



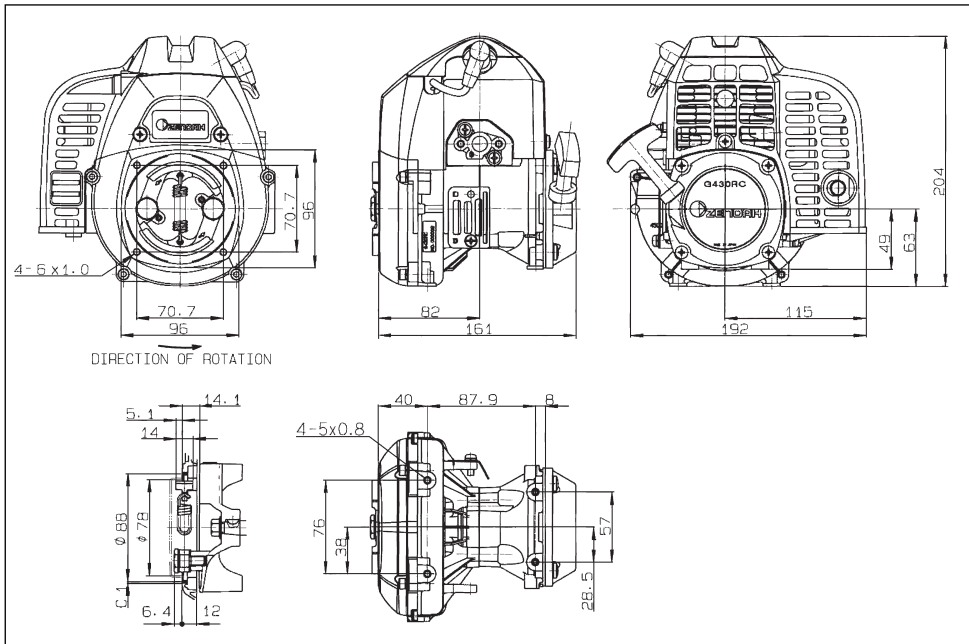
OWNER'S MANUAL

Model: G430RC

Model code: 967286301

Thank you for using ZENOAH ENGINE.

- **Please read this Owner's Manual thoroughly before operating and use the engine correctly according to this Owner's Manual.
(For safety reasons, please contact your sales dealer before operating this engine if there is something that you do not understand.)**
- **This engine has been designed for the use of radio control car.
Please use this engine in conjunction with the manual for radio control car or radio control equipment you are going to use.**
- **Any modification of the engine or any use of other applications is prohibited.**
- **The purchaser (user) shall bear all obligations and responsibilities stipulated by law, local ordinance and the likes.
Husqvarna Zenoah Co., Ltd. shall bear no responsibility whatsoever.**



CONTENTS

SPECIFICATIONS.....	4
SAFETY PRECAUTIONS.....	5
FUEL	7
OPERATION	8
MAINTENANCE	9
SPECIAL TOOLS	14
SERVICE GUIDE	15
TROUBLE SHOOTING	18
PARTS LIST	20
WARRANTY	23

SPECIFICATIONS

Engine Type	G430RC
Overall Size (L x W x H)	161 x 192 x 204mm
Weight	2.8kg
Displacement	41.5cm ³
Clutch Engagement	3300rpm (STD Spring)
Carburetor Type	WYK-93A
Spark Plug	CHAMPION RCJ6Y
Spark Plug Gap	0.65mm
Rotating Direction	Counter-Clockwise (View From PTO)

⚠ SAFETY PRECAUTIONS ⚠

- **These safety precautions are to prevent you and those people in the vicinity from incurring harm or damage. Make sure to observe these precautions and constantly strive to ensure safety.**
- **Safe use of the engine is your personal obligation and responsibility. Constantly take care to act with good judgment as you enjoy your hobbies.**

- **The fuel is toxic. Do not let it get into your eyes or mouth. Store it in a cool place, out of the reach of infants and children.**
- **Use of open flames around the fuel is strictly prohibited, because of danger of fire.**
- **To prevent burns, make sure not to touch the engine while it is operating or immediately after it has stopped.**
- **Do not run the motor in poorly ventilated places. Do not breathe the exhaust, as it is a health hazard.**
- **Please wear clothing that facilitates your safety. Remove all scarves,**

⚠ SAFETY PRECAUTIONS ⚠

overly long sleeves, neckties and the like. Failure to do so could result in injury.

