

Operator's Manual

Power Trowel



WARNING !

To reduce the risk of injury, all operators and maintenance personnel must read and understand these instructions, before operating, changing accessories, or performing maintenance on our equipment. All possible situations can not be covered in these instructions. Care must be exercised by everyone using, maintaining or working near this equipment.

I. Application

The high-efficient, easily-operated combustion trowel, are used to floating and polishing the surface of concrete with ideal effect. Floating weight, speed choice of blades and the height control handhold can produce the excellent high output.

II. Warning

1. To be safe, Notice must be set up on the spot to keep non-expert (especially for kids) from the working area 2 meters at least. In case of happening, the machine must be shut down at once.
2. Operating the trowel with level or keeping angle of inclination less then 20 degrees to stop oil running over from tank so as to it could work well.
3. Not to be injured, when it is working, please do not step on the protection cover of trowel.
4. When starting, operator must keep controlling with a safe working distance.
5. Please wear the special shoes to protect yourself when working.
6. Adding oil in airiness place and screwing down the cover tightly after finishing. Please check if the tank is leaked each time, if did, please do not start it before repairing.
7. No adding oil when engine is little hot even or it is running. Keeping oil clean and making sure oil is not too full otherwise it would be run over and jam carburetor, once oil run over please clean it before starting.

III. Inspection before starting

1. **Check the engine lubricating oil**
Screw the oil scale and clean the oil on the oil scale. Then insert the oil scale again to check the oil level. If the engine oil is low, it should be refilled to the proper position. Its volume is 0.6L.
2. **Recommendation engine lubricating oil**
Usually type SAE10W-30 lubricating oil is recommended. It is applied to normal temperature environment. If single-viscosity oil is used, please choose the viscosity in accord with the average temperature in different area.
3. **Check the bolts and screws**
Check all bolts and screws on the machine and make sure all bolts and screws are tight.
4. **Check the oil box**
Make sure it has enough oil in the box. More than 90# without lead gas must be used and 93# gas is strongly recommended without lead. The gas and engine oil mixed can not be used. Please keep the gas from dirt, water and sundries etc.

IV. Operation

1. Start

- 1.1 Turn on the engine switch.
- 1.2 Screw the fuel valve to "ON".
- 1.3 Close the choke valve. If the machine is hot or in high temperature weather, no need to close the choke valve.
- 1.4 Please also turn throttle lever handle right a little.
- 1.5 Gently pulling the handle up till feeling converse power and then immediately and rapidly pull the handle rope to start engine.
- 1.6 Notice for altitude:

In the altitude area, when the standard carburetor is applied, in that case, because of less oxygen in the air, thickness of oil too high in mixed gas cause the engine work with low efficiency and consuming oil much more than normal. Therefore carburetor with a smaller aperture should be used and idle speed of carburetor should readjust in order to improve capability of engine running efficiency. However, in this case, engine power will reduce about 3.5% on the average when the altitude of work spot is heightened about 300 meters every time.

2. Usage of trowel

- 2.1 After starting, when it is warming up, please move the handle of choke valve to "OPEN".
- 2.2 Set throttle lever right end.
- 2.3 Trowel is designed for working on the surface of watered and compacted concrete in level or in little inclination. Trowel's working principle adopted the acentric-clutch system to drive gear box. The clutch begins to drive belt to work when you change the idle speed of engine to accelerate. Controlling the rotating of trowel by the lever of accelerograph on the machine handrail is to adjust rotating of trowel.
- 2.4 Operation of trowel on watered and compaction concrete area, you should stress the handrail down to control its working direction. As operator, you should know that you stress the handrail down its working direction towards right side, handrail up, and then it is towards left. If working forward or afterward, you should use the rotated power on handrail. If you put it in order power, machine will work forwards, conversely it will be backwards.
- 2.5 Inclination of trowel will be regulated by handwheel of the top of handrail. The handwheel rotated in order will cause the angle of inclination increased. Oppositely, it will be decreased.

3. Power off

In emergency, switch could be off directly. Normally to operate it as followed

- 3.1 Put controlling lever of accelerograph to the left end.
- 3.2 Move the switch of engine to "OFF"

- 3.3 Set the oil valve on "OFF"

4. Replacing blade (the original blade will still be used by opposite site)

- 4.1 Put the trowel on the ground.
- 4.2 Screw off the bolt of fixed blade
- 4.3 Take up protection cover and install new blade, make sure the fixed blade bolt tightened.

