



YN27
YN27C
YN27T

INTERNAL
COMBUSTION
ROCKDRILL

CONSTRUCTION

1.Engine:The engine is a hand operated,single cylinder and two stroke petrol engine with air cooling,reflux air conversion,no contact ignition,and no floating-type carburetor.It is composed of control parts, starter parts, oil tank parts, flywheel parts,crankshaft, connecting rod ,crankshaft case parts, shield parts, magneto parts, and piston parts and cylinder parts.

2.Air compressor:The engine piston and hammer piston are mounted separately in the upper and lower place of the cylinder.These two pistons move up and down synchronously.The hammer piston and the bigger bore of the cylinder form a compression chamber ,which together with air inlet and outlet valves and ventilator valves,form the air compressor. It is composed of hammer piston parts and cylinder parts.

3.Rock drill:It is composed of hammer piston parts, rotation mechanism parts,drill shank housing parts.

TECHNICAL SPECIFICATIONS

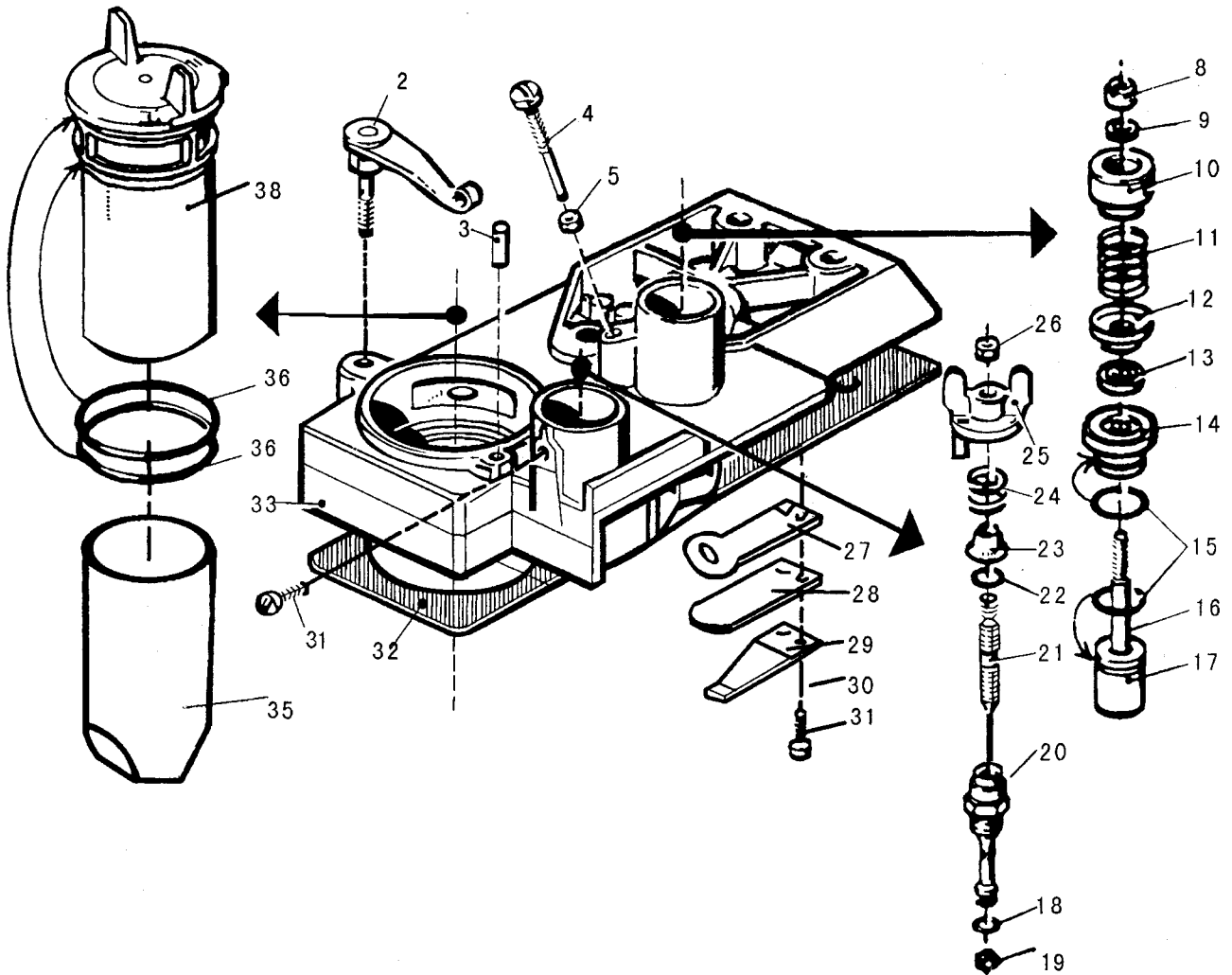
1.Weight of main machine:	1.		27Kg
2.Overall dimensions:	2.		746 × 315 × 229mm
3.Type of engine:	3.	single cylinder ,air cooled two strokes	
4.Cylinder Diameter × stroke of piston:	4.		58 × 70mm
5.Rotating speed of engine:	5.		≥2450r /min
6.Displacement of engine piston:	6.		185cm ³
7.Type of carburetor :	7.	hand needle valve ,no floating type	
8.Ignition system:	8.	controllable silicon ,contactless system	
9.Drilling speed:(mean value of five holes)	9.		≥250mm/min
(After holing,drill ϕ 34 ,with drill rod of 600mm in length,is drilled vertically downward into medium hard granite (f=8-12)to make five holes in succession.The mean value of the five holes are counted as the speed .)			
10.Max drilling depth:	10.		6m
11.Fuel consumption:	11.		≤0.12L /m
12.Tank capacity:	12.		≥1.14L
13.Mixture ratio of gasoline and lubricating oil(in volumes):	13.		12:1
14.End of drill rod dimensions:	14.	hexagonal	22 × 108mm
15.Rotating speed of drill rod:	15.		≥200r /min
16.Clearance of spark plug:	16.		0.5-0.7mm

YN27 · 27C · 27T

Starter and gasoline tank parts

Serial No.	Part No.	Part Name	Quantity
1	YN30-11.14a	Spring ring	1
2	YN27C-05.1	Clutch body	1
3	YN30-11.10	Clutch	1
4	M6×6 GB77-85	Fastening screw	1
5	YN30-11.1.1	Starter wire rope	1
6	YN30-11.9	Starter pulley	1
7	YN27C-05.11	Starter spring	1
8	YN30-11.7	Paper pad	1
9	YN27-11.4	Starter cover	1
10	YN30-11.6	Rubber knob	1
11	YN27C-05.10	Handle Accessory	1
13	YN27C-05.9	Starter Handle	1
14	YN30-11.13	Needle bearing	1
15	5jc 4 × 20 GB119	Round pin	1
16	M12 × 15 GB77-85	Flat head fastening screw	1
17	4 × 14 GB869-86	Counter-sunk rivet	4
18	8 GB308-77	Steel ball	4
19	YN27C-05.12	Gasoline tank	1
20	YN27-10.8	Oil pipe	1
21	YN30-10.8.2	Gasoline filter	1
22	YN27-10.5a·1	Gasoline tank cover	1
23	26 × 2.4 GB1235-87	“ O ” ring “ O ”	1
24	YN27-06.6	Gasoline tank shield	1
25	YN27C-05.25	Guide rope piles	1
26	AM6 × 16 GB900-88	Finished stud	5
27	6jc4 × 18 GB119-86	Round pin	2
28	M6 GB6187-86	Hexagonal thick nut	7
29	AM6 × 32 GB900-88	Finish hed stud	2

