

Models No. ▶ RBC411U

Description ▶ Petrol Brushcutter

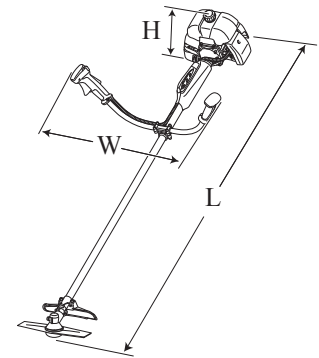
CONCEPT AND MAIN APPLICATIONS

Model RBC411U is Petrol brushcutter developed based on Model RBC411 powered by 40.2 cm³ 2-stroke engine; therefore, the engine for this model is not complied with well-known exhaust emission regulations.

The development concept of this model is to increase maneuverability, while providing a cost advantage with newly designed Shaft section.

Its other features are:

- Symmetric design handle bar
- Ergonomic grip for higher maneuverability



Dimensions: mm (")	
Length (L)	1,710 (67-1/2)
Width (W)	670 (26-3/8)
Height (H)	430 (17)

► Specification

Engine	Type	2-stroke
	Displacement: cm ³	40.2
	Fuel	Mixed gasoline
	Max. output: kW (PS)	1.4 (2.0) [at 7,000 min. ⁻¹]
	Max. torque: N.m	2.2 [at 5,000 min. ⁻¹]
Max. speed at no load: min. ⁻¹ = rpm		10,000
Max. spindle speed at no load: min. ⁻¹ = rpm		6,800
Compliance with main exhaust emission regulations; CARB Tier 3, EPA Phase 2, EU Stage 2		No
Carburetor		Float type
Starting system	Rapid start (Spring-assisted recoil starter)	No
	Decompression valve	No
Starting system		Recoil starter
Fuel tank capacity: L		1.1
Primer pump		No
Spindle thread size		M10x1.25, Left-handed
Handle style		Symmetric design bike handle
Net weight*: kg (lbs)		7.3 (16)

* Dry weight, without guard, cutting tool and shoulder harness

► Standard equipment

Double blade 305mm (12")	1
Tool kit (inc. Socket wrench 17-19, Hex wrench 4 and Hex wrench 5)	1
Shoulder harness with double shoulder straps	1
Accessory bag	1

Note: The standard equipment for the tool shown above may vary by country.

► Optional accessories

Triple blade 255mm (10"), Triple blade 305mm (12"), Star blade 230mm (9"), Star blade 255mm (10"), Double blade 305mm (12"), Eddy blade (8-tooth blade) 230mm (9"), Eddy blade (8-tooth blade) 255mm (10"), Saw blade 230mm (9"), Saw blade 255mm (10"), Nylon cutting head (Bump & Feed Z5L), Nylon cutting head (Ultra Auto 6L), Protector (for cutting blade only), Universal guard (=Protector), Universal guard extension

► Repair

CAUTION: Repair the machine in accordance with “Instruction manual” or “Safety instructions”.

[1] NECESSARY REPAIRING TOOLS

Code No.	Description	Use for
1R004	Retaining ring pliers ST-2 for External ring	removing/ assembling Retaining rings
1R006	Retaining ring pliers RT-2E for Internal ring	removing/ assembling Retaining rings
1R022	Bearing plate	removing Clutch drum complete from Ball bearing 6003LLU
1R023	Pipe ring	
1R028	Bearing setting pipe 20-12.2	assembling Ball bearing 6003LLU to Clutch drum complete
1R127	Air density tester	diagnosing Carburetor
1R155	Crank shaft lock bolt	locking Piston (with Crank shaft)
1R200	Piston pin punch	removing Piston pin
1R219	Torque wrench shaft 7-23N·m	tightening Bolts
1R220	Ratchet head 9.5 (for 1R219)	
1R269	Bearing extractor	removing Ball bearings
1R311	Retaining ring pliers with Long bent nails	removing Fuel tube from nipple of Carburetor
		removing Retaining rings R-26 and R-32 in Gear case assembly
1R364	Flywheel puller	removing Flywheel
1R366	Feeler gauge set	adjusting Ignition coil/ Spark plug
—	Wire brush	making Spark plug clean

[2] GASKET

Once Gasket is removed:

- (1) Replace Gasket with a new one.
- (2) Clean up the mating surface where the gasket was installed to maintain its sealing performance.

[3] LUBRICANT/ ADHESIVE APPLICATION

- (1) Apply 1g of Makita grease N No. 2 to Spiral spring in Recoil starter.
- (2) When the inside of Gear case assembly is cleaned, supply 11g of Makita grease N No. 2 from the grease inlet.
- (3) Apply 6g of Makita grease N No. 1 to the entire portion of Shaft complete in Shaft pipe complete.

[4] DISASSEMBLY/ ASSEMBLY

[4]-1. Warning

Follow the instructions described below in advance before repairing:

- Wear gloves.
- Remove the cutting tool from the unit, and if it is a saw blade, attach the blade cover to the blade.
- When the engine is hot from use, cool down the engine enough or you can get burned.
- Remove remaining fuel from Fuel tank and Carburetor completely. **[FLAMMABLE MATERIAL KEEP FIRE AWAY]**
- Remove Spark plug cap from Spark plug.
- Repair the engine on a stable workbench and in a clean workplace kept as free of dust and debris as possible.
- In order to avoid wrong reassembly, draw or write down where and how the parts are assembled, and what are the parts.
- It is also recommended to have boxes ready to keep disassembled parts by group.
- Handle the disassembled parts carefully. Clean and wash them properly.
- If some bolts and screws are too tight, use Impact driver.
- Tighten the bolts and the screws to the specified torque as shown in "[5] Tightening torque specifications".
- Each time after you mounted a main part of the engine such as the piston, check if it moves smoothly without abnormal noise by manually turning the crankshaft.
- After completion of reassembly, check for loose parts or abnormal noise and vibration by manually turning the crankshaft.

► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-2. Engine and Shaft

DISASSEMBLING

- (1) Remove M6x22 Hex socket head bolt that fastens Earth terminal to Clutch case complete.
Disconnect Bullet terminals of Lead wires. (Fig. 1)
- (2) Loosen Mixing cap of Carburetor, then remove Piston valve from Carburetor. Push Piston valve against the spring force to separate the cable end from Piston valve. (Fig. 2)
- (3) Remove the rest of M6x22 Hex socket head bolts to separate Engine from Clutch case. (Fig. 3)

Fig. 1

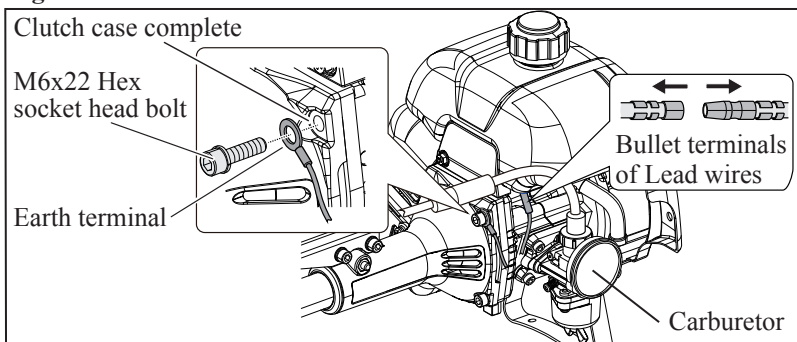


Fig. 2

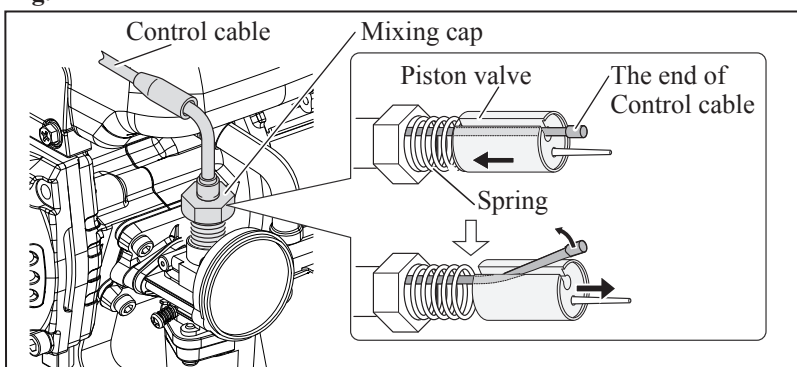
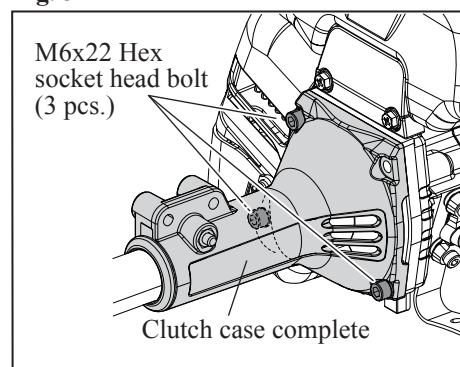


Fig. 3



ASSEMBLING Assemble by reversing the disassembly procedure.