V. Specifications

Power Trowel HGM100

Model	HGM100H	HGM100R	HGM100B	HGM100L
Engine	Petrol, Honda GX160	Petrol, Robin EY20	Petrol, Briggs&Stratton	Petrol, Loncin
Power(hp)	5.5(4.0kw)	3.7(4.0kw)	6.5(4.8kw)	5.5(4.0kw)
Weight (kg)	97	98	98	97
Rotary Speed (rpm)	70-140			
Qty Blades	4			
Rotary Diameter (cm)	90(36in)			
Pan Diameter(cm)	100(39in)			

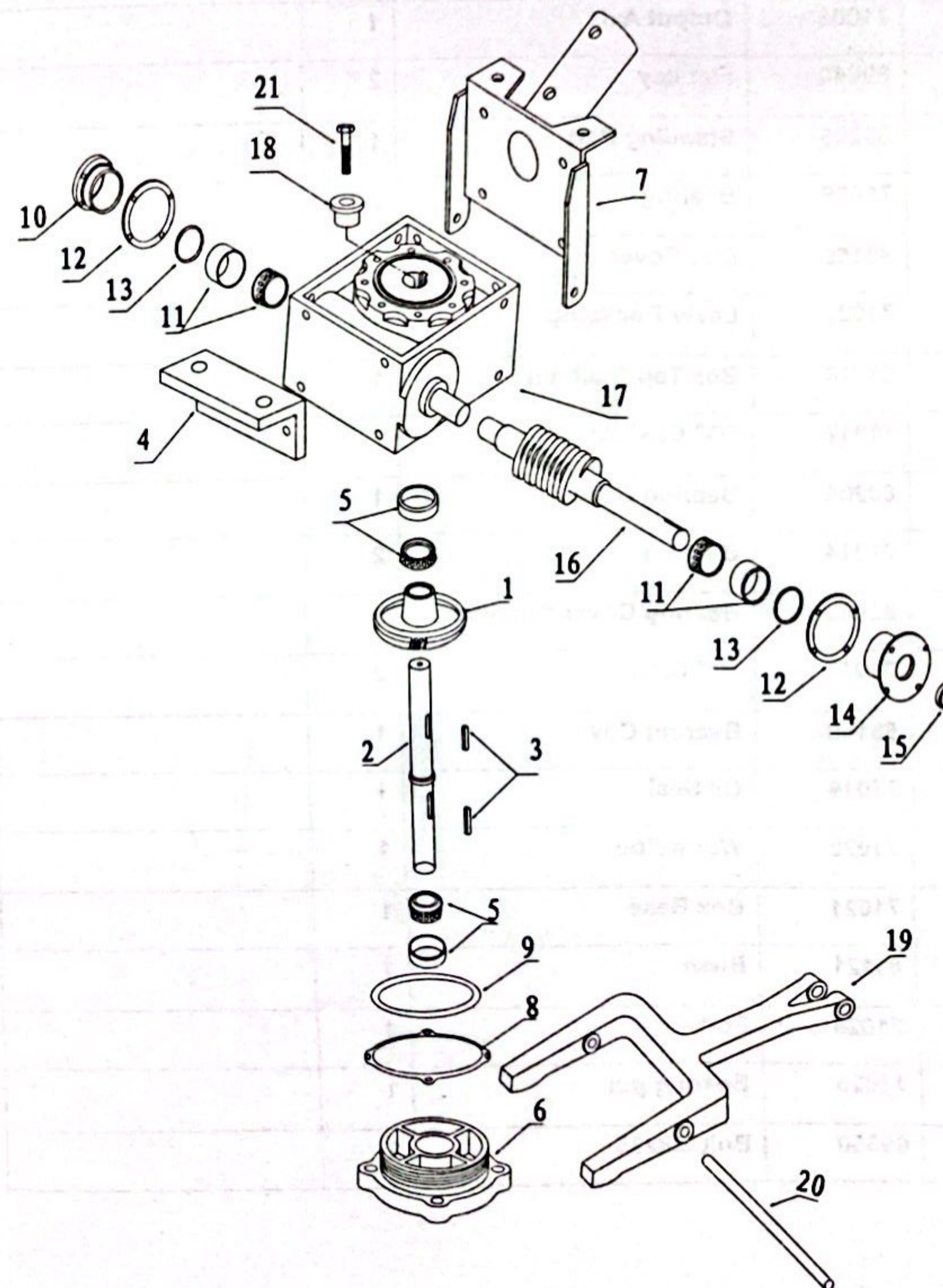
VI. Malfunction list and correction

1.Unable to, hard to start the engine or disorderliness of the engine			
Reason	No oil in oil box	Solve	Examine the oil level and fill with enough oil
	Not switch on the engine		Switch on
	Not open the oil valve		Oil valve ON
	Oil filter is blocked or dirty		Clean the oil filter
	Air Filter is blocked		Clean the air Filter
	No oil in carburetor		Loose the carburetor bolt and switch ON the oil valve to check
	Oil supply is not smooth in carburetor		Clean the carburetor
	Starter is damaged		Repair it

	Spark plug is not fired	Pull out the spark plug cap, clear up the dust and discharge the spark plug. Its edge is close to the engine, pull the starter to see if there is fire in the gap, and exchange it if no fire.
