OPERATION MANUAL

1/2”-2” ELECTRIC PIPE THREADING MACHINE

Catalogue

I. Instruction

This machine is suitable for threading & cutting & beveling various of water, electricity and gas pipes with size of 1/2”-2”. It is compact design, easy operation and high efficiency. Because with device of automatic threading & cutting taper thread of standard pipe, good clamping device and advanced cooling lubricant system, working life could be prolonged, pipe could be installed stably without deforming, as a result, machine could make high quality taper thread.

This machine could be widely used in equipment installation and construction industries and is an ideal equipment for improving efficiency, shortening process of construction, ensuring construction quality and decreasing manpower workload.

II. Main Specifications and Parameters

1. Capacity: 1/2”-2”
2. Applicable Threader Standard: BSPT / NPT
3. Die: 1/2”-3/4” one set

   1”-2” one set

   Rockwell Hardness: HRC58-62
4. Die Head: 1/2”-2” Automatic Die Head one set
5. Motor: YL8032, 17A, 2800RPM
6. Rotation Speed of axis: 28 RPM

7. Output Power: 1300W

8. Max. Chuck Capacity: 63mm

9. Sledge Stroke: 120mm

10. Oil Feeder: gerotor oil pump, constant oil flow

11. Net Weight: 65Kg

12. Overall Dimensions: 600*400*420mm(without tubular supporters)

III. Special Safety Requirement

1. Keep the working site clean and bright(illumination condition 600lux) as disorder and darkness may cause accidents.

2. To avoid electric shock, do not expose the machine in the rain or operate it in moist workshop to avoid electric shock.

3. Operators should wear tight clothing, operators should remove gloves, jewelry, watch or likewise and should not loosen long hair.

4. When the threading machine (including its accessories) is installed in the working site, use the 30mA leakage resistance switch.

5. The following is forbidden when the machine is running:

---Touching or grabbing the workpieces.

---Replacing or removing components (pipe accessories, valve or pipes etc.)

---Cutting or sawing pipes by hand tools

6. If the dangerous areas in the machine or its workpieces can not be examined closely, the spinning workpieces or the dangerous areas should be protected.

The protective devices must be reliably and stably placed. The supporting devices must be stable if they are used. Installing 3 pcs of tubular supporters and adjusting screws can ensure height and stability.

7. Keep children away when the machine is running, they are forbidden to operate the machine or drag the cable and wires.

8. Avoid overload operation; the unsuitable accessories, overload operation and blunt or damaged screwing die must not be used for fear that the machine would be damaged.

9. Extending too long pipes to operate the machine is forbidden. Keep this machine be balanced and stable all the time. Calculate the danger caused by suddenly-broken workpieces(based on the length of the workpieces, the section, the material and the rotate speed) and use enough supports to avoid danger.

10. Maintain this machine with care, lubricate the machine and replace the accessories according to the instruction of this manual operation to make the operation safer. Check the cables of the machine regularly . If there is any danger, it must be repaired by technician immediately. Keep various handles clean and tidy all the time. Keep them free of oil pollution.

11. Turn power off. Pull the attaching plug out when the machine is not in use.

12. Starting the motor carelessly is forbidden, make sure the switch is at the position of “off” before the plug is connected with the machine.

13. Do not operate the machine when the operator is tired, or if he has used any drugs.

14. Check the damaged spare parts, check any cutting tools and parts carefully before using them, and see if they are in normal working condition and function. Any damaged parts must be repaired and replaced by professional technicians.

