AOTAI MACHINE MANUFACTURING CO.,LTD

ISY/SDC/TCM

PIPE BEVELING MACHINE

INSTRUCTION

◎Read the instruction thoroughly before operation

◎Keep it well for future referring

CE

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TABLE OF CONTENTS

◆SECTION 1……1
PRELOGUE……1
◆SECTION 2……1
SAFETY INSTRUCTIONS……1
◆SECTION 3……4
MACHINE SPECIFICATIONS……4
3.1 WORKING PRINCIPLE……4
3.2 APPLICATION RANGE……4
3.3 USING FEATURES……4
3.3.1QUICK SET UP……4
3.3.2 EASY OPERATION……4
3.3.3 UNIQUE FUNCTIONS……4
3.4 PACKAGE DETAILS……4
◆SECTION 4……5
TECHNICAL SPCIFICATONS……5
4.1 T–TYPE ELECTRIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER……5
4.2 T–TYPE PNEUMATIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER……5
4.3 Y–TYPE ELECTRIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER……6
4.4 Y–TYPE PNEUMATIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER……6
4.5 II–TYPE ELECTRIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER……7
4.6 II–TYPE PNEUMATIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER……7
4.7 T TYPE SWELLING BLOCK CHART……8
4.8 Y/II TYPE SWELLING BLOCK CHART……10
4.9 TOOL BITS CHART……10

◆SECTION 5·····12
OPERATING METHOD·····12
5.1 DESCRIPTION OF SHAPE·····12
5.2 OPERATING METHOD OF T & Y–PIPE BEVELING MACHINE·····13
5.3 REPLACEMENT METHORD OF ISY–80TN WEDGE BLOCK·····14
5.4 OPERATING METHOD OF Ⅱ–PIPE BEVELING MACHINE·····15
5.5 CAUTIONS·····16
5.6 NOTES OF PNEUMATIC MOTOR·····16
◆SECTION 6·····17
TROUBLES AND SOLUTIONS·····17
◆SECTION 7·····18
PRODUCT OVERALL ASSEMBLY CHART AND ACCESSORIES DETAILS·····18
◆SECTION 8·····29
MAINTENANCE AND REPAIR·····29
◆SECTION 9·····30
ORDERING INFORMATION AND FEEDBACK·····30

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◆SECTION 1
PRELOGUE

Thanks for purchasing Aotai pipe beveling machines.
This instruction introduces the principle, instruction, function, technical specifications, delivery and installation, operation methods and safety instructions. Please read the instruction before using the equipment for correct installation and use.

◆SECTION 2
SAFETY INSTRUCTIONS

Aotai Company takes great pride in manufacturing safe, quality products with user safety apriority. Aotai Company recommends that all users comply with the following safety rules and instructions when operating our equipment. For your safety and the safety of others, read and understand these safety recommendations and operating instructions before operating.

Warning! To avoid unforeseeable environment or man causes, before operating the machines, the users should read the instruction carefully, understand the operating procedures and use range. Keep the manual clean and well for reference at any time.Regarding the safety instructions, sorted into two grades: Danger and Caution.

⚠ Danger：Danger causes if the machine is operated wrongly, probably, death or serious injury will cause.

⚠ Caution：Danger causes if the machine is operated wrongly, probably, medium or gentle injury and damage to equipment will cause.

⚠ Different cases probably cause serious result. The caution and danger notes should be obeyed strictly.

⚠ The equipment must be operated by qualified technician, who has received training about how to operate the machine.

⚠ The equipment can just be applied for corresponding design purpose.

⚠ Keep working place clean, messy working site will increase the risk of accidents.

⚠ Considering the working environment of operating, don't get the equipment wet and don't use the equipment in humid circumstance. Make the machine work in good conditon.

⚠ Don't operate the electric switch, button with wet hands for fear of electric shock .

⚠ Protect the body from injury of electric shock, and avoid touch electric parts.

⚠ Put the euqipment in dry and safe circumstance if the machine has not been used for a long time.

⚠ Wear suitable work clothes. Don't wear loose clothing and jewelry.

⚠ Keep clear of rotating parts during opeating.

⚠ Wear impact resistant eye and ear protection while operating. If much dust, wear the dustproof respirator or mask.

⚠ Don't overuse the cable. Don't pull the equipment with the cable or sintak the cable to cut off the power. The cable should be kept away from heat power, oil dirt and sharp–pointed tools. Check the cable regularly, change it if damaged and repair it if loose.

⚠ Maintain the equipment regularly. To make the machine work in good performance, keep it clean. Add oil lubricant and change parts as per operating rules.

⚠ Before maintenance or change accessories, such as Tool Bits, make sure the power plug has been pulled out.

⚠ Avoid start up the euqipment unconsciously. When plug in, don't put hands on the switch and ensure it is cut off.

⚠ Use suitable extending power board. If the equipment is used in outdoor, the power board must be restricted to the outdoor use.

⚠ Focus on operating equipment. The operator should careful about the process. If sick or tire, stop operating.

⚠ Check whether the equipment is damaged. Before using equipment, check all the parts to ensure the function of the equipment. Check the parallelism or the working parts, lockpin of the rotating parts, damage of parts and the possible influence conditions caused. The damaged parts should be repaired or replaced.

Caution: If the equipment is damaged, please stop using.

⚠ Use Aotai company original parts or accessories.

⚠ The euqipment must be repaired by professional according to safety standards.

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⚠ If use the electric motor, make sure input voltage is the same as that of nameplate.

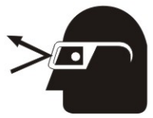
⚠ If use the pneumatic motor, check the pressure of compressed air.

⚠ Check the handle and safety pedal regularly (just for pneumatic machines).

⚠ Make sue the right way of operating euqipment.

⚠ Don't change key parts of the equpment for fear of danger or low performance.

Machine Partial Warning Sign for Machine Use.

	**CAUTION** Security of the electricity. The motor must be grounded Line and zero work
	Keep clear of rotating parts during operation. Hands and arms should be kept a minimum of 2’ away moving parts except during starting and stopping.
	**WARNING** Impact resistant eye protection must be worn while operating or working neat this tool.
	**CAUTION** Personal hearing protection is recommended when operating or working neat this tool.
	**CAUTION** Gloves are not a form of protection and should not be worn while operating machinery.

◆SECTION 3
MACHINE SPECIFICATIONS

3.1 WORKING PRINCIPLE

ISY/SDC/TCM model is driven by electric or pneumatic motor, after multilevel speed reduction of Planet Reduce, big torque is output, then drive the Cutter Head to rotate. The Tool Bits are fixed the Cutter Head with screws and the pipe is riveted by automatic–centered clamping mechanism, axis–oriented feed for sloping.

3.2 APPLICATION RANGE

Aotai is an advanced company in the world, which is specialized in manufacturing portable pipe cutting and beveling machine. The models of ISY/SDC/TCM pipe beveling machine is designed for 16–800mm (ID) pipes, with incomparable utility. The machine can process the pipes and flange face. Aotai products can meets your demand for any thickness of the pipes.

