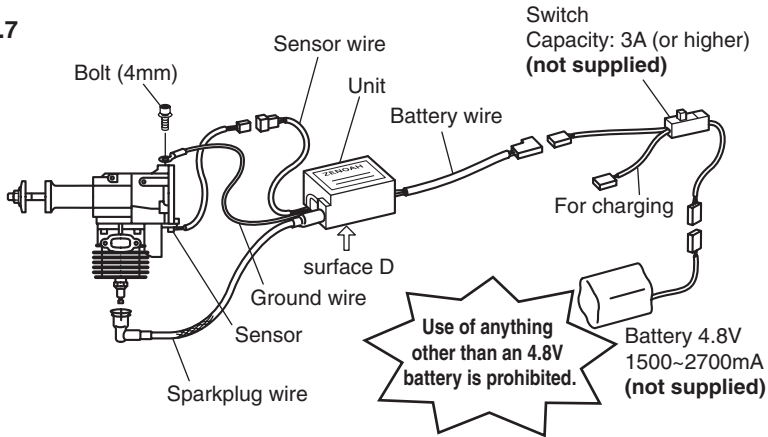


Fig.7



## 5. Propeller, Rotor & Screw Propeller

The recommended prop sizes are as shown in the table below.

Diameter x Pitch ( in.)
18 x 7 ~ 12, 16 x 10 ~ 14

Be sure to use a propeller which makes the engine speed approximately 7,500~8,500 rpm while the airplane is flying.

### CAUTION

When mounting the spinner, set a pin on the hub with more than 3mm of diameter, thus preventing slipping.

## 6. Fuel

- Mix gasoline (octane over 85 / premium gasoline) and high grade 2 cycle engine oil (mixing use type; F3C grade or ISO EGC grade) at mixing ratio 25~40:1.
- The mixing ratio may be decided according to the oil recommendation.

### [ NOTE ]

- 1) Never use any alcohol fuel or alcohol added fuel, or the rubber parts in the carburetor. Will be damaged.
- 2) Gasoline is very flammable. Avoid smoking, bringing any fires near fuel.
- 3) To prevent all possible problems on fueling system, make sure to use the fuel filter which has more than 300 mesh or equivalent and gasoline proof rubber pipe or equivalent.  
Incorrect fuel filter use causes engine trouble like carburetor's fuel passage stuffing or piston surface scratching etc.

## 7. Starting

Make sure to fix a spinner and make sure that the helpers hold the airplane firmly. Also make sure that the electric motor has a power enough to run the engine at minimum 1,100 rpm.

### ● How to start

- a. Fill the fuel tank with the fuel.
- b. Choke the carburetor.
- c. Set the throttle valve at idle position or at the position slightly open from the idle position (Never open the throttle more than 1/4 of full throttle stroke).
- d. Turn the engine by electric motor until first combustion noise is heard.
- e. Open the choke and keep the throttle valve at slight open position from idle position.
- f. Turn the engine by electric motor, then the engine will start.

### CAUTION

- **Too much run by electric motor at choke condition may have a chance to wet spark plug.**  
**In this case, change the spark plug or dry it thoroughly and remove fuel rest in the cylinder by turning engine under full throttle, open choke and without spark plug installing.**
- **When engine is warm, carburetor choking may not be necessary.**
- **Hand flip starting is prohibited to prevent the hazards.**

## 8. Carburetor Adjustment

The carburetor is provided with 3 adjust screws which are set to the best (approximately) positions by our company, but they may need a little adjustment depending on the temperature, atmospheric pressure (altitude), etc. of the area where the engine is used. Start the engine without making any adjustments. Make readjustments only when the engine shows any mal-running.

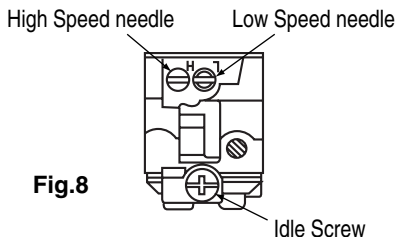


Fig.8

Standard opening of each needle as follows;

H	L
$1 \frac{3}{8} \pm \frac{1}{4}$	$1 \frac{3}{8} \pm \frac{1}{4}$

### Idle Screw:

Turning this screw clockwise increases the idling R.P.M. Turning it counterclockwise decreases the idling R.P.M

### Low Speed needle:

This is the fuel adjust screw (not the air screw). Turning this needle clockwise makes the mixture gas leaner and turning it counterclockwise makes it richer.

