

HONDA

BACK PACK BRUSH CUTTER

USER'S MANUAL



MODEL : DS 435
(GX 35)

Preface

This Brush Cutter has the character of reasonable constructions, beautiful outlook, better convenient operation, small vibration, big power, high efficiency, etc. It gets very popularity in the grassland cutting, lawn trimming, and the cutting assignment of grass on road, airport, or brush on hill.

this book explained how to operate the brush cutter right in detail. Before operating the machine, please read the manual carefully and acknowledge the structure, operating method and so on. Master the method of repairing and maintenance so that you can operate it correctly and finish the task safely.

In order to improve the quality, the change of some parts which are not conformed to the manual will not be informed separately. Please give enough understanding.

Because a trimmer/cutter is a high-speed, fast cutting power tool, special safety precaution must be observe to reduce the risk of personal injury. Read this manual carefully. Be familiar with the controls and the proper use of the unit. Know how to shut it off, and how to unhook a harnessed unit quickly.



This graphic accompanied by the words WARNING and DANGER calls attention to an act or condition which can lead to SERIOUS INJURY.



READ & UNDERSTAND User's Manual.



ALWAYS WEAR EYE AND EAR PROTECTION



WEAR BOOTS



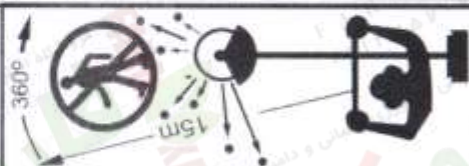
WEAR LONG GLOVES



WARNING FIRE !



WARNING HARDHOOB ;STONE;STEEL!



Onlookers should be kept at safe distance from the work area at least 15m

CONTENTS

I. Technical Specification	(1)
II. Main Structure	(2)
III. Assembly	(2)
IV. Demand for operator	(5)
V. Choice of blade	(6)
VI. Startup	(7)
VII. Operation	(8)
VIII. Stopping	(9)
IX. Adjustment for engine	(9)
X. Maintenance for brush cutter	(10)
XI. Adjustment for blade	(11)
XII. Long-time storage	(11)
XIII. Troubles and remedies	(12)

Attached Figure 1. Detail of the Engine

Attached Figure 2. Detail of the Brush Cutter

I. Technical specification

MODEL		HONDA GX35(BG)
Main unit	Remote type	Automatic centrifugal clutch; Spiral bevel gear; Drive shaft
	Maximum speed of gear shaft /engine speed (r/min)	7500/9700
	Brush cutter	5800/7500
	Grass trimmer	2800± 150
	Idle speed(r/min)	≤15
	Vibration values at each handle(m/s ²)	≤102
	Sound pressure values[dB(A)]	≤120
	Sound power values[dB(A)]	17: 22
	Reduction ratio	Counter-Clockwise(seen from the top)
	Blade rotation direction	Single grip
Engine	Type of handle	7.25
	Weight when dry(kg)	GX35
	Name of engine	Air-cooled; 4 cycle; vertical piston valve; gasoline engine
	Type	37.7
	Displacement(mL)	1.0/6500
	Maximum output(kW/r/min)	Diaphragm-type
	Carburetor	Transistor magneto
	Ignition	Recoil type
	Method of starting	Gasoline
	Fuel used	0.76
	Fuel tank capacity(L)	3.5
	Dry weight(kg)	

II. Main Structure

The Brush Cutter is mainly composed of these unites:

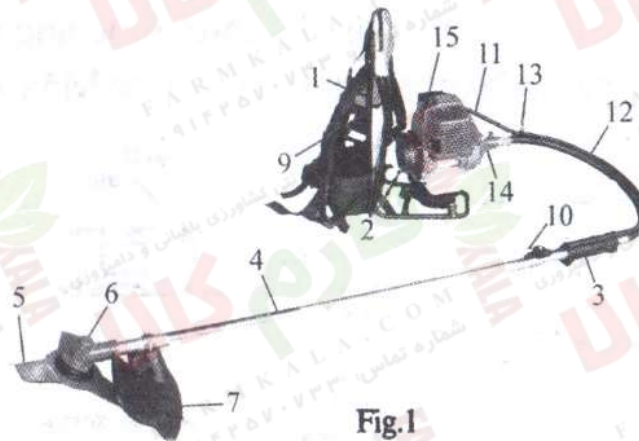


Fig.1

- 1.Shoulder belt ass'y 2.Fuel tank ass'y 3.The connection ass'y of aluminous pipe 4.Drive shaft comp. 5.Blade 6.Gear case
7.Safety guard 9.Shoulder plate 10.Stop button
11.Fuel throttle 12.Flexible shaft comp. 13.Wire line
14.Clutch 15.Engine

III. Assembly

1. Assembly for drive shaft, gear case.

First, Insert the square top of drive shaft into the hole of small gear and make the hole of M6 of gear case and the hole $\varnothing 7$ of aluminous in the same level, tighten bolt M6x12 and screw M5x25 next.