- **When mounting the engine to a model, make sure to follow the model's operating manual. If necessary, reinforce the engine mounting unit and the peripheral parts.**

FUEL

- Mix gasoline (octane over 95) and high grade 2 stroke engine oil (mixing use type; JASO FC grade or ISO-L-EGC grade) at mixing ratio 40~50:1.
- The mixing ratio is according to the oil recommendation.

[NOTE]

1) Gasoline may contain maximum of 10% Ethanol (grain alcohol) or up to 15% MTBE (Methyl tertiary-butyl ether).

Gasoline containing Methanol (Wood Alcohol) is NOT approved.

2) Gasoline is very flammable. Avoid smoking and 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 may cause engine trouble like fuel passage stuffing in carburetor, or piston surface scratching etc.

OPERATION

- This engine is already tuned up to get high power and high speed, and needs correct maintenance to keep such high performance.
- The details for operation may be described in the separate owners manual to be issued by car manufacturer.
- Be sure to have the engine cool down for 30 seconds at idle speed after full throttle running.

MAINTENANCE

1) MAINTENANCE CHART

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

MAINTENANCE

2) SPECIFICATIONS AND TECHNICAL DATA

Items	Unit	G430RC	Remarks
Bore x Stroke	mm	40 x 33	
Displacement	cm ³	41.5	
Effective Compression Ratio		7.5	
Carburetor	Type	WYK-93A	
	Venture(mm)		
Starting		Recoil Starter	
Ignition	Type	CDI	
	Timing	BTDC 25°/7000rpm	
Spark Plug		RCJ6Y	CHAMPION
Clutch Engagement Speed	rpm	3300	STD Spring
No load max Speed	rpm	12000	
Idling Speed	rpm	2500	
Max. Net Power	kW/rpm	1.47/7000	
Max. Net Torque	N.m/rpm	2.25/5500	
Fuel Consumption	g/kW·h	612	
Carburetor Standard setting	H	1 3/8 ± 1/4	
	L	1 ± 1/4	

MAINTENANCE

3) MAINTENANCE SPECIFICATIONS

	Items	G430RC		Measuring Device	Remarks
		Standard	Limit		
Cylinder	Bore (mm)	ø40	Plating damaged	Eye Checking	
Piston	Diameter (mm)	ø39.97	ø39.87	Micro Meter	At the skirt end and the right angle to the piston pin.
	Piston Ring Groove width (mm)	1.510	1.610	Thickness Gauge	
	Piston Pin Hole (mm)	ø10	ø10.05	Cylinder Gauge	
	Clearance between Piston and Cylinder (mm)	0.03~0.06	0.15	Micro Meter Cylinder Gauge	
	Clearance between Groove and Piston Ring (mm)	0.010~0.10	0.15	Thickness Gauge	
Piston Ring	End Gap (mm)	0.1~0.3	0.5	Thickness Gauge	When inserted in a new cylinder.
	Width (mm)	1.48	1.43	Micro Meter	
	Piston Pin Diameter (mm)	ø10	ø9.98	Micro Meter	
	Connecting Rod Small end (mm)	ø14	ø14.05	Cylinder Gauge	
	Crankshaft Dia. at Main Bearing (mm)	ø17	ø16.96	Micro Meter	
	Eccentricity (mm)	—	0.07	Dial Gauge	
	Axial Play (mm)	—	0.5	Thickness Gauge	
	Main Bearing	—	Gritty orr Feels Flat Spot	—	