	Piston and drain tap is wearing	Exchange them
2. Trowel can't work in full speed or troweling effect is not good		
Reason	Oil valve control arm is not completely pushed	Open it to the max position
	Ground is too wet, the earth pastes on the base plate	Dry the earth before compacting
	Belt is loose or broken	Exchange or adjust the belt
	Wear abrasion of the clutch	Repairing or change
	No enough lubrication on the bearing of eccentric block	Refill or exchange the eccentric block lubrication
3. Engine is started but TROWEL can't well.		
Reason	Engine oil valve isn't open	Open it
	Belt is loose or broken	Adjust or exchange it
	Engine rotate speed is too slow	Check the engine rotate speed
	Clutch is damaged	Repair or exchange it
	Too much lubrication in eccentric block	Adjust the lubrication to the proper level
	Malfunction of eccentric block	Repair it

VII. Parts list

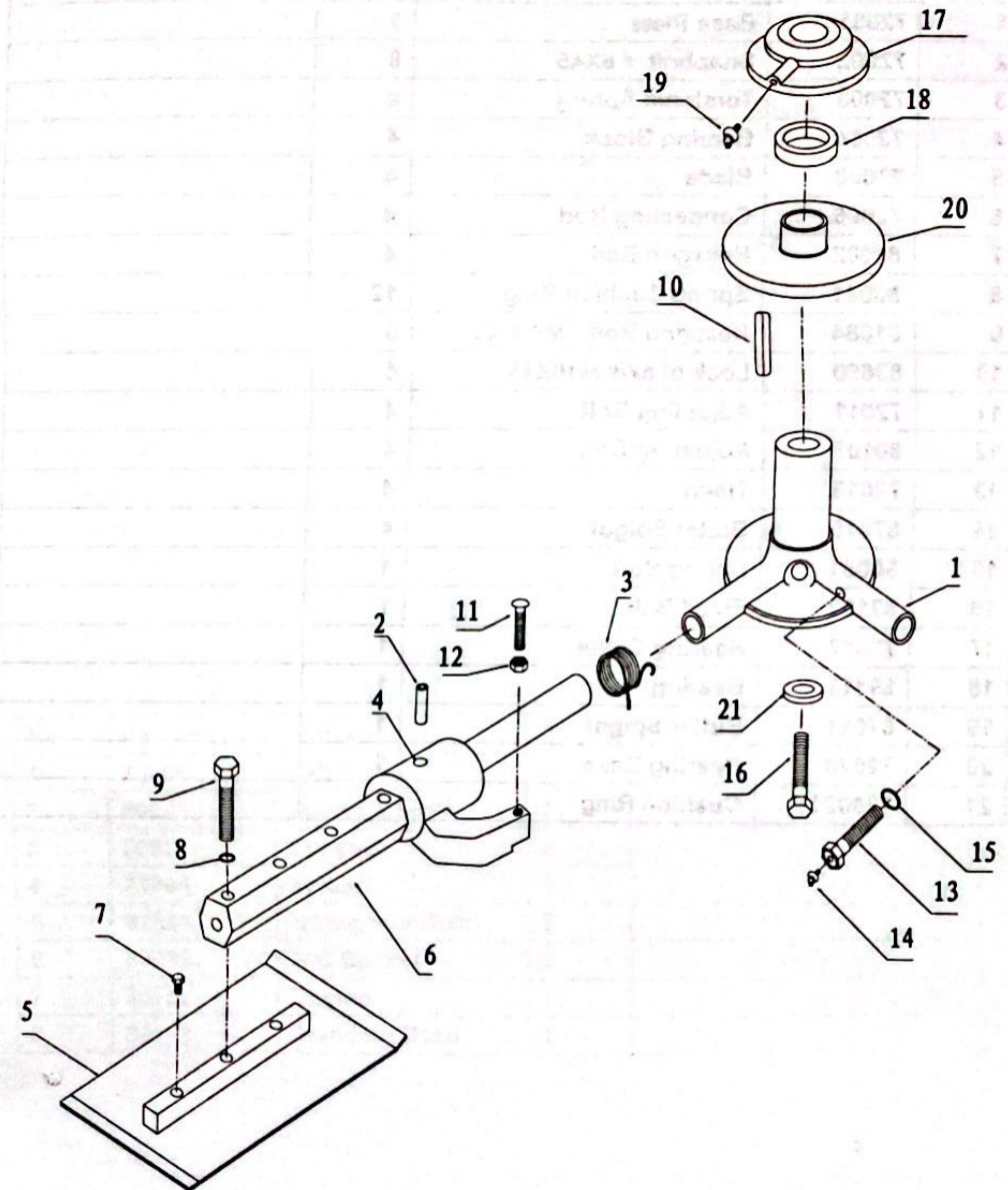
1. Composition of a picture of worm wheel installation