Control parts:

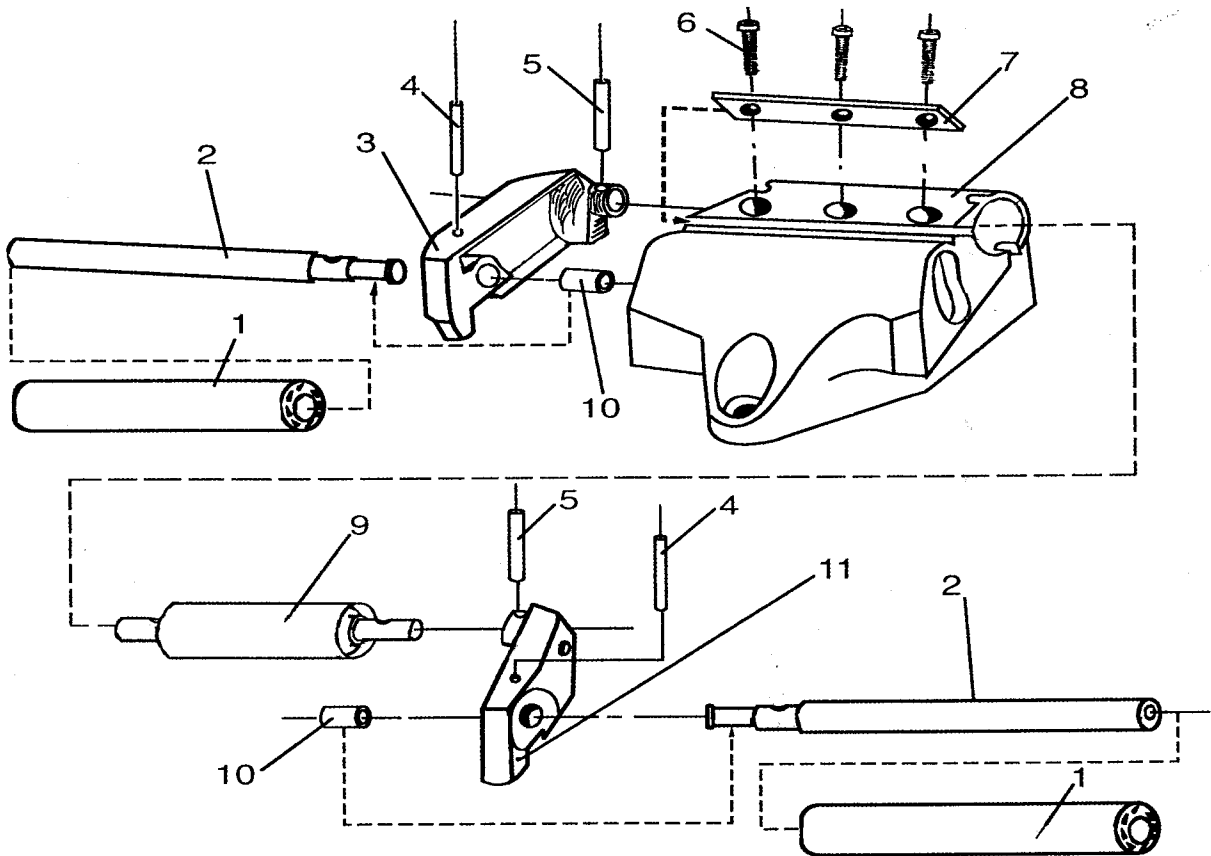


Control parts:

Serial No.	Part No.	Part Name :	Quantity
2	YN27-12.7	Gland nut	1
3	4 × 10 GB119-86	Round pin	1

4	YN27C-06.4	Set screw	1
5	BM5 GB6172-86	Hexagonal nut	1
8	AM5 GB6171-86	Hexagonal groove nut	1
9	5 GB93-87	Spring washer	1
10	YN27C-06.18	Button	1
11	YN27C-06.19	Spring	1
12	YN27C-06.20	Spring seat	1
13	YN27C-06.21	Seal	1
14	YN27C-06.22	Throttle seat	1
15	19×2.4 GB1235	“O”-ring “O”	2
16	YN27C-06.15.1	Throttle valve head lever rod	1
17	YN27C-06.15	Throttle	1
18	YN27-12.14	Rubber pad	1
19	M8 GB6172-86	Hexagonal nut	1
20	YN27-12.13a	Fuel valve seat	1
21	YN27C-06.26	Needle valve	1
22	8×1.9 GB1235	“O”-ring “O”	1
23	YN27C-06.24	Lining sleeve	1
24	YN27C-06.28	Needle valve spring	1
25	YN27C-06.25	Fuel valve wing nut	1
26	M4 GB6172-84	Hexagonal nut	1
27	YN27-12.4	Pad	2
28	YN30-12.8	Check valve plate	2
29	YN30-12.9	Check valve Flapper	2
30	4 GB93-87	Spring washer	5
31	M4×10 GB65-85	Round head screw	5
32	YN27-12.8	Paper pad	1
33	YN27-12.1	Control part	1
35	YN27C-06.23	Filter core	1
36	55×3.1 GB1235	“O”-ring “O”	2
38	YN27-13.1	Air filter cap	1