15. Operation is forbidden when any switch can t be properly turned on or off.

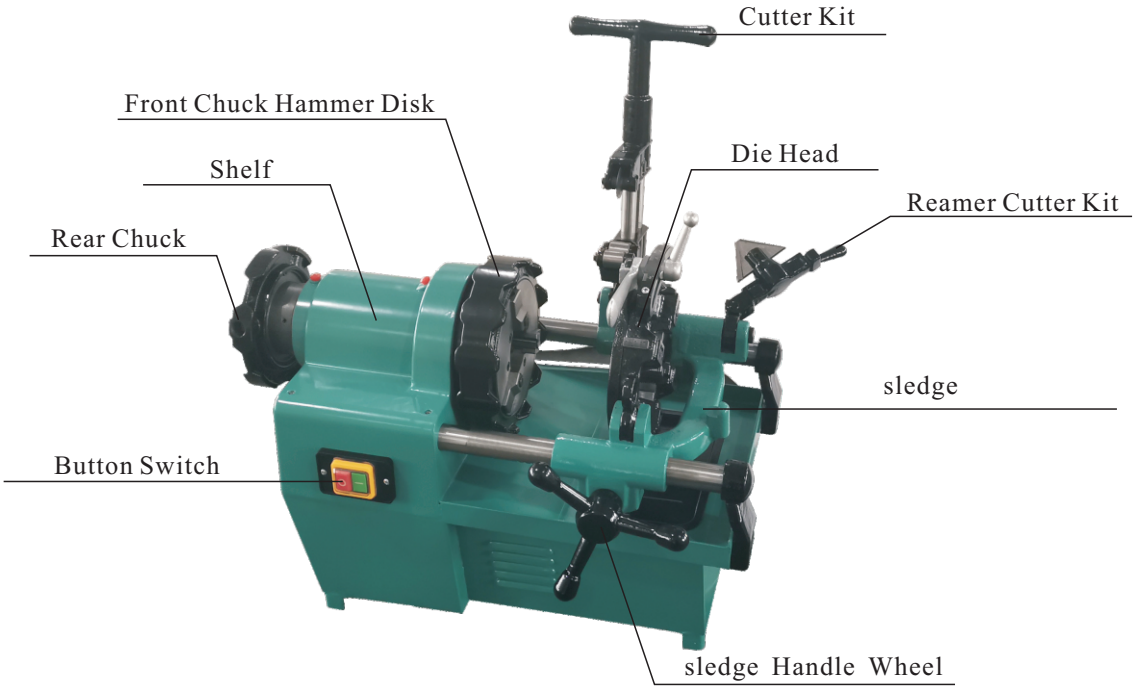
16. Replacing parts and accessories: use the parts of SHIDA Electric pipe threading machine for safety and proper operation.

IV. Machine Structure

Main parts of this machine is made of high-strength aluminum alloy and high-quality cast iron, as a results, machine is lighter and high strength.Outside structure please refer to below drawing.

Die Head, Reamer Cutter Kit and Cutter Kit are all installed on sledge of machine, and sledge could be moved longitudinally.

Electrical motor, Gearbox and cooling oil pump are set inside of machine body.



V. Operation

1. Unpacking:

When unpack the case, check if the following accessories are enclosed

① One barrier of cutting oil (2.5L)

② One set of Threading Die (4 pcs each set).

③ Three pieces of tubular supporters.

④ Tools (one set of Hexagon Inner Spanner/ 1 Screw Driver/ 1 wrench)

⑤ Dope Can

2. Transportation:

Fix the Die Head at the position of threading, and open all dies thoroughly, put a short pipe in Front Chuck tightly, and put Cutter Kit on the pipe, and also Reamer Cutter Kit is fixed on the position of reaming, hence machine could be transported.

3. Installation:

① Put all accessories aside and install 3 pcs of tubular supporters into the hole at the bottom of machine.

② Fasten it with screws safely and reliably.

③ When install the machine, length of 3 pcs of tubular supporters should be adjusted to ensure that Rear Chuck is a little higher than Front Chuck. And the pipe put in the Front Chuck have to be removed, and re-put when next transportation.

4. Operation

4.1. Preparation for Threading

① Replacing Die

a. There are two sets of Dies, each of which threads different pipes, as below:

Pipe	Die
1/2 -3/4	1/2 -3/4 11.5 threads/inch
1 -2	1 -2 11.5 threads/inch

Choose a set of that matches the diameter of pipe. There are two groups of figures on each die, one of which represents its specification, the other represents the assemble sequential numbers, such as 1,2,3,4.

b. Remove the Die Head from sledge(Fig. 1), loosen the nut of handle, and turn the curve plate around to the maximal position of the scale.

c. Put the selected Dies into die grooves according to their sequential numbers, and its lock notch will fit curve plate. Then pull the curve plate until the Scale Indicator of the curve plate points at the scale on the ruler of the job. Then the die is fixed.