MAINTENANCE

4) CARBURETOR

Items	Standard	Limit	Measuring Device	Remarks
Metering Lever set (mm)	1.5	± 0.16	Vanier	
Inlet Valve Opening Pressure (kg/cm ²)	1.3~2.3	—	Leak Tester	
Inlet Valve Closing Pressure (kg/cm ²)	0.6~1.6	—	Leak Tester	

5) IGNITION SYSTEM

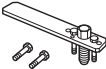
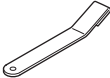

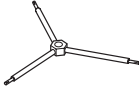
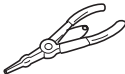
Items	Standard	Limit	Measuring Device	Remarks	
Spark Plug Air Gap (mm)	0.6~0.7	0.7	Thickness Gauge		
Coil Resistance (Ω)	Primary	2800	—	Volt Meter	Reading between primary terminal and iron core.
	Secondary	8400	—	Volt Meter	Reading between sparking cord end and iron core.

MAINTENANCE

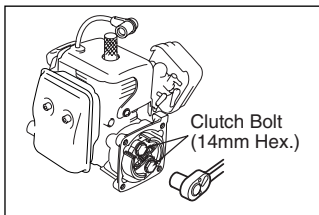
6) TIGHTENING TORQUE

Items	Screw Size	Standard (N-m)	Limit (N-m)	Remarks
Carburetor	M5 (P=0.8)	3.4	2.9~4.4	
Insulator	M5 (P=0.8)	3.4	11	
Clutch	M8 (P=1.0)	13.7	10.8~16.7	
Rotor	M8 (P=1.0)	14.7	11.8~17.6	
Cylinder	M5 (P=0.8)	6.9	4.9~7.8	
Crankcase	M5 (P=0.8)	6.4	4.9~7.8	
Spark Plug	M14 (P=1.25)	18.2	14.7~21.6	
Muffler	M5 (P=0.8)	8.8	6.9~9.8	
Fan Cover	M5 (P=0.8)	6.4	4.9~7.8	
Ignition Coil	M4 (P=0.7)	3.2	2.5~3.9	
Starter Case	M4 (P=0.7)	4.9	3.9~5.9	with Locktight glue

SPECIAL TOOLS

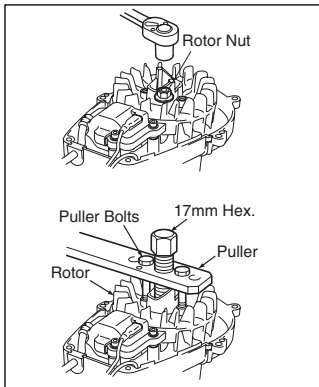
	Part Name	Part No.	External Appearance	Usage
1	Puller Assy	2890-96100		To remove rotor.
2	Piston Stopper	2670-96220		To hold crankshaft when disassembling/assembling clutch and rotor.
3	Rod Assy	1650-96300		To remove/install piston pin.
4	Hex Wrench	3304-97611		For socket screw of Hex. 3mm, 4mm and 5mm.
5	Snap Ring Pliers	5500-96110		To remove snap ring.

SERVICE GUIDE



1) REMOVING CLUTCH SHOE

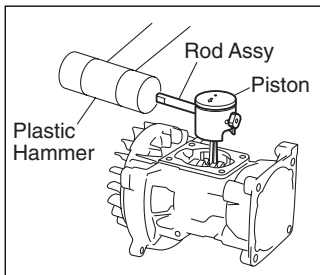
1. Remove the housing and plug cap.
2. Remove the spark plug and fit the stopper(4810-96220) into the plug hole.
3. Remove clutch bolts(17mm Hex.).