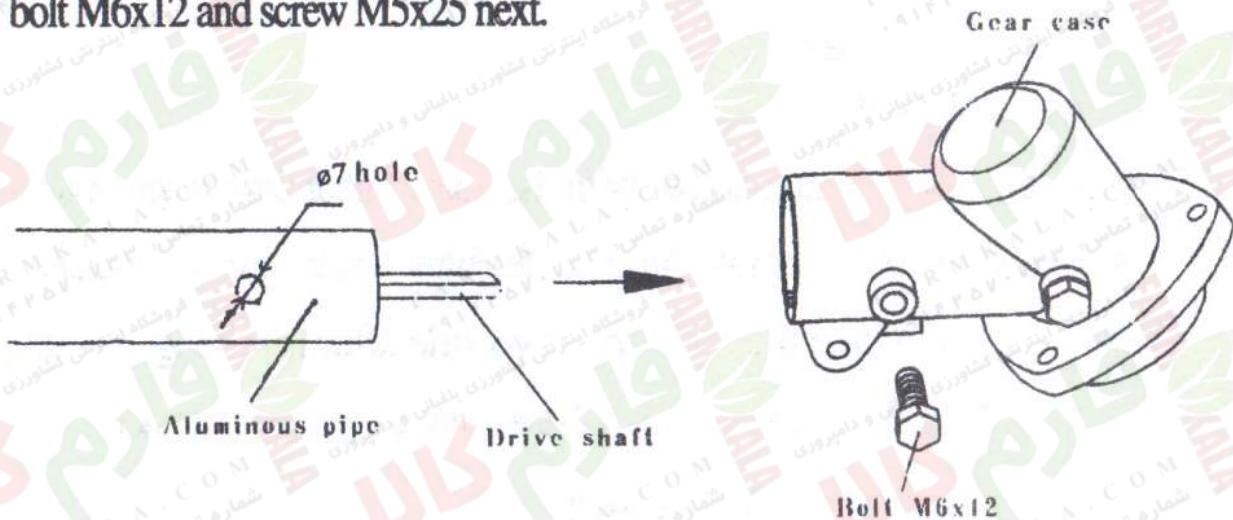


Fig.2

2. Assembly for flexible shaft and drive shaft.

Insert square end of flexible shaft into the square hole of Adaptor. Then make the screw hole which on the joint pipe and the flute of flexible shaft on the same level, tighten the screw M5x30.

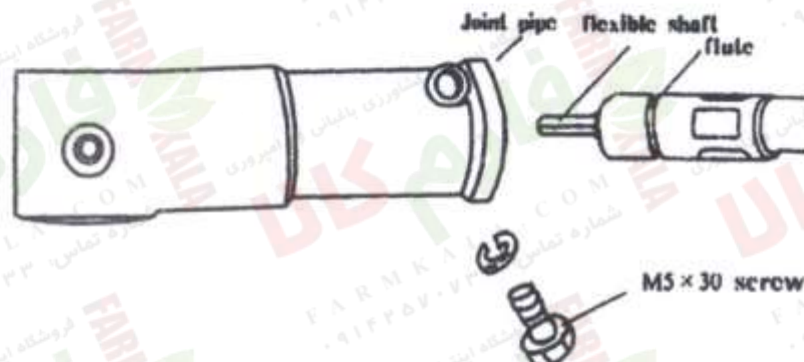


Fig.3

3. Assembly for flexible shaft and clutch.

Insert the square end of flexible shaft into the square hole of clutch, aim the bolt on clutch at the flute of flexible shaft, fit the pin and click properly.

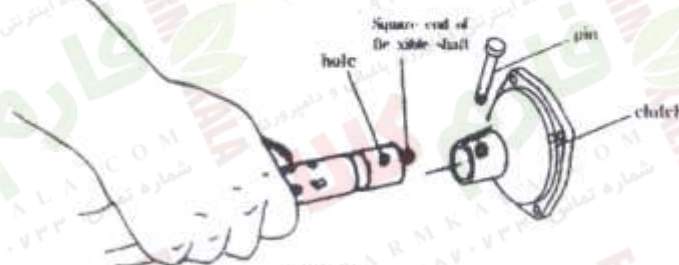


Fig.4

4. Assembly for blade

First, Fix the hole of cutter holder with the hole of gear case, insert spanner S=4 to fix (picture 7). After installing blade, cutter holder cap and washer, tighten with nut. Make the click into two side after inserting it finally.

NOTICE: a. The hole of blade must fix with the cutter holder properly, if not, it will cause a big vibration.

b. The nut M8x20 must be tightened anticlockwise. (picture 8)

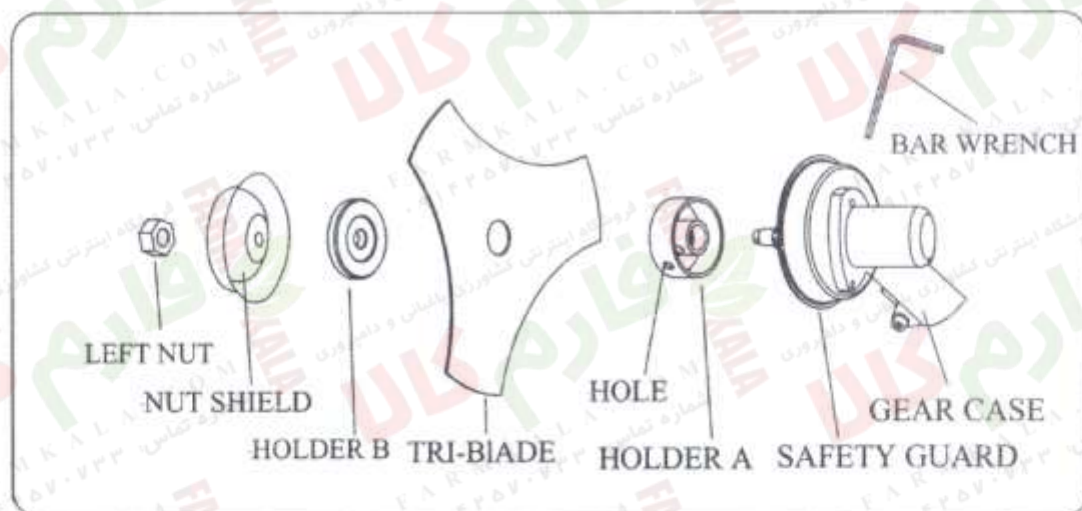


Fig.5

7. Assembly for nylon wheel

Fix the cutter holders slot with the hole of gear case. Insert the spanner S=4 and tighten the nylon wheel left side until fix it firmly.