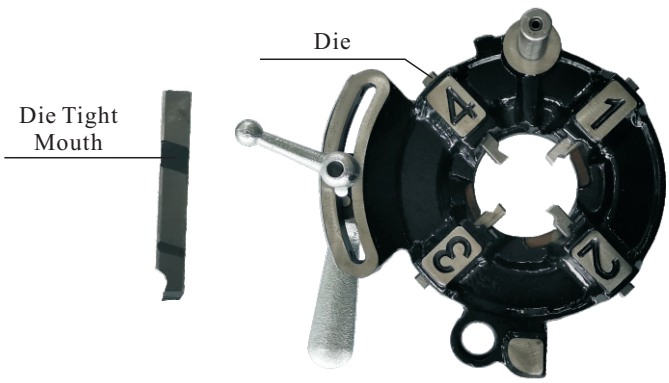


Fig.1

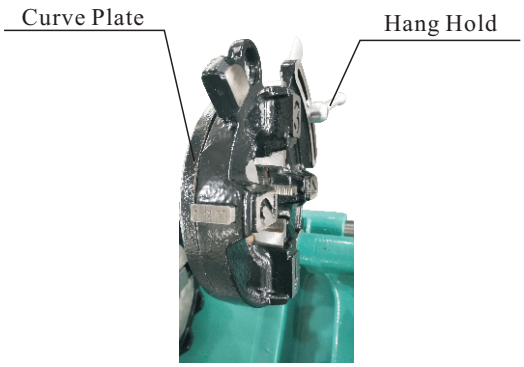


Fig. 2

d. Place the assembled Die Head on the Sledge.

②**Checking cutting oil**

a. Check whether there is enough cutting oil in the tank.

b. Add oil when needed through the oil filling opening.

c. Cutting oil will overflow over the Die Head after the machine runs.

Note: use cutting oil only to ensure to produce high-quality threads.

③**Threading Operation**

a. Any operation requiring non-rotating condition should be done only when the machine stops running.

b. Loosen Front & Rear Chuck.

c. Hold the pipe by hand, tighten the Rear Chuck firstly, then tighten the Front Chuck to fix the pipe, then beat the Hammer Disk in counter clockwise to be tight, hence the pipe is clamped well(Fig.3).

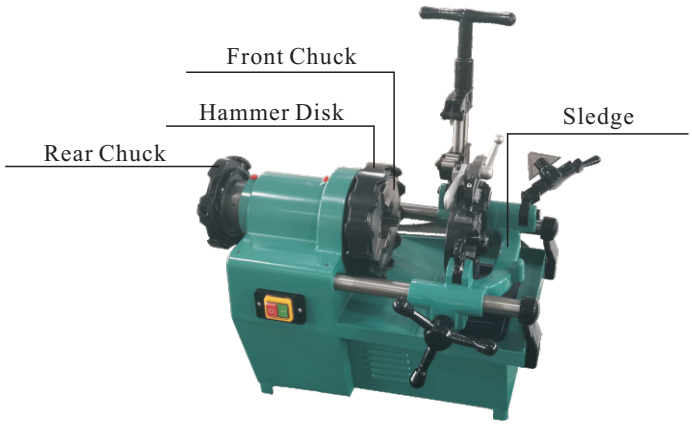


Fig.3

d. If pipe could not reach the Rear Chuck when threads short pipe, to loose little the Front Chuck, put short pipe in and make it touch the Die, which is good for ensuring the pipe is in the central position when tighten the Front Chuck. Pls refer to the Fig.4.