[4]-3. Protector assembly, Bike handle

DISASSEMBLING

- (1) Remove two M6x30 Hex head bolts (A) and Protector. (Fig. 4)
- (2) Loosen M6x30 Hex socket head bolt (B) on the neck of Gear case assembly, and then remove two M5x14 Hex socket head screws.
Pull out Gear case assembly from the end of Shaft pipe complete.
- (3) Remove two M6x30 Hex socket head bolts to separate Handle section from Shaft pipe complete. (Fig. 5)

Fig. 4

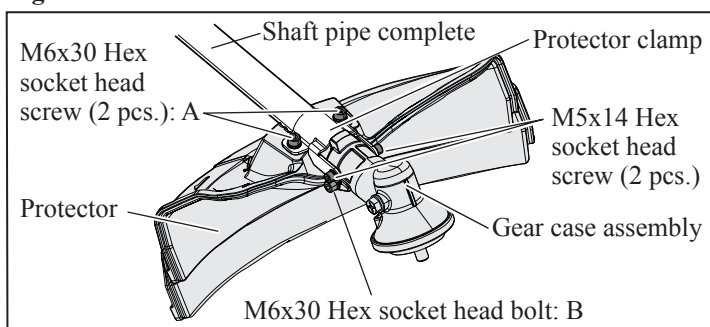
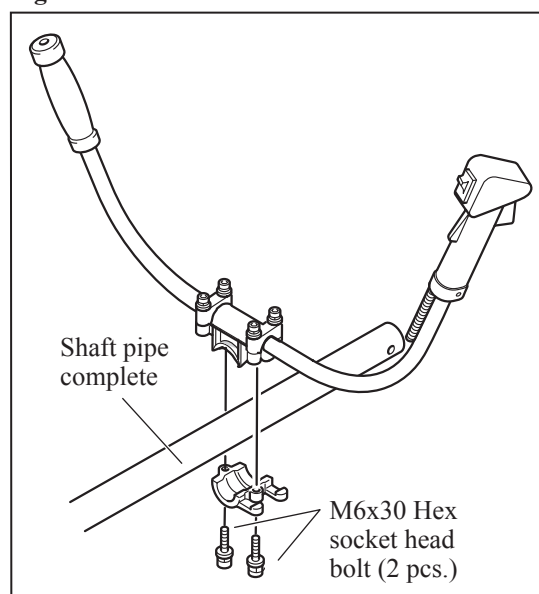


Fig. 5



ASSEMBLING Assemble by reversing the disassembly procedure.

► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-4. Gear case assembly

DISASSEMBLING

- (1) Remove Gear case assembly from Pipe shaft complete. (see Fig. 4)
- (2) Remove Retaining ring R-26 from the groove in Gear case assembly with 1R311. (Fig. 6)
- (3) Remove M8x10 + Hex bolt that is the stopper of Grease inlet on Gear case assembly. (Fig. 7)
- (4) Remove an assembled part of Spiral bevel gear 13*, Ball bearing 6000ZZ, Ball bearing 6000 and Retaining ring S-10 by tapping Gear case assembly with Plastic hammer. (Fig. 8)
- (5) Remove Retaining ring R-32 from the groove in Gear case assembly with 1R311. (Fig. 9)
- (6) Remove an assembled part of Ball bearing 629ZZ, Cutter shaft complete** and Ball bearing 6201DDU from Gear case assembly. (Fig. 10)

Note: • When it is difficult to remove the assembled part from Gear case assembly, heat up Gear case assembly with heat gun or like and then try the step (5)/ (6) again.

- Spiral bevel gear 13* and Cutter shaft complete** cannot be supplied individually. Order “Cutter shaft set” from us.

- (7) Disassemble their assembled parts by using 1R269 and Arbor press.

Fig. 6

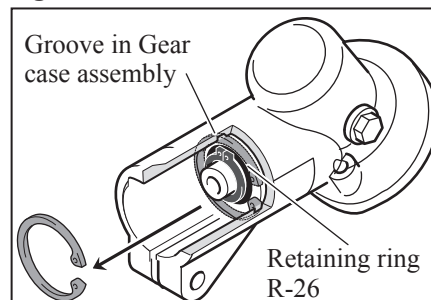


Fig. 7

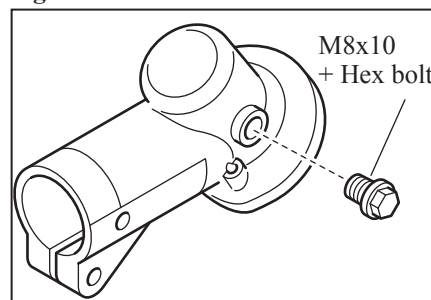


Fig. 8

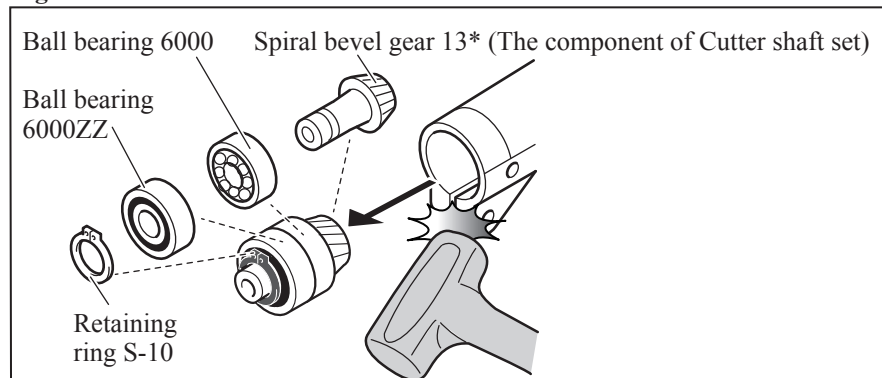


Fig. 9

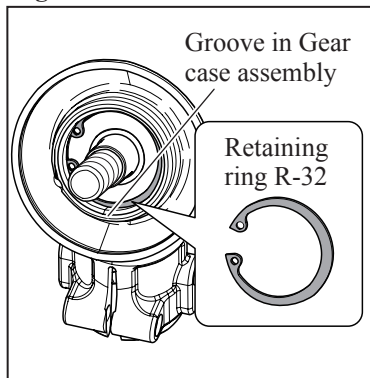
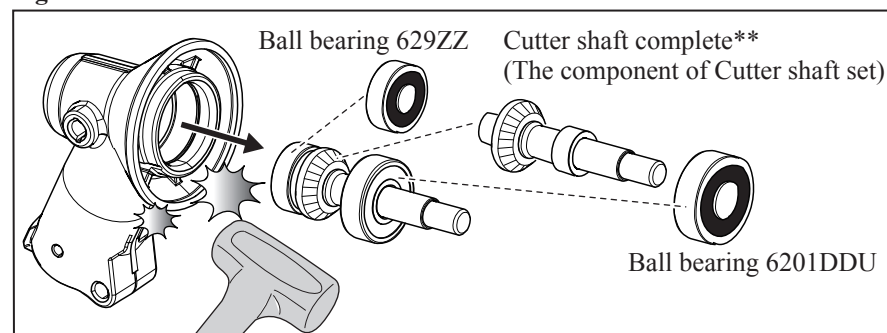


Fig. 10



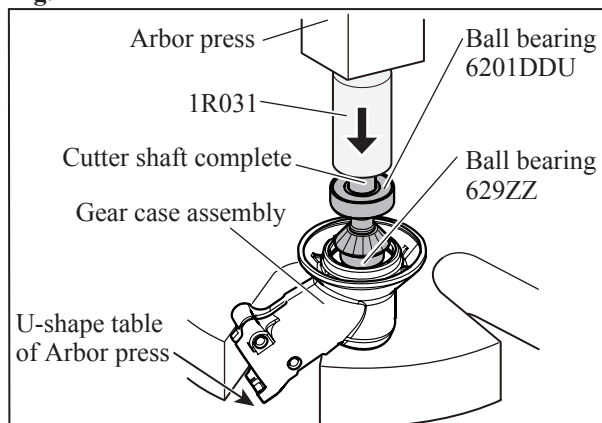
ASSEMBLING

Assemble by reversing the disassembly procedure.

Note: • Receive Gear case assembly with the U-shape table of Arbor press, then press down Ball bearing 6201DDU with 1R031 to set Cutter shaft complete in place. (Fig. 11)

- Ball bearing 6000ZZ must be close to Retaining ring S-10. (See Fig. 8)
- When the gear room is cleaned up, apply 11g Makita grease N No.2 into Gear case assembly from the grease inlet. (See Fig. 7)

Fig. 11



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-5. Control lever assembly

ASSEMBLING

See Fig. 12.