3.3 USING FEATURES

3.3.1QUICK SET UP

1. It takes 15 minutes at most to install the machine from the packing case.
2. Swelling Hand wheel can clamp the pipes and fast effectively.
3. Adjust for one time, the swelling block can be self–located in the center of the pipes.
4. Set up and adjust the Tool Bits in a short time.

3.3.2 EASY OPERATION

1. Switch on and off easily.
2. Use dial to ensure the precise feed.
3. Small design is suitable for working on bad working site, where the large processing equipments can't be used.

3.3.3 UNIQUE FUNCTIONS

1. Material of main frame: Duralumin, light weight of the machine
2. Can process U, V shape groove.
3. Cold sloping process will not influence the quality of pipe material.
4. Self–lubrication and extend the use life.
5. High intensity feed mandrel; large scale of swelling block can improve the rigidity during processing to the greatest extent.

3.4 PACKAGE DETAILS

The machine is placed in a portable wooden case with fittings, tool bits and tools for assembly. Our company provides all the important operating tools, refer to the product parts list for details.

Also can be customized iron boxes, suitable for handling and storage for many times

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◆SECTION 4
TECHNICAL SPCIFICATONS

4.1 T–TYPE ELECTRIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER

Type \ Model / Parameter	ISY–28T	ISY–80T	SDC –120T	SDC –150T	SDC –350T	ISY –80TN	ISY –90T
Electric power(KW)	0.9	1.43	1.43	1.43	1.43	1.43	1.43
Voltage(V)	220/230						
Frequency(Hz)	50–60						
Working current(A)	5	6.5	6.5	6.5	6.5	6.5	6.5
Working range(ID)	16–28	28–76	45–105	65–159	150–330	26–79	36–90
Max wall thickness(mm)	3	12	20	20	20	15	15
Rotating speed (r/min)	53	53	34	34	14	adjustable	adjustable
Max axial feed(mm)	25						
Noise dB (A)	98						

4.2 T–TYPE PNEUMATIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER

Type \ Model / Parameter	TCM–28T	TCM–80T	TCM–120T	TCM–150T	TCM–350T	TCM–80TN	TCM–90T
Air motor power(KW)	1.0	1.0	1.0	1.43	1.43	1.0	1.0
Working pressure MPa	0.63–1.0						
Air consuming flux L/min	1500–2500						
Working range(ID)	16–28	28–76	45–105	65–159	150–330	26–79	36–90
Max wall thickness(mm)	3	12	20	20	20	15	15
Rotating speed (r/min)	53	53	34	34	14	53	50
Max axial feed(mm)	25						
Noise dB (A)	98						

4.3 Y-TYPE ELECTRIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER

Type \ Model / Parameter	ISY-150	ISY-250	ISY-351	ISY-630	ISY-850
Electric power(KW)	1.43	1.43	1.43	1.43	2.0
Voltage(V)	220/230				
Frequency(Hz)	50-60				
Working current(A)	6.5				
Working range(ID)	60-170	80-240	150-330	300-600	610-820
Max wall thickness(mm)	15				
Rotating speed (r/min)	30	16	10	8	8
Max axial feed(mm)	40	40	50	50	50
Noise dB (A)	98				

4.4 Y-TYPE PNEUMATIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER

Type \ Model / Parameter	TCM-150	TCM-250	TCM-351	TCM-630	TCM-850
Air motor power(KW)	1.43	1.43	1.43	2.0	2.0
Working pressure MPa	0.63-1.0				
Air consuming flux L/min	1500-2500				
Working range(ID)	60-170	80-240	150-330	300-600	600-820
Max wall thickness(mm)	15				
Rotating speed (r/min)	30	16	10	8	7
Max axial feed(mm)	40	40	50	50	50
Noise dB (A)	98				

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4.5 II-TYPE ELECTRIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER

Type \ Model / Parameter	ISY-250-II	ISY-350-II	ISY-630-II	ISY-850-II
Electric power(KW)	1.43	1.43	1.43	2.0
Voltage(V)	220/230			
Frequency(Hz)	50-60			
Working current(A)	6.5			9.5
Working range(ID)	80-240	150-330	300-600	600-820
Max wall thickness(mm)	75			
Rotating speed (r/min)	16	10	8	8
Max axial feed(mm)	40	50	50	50
Noise dB (A)	98			

4.6 II-TYPE PNEUMATIC INNER MOUNTED PIPE BEVELING MACHINE MODEL AND BASIC PARAMETER

Type \ Model / Parameter	TCM-250-II	TCM-350-II	TCM-630-II	TCM-850-II
Air motor power(KW)	1.43	1.43	1.43	2.0
Working pressure MPa	0.63-1.0			
Air consuming flux L/min	1500-2500			
Working range(ID)	80-240	150-330	300-600	610-820
Max wall thickness(mm)	75			
Rotating speed (r/min)	16	10	8	8
Max axial feed(mm)	40	50	50	50
Noise dB (A)	98			

4.7 T TYPE SWELLING BLOCK CHART

Type \ Swelling block / Capcity	ISY/TCM-28T	ISY/TCM-80T	ISY/TCM80TN	SDC/TCM-120T	SDC/TCM-150T	SDC/TCM-350T
Wedge block	-	Φ28-36	Φ26-31	Φ45-57	Φ65-77	Φ110-130
Swelling Block NO.1	Φ16	Φ36-44	Φ31-37	Φ57-69	Φ77-89	Φ130-150
Swelling Block NO.2	Φ18	Φ44-52	Φ37-43	Φ69-81	Φ89-101	Φ150-170
Swelling Block NO.3	Φ19	Φ52-60	Φ43-49	Φ81-93	Φ101-113	Φ170-190
Swelling Block NO.4	Φ20	Φ60-68	Φ49-55	Φ93-105	Φ113-125	Φ190-210
Swelling Block NO.5	Φ21.5	Φ68-76	Φ55-61		Φ125-137	Φ210-230
Swelling Block NO.6	Φ23		Φ61-67		Φ137-149	Φ230-250
Swelling Block NO.7	Φ24.5		Φ67-73		Φ149-161	Φ250-270
Swelling Block NO.8	Φ26		Φ73-79			Φ270-290
Swelling Block NO.9	Φ27					Φ290-310

ISY/TCM-28TN SWELLING BLOCK CHART

Axis \ Wedge block / Capcity	1#	2#	3#	4#	5#	NOTE
Axis NO.1	Φ12.5-15	-	-	-	-	Fit for tension link 1#
Axis NO.2	-	Φ15-17.5	Φ17.5-20	-	-	Fit for tension link 1#
Axis NO.3	-	-	-	Φ20-24	Φ24-28	Fit for tension link 2#

ISY/TCM-90T SWELLING BLOCK CHART

Type \ Swelling block / Capcity	-	1#	2#	3#	4#	5#	6#	7#
Wedge 1#	Φ36-42	-	-	-	-	-	-	-
Wedge 2#	Φ42-48	Φ48-54	Φ54-60	Φ60-66	Φ66-72	Φ72-78	Φ78-84	Φ84-90