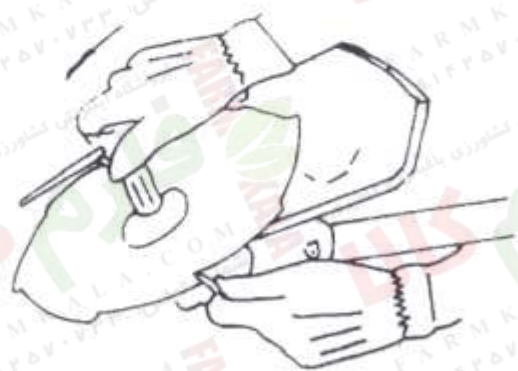


Fig.6

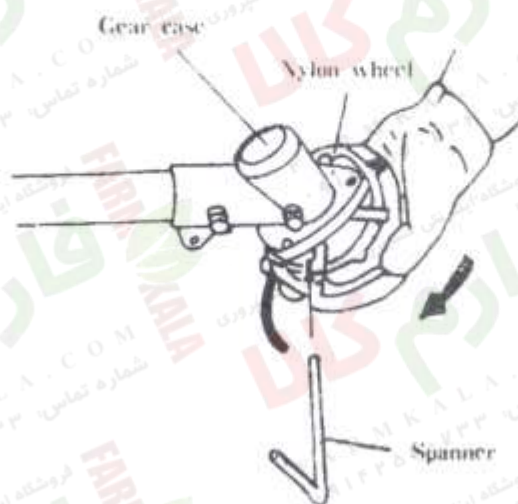


Fig.7

6. Assembly for safety guard

Use the provided two belts to fix the safety guard and holder on the drive shaft properly.

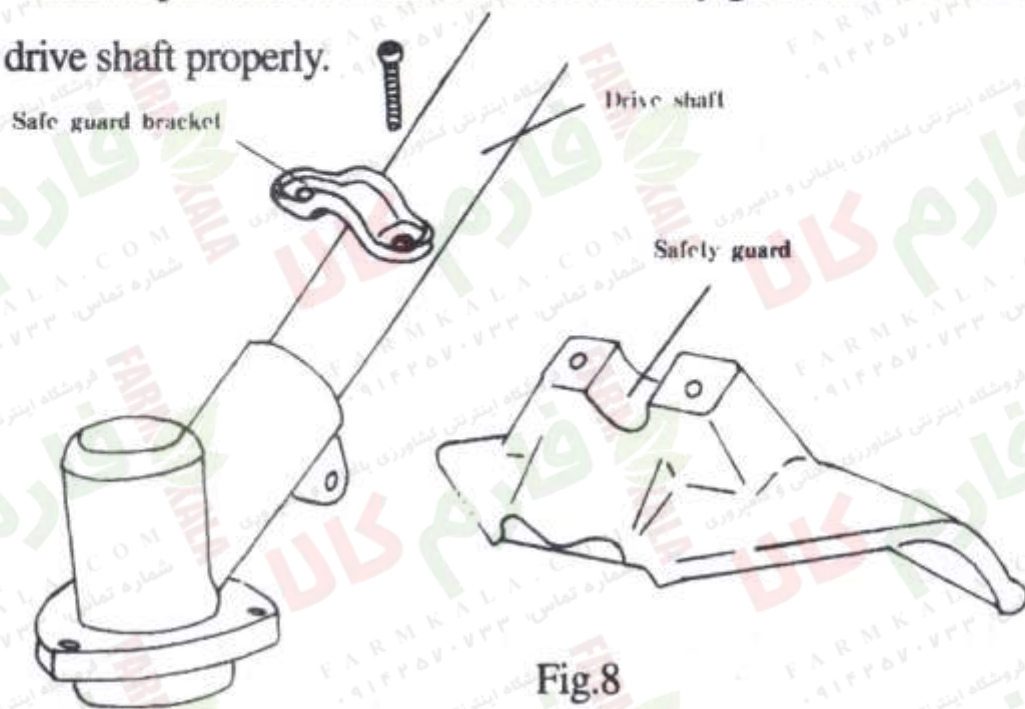


Fig.8

IV. Demand for operator

1. Demand for the health of operator

Operator must be fit and have a good spirit. Following persons can not use the machine.

- a. Over-tired person
- b. Drunk
- c. Women being pregnant or menses
- d. Under age or old person

Don't operate alone in case of rescuing at emergency.

2. Demand for the protection of operator.

The operator must wear the labour-protected things.

- a. Do wear work clothes: it must be available that cannot block action. Do not wear skirt, overcoat, scarf and jewelry.
- b. Do wear long gloves
- c. Do wear boots
- d. Do wear flanged cap
- e. Do wear dirt/fog-proof glasses
- f. Do wear ear cover



Fig.9

V. The choice of blade

Choose different blade accord to different operate object, the choosing principle as picture 12. (The new model without eight-tooth or eight-tooth blade when it come out, if the custom like, buy it separately)