Handle parts

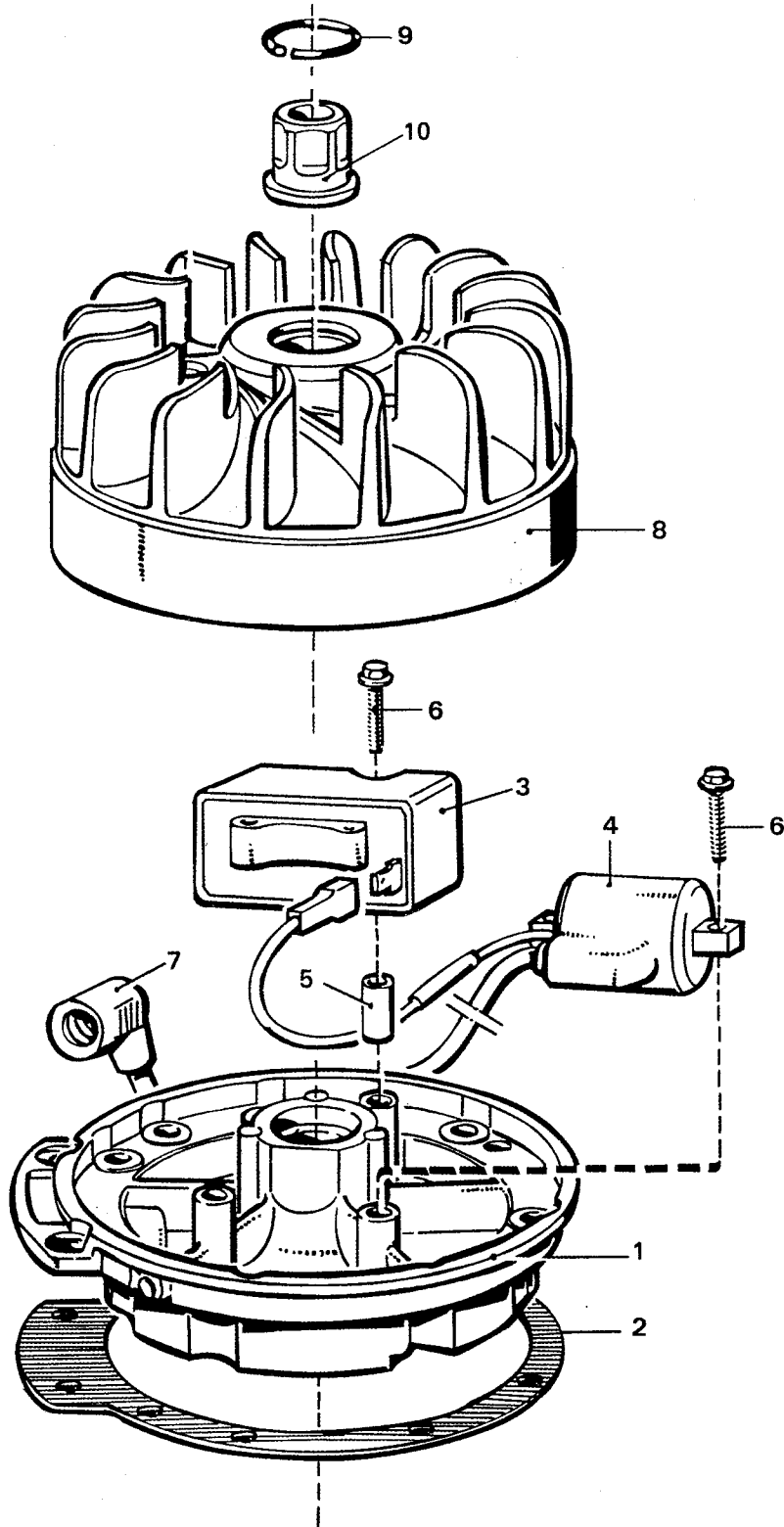


Handle parts:

YN27T

Serial No.	Part No.	Part Name	Quantity
1	YN27T - 12.2.4	Handle sleeve	2
2	YN27T - 12.2.3	Handle shaft	1
3	YN27T - 12.2.11	Left arm	1
4	4 × 25 GB879-76	Round pin	2
5	5 × 25 GB879-76	Round pin	2
6	M6 × 20 GB70-85	Round head screw	3
7	YN27T-12.2.9	Pad	1
8	YN27T-12.2.1	Handle seat	1
9	YN27T-12.2.10	axle sleeve package	1
10	YN27T-12.2.5	Rubber sleeve	2
11	YN27T-12.2.2	Right arm	1

Flywheel and Magneto parts:



Flywheel and Magneto parts:

Serial No.	Part No.	Part Name	Quantity
1	YN27C - 04.1	Magneto bed plate	1
2	YN30 - 06.11	Paper pad	1
3	YN27 - 08.1	Controller	1
4	YN27 - 08.3	Ignition coil	1
5	YN27 - 08.9	Controller fixed sleeve	1
6	M5 × 30 GB5789-86	Round head inner hexagonal screw	4
7	YN27C - 04.7	Spark plug clamp	1
8	YN27C - 04.8	Flywheel	1
9	28 GB895-76	Single coil spring lock washer	1
10	YN27C - 04.11	Hexagonal nut	1

Lubrication and Cooling Action

Fuel used by the drill is 12:1, that is, a mixed oil in the proportion 12 parts of gasoline to 1 part of lubricating oil. In operation, mixed oil enters into the crankshaft case in fog to lubricate all parts of the crank shaft and the cylinder. During burning, gasoline burns, most of lubricating oil flow into all touching parts through the cylinder space to make them get complete lubrication.

The cylinder of engine is cooled by wind from the flywheel through the surface of emitting heat plates.

Operation

(1) Preparation before starting:

Preparing with mixed oil, drill rod, bit, funnel with filter net, some service tools and spark plug etc.

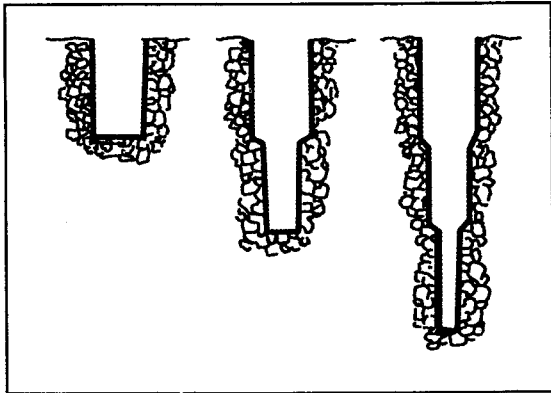
1. Gasoline: Use gasoline of RQ-60 or RQ-70, that is, No.60 or No.70.

2. Lubricating oil: Use lubricating oil No.15(HQ-15) or HQ-157 including in additive 30% lubricating oil NO.8 at lower temperature.

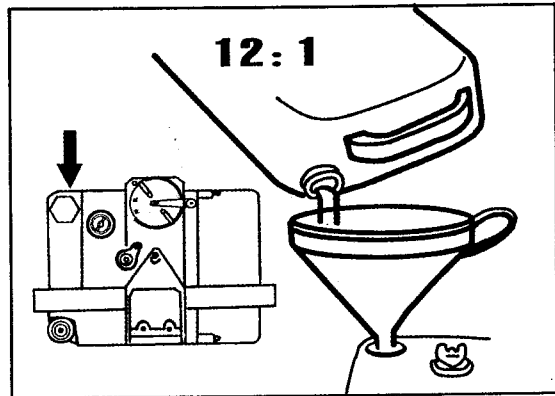
3. Length of drill rods and diameter of the carbide percussive drill bit: When drilling, a group of drill rod length with different size should be prepared in order to operate conveniently and safely. They are 0.6m, 1.1m, 1.6m,

2.0m, 2.6m, 3.0m, selecting them according to the depth of hole. In operating, 0.6 is used to drill at first, then 1.1m instead of it, then 1.6m till the needed depth of hole. The size of the drill bit are used from bigger to smaller one, (Fig.1) otherwise, they are easy to choose and can work normally.