- (1) Hook Control cable to Throttle lever.
Assemble Switch lever and Leaf spring to Switch cover.
- (2) Assemble Throttle lever, Lock off lever and Switch cover to Lever case L in order while setting the following parts in place:
 - Torsion spring 11 to Throttle lever
 - Torsion spring 7 to Lock off lever
- (3) Fix Control cable with Cable holder when setting Control cable in place as drawn in Fig. 13.

Fig. 13

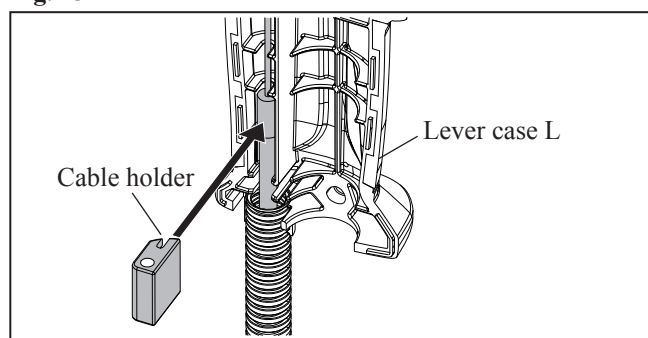
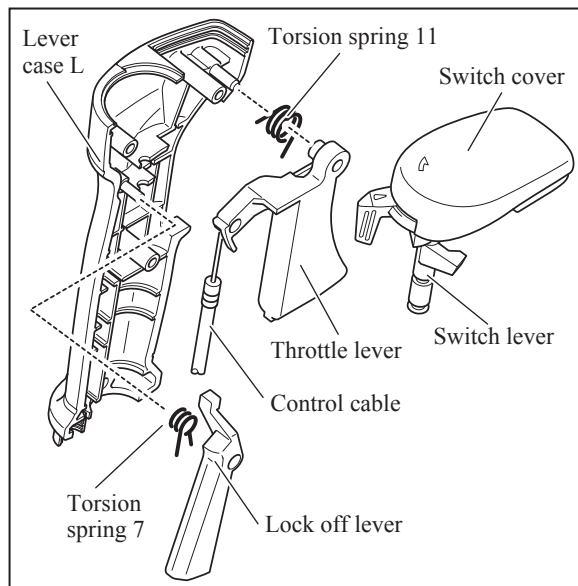


Fig. 12



[4]-6. Clutch

DISASSEMBLING

Note:

- Clutch can be easily removed with Impact driver without holding the piston.
- Do not remove Spark plug as compressed air resistance has to be used for the disassembling.
- Plug cap with Plug cap spring has to be removed from Spark plug.

- (1) Remove the clutch section by unscrewing two M8 shoulder hex bolts.
Then, remove M6x14 Hex head bolt with Impact driver. (Fig. 13)
- (2) Install 1R364 on Holder then screw two bolts into Holder as drawn in Fig. 14 instead of M8 Shoulder hex bolts. Holder is removed from Engine.

Fig. 13

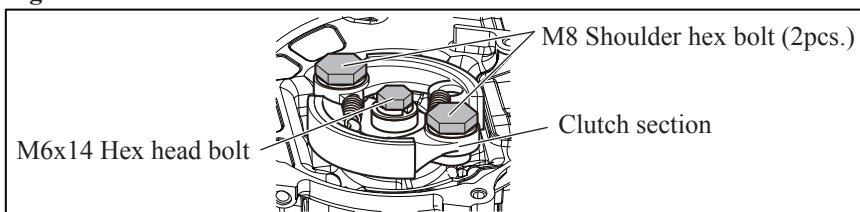
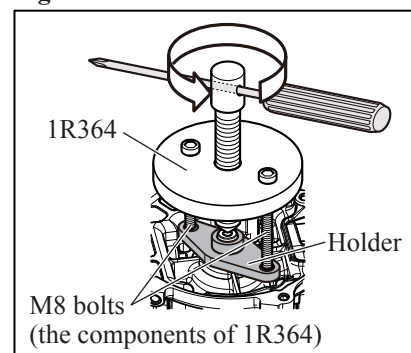


Fig. 14



ASSEMBLING

- (1) After putting the clutch section (two Clutch shoes and two Springs), two Wave washers 10 and two Flat washers 6 on Holder, tighten them with two M8 shoulder hex bolts. (Fig. 15)

Note: Face the marking of “←” to the outside as drawn in Fig. 15A.

- (2) Put the assembled part, Flat washer, Spring lock washer and M6x14 Hex head bolt on the crank shaft of Engine, then tighten the bolt to 12 N·m with 1R219, 1R220 while inserting 1R155 into Spark plug hole to lock Piston to prevent the rotation of the crank shaft. (Fig. 16)

Fig. 15

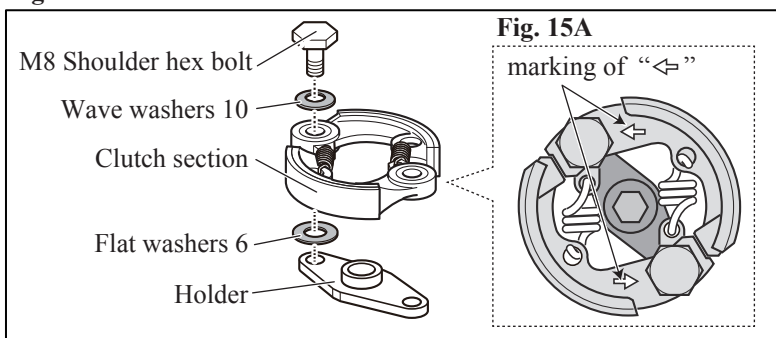
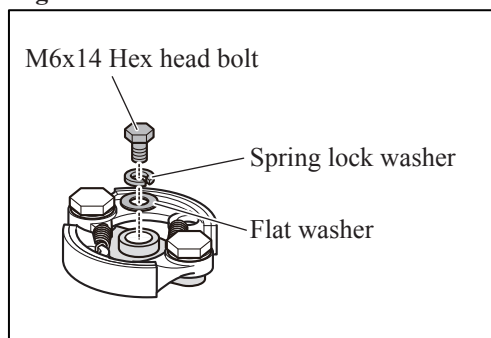


Fig. 16



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-7. Clutch drum complete

DISASSEMBLING

- (1) Remove M6x14 Hex head bolt and Flat washer 6 from Clutch drum complete while inserting Hex wrench into Gear case assembly and pretighten Receive washer and Clamp washer with M10 Nut to prevent the rotation of Shaft complete. (**Fig. 17** and **18**)
- (2) Unlock Retaining ring R-35 in the groove of Clutch case complete with 1R006 through the hole of Clutch drum complete. (**Fig. 18**)
- (3) Tap the corners of Clutch case complete carefully with Plastic hammer to remove Clutch drum complete. (**Fig. 19**)
- (4) Separate Damper and Shaft complete from Clutch drum complete. (**Fig. 20**)
- (5) Remove Retaining ring S-17 from Clutch drum complete with 1R004. (**Fig. 21**)
- (6) Remove Ball bearing 6003LLU from Clutch drum complete with 1R022, 1R023 and Arbor press. (**Fig. 22**)