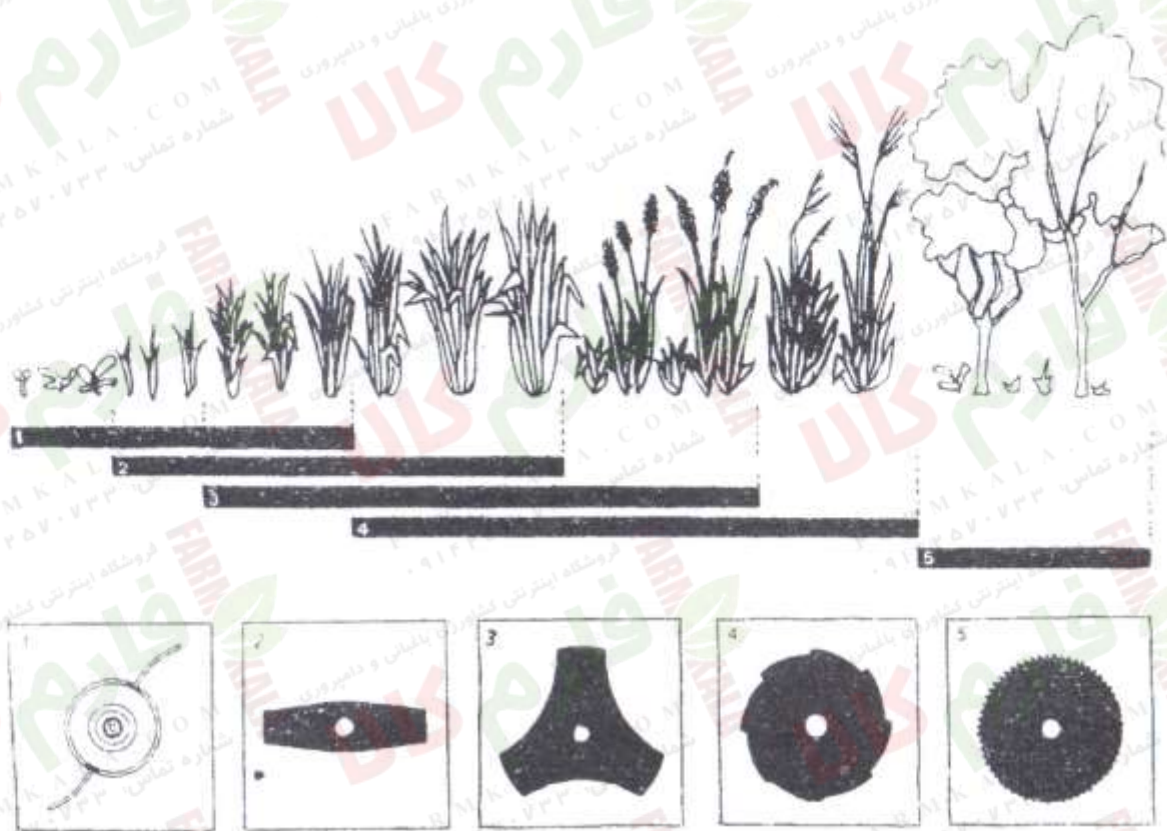


Fig.10

VI. Startup

1. Before starting

- 1) Check the brush cutter carefully to make sure it is safe especially the tighten nut of blade must be firmly.
- 2) Keep the machine away the gas station at least 3 metres.
- 3) Keep the onlookers or animals out of the working area especially near by the blade.
- 4) Push the stop switch to start position.(Figure 11)

2. Start cold engine

- 1) Give a gentle push to the primer pump repeatedly until fuel comes out of the plastic pipe.

- 2) Close the fuel chock(lift the handle of fuel chock),pull the starter briskly.
- 3) After starting engine,open the chock fully(press the handle of fuel chock).
- 4) After starting engine,allow it run about 5 minutes at idling speed to warm up.

Be sure to check the blade, all fastens and vibration to see if there is any trouble, and then operate it without any abnormal.

3. Start warm engine

- 1) Leave the chock fully open.
- 2) If the engine draw in too much fuel,it is difficult to start, leave the chock open

fully,then pull the starter for 5-6 times.Then start the engine as above.

Avoid operation indoors or in bad ventilated places as exhaust gases are bad for your health.

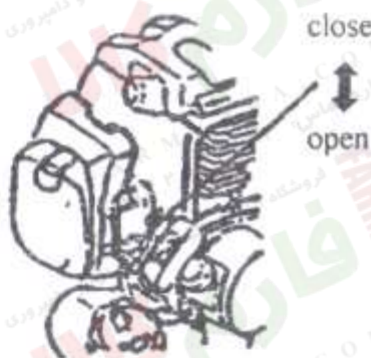


Fig.11

VII. Operation

- 1.For the rolling way of blade is anticlockwise,so it is more efficient to cut from right to left,but it could be avoid grass-pieces if cut from left to right.In order to improve the cutting efficiency,you can cut by two ways.
- 2.Keep anybody or animals away about 15 metres.
- 3.It is strictly prohibited to allow the blade to strike against stones,wood, steel,and other plastic things or the like.
- 4.Do not use if it is crack or wear too much.

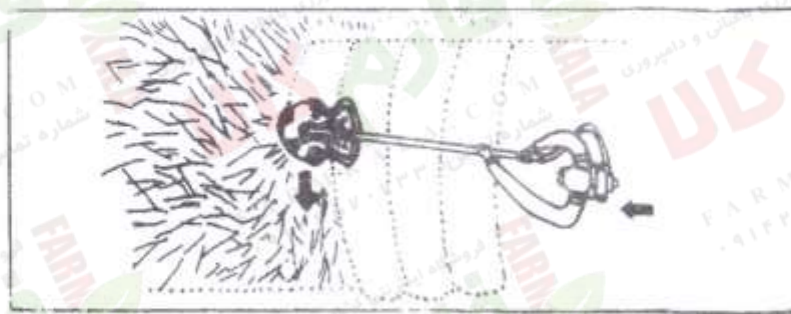


Fig.12

VIII. Stopping

1. Loose the throttle rod to make the engine running at a low speed at least 30 seconds.
2. Depress the stop button until the engine has stoped.
3. Close the switch after stop the engine.

IX. Adjustment for engine

1. Adjust the clearance between the spark plug.

When the engine running for a period of time, the gap between poles of spark plug will become bigger, so regulate the gap to 0.6-0.7mm.

When there are a lot of carbon between the shell and insulator that the poles can't fire, clean the carbon.