(2) Starting:

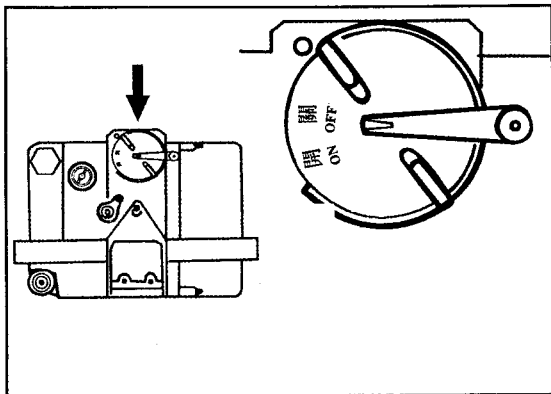


(Fig.1)

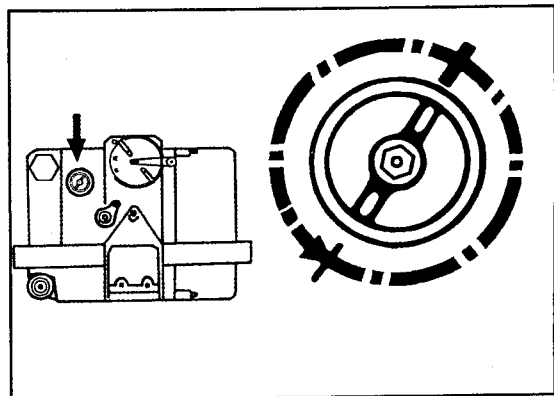


(Fig.2)

1. Erect the machine to support the handle of the control body, and fill fuel into the gasoline tank. (Fig.2)



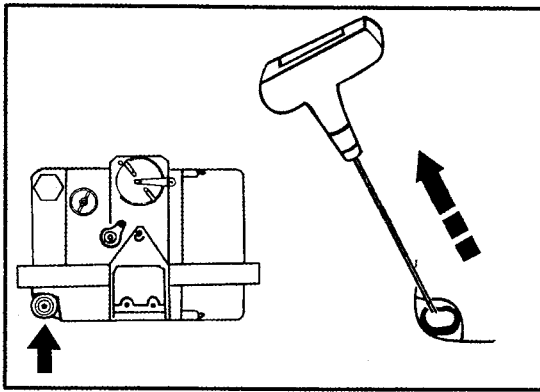
(Fig.3)



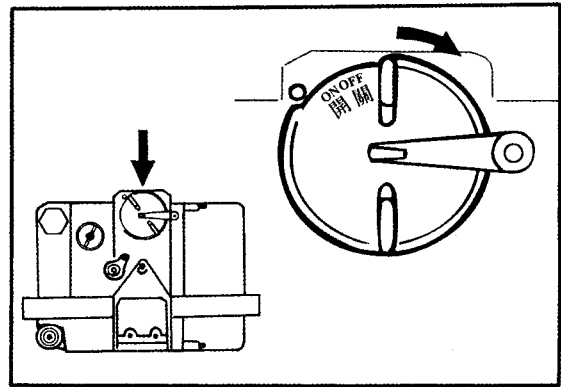
(Fig.4)

2. Close the air filter. (Fig.3)

3. Rotate the wing nut of fuel value in counter clockwise one cycle or two to open it. (Fig.4)



(Fig.5)



(Fig.6)

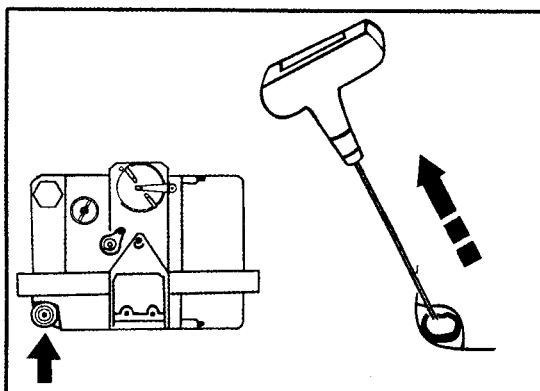
4.Pull the starter wire rope slowly for several times to let the mixed oil into the cylinder.when combustible gas in the cylinder burns,stop pulling.(Fig.5)

5.Open the air filter.(Fig.6)

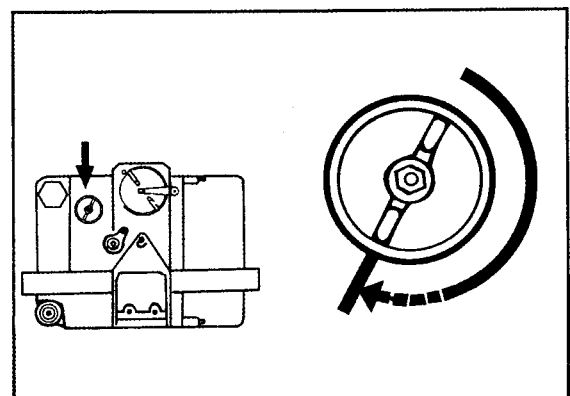
6.Pull the starter wire rope rapidly and powerfully to start.(Fig.7)After that, the machine runs idly for several minutes in order to heat it,then turn the wing nut of fuel valve clockwise,its rotating speed rises gradually.If abnormal sound with fog in the exhaust pipe,that means fuel supply is not enough.Right now ,please turn the wing nut of the fuel valve in a controller clockwise direction and increase the amount of fuel supply.