Code of worm wheel box parts

No.	Parts No.	Name	Qty	Remark
1	71001	Worm Wheel	1	
2	71003	Output Axis	1	
3	89640	Flat key	2	
4	89206	Standing Part	1	
5	71006	Bearing	2	
6	88150	Box Cover	1	
7	71008	Lever Backstop	1	
8	88014	Box Top Cushion	1	
9	71012	"O" Cushion	1	
10	89204	Bearing Cover	1	
11	71014	Bearing	2	
12	88058	Bearing Cover Cushion	2	
13	71017	"O" Ring	2	
14	88140	Bearing Cover	1	
15	71019	Oil Seal	1	
16	71020	Worm Rod	1	
17	71021	Box Base	1	
18	81121	Bush	1	
19	71024	Fork	1	
20	71025	Bearing pin	1	
21	89650	Bolt M8x35	1	

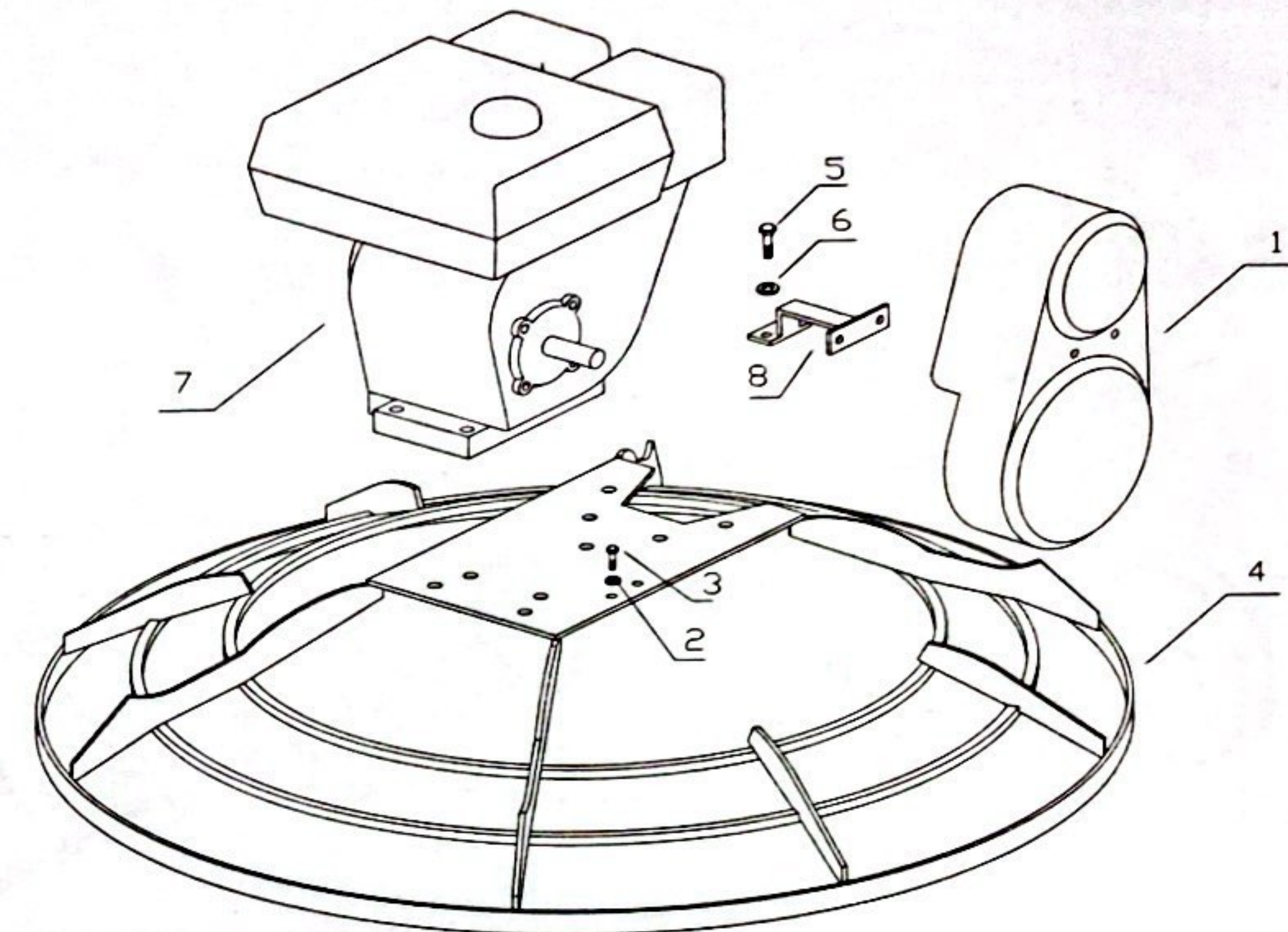
2. The Picture of Base plate and Blade Installation