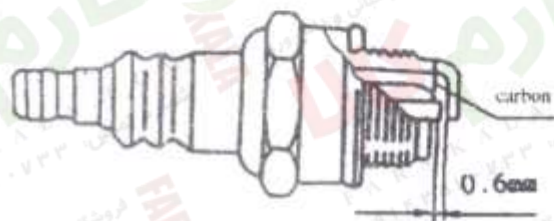


Fig.13

2. Adjust the carburetor.

Usually the carburetor needn't adjust because it is in the best condition when it being produced.

If it really need to adjust or mend, you'd better find an expert or professional service.

Non-experienced user shouldn't adjust alone, or it will be cause more damage.

NOTICE: People who haven't get the acknowledge of mending or repairing can not adjust the carburetor.

X. Maintenance for brush cutter

1. Maintenance of engine

1. Daily maintenance(job maintenance)

- (1) Clean the surface of the machine.
- (2) Clean the Air cleaner, use gas to clean the filter core.
- (3) Check all the connections whether there is leakage of oil or air.
- (4) Check the screws of engine cover to see if there are loose or lost. If there is, please screw tightly or replace.
- (5) Cover the machine with a plastic film and store it in dry and well ventilated place.

2. Fifty hours maintenance(accumulate by the running time)

- (1) Finish the daily maintenance
- (2) Clean the fuel tank
- (3) Clean the carbon in spark plug and regulate the gap to 0.6-0.7mm.
- (4) Clean the carbon in muffler
- (5) Disassemble the gasket, clean the inner and cylinder's radiator

3. One hundred hours maintenance

- (1) Finish the fifty hours maintenance
- (2) Disassemble cylinder and piston ring, clean the cylinder cover, tail pipe, piston slot and carbon of spark plug.
- (3) Clean the inner of crankcase

Keep rolling the crank during the cleaning, to clean it completely

- (4) Check the ignition system
 - a. The gap of magneto if between 0.3-0.4mm
 - b. The ignition of spark plug is normal
 - c. Proper connection of high tension rod and spark plug
- (5) Check the oil sealing whether there if leakage of air
- (6) Check the pressure of cylinder

4. Five hundred hours maintenance

Disassemble every parts of unit(except crank shaft),clean and check them. If there are some damage, please repair or replace.

2. Maintenance of body

- (1) Add the mobile oil into the inner of gear case and surface of drive shaft
- (2) Please replace or the mend the blade if there if some dull, crank or not completed

XI. Adjust for Blade

It is unnecessary to adjust the two or three teeth blade. If you use eight or eighty teeth repair for cutting, you should repair it as the figure. For the circle parts is the right way.

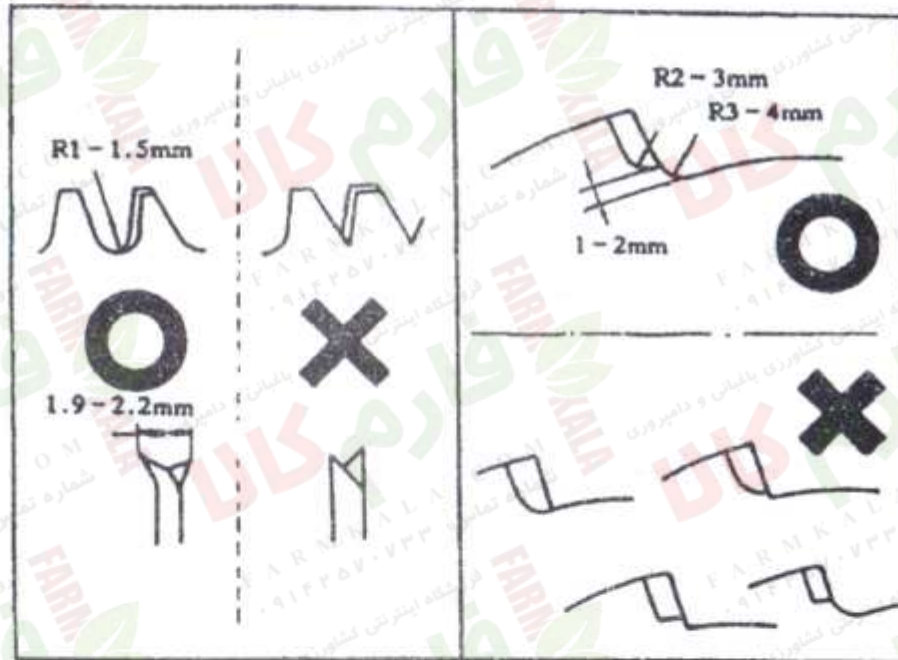


Fig.14

XII. Long-time storage

1. Drain the furl out of the tank completely
2. Clean the Air cleaner carefully and reassemble it
3. Disassemble the plug and inject a few drops of mobile oil into the burning chamber. Pull the starter and make the piston stay at proper place
4. Disassemble the blade, smear a few mobile oil on each side
5. Clean every parts carefully and smear oil on metal ones
6. Check each parts and replace the damage one
7. Store the brush cutter in a dry and well ventilated place