7. Attention points for starting:

Mixed oil entering into the cylinder being too much or insufficient will be adverse to the starting of the engine.The operator is asked to, make a correct judgement for the amount of the mixed oil in the cylinder.The method is to observe the state but a jet of fuel emerges from the exhaust pipe.If poor,please make the wing nut of fuel valve rotate in cotroller clockwise direction,open fuel valve full.Pull wire rope until combustibile gas enter the cylinder burns and the engine be started. If a jet of fuel emerges from the exhaust pipe,that means the fuel supply is direction and pull the starter wire rope for several times until it is operation,then adjust the wing nut of the fuel valve in a appropriate position.(Fig.8)



(Fig.7)



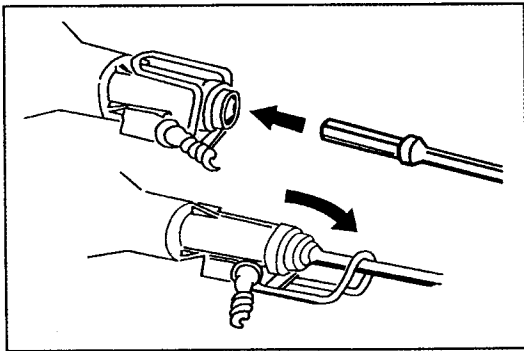
(Fig.8)

(3)Drilling:

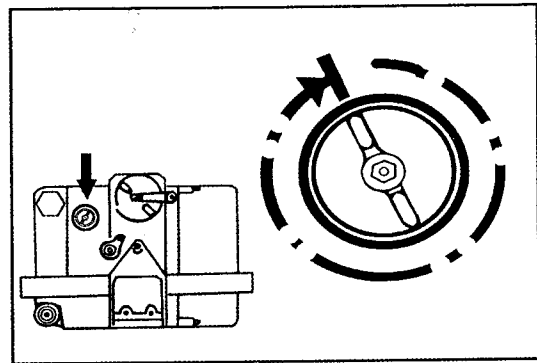
1.Fiting rod:Press the throttle value with thumb to make the machine operate with lower speed,then insert the shortness drills rod into the rotating sleeve. Snap down the yoke so that bit will not jump out.(Fig.9)

2.Start to drilling :Select an appropriate position.Slow down the rotating speed of the machine,use a foot to guide bit for facilitating the make hole.

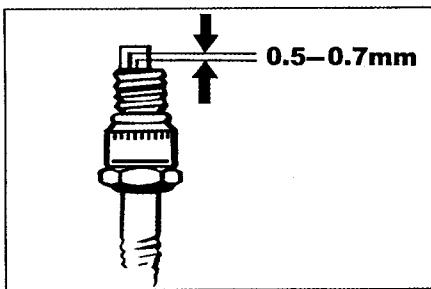
3.Drilling hole:release the throttle valve,Let the machine run at full speed.During operation,add appropriate pressure so that no jumping occurs to the machine. If the rotaing speed of the machine is too low,adjust the fuel valve to raise its speed.



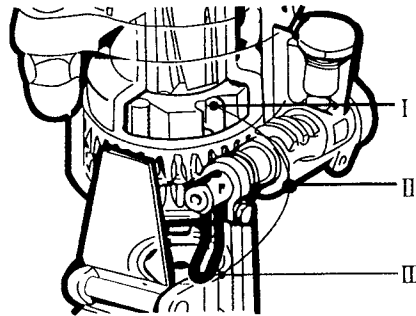
(Fig.9)



(Fig.10)



(Fig.11a)



(I)Hand bayonet lock up,rotating and hammer,Use to rock drill.

(II)Hand bayonet lock level,neither rotating nor hammer.

(III)Hand bayonet lock down hammer,but haven ' t rotating.

(Fig.12a)

(4) Changing of rod:

Changing of rod, press the throttle valve to reduce its rotating speed. Snap up the yoke by foot, take out the bit and replace another one. Snap down the yoke and then accelerate the machine to full speed.

(5) Stopping:

Stop to work for short time, only press the throttle valve, or close the air filter. Stop to work a long time, the fuel valve should be closed. (Fig. 10) Otherwise, to avoid too much oil enters into the cylinder.

(6) Hammering:

If digging, breaking, splitting or ramming:

1. To YN27 dismantle the rotating sleeve and mount the notch of the hammer sleeve aligning with the round pin in the drill chuck cover, and dismantle the ventilating pipe between the cylinder and the drill chuck cover assembly, then all hammering operations are able to be carried out.

2. To YN-27C you can operate in (Fig 12a) manner.

(7) Attention points for operation:

1. Fuel filling: only after the machine is stopped.

2. If the machine misfires, make an inspection. Don't pull the starter wire rope vigorously to avoid damage to the parts.

3. During operation, don't press the machine by human body to avoid valid accidents when a bit breaks.

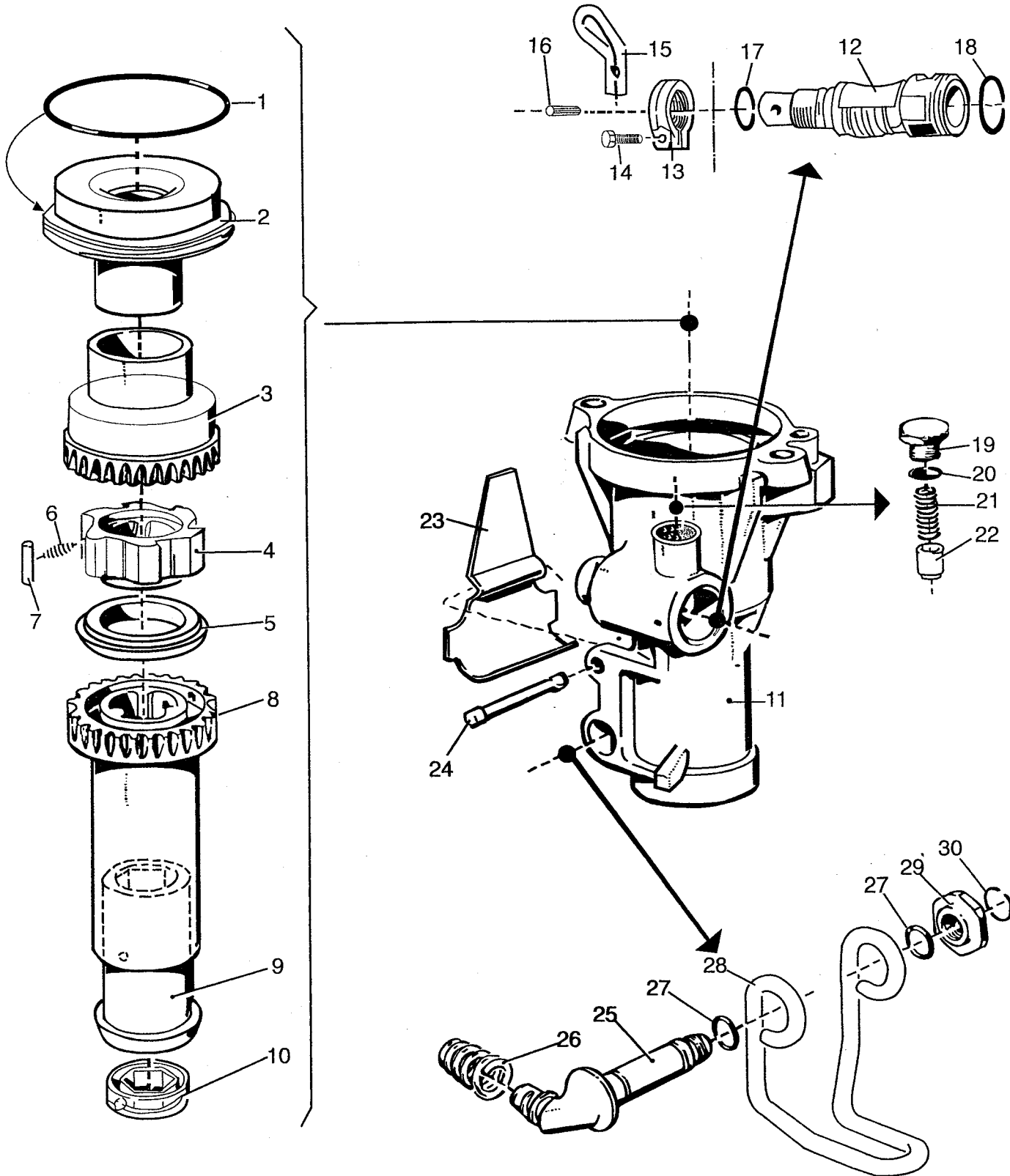
4. When a bit is blocked, don't move it directly with the machine.