Set this needle at a position which is 1/4 open from best mixture (maximum R.P.M.) position.

### High Speed needle:

Turning this needle clockwise makes the mixture gas leaner and turning it counterclockwise richer. Set this needle at a position which is 1/8~1/4 open from the maximum R.P.M. position while the airplane is on ground.

### CAUTION

1. Do not tighten the High and Low Speed needles too firmly.
2. When the unit has just started and the engine is not warm enough, there may be insufficient acceleration and the engine may be stopped. Be sure to perform idling before operation.

## 9. Engine Break-In

No specific break-in is required.

The engine is gradually broken-in as it is used and the output is also gradually increased.

For checking the whole conditions of the airplane, it may be better to operate the engine at slow RPM for 1/3 tank and mid-high RPM for 2/3 tank.

## 10. Operation

- The engine is already tuned up to get high performance, and needs correct maintenance to keep such high performance.
- The details for operation as an airplane may be provided from the airplane manufacturer.
- Always keep well maintenance according to the Maintenance clause described in this owner's service manual.

## 11. Maintenance

### 1) MAINTENANCE CHART

Items	Action	Before Use	Every 25 hours	Every 100 hours	Note
Leakage, Damage/Crack	Check	✓	✓	✓	
Idling Speed	Check/Adjust	✓	✓	✓	
Spark Plug(gap)	Check/Adjust		✓	✓	Replace if necessary
Cylinder(barrel)	Check/Cleaning		✓	✓	↑
Piston, Ring	Check/Cleaning		✓	✓	↑
Muffler & Bolt	Check/Cleaning	✓	✓	✓	↑
Bearings	Check/Cleaning		✓	✓	↑
Crank Shaft	Check/Alignment			✓	↑
Rotor	Check		✓	✓	↑
Propeller Hub	Check/Alignment		✓	✓	↑



## 2) SPECIFICATIONS & TECHNICAL DATA

Items	unit	Specifications
Type	—	Air Cooled
Bore x Stroke	mm	34x28
Displacement	cm <sup>3</sup>	25.4
Effective Compression Ratio		8.4
Carburetor	Type (Walbro)	WT-645
	Venturi (mm)	ø12.7
Air Cleaner		—
Starting	—	Electric Motor
Ignition	Type	Battery Ignition
Spark Plug	STD	Y82
Idle Speed	rpm	1800 (APC 18x8)
Max. Power	kW/rpm	NA
Max. Torque	N·m/rpm	NA
Fuel Consumption	g/kW·H	NA
Weight	kg	1.35 (*)

(\*): Without Ignition System

Specifications are subject to change without notice.

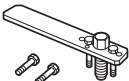
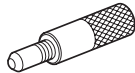

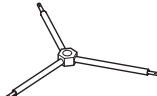
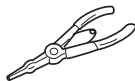
## 3) CARBURETOR

Items	Unit	Standard	Measuring Device
Metering Lever set	mm	1.65 ± 0.16	Vanier
Inlet Valve Opening Pressure	MPa	0.13~0.23	Leak Tester
	kg/cm <sup>2</sup>	1.3~2.3	
Inlet Valve Closing Pressure	MPa	0.07~0.17	Leak Tester
	kg/cm <sup>2</sup>	0.7~1.7	

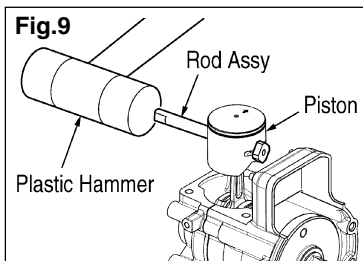
## 4) TIGHTENING TORQUE

Items	Screw Size	Standard		Remarks
		N·m	kg·cm	
Carburetor	M5 (P=0.8)	3.4	35	
Insulator	M5 (P=0.8)	4.4	45	
Rotor	M8 (P=1.0)	12.7	130	
Cylinder	M5 (P=0.8)	6.9	70	
Crankcase	M5 (P=0.8)	5.9	60	
Spark Plug	M10 (P=1.0)	7.8	80	
Muffler	M5 (P=0.8)	8.8	90	
Stud (hub)	M6 (P=1.0)	9.8	100	with Locktight glue
Nut, Propeller	M8 (P=1.25)	9.8	100	