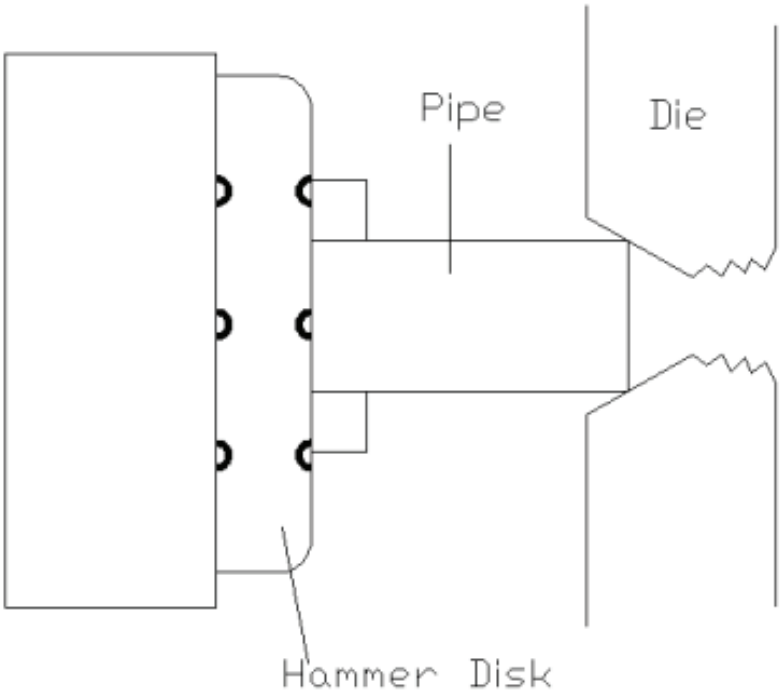


Fig.4

e. Pull up the Cutter Kit and Reamer Cutter Kit, push down the Die Head,make it touch the profiling board, and lock it tight with locking pin, turn the sledge handle to let the Die Head join the pipe.

f. The pipe must rotate in counter clockwise.

g. Apply force on the sledge handle wheel until 3-4 threads are made on the pipe.

h. Stop applying force. The machine begins to thread automatically until the roller of Die Head passes the Profiling Board and falls down.

i. Stop the machine and quit the Die Head to the right unused position.

j. Loosen the Front and Rear Chucks clockwise, and remove the pipe from Rear Chuck.

④ **Cutting the pipe**

a. Pull up Die Head and Reamer Cutter Kit, make Front Chuck and Rear Chuck fasten pipe well.

b. Push down the Cutter Kit, and rotate the handle to open the cutter frame to let the cutting wheel touch the pipe.

c. Rotate sledge handle to move the cutter kit to cutting position(See Fig.5).

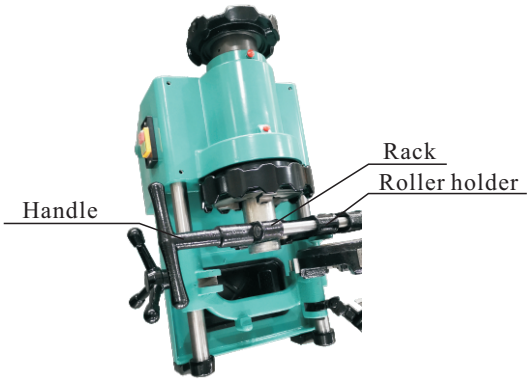


Fig.5

d. Rotate the handle to move the cutter wheel to touch the pipe.

e. Start the machine. Make the cutting wheel cut into the pipe. Cut about 0.15-0.25mm for one turn of the pipe, i.e. for each turn of the basic shaft the handle forwards about 1/10 turn. Quit the cutter wheel and pull up the Cutter Kit to its un-working position after cutting.

Caution: Cut with moderate speed and force to avoid distortion of pipe and damage to the wheel.

⑤ **Inner Wall Beveling**

a. Pull up the Die Head and Cutter Kit and push down the Reamer Cutter Kit, make the Front Chuck and Rear Chuck fasten the pipe well.

b. Start the machine. Rotate the sledge handle wheel and drive the Reamer Cutter Kit to the inside of pipe(See Fig.6)

Fig.6

c. Stop the machine after beveling, and move the Reamer Cutter Kit to its un-working position.

VI. Maintenance

1. Turn the master switch to the position of OFF , or unplug the power when machine is checked and maintained.

2. Shell of machine is cast with a whole piece of aluminum alloy, its reduction gearbox keeps lubricating permanently. Do not impact the shell violently.

3. Cooling oil system: clean the oil filter disk and oil suction filter disk after running for 8-12 hours. Clean the oil tank and refill it if the oil inside is dirty or turns black.