5. At the initial use of a new machine, the throttle valve is not to be regulated high. Only after the machine is well mastered, its speed can be regulated higher.

6. Working in terribly hot area, be cautious that the operation period is not too long. When the temperature of the machine is too high, a short stop is necessary till it gets cool.

7. To avoid corrosion, the machine should be stored at dry places.

Drill chuck parts



Maintenance, Inspection And Adujstment

(1)To observe strictly the maintenance of the machine tool can not only ensure reliable running of machine, but also prolong its service life.

1.Before filling into oil tank, mixed oil must be filtered.

2.After starting, the machine tool should beatitude without any loads for 2-3 minutes to lubricate all sides in order to reduce trouble and prolong its life.

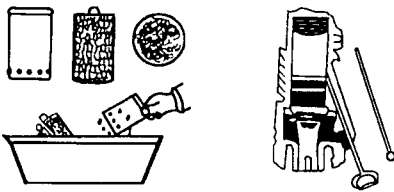
3.Everyday,operating 4 hour,take out the filter and wash it in vasoline.

Diagram of Ainfilter

4.Every week, outer of the machine and entitling heat plate of cylinder should be cleaned to send out heat.

5.When the machine is running, the deposited carbon is easily formed in the gas duet and on the other parts. Especially

the bevel gas duct in cylinder must be assured of its free flow. When cleaning the bevel gas duct, switch down the inlet valve, take out cleaning needle and wipe out the deposited carbon in the bevel gas duct by the needle(Fig12) .The inlet valve should also be kept clean. Several holes in the valves should be ensured free passage to allow free motion of the steel ball.



(Fig.12)

6. When running of the machine is abnormal, make an overall inspection of engine or make carbon cleaning, to wipe out carbon accumulated piston ring, engine piston and impact piston, exhaust hole in cylinder wall and spark gap. Dirt on the flywheel and magneto should also be taken away.

(2) Attention points for Inspection:

1.Be sure that clearance between spark gap electrodes should be 0.5-0.7mm and constantly clean off carbon and dirties to avoid circuit break and reduction of ignition.(Fig.11)

2.Be sure that the clearance between the steel ball of inlet valve and round pin.

3.Be sure that seal of the check valve plate at the bottom of control body.

4.Be careful whether the angle of ignition is changed. The arrow of flywheel should be aligned with the sign on the crankshaft .

Disassembling and assembling

The machine must be assembled correctly, strictly sealed and perfect cleanness. After a period of servile, the machine needs cleaning and repairing, so disassembling and assembling are of a common occurrence. The following cautions should be followed in disassembling and assembling bluing:

1. Disassembling and assembling should be done according to procedure. The parts, especially the piston rings, are to be mounted on their original positions. No errors and missing are allowed.

2. All the parts need to be washed in kerosene or gasoline and applied a layer of lubrication oil. In assembling, drive tight all the screws nuts and spark plug. Before trial running, pull the starter wire rope slightly for several times, to see if it is rotating freely, then start the machine.

3. If the machine need an overhaul disassemble it according to the following procedure. For assembling, do it reversibly:

Spark plug → drill chuck cover → piston guide → impact piston → inlet and outlet valve → shield → crank shaft cast → flywheel → starter → clutch → cylinder → engine piston → magneto → crank shaft → air filter → control body → oil tank.

In partial repair, do not disassemble the parts, which need no repairing. Try by every means to disassemble only the parts wanting to be repaired.

4. In disassembling starter parts, take off the starter ring. Starter wire pulley and starter lever together, Be careful that ring breaks. The connection between clutch and crank, shaft is left threaded, disassemble it in clockwise. And the starter wire rope should be mount in the wire pulley slot according to the arrow on starter cover.

5. In assembling the torque mechanism parts, be sure that the straight and drift slots on the impact piston lever are correctly in mesh with impact piston lever are correctly in mesh with inner keys of upper ratchet and rotating sleeve.

6. Be very careful in disassembling piston ring. to avoid breaking.

7. In disassembling the engine piston, a notch on the piston should be faced to the hole of spark plug.

8. Connecting crankshaft case. Cylinder and drill chuck cover. Two long screw levers should be driven tight in interchangeably to ensure the uniform pulling force, but not too tight.

Trouble shooting

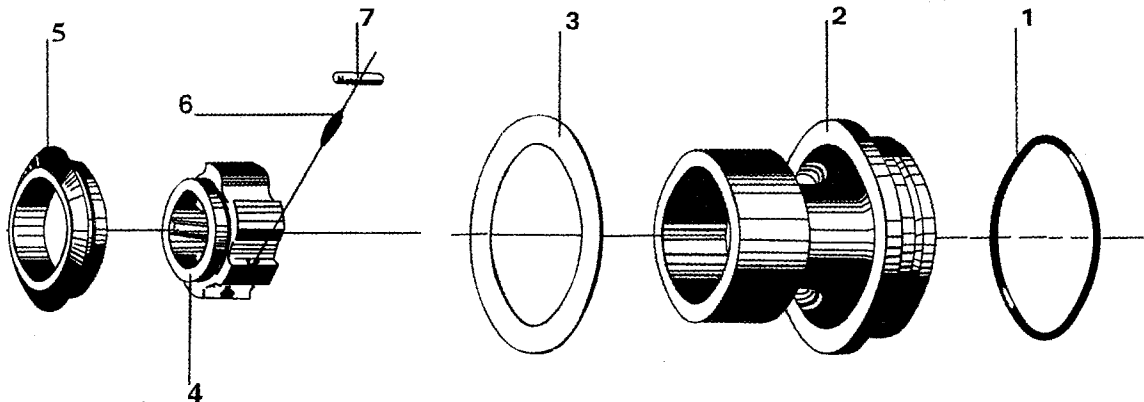
Fault	Cause	Remedy
<p>1. The engine is difficult to start.</p>	<p>1. Fuel system:</p> <ol style="list-style-type: none"> 1). Clogging or poor sealing of fuel passages. 2). Clogging of gasoline filter. 3). Use of a wrong brand of gasoline, overflow fuel or water in the fuel. 4). Poor sealing of the check valve plate on the control body. 5). Overflow mixed fuel in cylinder. <p>2. Electric system:</p> <ol style="list-style-type: none"> 1). Irregular gap between the spark plug electrodes, and oil conation, accumulated carbon on its surface or loose fitting of the plug core. 2). Shifting of the flywheel from its normal position (Wrong angle for ignition) <p>3. Pneumatic system:</p> <ol style="list-style-type: none"> 1). Low ratio of compression: <ol style="list-style-type: none"> a. Carbon deposition in or wear the cylinder. Engine positon ring. b. Clogging of the bevel gas duct in cylinder. c. Irregular clearance of the steel ball in the inlet valve. 	<p>Take out of needle valve, blow the fuel hole of oil tank and block it with a hand, then shave it to make a stream of oil sprays from the hole.</p> <p>Disassemble it, inspect and clean it.</p> <p>Choose or blend the fuel by the regulations.</p> <p>Disassemble it and adjust it.</p> <p>Close fuels door, disassemble inlet valve, pull starter wire rope for several times, take away overflow fuel.</p> <p>Adjust the gap by the regulation clear away carbon or oil or replace the plug with a new one.</p> <p>Align the arrow on flywheel with the sign on the crankshaft.</p> <p>Clean or replace it.</p> <p>Clean away carbon in time.</p> <p>Adjust the steel ball clearance between 0.5-0.7mm</p> <p>Clean it in time.</p>