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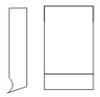
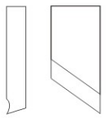
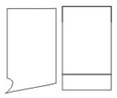
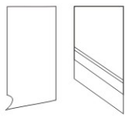
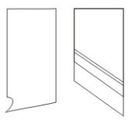
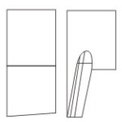
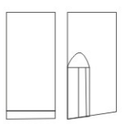
4.8 Y/II TYPE SWELLING BLOCK CHART

Type \ Model / Capcity	ISY/TCM-150	ISY/TCM -250/250-II	ISY/TCM -351/351-II	ISY/TCM -630/630-II	ISY/TCM -850/850-II
Wedge block 1#	Φ60-74	Φ80-100	Φ150-180	Φ300-330	
Swelling block 1#	Φ74-90	Φ100-120	Φ180-210	Φ330-360	Φ610-640
Swelling block 2#	Φ90-106	Φ120-140	Φ210-240	Φ360-390	Φ640-670
Swelling block 3#	Φ106-122	Φ140-160	Φ240-270	Φ390-420	Φ670-700
Swelling block 4#	Φ122-138	Φ160-180	Φ270-300 Swelling block 1#+3#	Φ420-450	Φ700-730
Swelling block 5#	Φ138-154	Φ180-200 Swelling block 1#+4#	Φ300-330 Swelling block 2#+3#	Φ450-480	Φ730-760
Swelling block 6#	Φ154-170	Φ200-220 Swelling block 2#+4#		Φ480-510 Swelling block1#+5#	Φ760-790
Swelling block 7#		Φ220-240 Swelling block 3#+4#		Φ510-540 Swelling block2#+5#	Φ790-820
Swelling block 8#				Φ540-570 Swelling block3#+5#	
Swelling block 9#				Φ570-600 Swelling block4#+5#	

Note: Swelling block 1#+5# is a superposition of two types of swelling block installed on the wedge block

4.9 TOOL BITS CHART

CHART	NAME	PART NO	Q'TY	SIZE	APPLICATION
	0° LIGHT–DUTY PLANE TOOL BIT	CS 50601013	1	22×8×40	28TN/80T/80TN/ 90TN/120T/150T/ 350T/150T/250/351
		HSS OR ALLOY 50601049			
	30° LIGHT–DUTY BEVELING TOOL BIT	CS 50601015	1	22×8×40	28TN/80T/80TN/ 90TN/120T/150T/ 350T/150T/250/351
		HSS OR ALLOY 50601051			
	37.5° LIGHT–DUTY BEVELING TOOL BIT	CS 50601016	1	22×8×40	28TN/80T/80TN/ 90TN/120T/150T/ 350T/150T/250/351
		HSS OR ALLOY 50601052			
	15° LIGHT–DUTY BEVELING TOOL BIT	CS 50601014	1	22×8×40	28TN/80T/80TN/ 90TN/120T/150T/ 350T/150T/250/351
	0° HEAVY–DUTY PLANE TOOL BIT	CS 50601018	1	20×20×40	630/850
		HSS OR ALLOY 50601054			
	30° HEAVY–DUTY BEVELING TOOL BIT	CS 50601020	1	20×20×40	630/850
		HSS OR ALLOY 50601056			
	37.5° HEAVY–DUTY BEVELING TOOL BIT	CS 50601021	1	20×20×40	630/850
		HSS OR ALLOY 50601057			
	15° HEAVY–DUTY BEVELING TOOL BIT	CS 50601019	1	20×20×40	630/850
		HSS OR ALLOY 50601055			
	STRAIGHT TOOLING BIT	CS 50601023	1	20×20×40	250–II 351–II 630–II 850–II
		HSS OR ALLOY 50601093			

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Note: the material of the tool bits is high speed tool steel, which can be used for cutting and end slopping process of different carbon steel. If users need tool bits for alloys, stainless and cast steel, please contact the factory for availability.

The tool bits above is standard tools, if users need other degrees, please inform us before purchase.

★: Cermet tools optional

PICTURE	NAME	PART NO	Q'TY	SIZE	APPLICATION
	TED BIT HOLDER 0 2210–DB00	50601096	OPTIONAL	25×45×12	28TN–80TN/28T/ 80T/90T/120T/ 150T/350T/150/ 250/351
	TED BIT HOLDER 30° 2210–DB30	50601097	OPTIONAL	25×42×12	28TN–80TN/28T/ 80T/90T/120T/ 150T/350T/150/ 250/351
	TED BIT HOLDER 37° 2210–DB37	50601098	OPTIONAL	25×42×12	28TN–80TN/28T/ 80T/90T/120T/ 150T/350T/150/ 250/351
	CERMET TOOL BIT ATXN2210H6	50601095	OPTIONAL	22×11×6	FIT FOR ALL TOOL BIT HOLDER

◆SECTION 5
OPERATING METHOD

5.1 DESCRIPTION OF SHAPE

Pipe beveling machine is sorted as T model, Y model and II model etc.

There are similarities and differences among all the models. The operation is as follows:

T–shape inner mounted pipe beveling machine

Y–shape inner mounted pipe beveling machine

II–shape inner mounted pipe beveling machine

5.2 OPERATING METHOD OF T & Y–PIPE BEVELING MACHINE

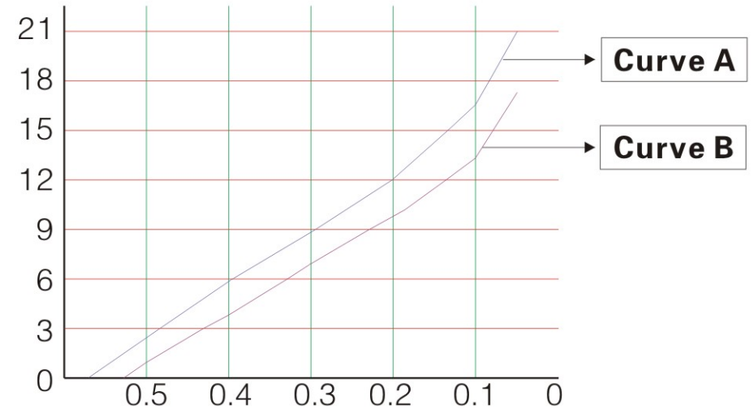
1. First measure the pipe inner diameter, select the suitable swelling block as per the Swelling Block Charts, fix on the swell wedging block mechanism, thenceforth tighten screw.
2. Select the suitable angle blades as per Tool Bit Chart, fix on the cutter head, tighten the bolt.

Caution：When fixed, the blade can't be touched with Feed Main Shaft and Swelling block.

3. Rotate the Feed Hand wheel, extend the Feed Main Shaft.
4. Insert Swelling mechanism into the pipe. Enough feed space should be left between the peak of blade and tube terminal surface.

Caution：Don't insert the swelling block into the pipe too deep. 20mm away from the pipe terminal surface.

5. Rotate the Swelling Hand wheel, meanwhile adjust the position of the machine to ensure Feed Main Shaft conforms with the center of the pipe. Tighten the screw cap on the Hand wheel by wrench.
6. Start up the motor. Rotate the feed Hand wheel, make the blade touch pipe for beveling.