Fig. 17

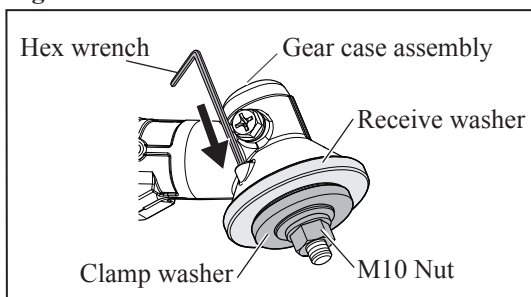


Fig. 18

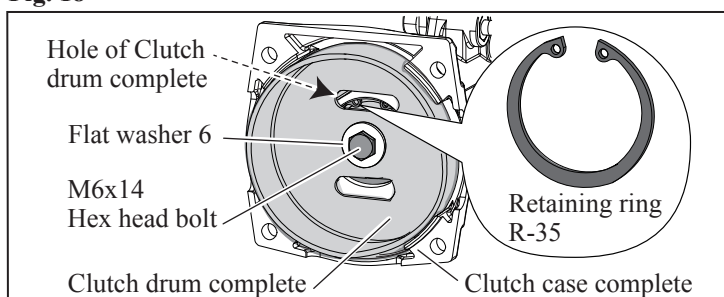


Fig. 19

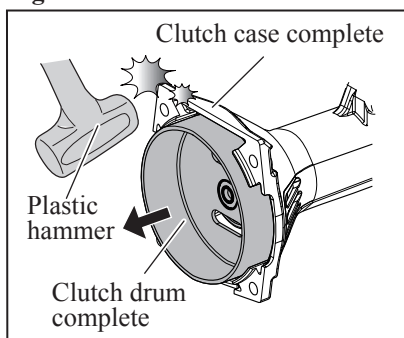


Fig. 20

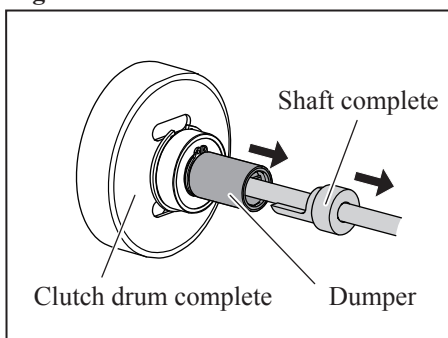


Fig. 21

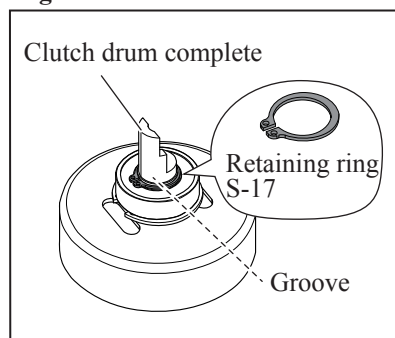
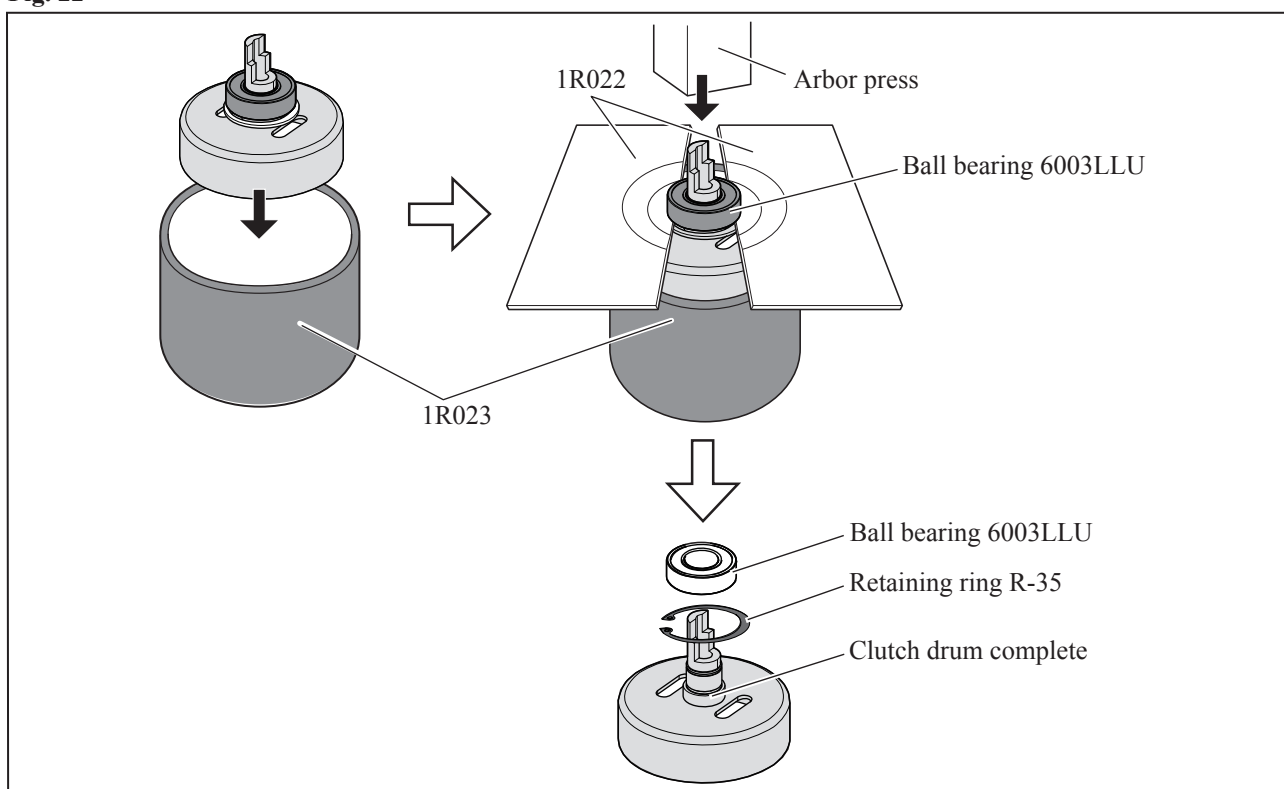


Fig. 22



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-7. Clutch drum complete (cont.)

ASSEMBLING

- (1) After putting Retaining ring R-35 on the center of Clutch drum complete, pressfit Ball bearing 6003LLU in place of Clutch drum complete with 1R028. (**Fig. 23**)
Fit Retaining ring S-17 into the groove of Clutch drum complete with 1R004. (See **Fig. 21**)
- (2) Assemble Shaft complete with Damper to Clutch drum complete so as to mate the connecting portions of Shaft complete and Clutch drum complete in Damper. (**Fig. 24**)
Assemble the assembled part to Clutch case complete by tapping the center of Clutch drum complete carefully with Plastic hammer. (**Fig. 25**)
- (3) Fit Retaining ring R-35 into the groove of Clutch case complete with 1R006 through the hole of Clutch drum complete, then set M6x14 Hex bolt and Flat washer 6 on Clutch drum complete while inserting Hex wrench into Gear case assembly and pretighten Receive washer and Clamp washer with M10 Nut to prevent the rotation of Shaft complete. (See **Figs. 18** and **17**)
Note: Apply ThreeBond 1342/ Loctite 242 to the thread of M6x14 Hex bolt.

Fig. 23

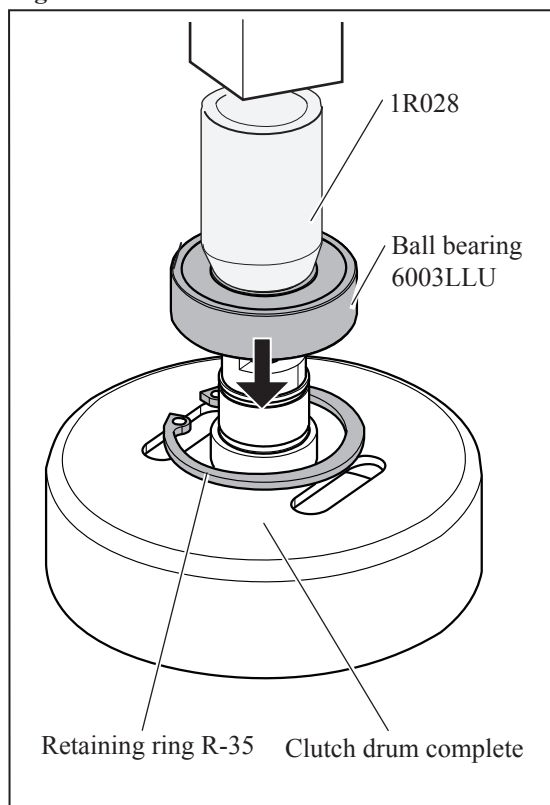


Fig. 24

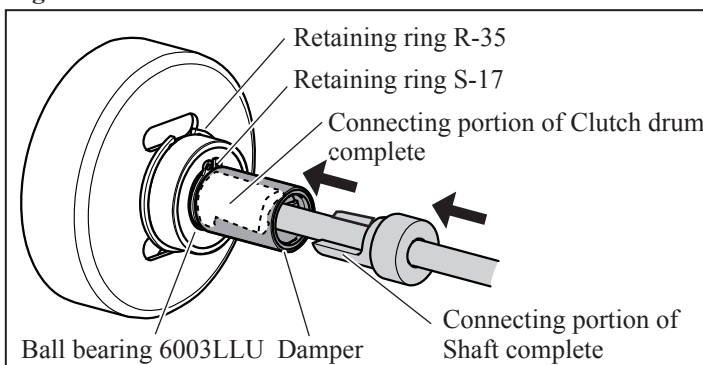
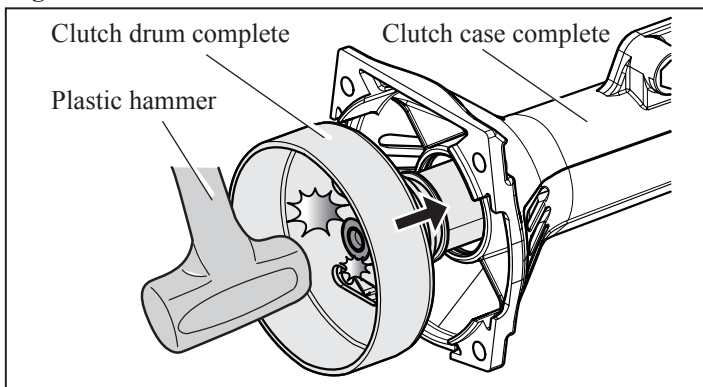


Fig. 25



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-8. Ignition

CHECK OF PLUG CAP (SPRING)

- (1) Remove Plug cap from Spark plug, then detect the continuity between Plug cap spring in Plug cap and Earth terminal of Ignition coil.
It is the normal condition when Tester shows $2.45k\Omega \pm 10\%$. (Fig. 26)
- (2) In case of no continuity or unstable continuity, check the connection between Plug cap spring and Ignition coil as follows:
 - (A) Spray the lubricant in Plug cap, then pull out Plug cap spring together with Ignition cable using Pliers. (Fig. 27)
 - (B) In case no connection or inconsistent connection, then check the condition of Plug cap and Plug cap spring.
Reassemble them or replace them if they are disorder.
 - (C) Insert the end of Plug cap spring into Ignition cable then return them back to the inside of Plug cap carefully so as not to be disconnected.
 - (D) Check Plug cap and Plug cap spring again according to the step of (1) to avoid poor connection causing the poor sparks of Spark plug.