2) REMOVING ROTOR (FAN)

4. Remove the rotor nut(12mm Hex.).
5. Remove the rotor using the puller assy (2890-96100). Apply 8mm puller bolts.

SERVICE GUIDE



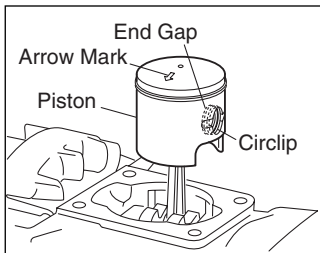
3) REMOVING PISTON PIN

1. Remove snap rings from both sides of the piston pin.
2. Engage the rod assy(1650-96300) to the piston pin and gently tap with a plastic hammer to push out the pin while holding piston firmly.



NOTE

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



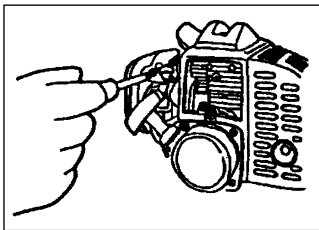
4) INSTALLING PISTON

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.



NOTE

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



5) CARBURETOR ADJUSTMENT

The carburetor comes with a standard setting, it is for optimum performance under the barometric pressure and climatic conditions at factory, so it may be re-adjusted according to load applied.

Idle rpm : 2500 ± 300 rpm (STD Spring)

H needle : 1 3/8 ± 1/4

L needle : 1 ± 1/4

TROUBLE SHOOTING

1) ENGINE DOES NOT START

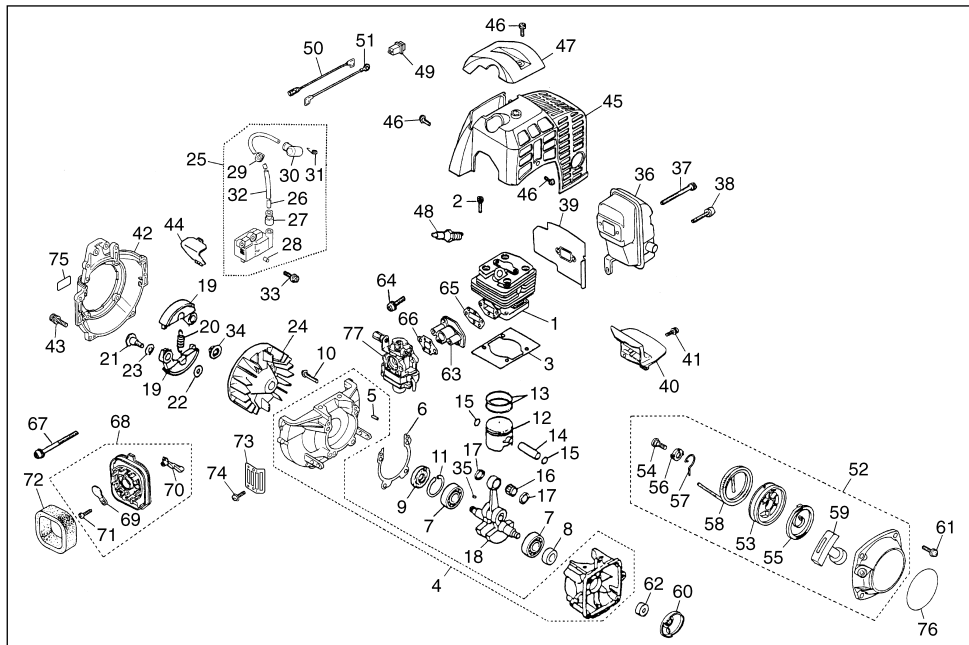
Description	Cause	Countermeasure
No spark in the spark plug		
Spark Plug	1. Wet spark plug electrodes	Make them dry
	2. Carbon deposited on the electrodes	Cleaning
	3. Insulation failure by insulator damage	Exchange
	4. Inproper spark gap	Adjust to 0.6~0.7mm
	5. Burn out of electrodes	Exchange
Magneto	1. Ignition coil inside failure	Exchange
	2. Damaged cable sheath or disconnected cable	Exchange or repair
Switch	1. Switch is OFF	ON the switch
	2. Switch failure	Exchange
	3. Primary wiring earthed	Repair
Sparks appear in the spark plug		
Compression & fueling is normal	1. Over sucking of fuel	Drain excess fuel
	2. Too rich fuel	Adjust carburetor
	3. Overflow	Carburetor adjust or exchange
	4. Clogging of air cleaner	Wash with mixed gasoline
	5. Faulty fuel	Change with proper fuel
Fueling normal but poor compression	1. Worn out cylinder, piston, or piston ring	Exchange
	2. Gas leakage from cylinder and crank case gasket	Apply liquid gasket and reassemble.
No fuel supply	1. Choked breather air hole	Cleaning
	2. Clogged carburetor	Cleaning
	3. Clogged fuel filter	Exchange fuel filter