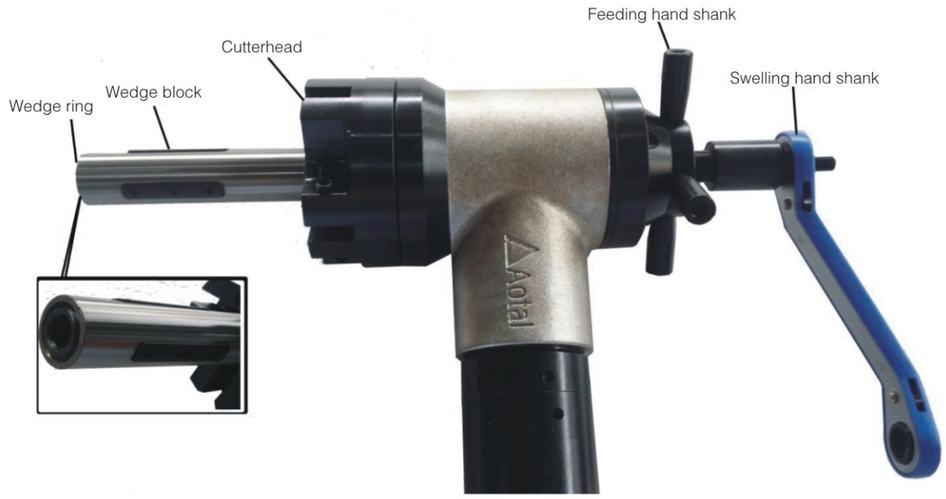
Curve A is ordinary carbon steel, low alloy feed volume chart, unit (mm);

Curve B is stainless steel, hard alloy feed volume chart, unit (mm);

Caution：During working，control the feed speed as per the beveling crumbs for fear of damage of blades and inside parts. If the machine vibrates or the beveling surface is uneven, tighten the Swelling Hand wheel promptly to prevent damage to the machine from the looseness of Swelling Mechanism.

7. After machining, remove the Tool Bit first, then loosen the Swelling Mechanism.

5.3 REPLACEMENT METHORD OF ISY–80TN WEDGE BLOCK



1. screw out the wedge ring by 5–8mm
2. Rotating the swelling hand shank to enlarge the wedge upto the max working range
   a: ensure the space between the feeding hand shank and the swelling srew.
   b:when the swelling hand shank is in max condition, ensure the feeding hand and the tension link to be firmly positioned.
   c: to be sure that the swelling hand hank should be in the max condition. and pull out the wedge slightly. It is not allowed to force out by hand tools.
3. Diagonally pull out the wedge
4. Choose the correct wedge. The bigger size in the same direction to the wedge ring. Ensure to put the wedge into the tension slot and the spline shaft slot.
5. Hold the three wedge, and rotating back the swelling hand hank to the min working range, then the wedge can be successfully changed. (when come cross the resistance while rotating back, pls rotate the swelling hand in counter–clockwise direction, and then continue to rotate back)
6. Choose the correct swelling block and wedge according to the Swelling block chart

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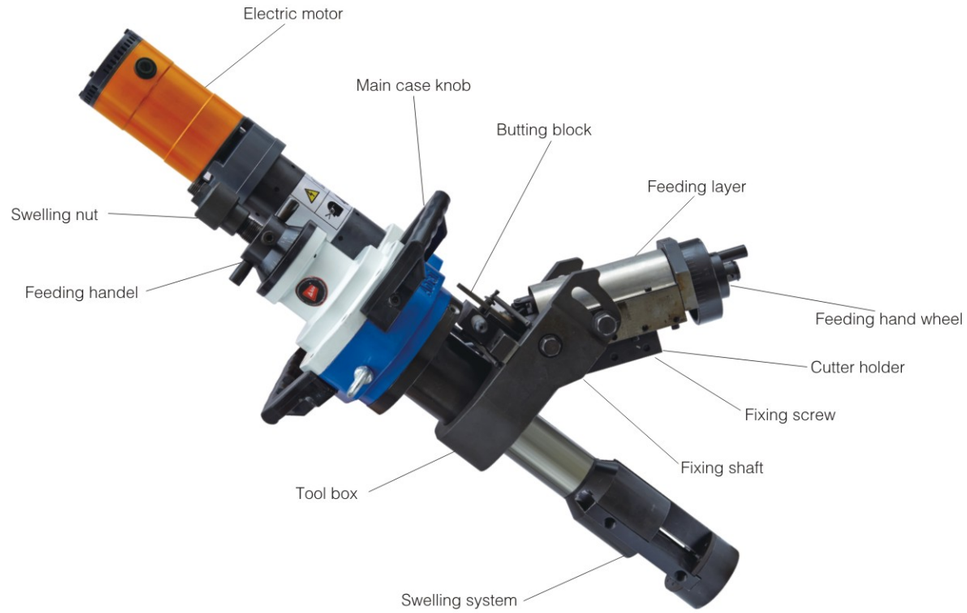
5.4 OPERATING METHOD OF Ⅱ–PIPE BEVELING MACHINE



1. Select, fix the Swelling block, and clamp the pipes.
2. Fix suitable Tool bits for the pipes.
3. Adjust the beveling angle by Splint, which is connected to Locating Shaft and main frame, tighten the screws on the Locating Shaft, rivet the beveling angle.

Caution： Don't make Tool Bits touch the pipe wall.

4. Clamp the pipe, pull out the Feed Hand wheel, rotate Feed Hand wheel to make the Tool Bits close to terminal surface with certain space. Push the Hand wheel to the original position, start up the motor, idle motion , turn off the motor till the Tool bits touch the peak of the pipe.

Caution：the distance between the Tool Bits and pipe wall should maintain even, or the swelling mechanism should be readjusted.

5. Pull out the Feed Hand wheel, Adjust Tool Bits from the peak of the pipe to outer 3–4mm, push the Hand wheel to the original position, start up the machine for beveling.
6. If with thick pipe, repeat the beveling process.
7. After machining, rotate Feed Hand wheel, remove the Tool bits. Loosen the Swelling the nut and demount the machine.
8. Other operations are the same as T Model、Y Model pipe beveling machine.

5.5 CAUTIONS

1. Before machining, must clean the end of pipe, fins and impurities after cutting the ethane.
2. Mind the feed if the surface of end pipe is uneven, after uneven, increase the feed.
3. Coolant (saponification oil) should be added, which can extend the use life of Tool Bits and all the parts of the machine.
4. The Tool Bits should be replaced or rubbed if blunt.
5. Over blunt or big feed causes non–rotation, the power should be cut off promptly, or it will burn the parts inside the electric motor.
6. During machining, make sure no impurities, dirts and crumbs involved into the motor, or it will cause great damage to the motor.
7. The Cap Nut of the Carbon Brush is adjusted well before leaving the factory, don't adjust during the machining, or it will cause fire outbreak of motor.
8. Before machining, add lubricant (engine oil) to the machine, keep good performance of the machine. After machining, clean the crumbs on the machine promptly avoiding rust.

5.6 NOTES OF PNEUMATIC MOTOR

1. Select the leather hose (inner diameter=14mm) connected to air inlet adaptor . Make the air supply clean and dry. Working pressure should be 0.8Mpa.
2. Press the valve switch after the air is supplied. Smooth rotation of head cutter and no remarkable sound of venting , it indicates that the running of motor is normal.
3. Control the valve hatch for adjust the rotation of Cutter Head. The size of hatch is in inverse proportion to the rotation of Cutter Head.