Fig. 26

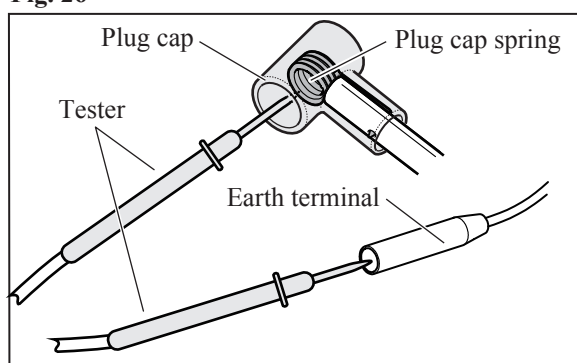
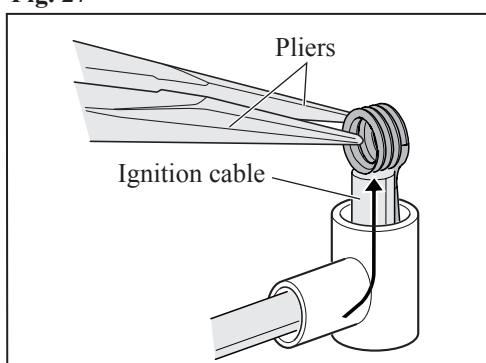


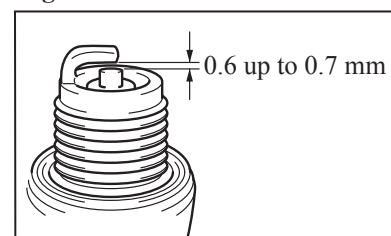
Fig. 27



CHECK OF SPARK PLUG

- (1) Remove Plug cap with Plug cap spring from Spark plug, then remove Spark plug with Wrench 17-19 (standard equipment).
Note: When the spark area is wet with Fuel, wipe it away with a cloth and dry it by air blow.
- (2) Clean carbonized materials on Insulated part for sparking with a wire brush.
- (3) Do fine adjustment of Spark plug as drawn in Fig. 28.
Insert 0.7mm thickness gauge of 1R366 to the clearance and adjust the leg of Spark plug carefully.
- (4) Install Plug cap with Plug cap spring on Plug and connect the plug screw part to a metal part of Engine, then pull Starter rope slowly.
The sparks can be seen when starter rope is pulled.
- (5) When the sparks can not be seen, refer to “CHECK OF PLUG CAP (SPRING)” in this page to detect the continuity. If required, replace Plug and recheck the sparks through the above process.

Fig. 28



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-8. Ignition (cont.)

REMOVING OF IGNITION COIL

- (1) Remove M5x50 Hex socket head bolt and two M5x22 Hex socket head bolts (with washers and super lock washers) and four M5x14 Pan head screws (with washers and spring lock washers), and then separate Blower housing, Muffler cover and Cylinder cover from the machine. (Figs. 29 and 30)
- (2) Before removing Ignition coil, pull out Cable terminal. (Fig. 31)
- (3) Remove two M5x22 Hex socket head bolts to separate Ignition coil from Crank case assembly. (Figs. 31 and 32)

Fig. 29

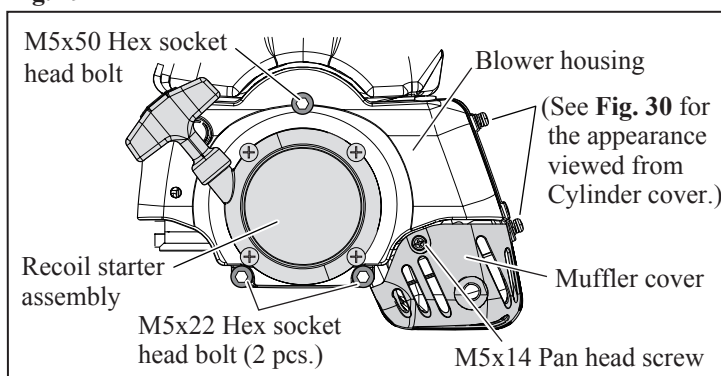


Fig. 30

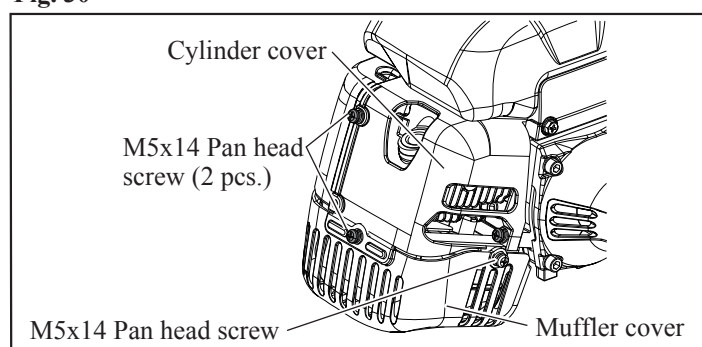
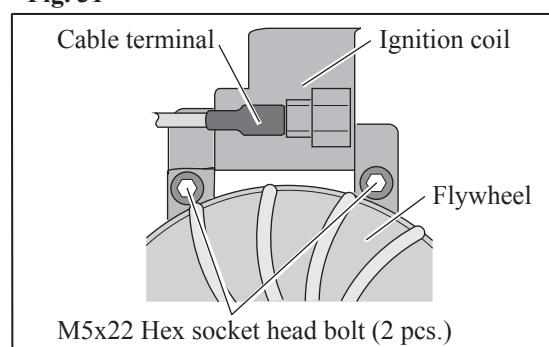


Fig. 31

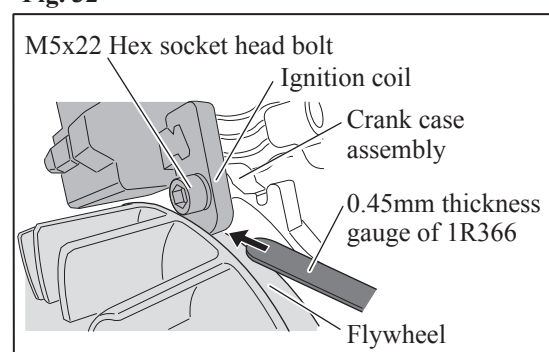


ASSEMBLING OF IGNITION COIL

See Fig. 32.

- (1) While attaching 0.45mm thickness gauge of 1R366 to the magnet portion of Flywheel, set Ignition coil in place.
- (2) Remove the thickness gauge.
Then, turn Flywheel by hand to check whether it turns smoothly without being stuck.

Fig. 32



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-9. Flywheel

Note: • Flywheel can be easily removed with Impact driver without holding the piston.

- Do not remove Spark plug as compressed air resistance in Cylinder has to be used for the disassembling.
- Plug cap with Plug cap spring has to be removed from Spark plug to prevent Engine from running.

DISASSEMBLING

- (1) Turn M6x16 Hex socket head bolt on the center of Flywheel counterclockwise using Cordless impact driver. (**Fig. 33**)
- (2) Install 1R364 on Flywheel then screw two M6 bolts of 1R364 into Flywheel as drawn in **Fig. 34**.

Flywheel is removed from Engine.

Important: Screw two M6 bolts evenly.