4. Small iron filings may fall into the oil tank when threading, it is therefore essential to clean the filter disk once a week to keep the machine in order.

5. Check the cutter wheel each once a week, replace it when it is blunt.

6. Check the attrition of the Chuck Jaw Inserts once a month. If the Chuck Jaw Inserts are worn, replace them(three each set) to ensure to produce threads of

high quality.

7. Clean Die Head and Die every shift. Check if the teeth of Die are broken, if they are, remove the cuttings between teeth; if the Die has already been broken, replace a set of Die instead of the broken one.

8. There are two oil cups on the shell of main shaft, oil at least twice each shift to be lubricated the fore and rear bearing.

9. Unplug the power when the machine is not in use, coat corrosion resistant oil on both fore and rear guideposts and other working surface. Store it in dry ventilated place.

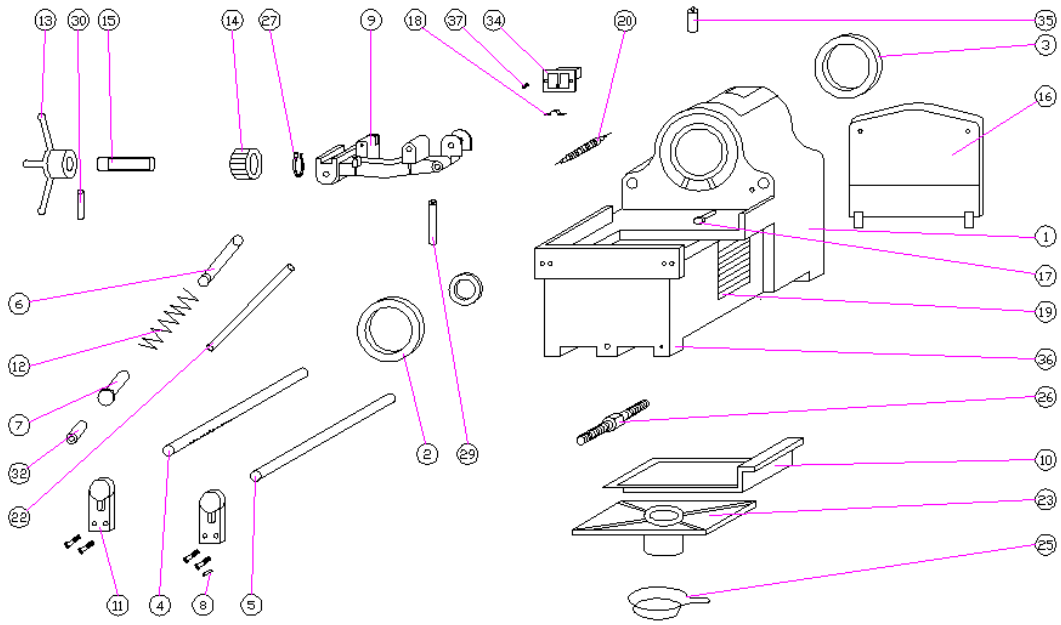
VII. Problem and Remedy

Problem	Cause	Remedy
The motor doesn't run or makes breaking sounds when running	The fuse is blown	Replace the fuse
	A poor power contact	Replace the plug wire
	The insider of the cable is broken	Locate the point broken with multimeter
	Electric capacity is broken down	Replace the electric capacity
The pipe can't be fastened or it slips when threading	Less forceful stroke	Hammer with force
	The chuck jaw insert is upside-down	Adjust the chuck jaw insert
	One of chuck jaw inserts is broken or notch-edged	Replace the chuck jaw inserts
The cutting knife can't cut	The point of cutting knife is worn-out and not sharp	Replace the blade
	The pin roll of cutter knife is worn down	Replace the pin roll
	Apply less force when starting cut	Cut with force
The cutting knife doesn't work when threading	The knife doesn't open widely when starting to thread	Use the knife properly
	A few teeth of the cutter head are broken	Replace the knife
	The type and size of the knife is not suitable	Reinstall the knife
	There are iron filings in the groove	Clean the Die Head
The Front Chuck	M6 bolts are loose for long-term use	Check at all times