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◆SECTION 6
TROUBLES AND SOLUTIONS

Trouble	Cause	Solution
Poor end quality	Check the Tool Bits	Check whether the tool bit is in good condition, the fixing way is correct, the surface is clean.
	Clamp/Swelling system	To ensure the clamp/swelling block, the central line of pipe should be conform with that of cutter head. Check whether the screws on the clamp/swelling block is fixed correctly and whether the surface is over–deformed or abrased.
	Check the pipe	Check whether the central line of pipe conforms with that of cutter head.
Quick Abrasion of Tool bits	The fix of the Tool bits	To ensure the tool bits are fixed correctly. IfFixed wrongly or loose, remove, clean them and refix correctly.
	Tool bits are suitable for the pipes or not	Select suitable tool bits as per “4.2 Tool Bits Char”.
	Feeding speed of cutter head	Thin thickness wall of pipes are allowed for Bigger feed than thick ones.
	Lubricant	If permitting, use saponification oil, it will expand the use life of tool bits largely.
The electric motor can not start up	Check the switch	Make sure the switch is pressed
	Check the Power	Check the breaker, fuse and input power
	Check the plug	If damaged, replace it by professional
	Check the cable	If damaged, replace it by professional
	Check the carbon brush	If damaged, replace it by professional

If a problem persists or is not listed in the above table, please cease operation and consult the manufacturer for additional instruction.

◆SECTION 7
PRODUCT OVERALL ASSEMBLY CHART AND ACCESSORIES DETAILS

PRODUCTS OVERALL ASSEMBLE CHART AND ACCESSORIES DETAILS IN THE APPENDIX, AS FOLLWOS:

a) Assembling Drawing of ISY/TCM–80TN Pipe Beveling Machine

b) Assembling Drawing of T–Types Pipe Beveling Machine

c) Assembling Drawing of Y–Types Pipe Beveling Machine

d) Assembling Drawing of II–Types Pipe Beveling Machine

e) Assembling Drawing of Motor

f) Assembling Drawing of Pneumatic Motor

g) II–Models Tool Carrier Combination

h) Assembling Drawing of Speed Reducer

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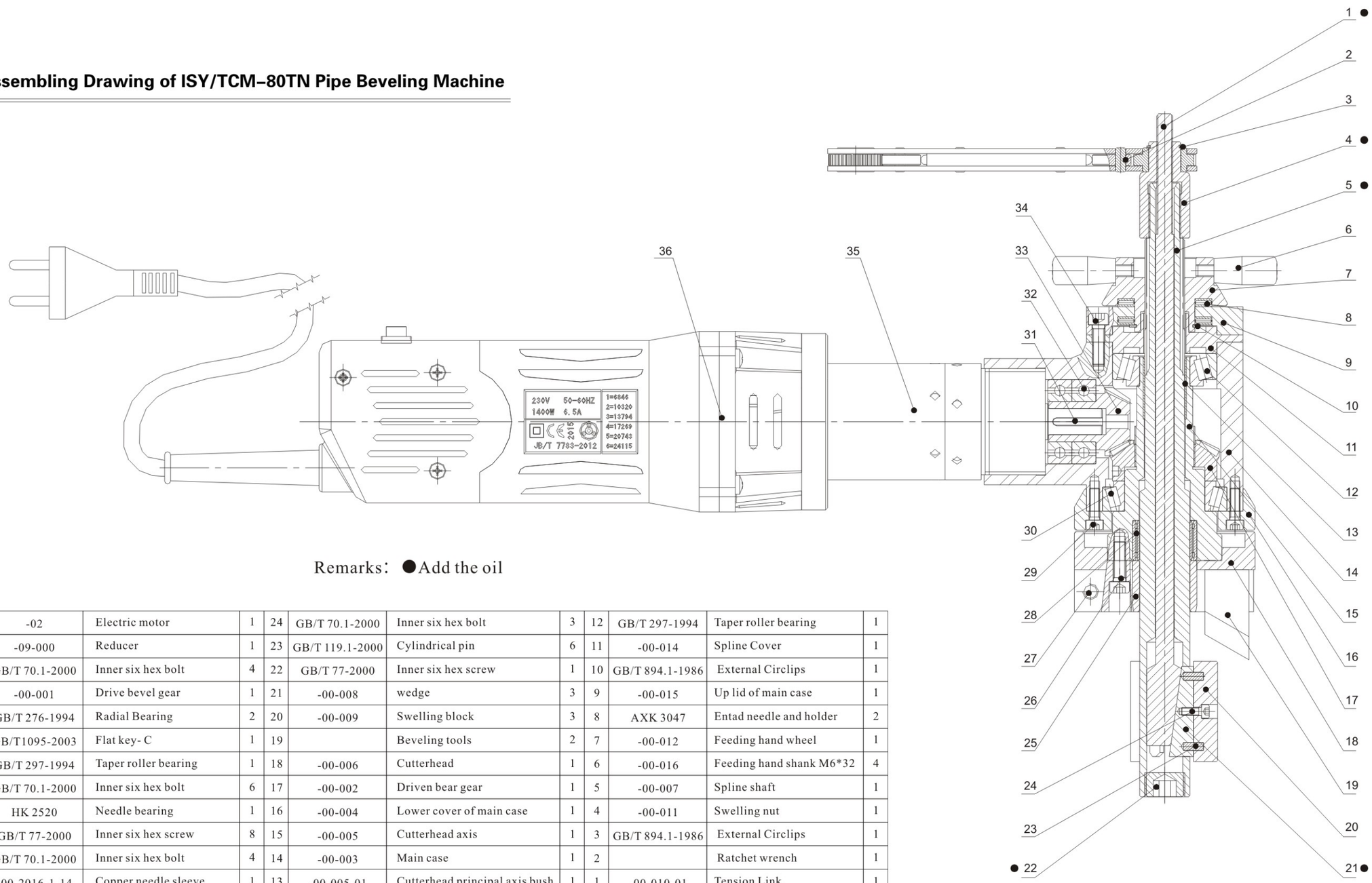
Assembling Drawing of ISY/TCM–80TN Pipe Beveling Machine