Base plate and blade parts code list

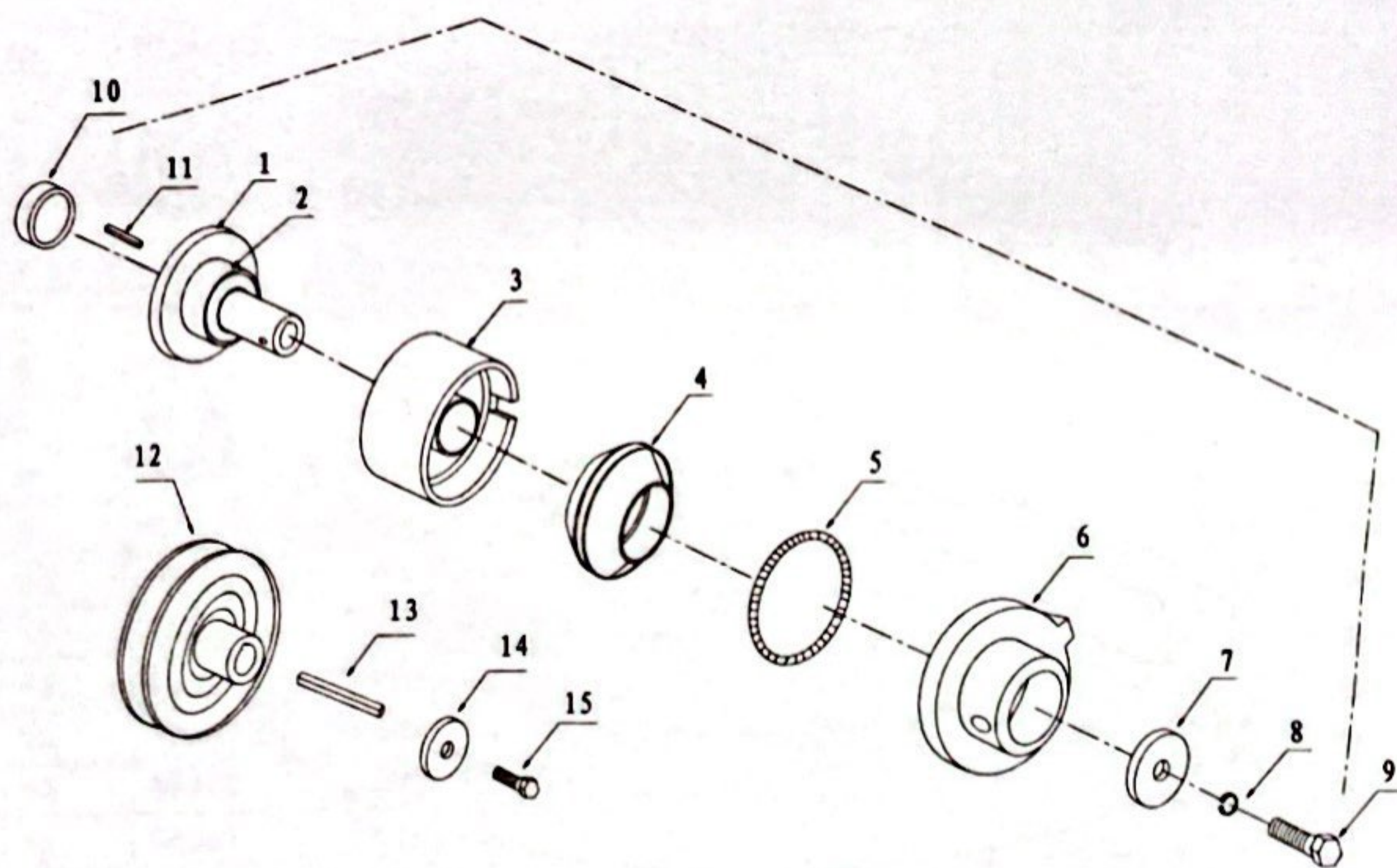
No.	Parts no.	Name	Qty	Remarks
1	72001	Base Plate	1	
2	72002	Snapbolt ϕ 6X45	8	
3	72003	Torsional Spring	4	
4	72004	Bearing Block	4	
5	77000	Blade	4	
6	72006	Connecting Rod	4	
7	81082	Hexagon Bolt	4	
8	80081	Spring Cushion Ring	12	
9	81084	Hexagon Bolt M8 X 45	8	
10	89650	Lock of axis M10X45	4	
11	72011	Adjusting Bolt	4	
12	80107	Adjusting Bolt	4	
13	72013	Tie-In	4	
14	87010	Butter Spigot	4	
15	80081	Spring Bolt	1	
16	82102	Fixed Bolt	1	
17	72017	Bearing Cover	1	
18	89113	Bearing	1	
19	87011	Butter Spigot	1	
20	72020	Bearing Base	1	
21	720021	Cushion Ring	1	