Fig. 33

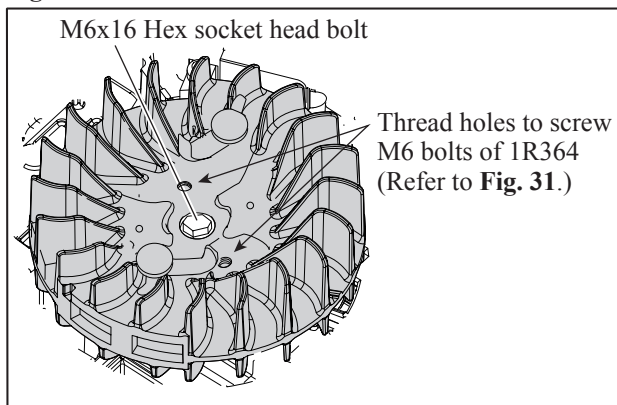
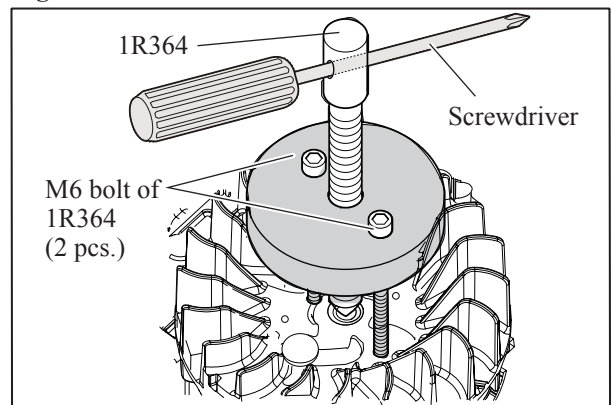


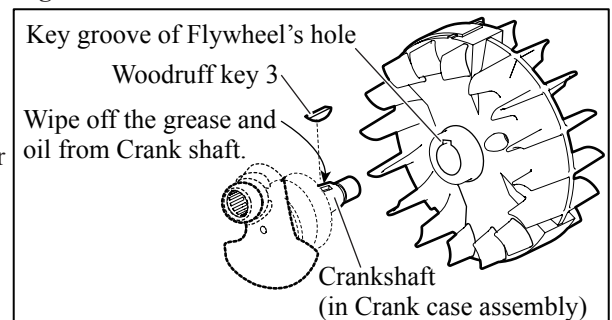
Fig. 34



ASSEMBLING

- (1) Wipe off the grease and oil from Crank shaft. (**Fig. 35**)
- (2) Put Woodruff key 3 into Crank shaft, then align the key groove of Flywheel to Crank shaft with the key. (**Fig. 35**)
- (3) Screw M6x16 Hex socket head bolt with Spring lock washer to Crank shaft by turning them clockwise by hand.
- (4) Tighten M6x16 Hex socket head bolt about two seconds using Cordless impact driver.

Fig. 35



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-10. Recoil starter assembly

DISASSEMBLING

- (1) Remove Recoil starter assembly from Engine by unscrewing four M5x14 Pan head screws.
- (2) Pull the rope one turn of Reel, then, Hook the rope with the notch of Reel and turn the reel clockwise until Spiral spring loses the tension. (Fig. 36)

Note: Be careful. Reel is revolved by the recoil force of Spiral spring.

- (3) Loosen M6x20 Tapping screw to disassemble Recoil starter assembly. (Fig. 37)

Note: Be careful when removing this screw as there is a possibility that Spiral spring pops out.

- (4) Untie the knot of the rope in Reel and remove the rope from Reel.

Fig. 36

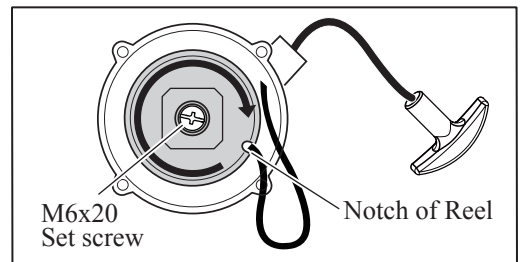
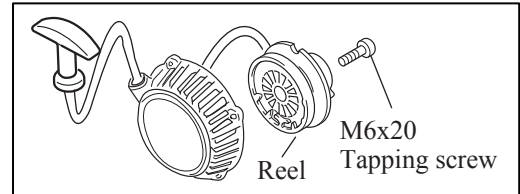


Fig. 37



ASSEMBLING

- (1) When Spiral spring pops out of Reel:
 - Set the one end of Spiral spring in the hook on the periphery side in the Reel. Fig. 38
 - Rewind the spring counterclockwise toward the center of circle. (Fig. 38)

- (2) Apply a little amount of Makita grease N No.2 to the spring.
- (3) Make a knot on the new rope end and pass it through Reel and Base of Starter case assembly, then connect the other end to Starter knob. (Fig. 39) Refer to Fig. 40 how to make a knot of the rope.

- (4) Wind the rope around Reel two or three turns.
- (5) While turning Reel counterclockwise, fit it into the base of Starter case assembly and set Spiral spring end into the hook on inside of the base. (Figs. 39)

Note: This should be fixed without force.

- (6) Secure Reel with M6x20 set screw. (Fig. 37)

Swing arm has to be passed through the groove of Reel.

Important: In case Reel turning is not smooth after tightening M6x20 Set screw, Reel is not properly fixed to Starter case.

Repeat the step (5) so that Reel can revolves smoothly even after M6x20 Set screw is completely tightened.

- (7) Hook the rope in the notch of Reel while straining the rope, then turn Reel counterclockwise. (Fig. 41)

When the rope is removed from the notch, Reel winds the rope with spring recoil force. Repeat the step until the rope slacks are cleared.

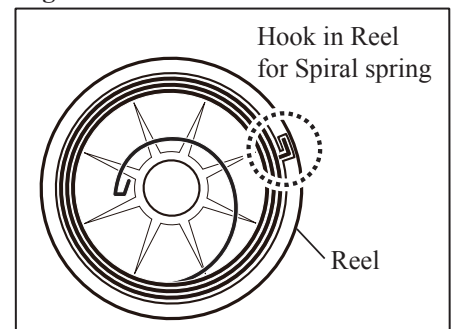


Fig. 39

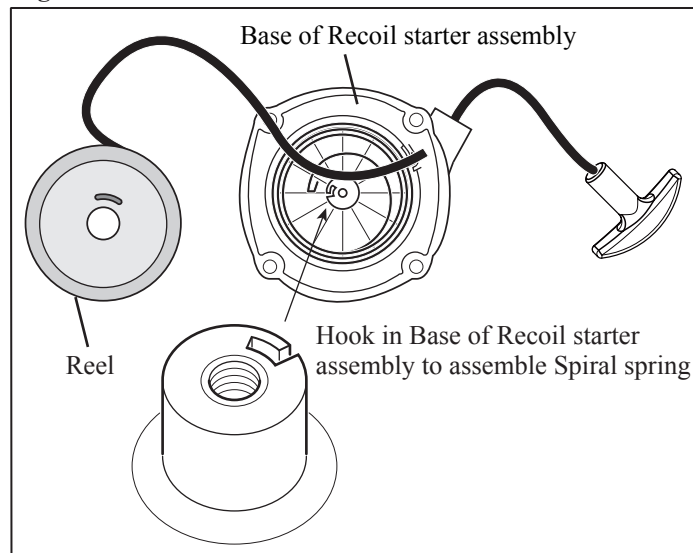


Fig. 40

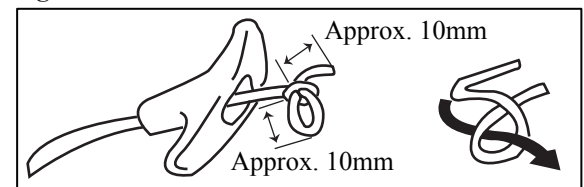
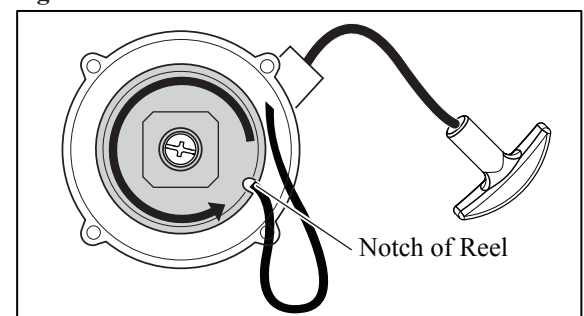


Fig. 41



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-11. Air cleaner assembly, Carburetor

DISASSEMBLING

- (1) Remove Air cleaner cover by unscrewing M5x20 Pan head screw. (Fig. 42)
- (2) Remove Element, then separate Air cleaner plate from Carburetor by unscrewing two M5x14 Pan head screws. (Fig. 42)
- (3) Remove Control cable and Bullet terminals of Lead wires as drawn in Figs. 1 and 2.
- (4) Unscrew M5x5 Wing nut under Float body to drain the gasoline in Carburetor. (Fig. 43)
- (5) Pull out Fuel tube from the nipple Carburetor with 1R311. (Fig. 44)
- (6) Remove Carburetor from Engine by unscrewing two M5x58 Pan head screws. (Fig. 45)