Remarks: ●Add the oil

SN.	Code	Name	Qty.	SN.	Code	Name	Qty.	SN.	Code	Name	Qty.
36	-02	Electric motor	1	24	GB/T 70.1-2000	Inner six hex bolt	3	12	GB/T 297-1994	Taper roller bearing	1
35	-09-000	Reducer	1	23	GB/T 119.1-2000	Cylindrical pin	6	11	-00-014	Spline Cover	1
34	GB/T 70.1-2000	Inner six hex bolt	4	22	GB/T 77-2000	Inner six hex screw	1	10	GB/T 894.1-1986	External Circlips	1
33	-00-001	Drive bevel gear	1	21	-00-008	wedge	3	9	-00-015	Up lid of main case	1
32	GB/T 276-1994	Radial Bearing	2	20	-00-009	Swelling block	3	8	AXK 3047	Entad needle and holder	2
31	GB/T1095-2003	Flat key- C	1	19		Beveling tools	2	7	-00-012	Feeding hand wheel	1
30	GB/T 297-1994	Taper roller bearing	1	18	-00-006	Cutterhead	1	6	-00-016	Feeding hand shank M6*32	4
29	GB/T 70.1-2000	Inner six hex bolt	6	17	-00-002	Driven bear gear	1	5	-00-007	Spline shaft	1
28	HK 2520	Needle bearing	1	16	-00-004	Lower cover of main case	1	4	-00-011	Swelling nut	1
27	GB/T 77-2000	Inner six hex screw	8	15	-00-005	Cutterhead axis	1	3	GB/T 894.1-1986	External Circlips	1
26	GB/T 70.1-2000	Inner six hex bolt	4	14	-00-003	Main case	1	2		Ratchet wrench	1
25	-00-2016-1-14	Copper needle sleeve	1	13	-00-005-01	Cutterhead principal axis bush	1	1	-00-010-01	Tension Link	1

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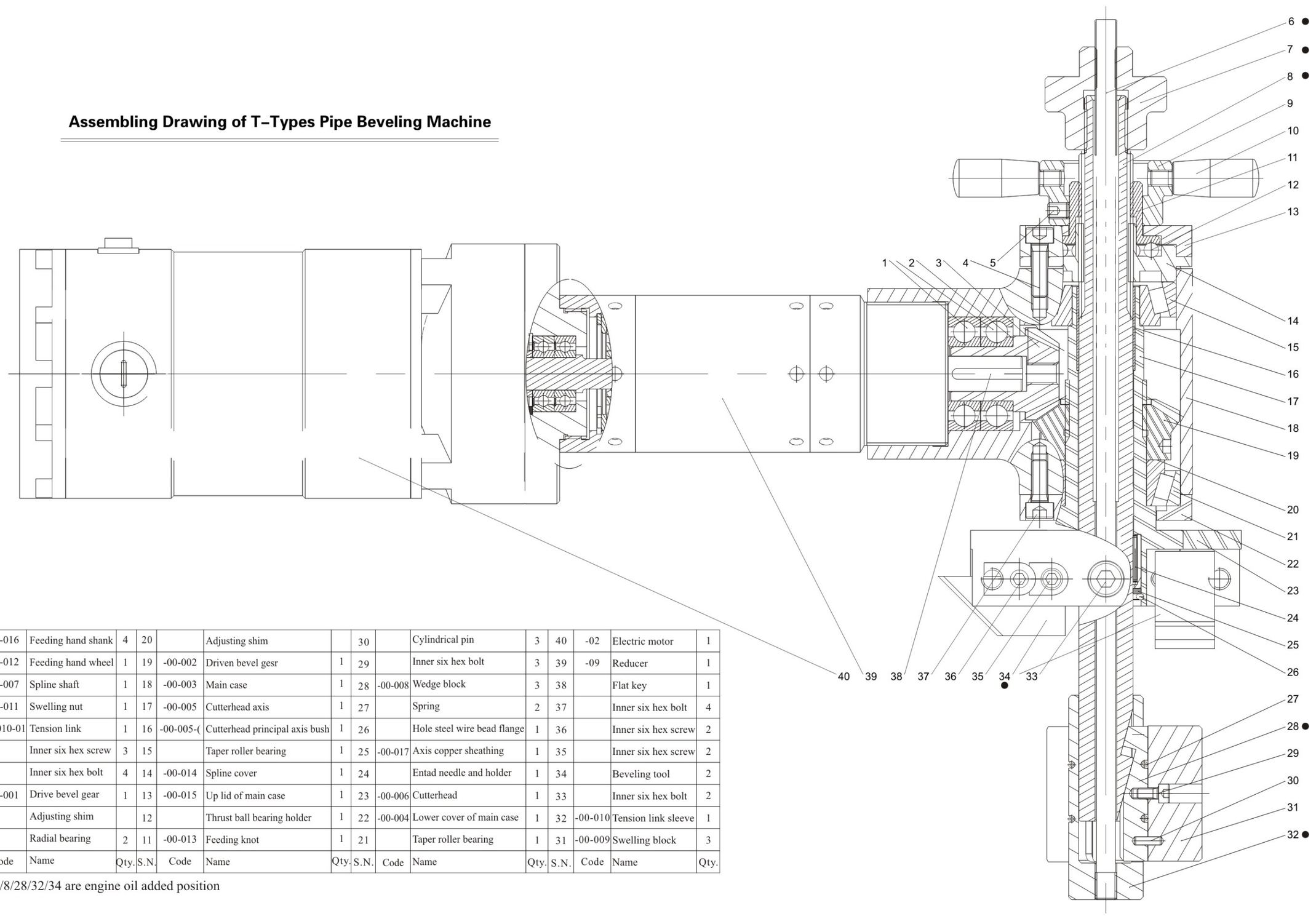
Assembling Drawing of T–Types Pipe Beveling Machine



10	-00-016	Feeding hand shank	4	20		Adjusting shim		30		Cylindrical pin	3	40	-02	Electric motor	1
9	-00-012	Feeding hand wheel	1	19	-00-002	Driven bevel gesr	1	29		Inner six hex bolt	3	39	-09	Reducer	1
8	-00-007	Spline shaft	1	18	-00-003	Main case	1	28	-00-008	Wedge block	3	38		Flat key	1
7	-00-011	Swelling nut	1	17	-00-005	Cutterhead axis	1	27		Spring	2	37		Inner six hex bolt	4
6	-00-010-01	Tension link	1	16	-00-005-(	Cutterhead principal axis bush	1	26		Hole steel wire bead flange	1	36		Inner six hex screw	2
5		Inner six hex screw	3	15		Taper roller bearing	1	25	-00-017	Axis copper sheathing	1	35		Inner six hex screw	2
4		Inner six hex bolt	4	14	-00-014	Spline cover	1	24		Entad needle and holder	1	34		Beveling tool	2
3	-00-001	Drive bevel gear	1	13	-00-015	Up lid of main case	1	23	-00-006	Cutterhead	1	33		Inner six hex bolt	2
2		Adjusting shim		12		Thrust ball bearing holder	1	22	-00-004	Lower cover of main case	1	32	-00-010	Tension link sleeve	1
1		Radial bearing	2	11	-00-013	Feeding knot	1	21		Taper roller bearing	1	31	-00-009	Swelling block	3
SN.	Code	Name	Qty.	S.N.	Code	Name	Qty.	S.N.	Code	Name	Qty.	S.N.	Code	Name	Qty.