## 12. Special Tools

	Part Name	Part No.	External Appearance	Usage
1	Puller Assy	1490-96101		To remove rotor.
2	Piston Stopper	4810-96220		To hold crankshaft when disassembling/assembling the rotor.
3	Rod Assy	1101-96220		To remove/install piston pin.
4	Hex Wrench	3304-97611		For socket screw of 4mm, 5mm and 6mm.
5	Snap Ring Pliers	5500-96110		To remove snap ring.

## 13. Service Guide

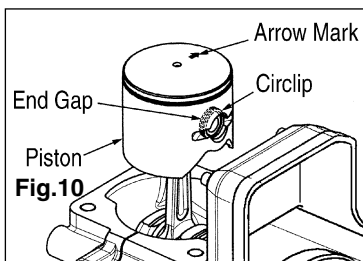


### 1. REMOVING PISTON PIN (Fig.9)

- 1) Remove snap rings from both sides of the piston pin.
- 2) Engage the rod assy(1101-96220) to the piston pin and gently tap with a plastic hammer to push out the pin while holding piston firmly.

#### CAUTION

Hard hammering may damage the big end of the connecting rod.



### 2. INSTALLING PISTON (Fig.10)

- 1) Make sure to point the arrow mark on the piston to the exhaust side.
- 2) Fit the circlip in the groove so as to face the end gap below.

#### CAUTION

Deformed circlip may come off during engine operation and damage the engine.

## **14. Warranty**

### **1) SCOPE OF APPLICATION**

This engine manufactured by Zenoah Co., Ltd. (hereinafter referred as ZENOAH) and sold to the user directly or through distributor/manufacturer, shall entitle to be covered by this warranty.

### **2) LIMIT OF WARRANTY**

ZENOAH warrants that ;

1. The quality disclosed in the specifications.
2. The engine which shall be considered defective by ZENOAH, caused by material or production fault.

### **3) LIMITS OF COMPENSATION**

1. ZENOAH compensates such quality, material and production faults by repairing or replacing through distributor/manufacturer.
2. ZENOAH shall not compensate any other accompanied or benefit losses caused to user and distributor/manufacturer by such faults and through repairing or replacing.