body is loose		
The main shaft heats up	Lack of oil	Oil regularly
		Remove the beam barrel and scratch the shaft
The cooling oil can not be sufficiently provided	The oil circuit is blocked	Clean the oil circuit
	The oil hole is not installed properly after the fulcrum shaft of the Die Head is removed	Reinstall it
	The oil in oil pump has leaked out	Fill some cooling oil in the oil pump
The cooling oil leaks into the motor	The oil seal of the oil pump PD8x22x8 has been damaged	Replace the oil seal
The threads are deflected	The pipe is curved too much or out of round	Select appropriate pipe
	The long pipe isn't supported by support	Equip with supporter
	There is extra substance in the chuck jaw insert	Remove extra substance
	One of the chuck jaw insert is broken or notch-edged	Replace the chuck jaw insert
The threads are shapeless and the threads are thin instead of thick	The rigidity of the pipe is slightly higher	Select appropriate pipe
	The outer diameter of pipe is too bigger	Select appropriate pipe
	The cutting edge of pipe is out of vertical	Machining it vertical
	The carriage moved hard	Find out the reason and modify
	The order of Die doesn't match the groove	Correct the order of Dies
	The gap of Die Head is too wide	Repair or replace the Die Head
The surface of threads is not perfect	Process with high speed	Process with low speed
	The dies are blunt	Change the die
	The oil isn't infused	Use cutting oil

VIII. Section Drawing of Main Parts

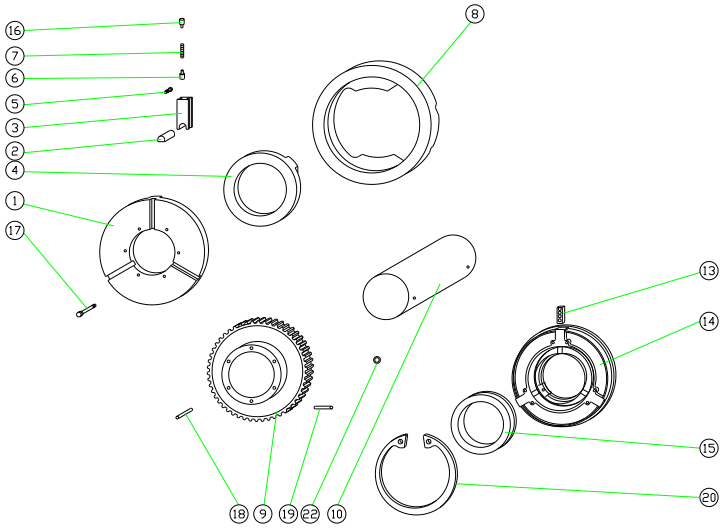
1. 20100 Body of Machine



Item	Code	Name	Qty	Remark
1	20101	Head stock	1	−0101
2	20102	Front bearing	1	−0113
3	20103	Rear bearing	1	−0111
4	20104	Front guide post	1	−0115
5	20105	Back guide post	1	−0116
6	20106	Lock stem	1	−0117
7	20107	Bolt sleeve	1	−0119
8	20108	Oil tube spring clamp		−0108
9	20109	Sledge	1	−0107
10	20110	Chip pan	1	−0122
11	20111	Guide post supporter	2	−0111
12	20112	Shifter reverse spring	1	−0118
13	20113	Sledge handle	1	−0103
14	20114	Gear	1	−0104
15	20115	Handle mandrel	1	−0105
16	20116	Rear cover plate	1	−0116
17	20117	Cable cover	1	−0110
18	20118	Cable clamp	1	−0127
19	20119	ventilation cowl (only for R2B)	2	−0128
20	20120	Assembly parts of gate gurgle valve	1	−0109

22	20122	Tubular supporter	3	−0126
23	20123	Filter plate(only R2B)	1	−0124
25	20125	Oil-filter	1	−0125
26	20126	Oil pipe connection	1	−0126
27	20127	Φ19 circlip		
29	20129	Overflow pipe	1	−0108
30	20130	Column pin Φ6x35	1	GB119－86
32	20132	Pull knob M6X10	1	
34	20134	Button switch	1	$K_{AO}-5$
35	20135	Oil cup	2	
36	20136	Drain plug G1/2 "	1	GB827－70
37	20137	Slotted cap screw M4X40	1	GB67－85