Note:6/7/8/28/32/34 are engine oil added position

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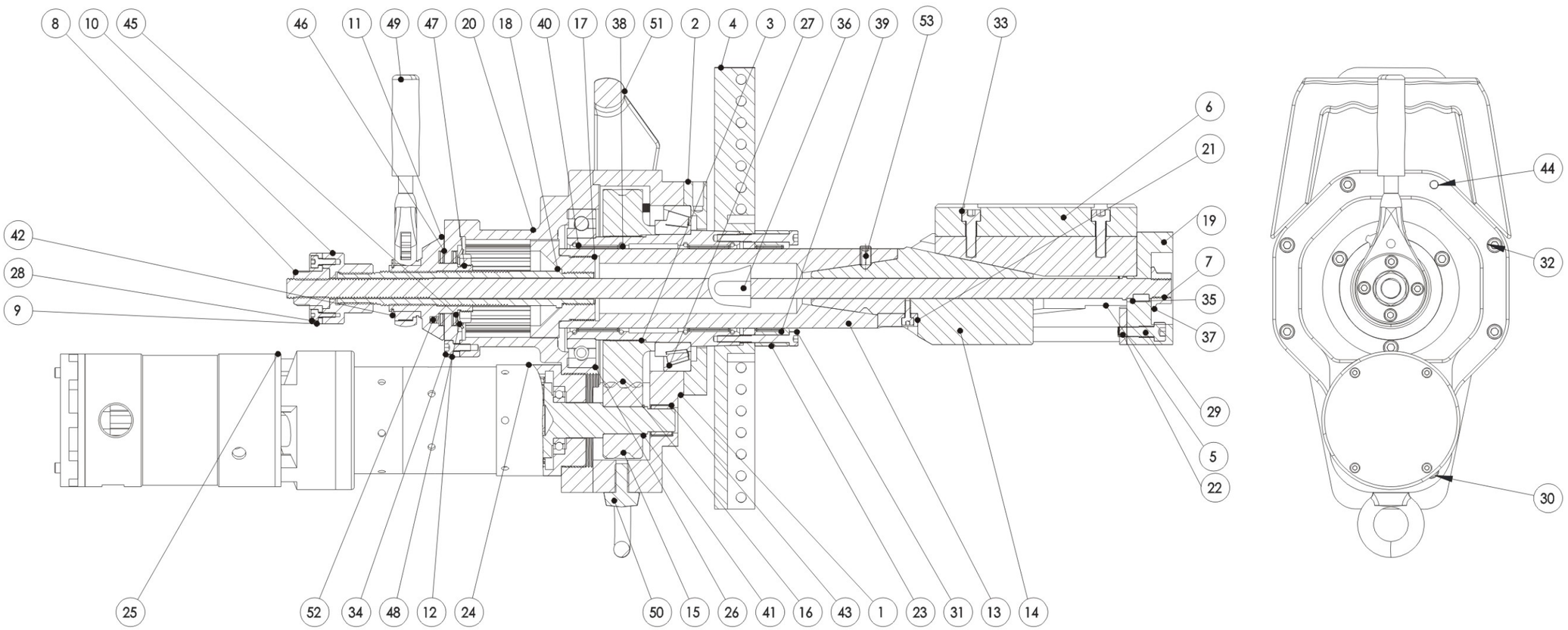
Assembling Drawing of Y–Types Pipe Beveling Machine



SN.	Code	Name	Qty	SN.	Code	Name	Qty	SN.	Code	Name	Qty	SN.	Code	Name	Qty
1	−00-003	Main case	1	14	−00-040	Base of swelling block	1	27		GB/T297-1994 Tapered roller bearing	1	40		Needle bearing	2
2	-00-004	Lower cover of main case	1	15	-00-041	Axis drive bevel gear	1	28		GB/T70.1-2008 Hex socket head cap screw	1	41		GB/T894.1-1996 A type shaft snap spring	1
3	-00-005	Cutterhead axis	1	16	-00-042	Axis driven bevel gear	1	29		GB/T70.1-2008 Hex socket head cap screw	1	42		GB/T894.1-1996 A type shaft snap spring	1
4	-00-006	Cutterhead	1	17	-00-047	Feeding axle	1	30		GB/T70.1-2008 Hex socket head cap screw	1	43		Needle bearing	1
5	-00-008	Wedging block	3	18	-00-048	Feeding screw	1	31		GB/T70.1-2008 Hex socket head cap screw	1	44		GB/T119.2-2000 Straight pin	2
6	-00-009-xx	Swelling block	3	19	-00-051	Swelling tray	1	32		GB/T70.1-2008 Hex socket head cap screw	1	45		GB/T4605-2003 Needle roller thrust bearing	2
7	-00-010-01	Tension link	1	20	-00-052	Upper body of the main case	1	33		GB/T70.1-2008 Hex socket head cap screw	1	46		GB/T4605-2003 Pad of needle roller thrust bearing	4
8	-00-011-01	Swelling nut 01	1	21	-00-080	Key	1	34		GB/T70.1-2008 Hex socket head cap screw	1	47		GB/T810-1988 Small round nut	1
9	-00-011-02	Swelling nut 02	1	22	-00-168	Fixed block of wedging block	3	35		GB/T1096-2003 Flat key	3	48		GB/T858-1988 Lock washer for round nut	1
10	-00-011-03	Swelling nut 03	1	23	-05-455	Reinforcing sleeve	1	36		GB/T1096-2003 Flat key	1	49		BS-00 Ratchet spanner	1
11	-00-012	Feeding wheel	1	24	-09-00	Reducer	1	37		GB/T6177.1-2000 Hexagon flange nut	1	50		Lifting bolt	1
12	-00-015	Upper lid of main case	1	25	-02-00	Electric motor	1	38		GB/T895.1-1986 Hole steel wire bead head	1	51		Handle	2
13	-00-031	Feeding axle	1	26		GB/T276-1994 Radial ball bearing	1	39		Needle bearing	1	52		Spring	4