### **4) TERMS OF WARRANTY**

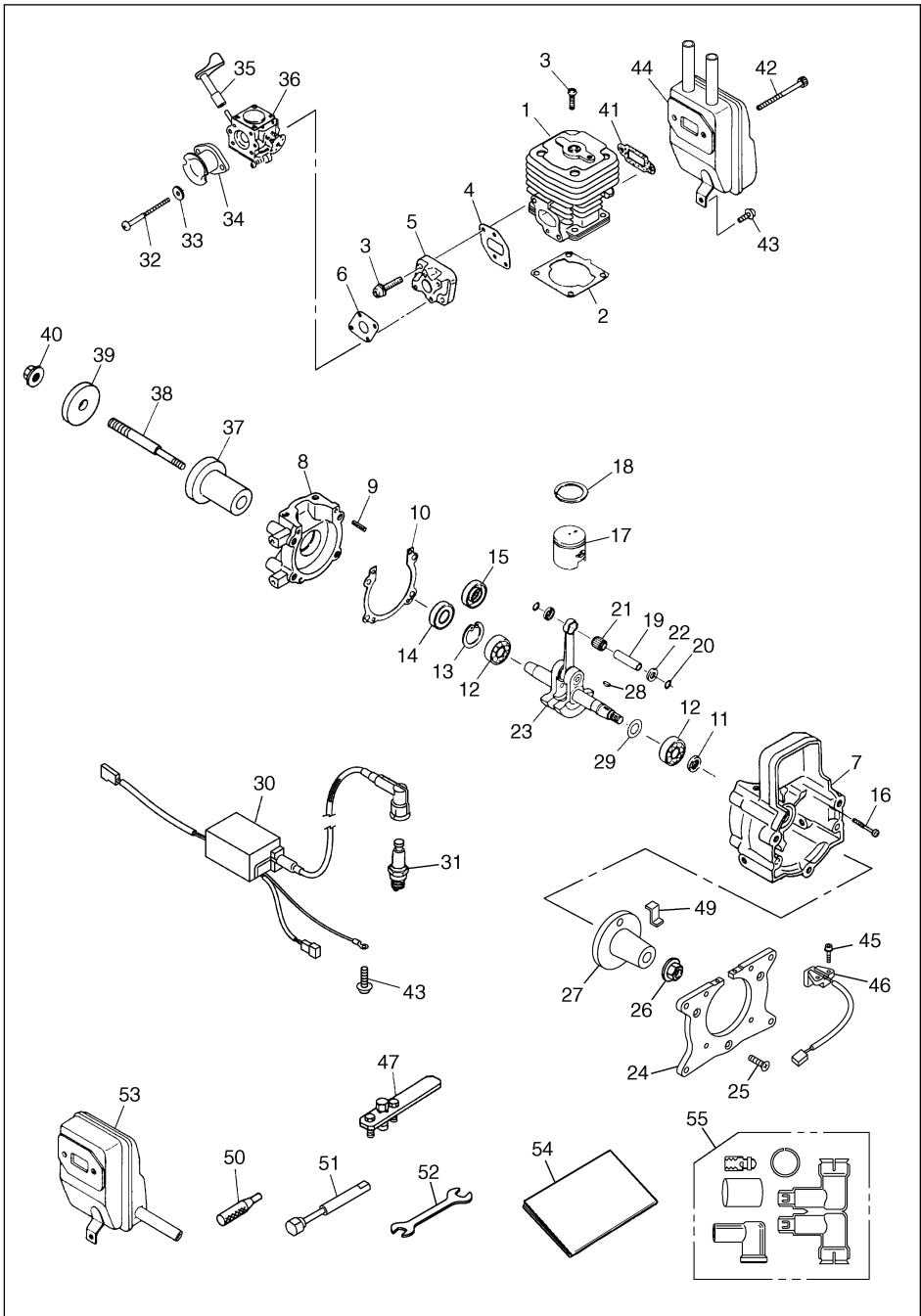
3 months after purchased by user subject to 12 months from produced month.

### **5) EXEMPT FROM WARRANTY**

ZENOAH shall not warrant this engine even if the fault has been caused during the period of terms of warranty, in case of that ;

1. Any faults, failures caused from neglect of this OWNER'S SERVICE MANUAL for proper operation and maintenance.
2. Any modifications not approved by ZENOAH.
3. Normal abrasion and deterioration.
4. Consuming parts.
5. Using any parts which have not been certified by ZENOAH.
6. Add-on or modified parts use.