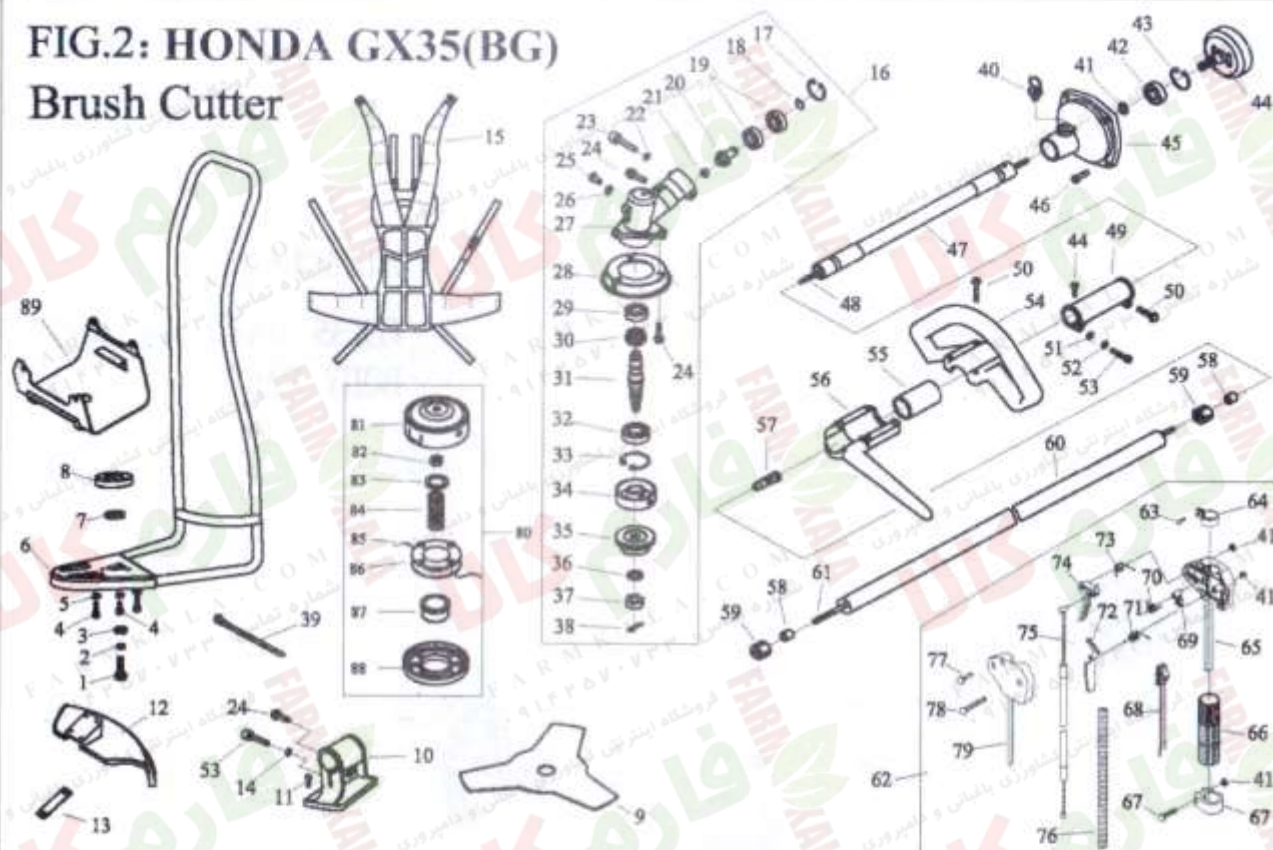
XIII. Troubles and remedies

1. Troubles and starting

Troubles			Causes		Remedies
Pressure Normal Of cylinder	Spark Normal Of Spark Plug		Fuel Supply System Not Normal	No fuel in fuel tank. Close of fuel switch. Fuel tank lid opening Clogged. Measuring mouth of carburetor clogged. Float leakage.	Add fuel Open fuel switch Clean the opening Clean or replace it
		Fuel Supply system normal	Fuel	Fuel dirty Mixed water in fuel Excessive fuel in cylinder Fuel mixing rate wrong	Replace it Dry the spark plug Correct the rate
	Fuel Supply System normal	Spark Normal Of High tension rod	Spark Plug	Carbon deposit on spark plug Damage of spark plug The gap of spark plug is too big or too small	Remove it Replace it Regulation 0.6- 0.7mm.
			No spark of high tension rod	High tension rod damage or lose Coil damage Plate base lose Stator lose	Replace or tight it Replace it
Fuel Supply System normal	Ignition normal		Not Enough Of High pressure	Piston ring damage Or cold Piston ring break Piston ring stick Lose of spark plug Leakage between Cylinder and crankcase	Replace new one Remove it Tight it
Fuel Supply normal		Pressure normal		Improper connection of High tension rod and spark plug Stop button short circuit	Tight plug cover Mend or replace it

FIG.2: HONDA GX35(BG)