Fig. 42

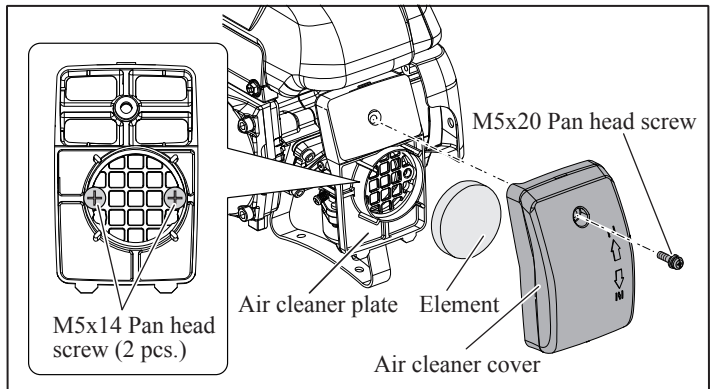


Fig. 43

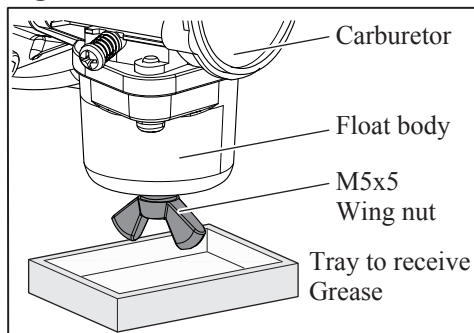


Fig. 44

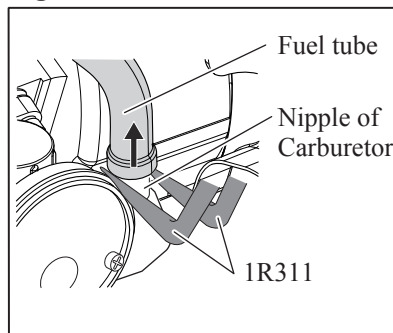
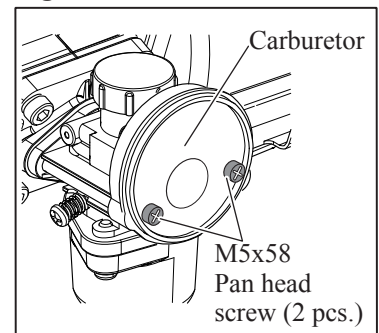


Fig. 45



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-11. Air cleaner assembly, Carburetor (cont.)

REPLACING/ MAINTENANCE OF CARBURETOR

See Fig. 46 for the all components of Carburetor.

- (1) Push Jet needle against Spring while holding Piston valve. Spring plate is unlocked and removed.
Check whether the engagement of E-ring to the groove of Jet needle is loose or not.
If yes, replace Jet needle with a new one. (Refer to the drawings in the dotted circle in Fig. 46 and Fig. 49.)
- (2) Unscrew two M4x16 Pan head screws, then remove Float body.
- (3) Remove Straight pin from Float arm, then remove Float arm. Needle is removed.
When the pointed top of Needle gets worn/ looks offset as drawn in Fig. 47, replace it with a new one.
- (4) Remove Main jet with slotted screwdriver as drawn in Fig. 48.
- (5) Clean the routes in Carburetor with a commercial carburetor cleaner.
After minutes from the step (5), blow away the liquid on the routes with a air gun.
- (6) Assemble the above parts of Carburetor by reversing the disassembling procedure. Be careful to the order and direction of parts and the following points.
 - Jet needle has five grooves for E-ring. The third groove is factory-assembled position to set E-ring in Carburetor. The adjustment on the proper ratio of Gasoline/ Air is necessary in accordance with the temperature fluctuation, change the position to another. (Fig. 49)
 - Align the groove of Piston valve with the projection in the hole on Body, then insert Piston valve into the hole of Body. The misalignment causes the incomplete setting of Mixing cap because Piston valve gets deformed through the hole of Body. (Fig. 50) After setting E-ring on Jet needle, put the E-ring between two Packings, then install their assembled parts into Piston valve and the last, secure all the parts with Spring plate.
 - Set Float in place so that the upper surface face upward. Be careful to the mark "UP". (Fig. 51)

Fig. 46

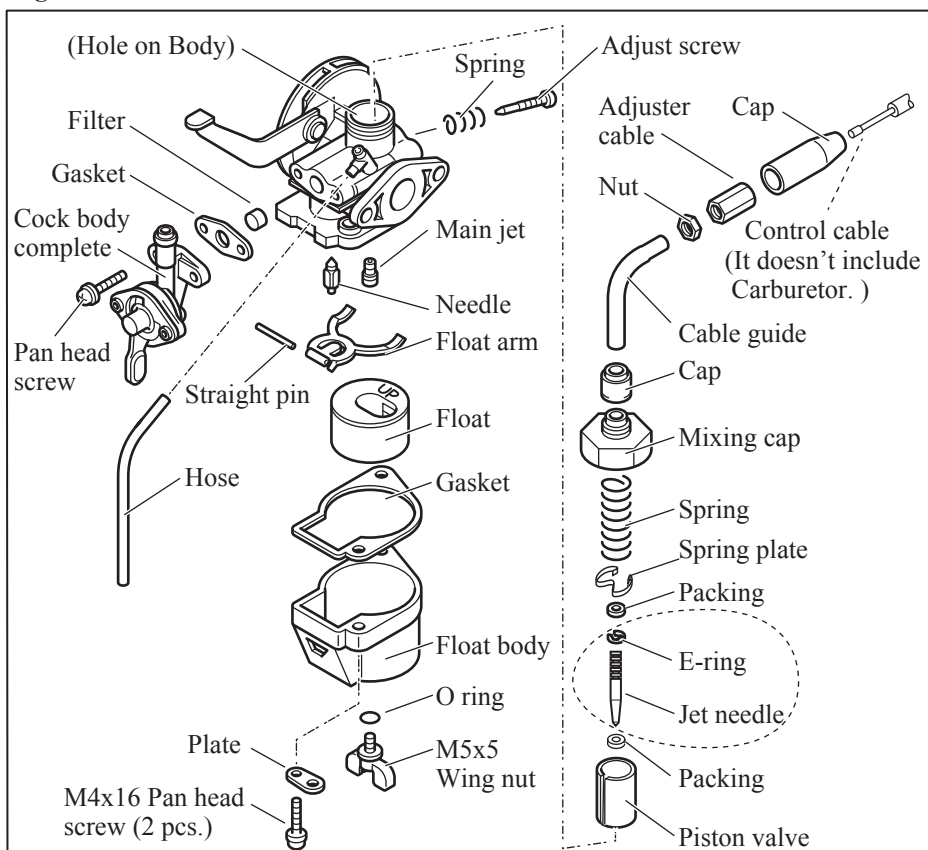


Fig. 47

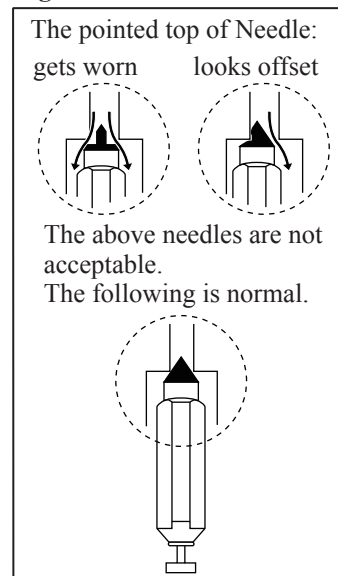


Fig. 48

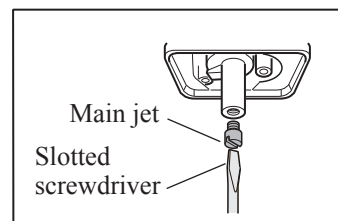


Fig. 49

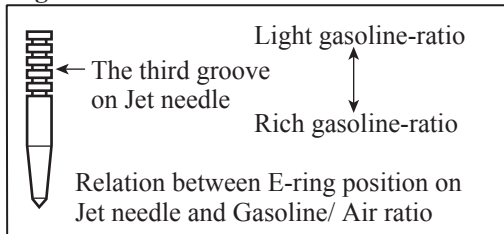


Fig. 50

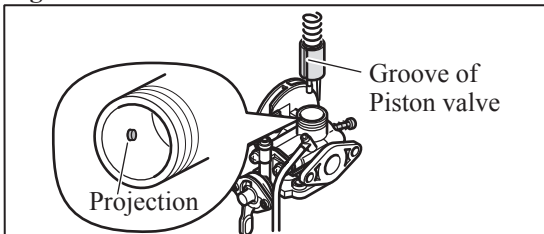
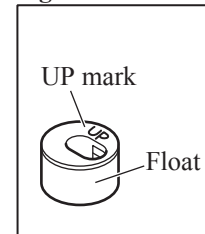


Fig. 51



► Repair

[4] DISASSEMBLY/ ASSEMBLY

[4]-12. Engine block

DISASSEMBLING

- (1) It is highly recommended to drain the oil system of Engine block before starting disassembling because the oil remaining there will drip out to delay your operation.
 - (2) From the engine section, remove the following parts:
Cylinder cover, Fuel tank, Blower housing, Muffler cover, Recoil starter section, Clutch section, Ignition coil, Flywheel section, Insulator section, Air cleaner assembly, Carburetor, Spark plug, Exhaust muffler
 - (3) Remove Cylinder. (**Fig. 52**)
 - (4) Remove two clips from ends of Piston pin with a pointed tool such as an awl. (**Fig. 53**)
- Note:**
- Be careful with Clip because it can pop out unexpectedly during removal operation.
 - Do not reuse removed Clips. Replace them with new ones.
- (5) Remove Piston pin with 1R200 or the like. (**Fig. 54**)
 - (6) Remove Piston.