TROUBLE SHOOTING

2) LACK OF POWER OR UNSTABLE RUNNING

Description	Cause	Countermeasure
Compression is normal and no misfire	1. Air penetration from fuel pipe joints, etc	Secure connection
	2. Air penetration from intake tube joint or carburetor joint	Change gasket or tightening screws
	3. Water in fuel	Change with good fuel
	4. Piston start to seizure	Replace piston(and cylinder)
	5. Muffler choked with carbon	Cleaning
Overheating	1. Fuel too lean	Adjust carburetor
	2. Clogging of cylinder fin with dust	Cleaning
	3. Poor fuel quality	Exchange with proper fuel
	4. Carbon deposited in the combustion chamber	Cleaning
	5. Spark plug electrode red hot	Thoroughly clean, adjust spark gap [0.6~0.7(0.023~0.028in)]
Others	1. Dirty air cleaner	Wash with mixed gasoline
	2. Over loading	Reduce load

PARTS LIST G430RC (967286301)



G430RC (967286301)

KEY#	PART NUMBER	DESCRIPTION	Q'TY/ UNIT	REMARKS
1	4500-12110	CYLINDER	1	
2	1850-12130	BOLT	1	M5x20
3	4500-13120	GASKET, base	1	
4	4500-21101	CRANKCASE COMP.	1	
5	2629-21130	• PIN	3	
6	4500-21140	GASKET, case	1	
7	06030-06201	BEARING	2	
8	4810-21210	OIL SEAL	1	
9	1650-21220	OIL SEAL	1	
10	01252-30530	BOLT	4	M5x30
11	04065-03212	SNAP RING	1	
12	4500-41110	PISTON	1	
13	8488C40300	RING	2	
14	2850-41310	PIN	1	
15	1300-41320	RING	2	
16	T2100-41410	BEARING	1	
17	2850-41510	WASHER	2	
18	585 15 30-01	CRANKSHAFT COMP.	1	
19	4500-51111	SHOE, clutch	2	
20	4500-51220	SPRING	1	
21	1200-51211	SCREW	2	
22	1200-51230	WASHER	2	
23	1200-51241	WASHER	2	
24	T1153-71110	ROTOR	1	
25	T1153-71200	COIL ASSY	1	
26	4500-71220	• CORD	1	
27	2616-71320	• CAP	1	
28	T1153-71250	• PIN	2	
29	5500-72130	• GROMMET	1	
30	5500-72110	• CAP, plug	1	
31	5500-72120	• SPRING	1	
32	T1512-71320	• TUBE	1	
33	3350-14150	BOLT	2	
34	1650-43230	NUT	1	
35	1000-43240	KEY	1	
36	4500-15110	MUFFLER	1	
37	01252-30565	BOLT	2	M5x65
38	3310-31720	BOLT	1	M5x14
39	4700-15212	GASKET	1	