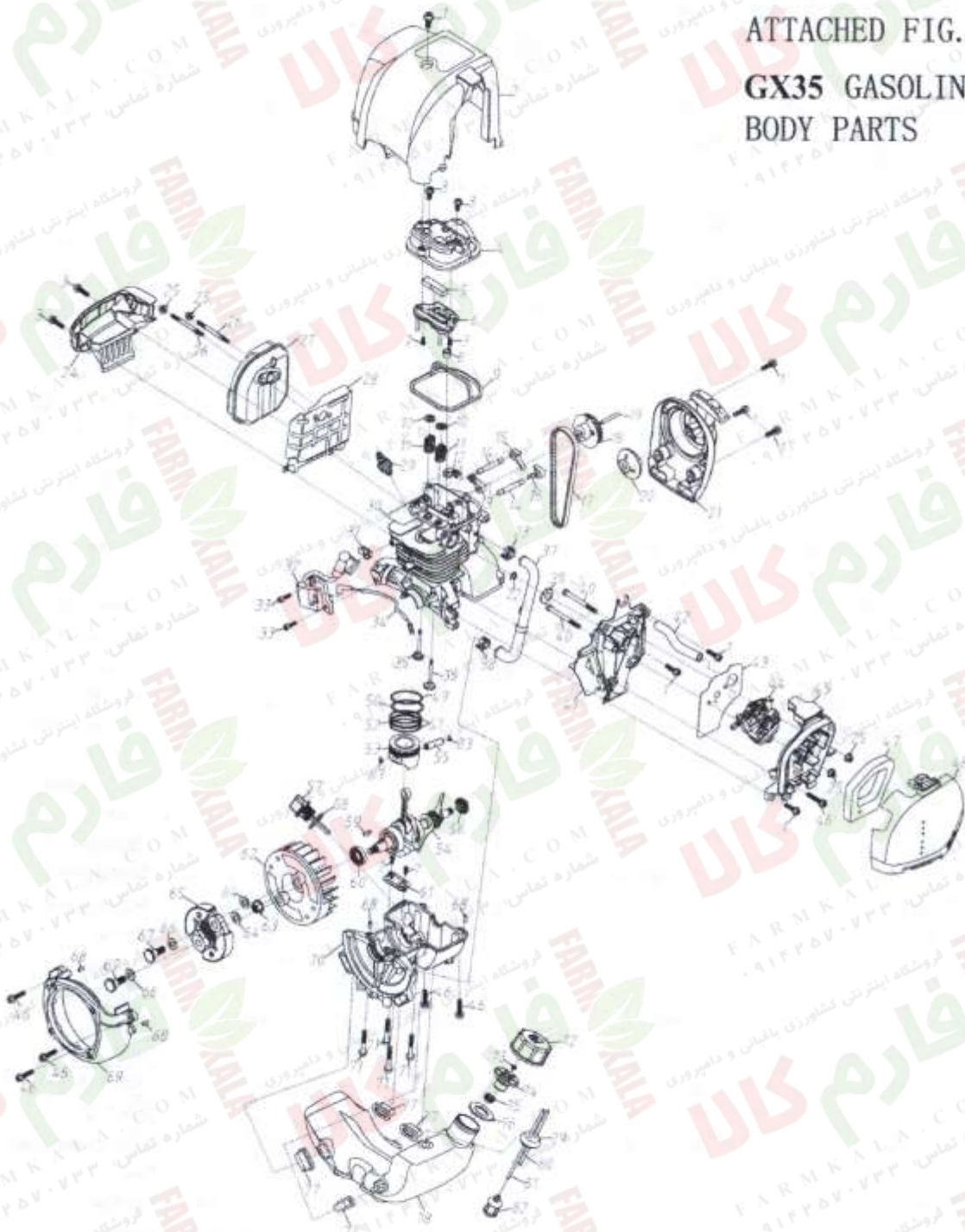
Brush Cutter



NO.	PART NO.	PART NAME	QTY	NO.	PART NO.	PART NAME	QTY	NO.	PART NO.	PART NAME	QTY
1	GB/T5783	BOLT 8×20-8.8	1	31	CG305F.1-1	GEAR SHAFT	1	61	BG305.12.2-2	DRIVE SHAFT	1
2	GB/T859	WASHER 8	1	32	GB/T276	BEARING 6002/P5	1	62	CG260.2	Level Assy	1
3	GB/T96	WASHER 8	1	33	GB/T893.2	STOP RING 32	1	63	GB/T9074.4	Screw M5×16	1
4	GB/T5783	BOLT M6×16-8.8	3	34	BG305.12.4-5	GEAR WASHER	1	64	CG305F.13.2	Clamp	1
5	GB/T859	WASHER 6	3	35	CG305F.1-3	HOLDER	1	65	CG305F.13-4	Box,Right	1
6	BG431.1-1	SHOULDER FRAME COMP	1	36	GB/T862.1	WASHER 10	1	66	CG305F.13-6	Rubber Cover	1
7	GB/T276	BEARING 6002-2Z/P6	1	37	CG305F.1-4	NUT	1	67	CG305F.13-5	Clamp	1
8	BG431.1-1	BEARING HOLDER	1	38	GB/T91	PIN 2×16	1	68	CG260.2.1	Stop Switch	1
9	CG420-2	BLADE	1	39	BG415-1	WIRE CLAMP BAND	2	69	CG305F.13-10	Tine	1
10	CG330B-CE.1	BRACKET COMP.	1	40	BG305.2.1	PIN	1	70	CG305F.13-11	Spring	1
11	GB/T9074.4	SCREW M5×16	1	41	GB/T894.1	STOP RING 15	1	71	CG305F.13-9	Spring	1
12	CG330B-CE.1	SAFETY GUARD	1	42	GB/T276	BEARING 6202-2RS/P52	1	72	CG305F.13-8	Safety Lever	1
13	CG330B-CE.1	BRACKET BOARD COMP	1	43	GB/T893.1	STOP RING 35	1	73	CG305F.13-1	Spring	1
14	GB/T848	WASHER 5	2	44	BG-328.8.1	CLUTCH DRUM COMP	1	74	CG305F.13-2	Throttle Lever	1
15	BG431.2	SHOULDER BELT ASSY	1	45	BG430.2.1-1	CLUTCH CASE	1	75		Cable Comp.	1
16	BG305.12.4	GEAR CASE ASSY	1	46	GB/T9074.13	SCREW M6×20	4	76	CG260.2-1	Tube	1
17	GB/T893.2	STOP RING 26	1	47	BG305.1.2	FLEXIBLE LINER COMP.	1	77	GB/T9074.4	Screw M5×25	2
18	GB/T894.1	STOP RING 10	1	48	BG305.1.1	FLEXIBLE SHAFT COMP.	1	78	GB/T9074.4	Screw M5×35	1
19	GB/T276	BEARING 6000-2RS/P52	1	49	BG305D-2	JOINT PIPE	1	79	CG305F.13-3	Box,Left	1
20	CG305F.1-2	PINION	1	50	GB/T9074.4	SCREW M5×30	5	80	CG305F.8	Nylon Cutter Head	1
21	CG415.3-1	STEEL PLATE CAP	1	51	GB/T97.1	WASHER 5	2	81	CG305F.8.1	Case	1
22	GB/T93	WASHER 6	1	52	GB/T93	WASHER 5	2	82	CG305F.8-4	Left Nut	1
23	GB/T70.1	SCREW M6×20	1	53	GB/T70.1	SCREW M5×20	2	83	CG305F.8-5	Washer	1
24	GB/T9074.4	SCREW M5×12	6	54	BG330-CE.1-1	HANDLE	1	84	CG305F.8-3	Spring	1
25	GB/T29.2	BOLT M6×12	1	55	BG330-CE.1-2	RUBBER COVER	1	85		Cord	2
26	GB/T97.1	WASHER 6	1	56	BG330-CE.1.1	HANDLE COVER	1	86	CG305F.8-1	Cord Holder	1
27	BG305.12.4-4	GEAR CASE	1	57	BG-328.9.4-1	ADAPTER COMP.	1	87	CG305F.8-7	Platen	1
28	BG305.12.4-9	SAFETY GUARD	1	58	BG-328.9.4-4	OIL-BEARING	6	88	CG305F.8-2	Cover	1
29	GB/T276	BEARING 6000/P5	1	59	BG-328.9.4-5	RUBBER COVER	6	89	BG520A.1.1	WHIRLABOUT	1
30	BG-328.9.5-2	GEAR	1	60	BG415-CE.1-1	ALUMINIUM PIPE	1				