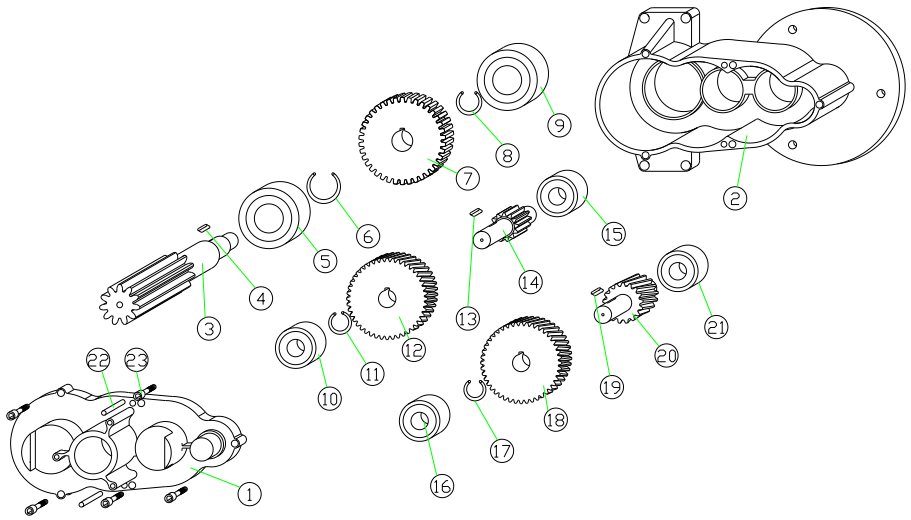
2. 20200 / 20222 Front Chuck/ Rear Chuck



Item	Code	Name	Qty	Remark
1	20201	Chuck plate	1	−0210
2	20202	Chuck jaw inserts	3	−0203
3	20203	Chuck haws	3	−0202
4	20204	Big screw caliper	1	−0207
5	20205	Supporting screw	3	−0206
6	20206	Stock foot	3	−0204
7	20207	Spring	3	−0205

8	20208	Hammer disk	1	–0208
9	20209	Big gear	1	–0209
10	20210	Hollow spindle	1	–0210
13	20213	Rear chuck jaw	3	–0213
14	20214	Back plate of rear chuck	1	–0214
15	20215	Small screw caliper	1	–0212
16	20216	Hex. socket screw M6X15	3	GB70－85
17	20217	Hex. socket screw M6X55	6	GB70－85
18	20218	Column pin Φ6X25	3	GB119－86
19	20219	Hex. socket screw M8X20	3	GB70－85
20	20220	Φ120 circlip	1	

3. 20300 Gearbox kit/ 80801 Oil pump kit



Item	Code	Name	Qty	Remark
1	20301	Cover	1	–0301
2	20302	Body	1	–0302
3	20303	Output shaft	1	–0303
4	20304	Flat key 5X12	1	GB1096－79
5	20305	Bearing 6205	1	GB276－64
6	20306	Anti-extrusion ring	1	GB894－86
7	20307	Output gear	1	–0304
8	20308	Anti-extrusion ring	1	GB894－86

9	20309	Bearing 6202	1	GB276－64
10	20310	Bearing 6002	1	GB276－64
11	20311	Anti-extrusion ring	1	GB894－86
12	20312	Low-speed gear	1	－0305
13	20313	Flat key 5X10	1	GB1096－79
14	20314	Low-speed gear spindle	1	－0306
15	20315	Bearing 6002	1	GB276－64
16	20316	Bearing 6002	1	GB276－64
17	20317	Anti-extrusion ring	1	GB894－86
18	20318	High-speed gear	1	－0307
19	20319	Flat key 5X10	1	GB1096－79
20	20320	High-speed gear spindle	1	－0308
21	20321	Bearing 6002	1	GB276－64
22	20322	Splint pin	2	GB119－86
23	20323	Hex. Socket screw M5X16	5	GB70－85
24	20324	Hex. Socket screw M4X16	3	GB70－85
25	80801	Oil pump kit	1	Z3T－R4－0801