3. Sketch Map of Protection Cover Installation



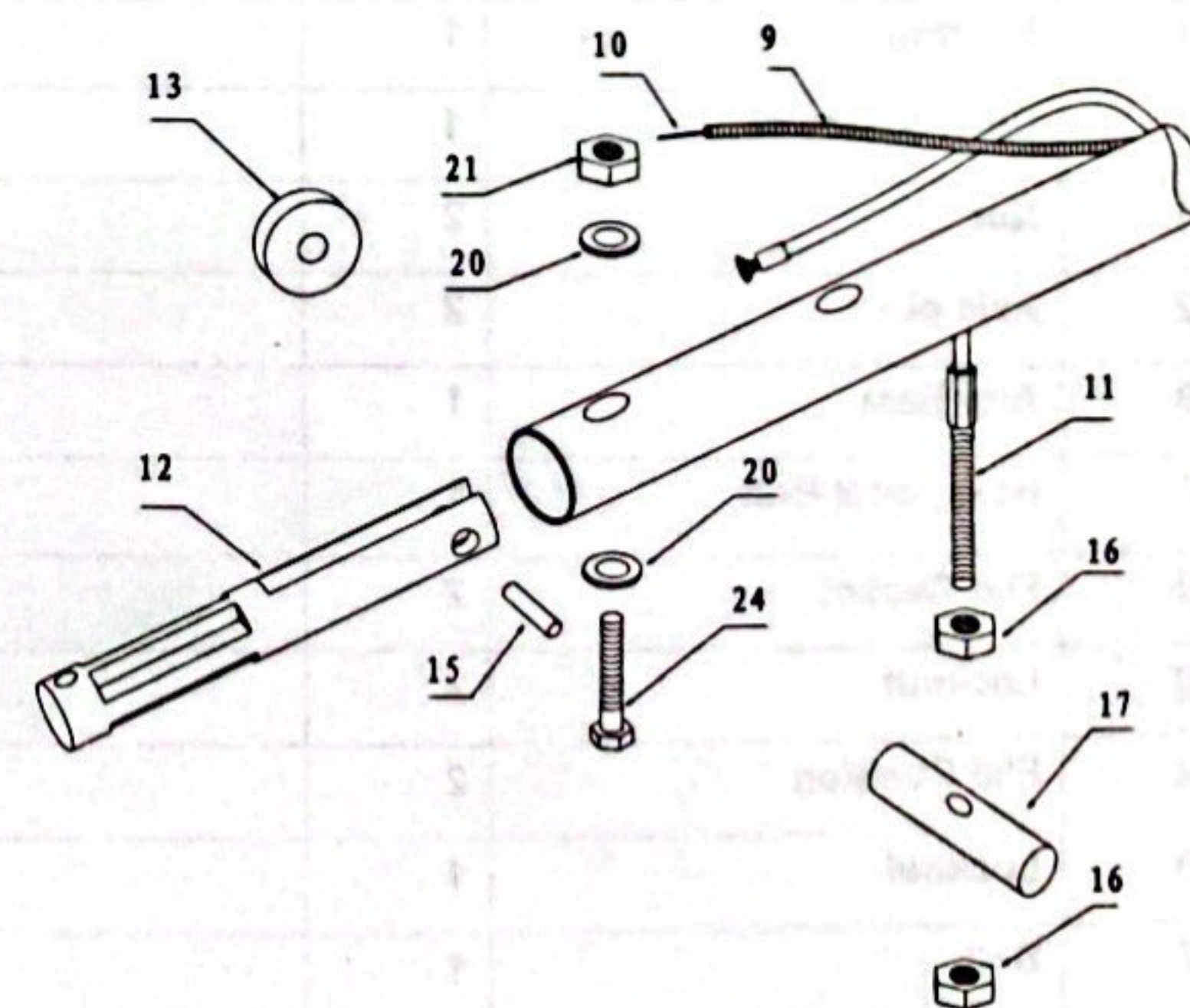
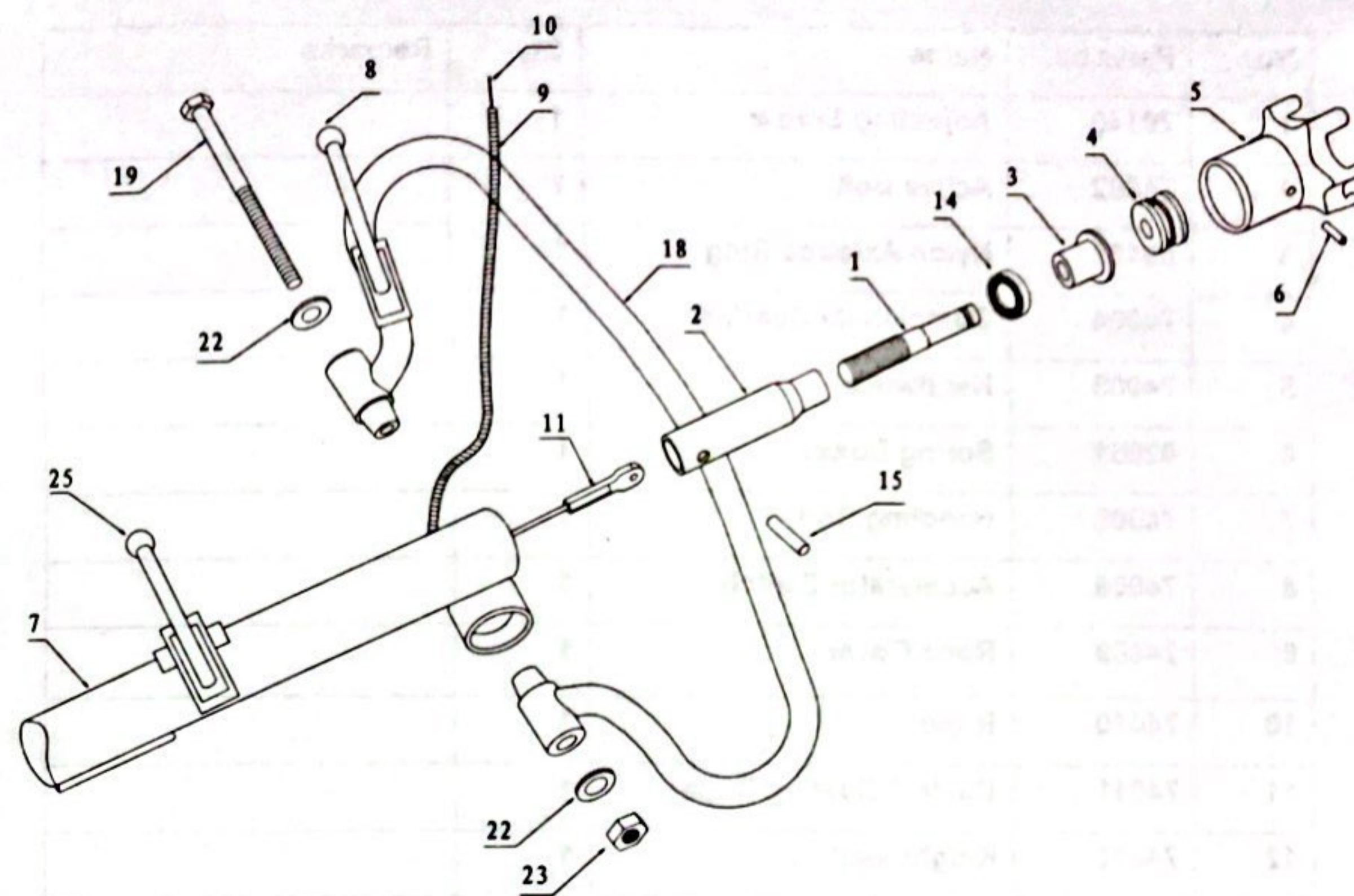
No.	Parts no.	Name	Qty	Remarks
1	73006	Belt Cover	1	
2	80081	Spring Gasket	6	
3	80083	Locknut	6	
4	73004	Shield	1	
5	81081	Hexagonal Bolt	2	
6	80082	Flat Gasket	4	
7	80160	Engine	1	
8	80162	Standing Base	1	