# Parts list

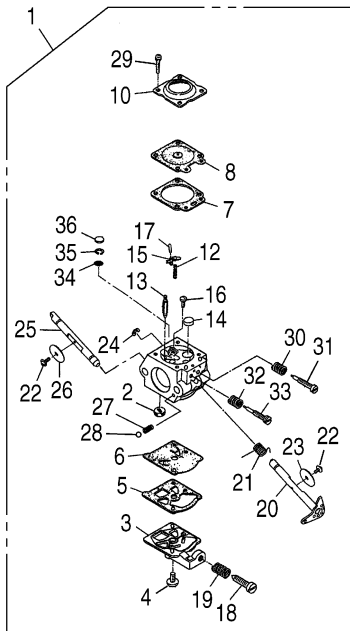


## Parts list

Key#	Part Number	Description	Q'TY/ UNIT	Remarks
1	848ES512A0	CYLINDER	1	
2	T2075-13120	GASKET, cylinder	1	
3	3310-12281	BOLT M5x20	6	
4	T2075-13150	GASKET, insulator	1	
5	1148-13162	INSULATOR	1	
6	T2075-14120	GASKET, carburetor	1	
	T2075-21100	CRANKCASE COMP.	1	
7	-	• CRANKCASE (R)	1	
8	-	• CRANKCASE (F)	1	
9	2629-21130	• PIN	3	
10	T2075-21140	GASKET	1	
11	2169-21210	SEAL 12x22x7	1	
12	1155-21240	BEARING	2	
13	04065-02812	SNAPRING	1	
14	06034-06001	BEARING	1	
15	1850-21220	SEAL 12x28x7	1	
16	01252-30530	BOLT M5x30	4	
17	T2088-41110	PISTON	1	
18	T2088-41210	RING	1	
19	1600-41310	PISTON PIN	1	
20	1260-41320	SNAP RING	2	
21	5500-41410	BEARING	1	
22	1101-41340	WASHER	2	
23	T2075-42000	CRANKHAFT COMP.	1	
24	848ES553X0	MOUNT	1	
25	0262-10516	SCREW M5x16	3	
26	1650-43230	NUT M8	1	
27	848ES57110	ROTOR COMP.	1	
28	1000-43240	KEY	1	
29	1140-43250	SHIM	0-3	
30	848EW07120	UNIT ASSY	1	
31	3699-92369	SPARK PLUG	1	Y82
32	0263-30555	SCREW M5x55	2	
33	1142-83110	SPACER 5x10x1.6	2	
34	848ES08300	AIR-funnel	1	
35	T2070-82410	LEVER CHOKE	1	
36	T2075-81000	CARBURETOR ASSY	1	WT-645
37	1152-43260	HUB	1	
38	1152-43281	STUD	1	
39	1152-43290	WASHER	1	
40	3350-53410	NUT M8	1	
41	1140-13141	GASKET, muffler	1	
42	01252-30550	BOLT M5x50	2	
43	0263-30408	SCREW M4x8	2	
44	T2075-15110	MUFFLER	1	
45	8488441400	BOLT SENSOR	2	
46	848EW071N0	SENSOR	1	
47	1490-96101	PULLER ASSY	1	OPTION
49	848ES596C0	GAUGE	1	
50	4810-96220	STOPPER	1	OPTION
51	1101-96220	ROD ASSY	1	OPTION
52	8488U30000	SPANNER	1	
53	1148-08010	MUFFLER	1	OPTION
54	848ES593A0	MANUAL	1	
55	X374320099	REPAIR KIT (PLUG CAP)	1	OPTION KIT

# Parts list

## CARBURETOR INNER PARTS



Key#	Part Number	Description	Q'TY/ UNIT
1	T2075-81000	CARBURETOR ASSY	1
2	3306-81380	• SCREEN	1
3	3080-81120	• COVER	1
4	3310-81130	• SCREW	1
5	3304-81140	• GASKET	1
6	1172-81150	• DIAPHRAGM	1
7	2850-81290	• GASKET	1
8	3310-81260	• DIAPHRAGM	1
10	3310-81280	METERING COVER	1
12	2867-81270	• SPRING	1
13	3356-81310	• VALVE, inlet	1
14	1480-81420	• PLUG, welch	1
15	3310-81230	• LEVER	1
16	3310-81240	• SCREW	1
17	3310-81250	• PIN	1
18	2630-81330	• SCREW	1
19	3350-81380	• SPRING	1
20	1172-81370	• SHAFT, throttle	1
21	2670-81410	• SPRING	1
22	2880-81470	• SCREW	2
23	3310-81340	• VALVE, throttle	1
24	1148-81390	• RING	1
25	T2070-81460	• SHAFT, choke	1
26	T2075-81450	• VALVE, choke	1
27	3350-81350	• SPRING	1
28	3350-81220	• BALL	1
29	3310-81351	• SCREW	4
30	1491-81160	• SPRING	1
31	1148-81171	• NEEDLE, low speed	1
32	3080-81320	• SPRING	1
33	T2070-81330	• NEEDLE, high speed	1
34	3304-81450	• SCREEN	1
35	3304-81441	• RING	1
36	3360-81440	• PLUG	1



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