KEY#	PART NUMBER	DESCRIPTION	Q'TY/ UNIT	REMARKS
40	4500-15221	PLATE	1	
41	0263-90514	SCREW	1	M5x14
42	T1168-31111	COVER	1	
43	3310-12281	BOLT	1	M5x20
44	4500-31210	PLATE	4	
45	4500-32110	COVER	1	
46	4500-32120	SCREW	4	M5x12
47	4500-32210	GUARD	1	
48	3699-90419A	SPARKPLUG CHAMPION	1	RCJ6Y
49	4500-73211	SWITCH	1	
50	T1157-73231	CORD	1	
51	4700-73231	CORD, earth	1	
52	T1157-75100	RECOIL ASSY	1	
53	4500-75120	• REEL	1	
54	4500-75150	• SCREW	1	
55	1850-75130	• SPRING, spiral	1	
56	4500-75180	• COLLAR	1	
57	4500-75190	• ARM	1	
58	4500-75160	• ROPE	1	
59	T1600-75310	• KNOB	1	
60	4500-75210	PULLEY	1	
61	4500-75511	SCREW	4	M6x14
62	4700-75310	COLLOR	1	
63	4500-13162	INSULATOR	1	
64	4500-13181	SCREW	2	M5x20
65	848G6014B1	GASKET, insulator	1	
66	4500-13130	GASKET, carburetor	1	
67	0263-90550	SCREW	2	
68	T1184-82101	BODY ASSY	1	
69	T1184-82130	• PLATE, choke	1	
70	4500-82140	• LEVER, choke	1	
71	2630-33610	• SCREW	1	
72	4500-82170	ELEMENT	1	
73	4500-22110	GUARD	1	
74	0263-90514	SCREW	1	M5x4
75	1970-31151	LABEL, cover	1	
76	579 75 50-03	LABEL, recoil	1	
77	4500-81001	CARBURETOR ASSY	1	WYK-93A

PARTS LIST G430RC (967286301)

	KEY#	PART NUMBER	DESCRIPTION	QTY/ UNIT	REMARKS
	1	4500-81001	CARBURETOR ASSY	1	WYK-93A
	2	1850-81450	• BODY ASSY	1	
	3	3306-81380	•• SCREEN	1	
	4	3356-81310	•• VALVE	1	
	5	1850-81270	•• SPRING	1	
	6	1850-81220	•• SCREW	1	
	7	3310-81250	•• PIN	1	
	8	3310-81230	•• LEVER	1	
	9	1850-81490	• BODY, purge	1	
	10	1850-81520	• COVER, pump	1	
	11	1751-81510	• PUMP, priming	1	
	12	3310-81260	• DIAPHRAGM	1	
	13	1850-81470	• GASKET, diaphragm	1	
	14	1065-81420	• DIAPHRAGM, pump	1	
	15	1065-81410	• GASKET, pump	1	
	16	5500-81160	• WASHER	1	
	17	1751-81130	• RING	1	
	18	1881-81140	• SWIVEL	1	
	19	4500-81150	• VALVE ASSY	1	
	20	1752-81110	• SCREW	2	
	21	5500-81120	• BRACKET	1	
	22	1751-81180	• NUT, adjuster	1	
	23	5730-81170	• SCREW, adjuster	1	
	24	1881-81130	• RING	1	
	25	1850-81530	• SCREW	4	
	26	1484-81610	• NEEDLE	1	
	27	1491-81160	• SPRING	1	
	28	1881-81190	• WASHER	1	
	29	1881-81240	• O-RING	1	

WARRANTY

WARRANTY TERMS

1) Scope of Application

This engine manufactured by Husqvarna Zenoah Co., Ltd. (herein after “Zenoah”). And sold to the user directly or through distributor/manufacturer, shall entitle to be covered by this warranty.

2) Limits 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.

WARRANTY

4) Term of Warranty

Three (3) months after purchased by end- 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 that.

1. Any faults, failures caused from neglect of proper operation and maintenance described in OWNER'S MANUAL.
2. Any modification 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 use.



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