4. The Picture of Clutch Parts and Parts list



No.	Parts no.	Name	Qty	Remarks
1	75001	Core axis	1	
2	89107	Bearing	1	
3	75004	Clutch belt wheel	1	
4	75005	Attrition Block	1	
5	75006	Pulling Spring	1	
6	75007	Block Ring	1	
7	82103	Gasket	1	
8	75000	Gasket	1	
9	14016	Bolt M8X30	1	
10	80081	Bush	2	
11	81083	Lock of axis	1	
12	75008	Strap Wheel	1	
13	89641	Flat key	1	
14	76016	Cushion Ring	1	
15	89625	Bolt M8X30	1	

5. The Installation Draw of Control Lever



Control Lever Parts Code

No.	Parts no.	Name	Qty	Remarks
1	70140	Adjusting Screw	1	
2	74002	Active Bolt	1	
3	89104	Nylon Axletree Ring	1	
4	74004	Complanate Bearing	1	
5	74005	Handwheel	1	
6	82061	Spring Dowel	1	
7	74006	Handling Rod	1	
8	74008	Accelerator Switch	1	
9	74009	Rope Cover	1	
10	74010	Rope	1	
11	74011	Blade Adjusting Rope	1	
12	74012	Knighthead	1	
13	74013	Pulley	1	
14	89631	Bearing	1	
15	89630	Column Dowel	1	
16	80051	Nut	2	
17	81052	Axis pin	2	
18	74019	Arm Rest	1	
19	81102	Hexagonal Bolt	1	
20	80102	Flat Gasket	2	
21	80103	Locknut	2	
22	80052	Flat Cushion	2	
23	74029	Locknut	1	
24	81107	Bolt	1	
25	74025	Switch	1	