Fault	Cause	Remedy
<p>2.The engine works inefficiently.</p> <p>3.Poor removal of cuttings</p> <p>4.Poor rotation of tool shank.</p> <p>5.The engine races.</p> <p>6.Abrupt stop of the machine</p>	<p>2).Air in sufficient supply: Carbon deposition in the outlet on cylinder and the connection pipe of the silencer.</p> <p>1.Unfitting fuel door or clogging of fuel passage.</p> <p>2.Carbon deposition in the bevel gas duct, inlet valve, outlet valve and piston ring.</p> <p>1.Clogging in the center hole of drill rod.</p> <p>2.Damage of hexagonal seal ring.</p> <p>3.Damage or clogging of inlet and outlet valve.</p> <p>4.Irregular size and shape of tool shank.</p> <p>1.Damage of upper ratchet or olive ring.</p> <p>2.Excessive wears of keys of impact piston rod.Upper ratchet. Rotating sleeve and other relevant parts.</p> <p>3.Running inefficient of engine.</p> <p>1.Seizer of the impact piston and drill rod.</p> <p>2.Changing of the flywheel sign.</p> <p>1.Clogging of the hole in oil tank cap.</p> <p>2.Wrong with electric of fuel system.</p> <p>3.Carbon deposition in the machine or excessive temperature</p>	<p>Adjust it.</p> <p>Clean it in time.</p> <p>Clean it</p> <p>Replace it</p> <p>Replace them.</p> <p>Replace it.</p> <p>Replace it.</p> <p>Replace them.</p> <p>See the above.</p> <p>Eliminating the case and make rotation sleeve run freely.</p> <p>Adjust it and align it with the sign or crankshaft.</p> <p>Clean it.</p> <p>See the above.</p> <p>Give it a complete overhaul.</p>

Drill chuck parts

Serial No.	Part No.	Part Name	Quantity
1	YN27C - 01.4	" O " ring " O "	1
2	YN27C - 01.5	Upper guide	1
3	YN27C - 01.6	Lower guide	1
4	YN27C - 01.7	Ratchet	1
5	YN27C - 01.8	Guide sleeve	1
6	YN27C - 01.9a	Olive spring	6
7	YN27C - 01.11	Needle	6
8	YN27C - 01.12	Rotating sleeve	1
9	YN27C - 01.13b	Hexagonal rotating sleeve	1
10	YN27C - 01.14	Hexagonal seal ring	1
11	YN27C - 01.15	Drill chuck cover	1
12	YN27C - 01.16	Conversion shaft	1
13	YN27C - 01.17	Lock nut	1
14	M5 × 20 GB70-86	Round head screw	1
15	YN27C - 01.19	Bayonet lock	1
16	4 × 16 GB879-86	Round pin	1
17	YN27C - 01.21	" O " ring " O "	1
18	YN27C - 01.22	" O " ring " O "	1
19	YN27C - 01.23	Round pin	1
20	YN27C - 01.24	" O " ring " O "	1
21	YN27C - 01.25	Spring	1
22	YN27C - 01.26	Alignment pin	1
23	YN27C - 01.27	Yoke spring	1
24	YN27C - 01.28	Yoke spring pin	1
25	YN27C - 01.29	Yoke shaft	1
26	YN27C - 01.30	Foot spring	1
27	YN27C - 01.31	" O " sping " O "	2
28	YN30A - 01.6	Yoke	1
29	YN27C - 01.33	Steel cup	1
30	YN27C - 01.34	Retainer	1

Rotation mechanism parts

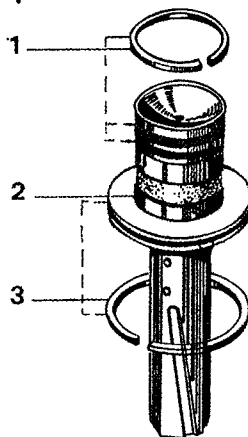


Rotation mechanism parts

YN27

Serial No.	Part No.	Part Name	Quantity
1	YN30A—02.1	“ O ” ring “ O ”	1
2	YN30A—02.2	Piston guide	1
3	YN30A—02.8	Paper pad	1
4	YN27C—01.7	Ratchet	1
5	YN27—02.4	Guide sleeve	1
6	YN27C—01.9a	Olive spring	6
7	YN27C—01.11	Needle	6