ATTACHED FIG. :

**GX35 GASOLINE ENGINE
BODY PARTS**



Appendix. list of GX35 Gasoline Engine Parts

SER. NO.	PART NO.	PART NAME	QTY.	SER. NO.	PART NO.	PART NAME	QTY.	SER. NO.	PART NO.	PART NAME	QTY.
1	14.0FA-LD15	Screw M5×15	7	32	14.0FA.7-1	Ignition stator	1	63	GB/T6177.1	Nut M8	1
2	14.0FA-25	Cylinder cover	1	33	GB/T170.1	Screw M4×14	2	64	1E36F-3	Washer	2
3	14.0FA-LD12	Screw M5×12	4	34	14.0FA.7-3	Stopping wire	1	65	1E40F-5.6	Clutch	1
4	14.0FA-20	Cylinder valve cover	1	35	14.0FA.1-3	Exhaust valve	1	66	1E40F-5-11	Washer	2
5	14.0FA-16	Oil gas separator	1	36	14.0FA.1-4	Inlet valve	1	67	1E40F-5-12	Screw pin	2
6	14.0FA.8	Inside cover	1	37	14.0FA-1	Balance pressure pipe	1	68	GB119.2	Pin B4X8	4
7	GB/T818	Screw M4X8	4	38	3WF-3 19-1	Holding-down clip	1	69	14.0FA-13	Magneto cover	1
8	14.0FA-17	Rubber cushion	1	39	14.0FA-15	O-seal ring	1	70	14.0FA-1.2	Crankcase	1
9	14.0FA-19	Rubber cushion	1	40	GB5780	Screw M5×55	2	71	14.0FA-LD32	Screw M5×32	4
10	14.0FA.1-2	Valve spring seat	2	41	14.0FA-6	Admitting pipe	1	72	14.0FA.5.1-1	Fuel tank lid	1
11	14.0FA.1-1	Valve spring	2	42	14.0FA-21	Blast pipe	1	73	14.0FA.5.1-4	Air admission valve	1
12	14.0FA.1.4	Exhaust valve rocker	1	43	14.0FA-5	Gasket	1	74	14.0FA.5.1-3	Inside cover	1
13	14.0FA.1.5	Inlet valve rocker	1	44	14.0FA-12	Carburetor	1	75	14.0FA.5.1-5	Shell cover	1
14	14.0FA.1-6	Rocker pin	2	45	14.0FA.6.1	Cleaner inside cover	1	76	14.0FA.5.1-2	Airproof gasket	1
15	14.0FA.1-7	Exhaust rocker	1	46	14.0FA-LD22	Screw M5×22	6	77	14.0FA-4	Rubber cushion	4
16	14.0FA.1-8	Inlet rocker	1	47	14.0FA.6-1	Filter net	1	78	14.0FA.5-1	Fuel tank	1
17	14.0FA-3	Synchronous belt	1	48	14.0FA.6-2	Air filter cover	1	79	14.0FA.5.2	Plug	1
18	14.0FA.4.1	Cam wheel	1	49	14.0FA.3.2-2	NO1. piston ring	1	80		Fuel return pipe	1
19	14.0FA.4-1	Camshaft	1	50	14.0FA.3.2-3	NO2. piston ring	1	81		Fuel suction pipe	1
20	139F.9-2	Start reel	1	51	14.0FA.3.2-4-1	Oil scraper ring	2	82	1E34F.9.2-3	Filter	1
21	14.0FA.2	Starter	1	52	14.0FA.3.2-4-2	Liner ring	1	83	1E31F.4-3	Ring	2
22	14.0FA-7	Admitting gasket	1	53	14.0FA.3.2-1	Piston	1	84			
23	3WF-3-3	Holding-down clip	1	54	14.0FA.3.1	Crankshaft	1	85			
24	14.0FA-18	Muffler baffle-II	1	55	14.0FA.3.2-6	Piston pin	1	86			
25	GB/T6177.1	Nut M5	4	56	14.0FA.3-1	Oil seal	1	87			
26	14.0FA-22	Double-edged bolt	2	57	14.2F-9	Oil scale	1	88			
27	14.0FA.9	Muffler	1	58	GB3452.1	O-seal ring 14-2.65	1	89			
28	14.0FA-2	Muffler baffle	1	59	GB1099	Key 3X5X13	1	90			
29	CMRSH	Spark plug	1	60	14.0FA.3-2	Oil seal	1				
30	14.0FA.1.1.1	Cylinder	1	61	14.0FA.1.3	Reed valve	1				
31	14.0FA-14	Fastener	1	62	14.0FA.7-2	Magneto rotor comp	1				

HONDA

The Power Of Dreams

Printed In Korea