Fig. 52

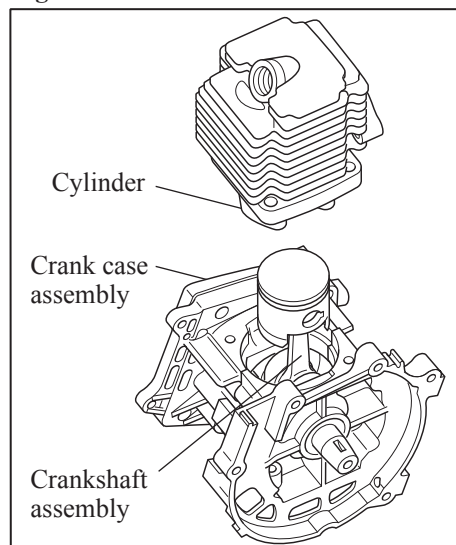


Fig. 53

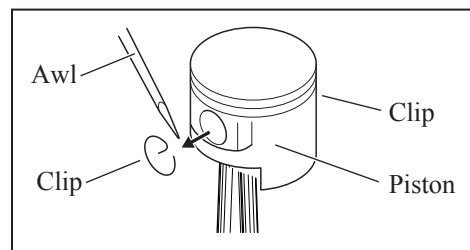
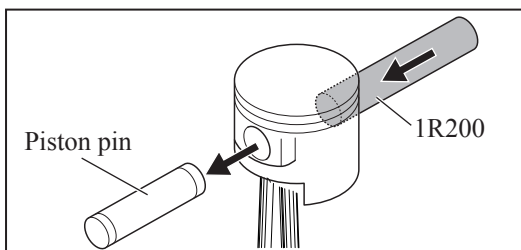


Fig. 54



ASSEMBLING ENGINE BLOCK

Assemble by reversing the disassembly procedure. Be careful to the following points.

- "M mark" on Piston has to face Flywheel side. (**Fig. 55**)
- Note:** Be sure to apply a little amount of 2-stroke engine oil to Needle cage 1014 of Crank shaft assembly.
- Insert Piston pin through Piston and Crank shaft, and fix it with Clips by using an awl (Refer to **Fig. 53**. Clip has no direction).
 - Piston rings have their directions. Their gaps must be put on the farthest side and one of the gap of Piston ring must be set by the boss on the groove of Piston ring as drawn in **Fig. 56**.
- Note:** Piston rings are easy to break. Do not enlarge them too much when fixed.
- Apply 2-stroke engine oil to the internal surface of Cylinder before assembling it to Crankcase assembly. And then, Assemble Cylinder gasket while aligning its square hole to that of Cylinder.
 - Assemble other parts by reversing the disassembly procedure.

Fig. 55

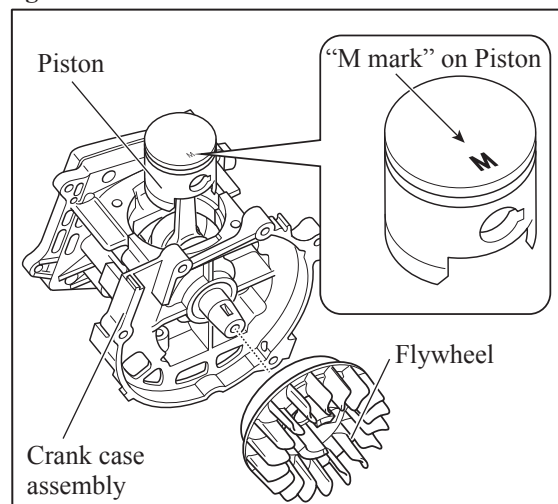
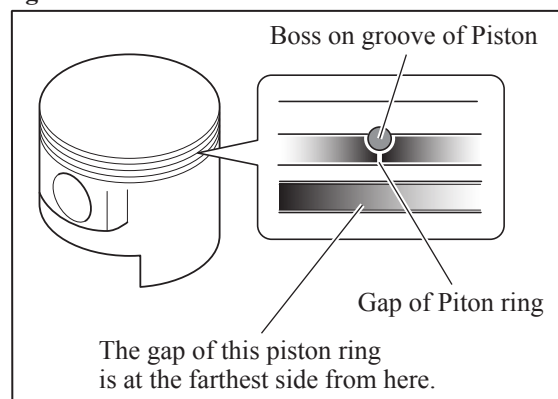


Fig. 56



► Repair

[4] DISASSEMBLY/ ASSEMBLY

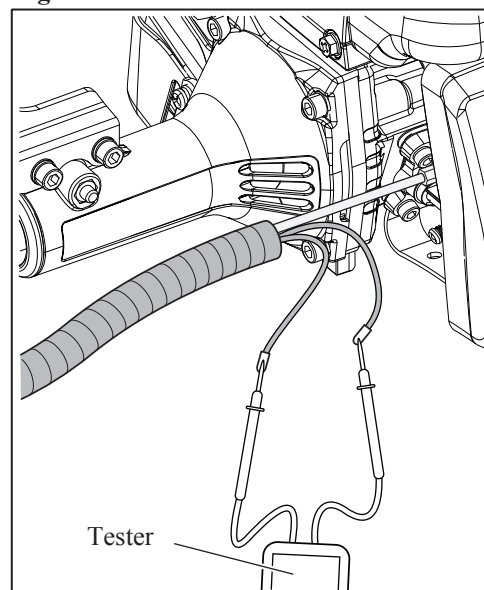
[4]-13. Stop switch

CHECKING STOP SWITCH

Check the continuity between the bullet terminals on the two lead wires extending from Control lever with a circuit tester. (Fig. 57)

If Stop switch functions properly, there will be no continuity with the switch ON and there will be continuity with the switch OFF.

Fig. 57



[5] Tightening torque specifications

Fastening for	Description	Fastening torque (N.m.)
Crank case assembly (Crank case 1 and Crank case 2)	M5x30 Hex socket head bolt (with washer)	7.5
Cylinder and Crank case assembly	M6x18 Hex socket head bolt	12.5
Muffler and Cylinder	M6x60 Hex socket head bolt	11.5
Insulator and Cylinder	M5x25 Hex socket head bolt (with washer and spring lock washer)	4.0
Ignition coil and Cylinder	M5x22 Hex socket head bolt	5.0
Plate of Air cleaner assembly and Insulator	M5x50 Hex socket head bolt	3.5
Recoil starter assembly and Blower housing	M5x14 Pan head screw (with washer and spring lock washer)	3.5
Blower housing and Crank case assembly	M5x50 Hex socket head bolt	3.5
	M5x22 Hex socket head bolt (with washer)	3.5
Cylinder cover and Blower housing	M5x14 Pan head screw (with washer and spring lock washer)	3.5
Cylinder cover and Crank case assembly	M5x20 Pan head screw (with washer and spring lock washer)	3.5
Muffler cover and Cylinder cover	M5x14 Pan head screw (with washer and spring lock washer)	3.5
Spark plug and Cylinder	M14 Spark plug	15.0
Flywheel and Crankshaft assembly	M6x16 Hex socket head bolt (with spring lock washer)	12.5
Clutch assembly (Clutch shoe and Holder)	M8 Shoulder hex bolt	12.0
Holder of Clutch assembly and Crankshaft assembly	M6x14 Hex head bolt	11.5
Gear case assembly and Pipe shaft complete	M6x30 Hex socket head bolt (with washer and spring lock washer)	8.5
	M5x12 Hex socket head bolt (with washer and spring lock washer)	3.0
Clutch drum complete and Shaft complete	M6x14 Hex head bolt	11.0
Hanger and Clutch case complete	M6x28 Hex head bolt (with washer and spring lock washer)	8.0
Shaft pipe complete and Holder, Handle ass'y	M6x30 Hex socket head bolt (with washer)	6.0
Stopper and Clutch case complete	M6x35 Pan head screw	5.0