Hammer piston parts



Hammer piston

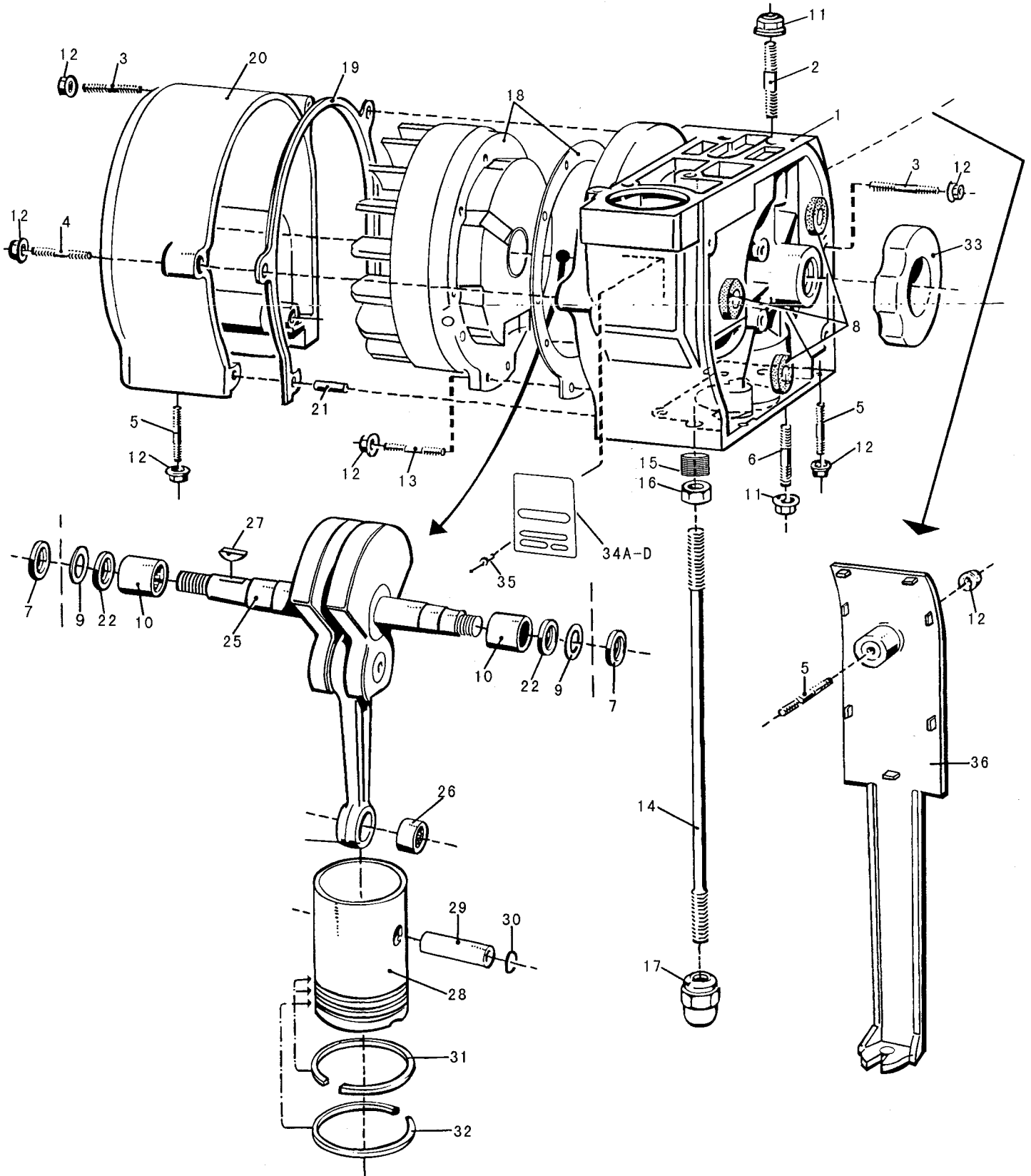
YN27 · 27C · 27T

Serial No.	Part No.	Part Name	Quantity
1	YN30—05.2	Upper ring for hammer piston	2
2	YN27C—01.1	Hammer piston	1
3	YN30—05.3	Lower ring for hammer piston	1

Cylinder and shield parts

Serial No.	Part No.	Part Name	Quantity
1	YN27C - 02.1	Cylinder	1
2	M6 × 26 GB901-88	Stud	2
3	YN30 - 03.7	Cylinder pad	1
4	YN27C - 02.4	Exhaust pipe connector	1
5	BM6 GB6187 - 86	Hexagon nut	6
6	YN27C - 02.6	Washer	1
7	YN27 - 03.5	Exhaust pipe clamp	1
8	M5 × 14 GB5789 - 86	Round head inner hexagonal screw	10
9	YN27C - 02.9	Blow valve seat	1
10	5 × 12 GB119 - 86	Round pin	2
11	YN27C - 02.11	Conical spring	2
12	YN27C - 02.12	Valve plate	2
13	YN30 - 03.5	Road pin	1
14	YN27C - 02.14.1	Rubber pipe	1
15	YN27C - 02.16	Intake valve seat	1
17	YN27C - 12.17	Suction duct	1
18	YN27C - 02.18	Vent pipe clamp	1
19		Spark plug	1
20	YN27C - 02.20	Cleaning needle	1
21	YN27C - 02.21	Air inlet valve	1
22	YN27C - 02.22	Shield	1
23	YN27 - 04.5	Handle	1
24	YN27 - 04.1a	Handle	1
25	M6 × 20 GB5787 - 86	Hexagonal nut	1
26	YN27 - 04.4	Alignment sleeve	2
27	YN27 - 04.3	Shield paper pad	1

Crankshaft case and crankshaft parts:



Crankshaft case and crankshaft parts:

Serial No.	Part No.	Part Name	Quantity
1	YN27C - 03.1	Crankshaft case	1
2	AM8 × 50 GB900 - 88	Finished stud	3
3	AM6 × 18 GB900 - 88	Finished stud	2
4	AM6 × 36 GB900 - 88	Finished stud	2
5	AM6 × 20 GB900 - 88	Finished stud	3
6	AM8 × 22 GB900 - 88	Finished stud	4
7	YN27C - 03.25	Seal ring	2
8	YN27 - 06.18	Washer	3
9	30GB893-86	Spring retainer	2
10	YN27C - 03.23	Needle Bearing	2
11	M8 GB6187 - 86	Hexagonal thick nut	7
12	M6 GB6187 - 86	Hexagonal thick nut	18
13	AM6 × 14 GB900 - 88	Finished stud	10
14	YN27C - 03.14	Screw lever	2
15	YN30 - 06.13 YN27C - 03.15	Spring washer	2
16	M12×1.25 M12×1.5 GB6170-86	Hexagonal thick nut	2
17	YN27C - 03.17	Prevailing torque type hexagon nut with nylon insert	2
18	YN27C - 04.1	Flywheel and Magneto bed plate parts	1
19	YN27 - 06.3	Cover pad	1
20	YN27 - 06.1.1	Cover for crankshaft case	1
21	B6 × 16 GB119	Round pin	1
22	YN27C - 03.9	Pad	2
25	YN27C - 03.26	Crankshaft and connecting rod part	1
26	7947/15	Needle bearing	1
27	4 × 6 GB1099 - 79	Key	1
28	YN30 - 07.8	Piston	1
29	YN30 - 07.3	Piston pin	1
30	YN30 - 07.2	Spring retainer	2
31	YN30 - 07.4	Lower ring of engine piston	2
32	YN30 - 07.5	Upper ring of engine piston	1
33	YN27C - 03.34	Spongy washer	
34	YN27 - 06.4 YN27C - 03.35	Name plate	1
35	2 × 6 GB827	Pivot	4
36	YN27 - 06.12	Rubber pad	1

Starter and gasoline tank parts