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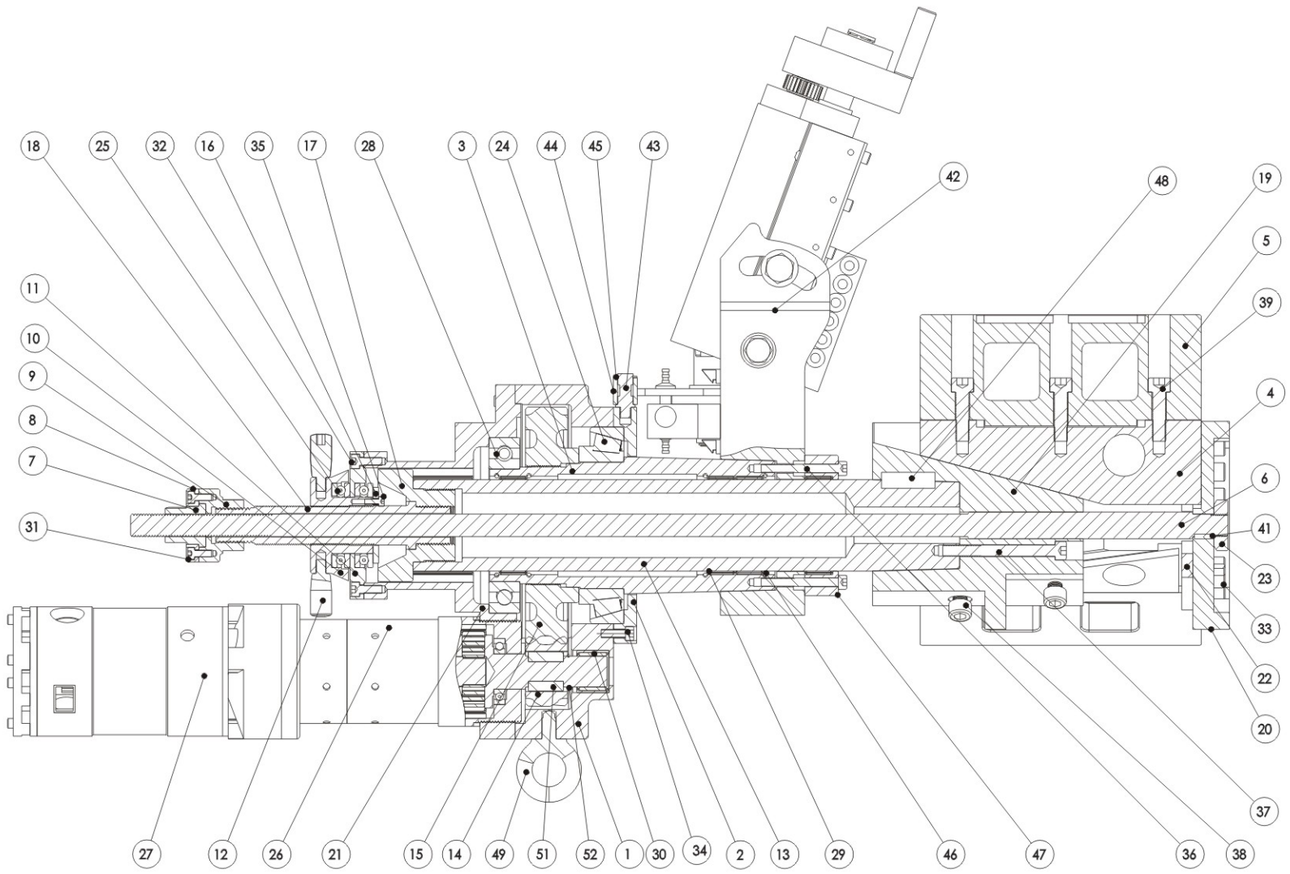
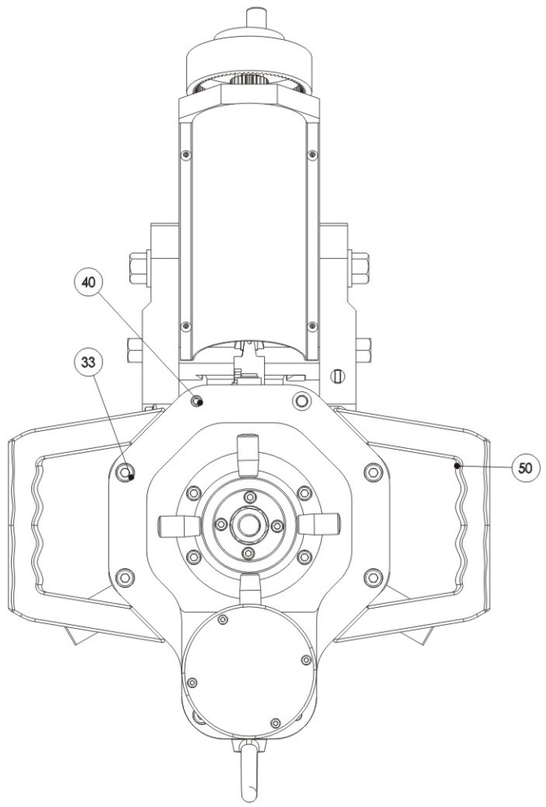
Assembling Drawing of II–Types Pipe Beveling Machine





SN.	Code	Name	Qty
1	-00-003	Main case	1
2	-00-004	Lower cover of main case	1
3	-00-005	Cutterhead axis	1
4	-00-008	wedge	3
5	-00-009-** 01-05	Swelling block	3
6	-00-010-01	Tension Link	1
7	-00-011-01	Swelling nut 01	1
8	-00-011-02	Swelling nut 02	1
9	-00-011-03	Swelling nut 03	1
10	-00-012	Feeding hand wheel	1
11	-00-015	Up lid of main case	1
12	-00-016	Feeding hand shank	4
13	-00-031	Feeding Axle	1
14	−00-041	Axis drive bevel gear	1
15	-00-042	Axis driven bevel gear	1
16	-00-046	Axle cap of feeding wheel	1
17	-00-047	Feeding Gear	1
18	-00-048	Feeding screw	1
19	-00-050	swelling tray (upper)	1
20	-00-051	swelling tray (down)	1
21	-00-052	Upper body of the main case	1
22	-00-168	Fixed block of wedging block	1
23	-00-180	Swelling tray nut	3
24	GB/T 297-1994	Taper roller bearing	1
25	GB/T 301-1995	Thrust ball bearing	1
26	-09-00	Reducer	2
27	−02-00	Electric motor	1
28	GB/T 276-1994	Radial Bearing	1
29		Needle bearing	4
30		Needle bearing	1
31	GB/T70.1-2008	Hex socket head cap screw	4
32	GB/T70.1-2008	Hex socket head cap screw	6
33	GB/T70.1-2008	Hex socket head cap screw	14
34	GB/T70.1-2008	Hex socket head cap screw	6
35	GB/T70.1-2008	Hex socket head cap screw	3
36	GB/T70.1-2008	Hex socket head cap screw	4
37	GB/T70.1-2008	Hex socket head cap screw	3
38	GB/T70.1-2008	Hex socket head cap screw	6
39	GB/T70.1-2008	Hex socket head cap screw	9
40	GB/T 119.1-2000	Cylindrical pin	2
41	GB-T10096-2003	A type Flat key	2
42	-05-000	Tool carrier	1
43	-00-061	Feeding axle	1
44		butting shift sleeve	1
45	GB/T894.1-1996	A type shaft snap spring	1
46	GB/T895.1-1986	Hole steel wire bead head	4
47	-05-455	Reinforcing sleeve	1
48	GB-T10096-2003	A type Flat key	1
49		Lifting bolt	1
50		Handle	2
51	GB-T10096-2003	A type Flat key	2
52	GB/T894.1-1996	A type shaft snap spring	1

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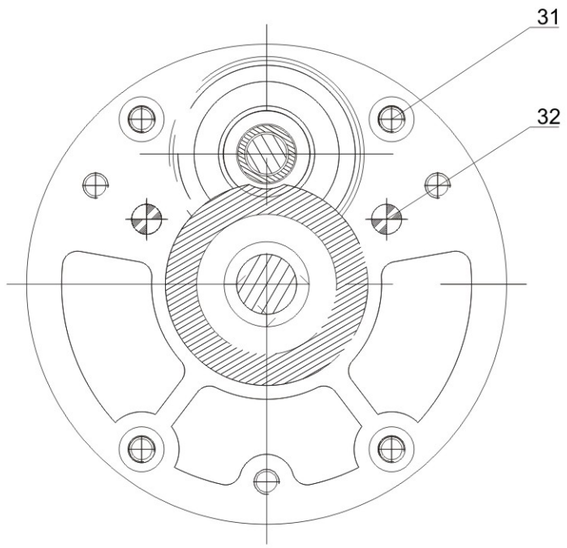
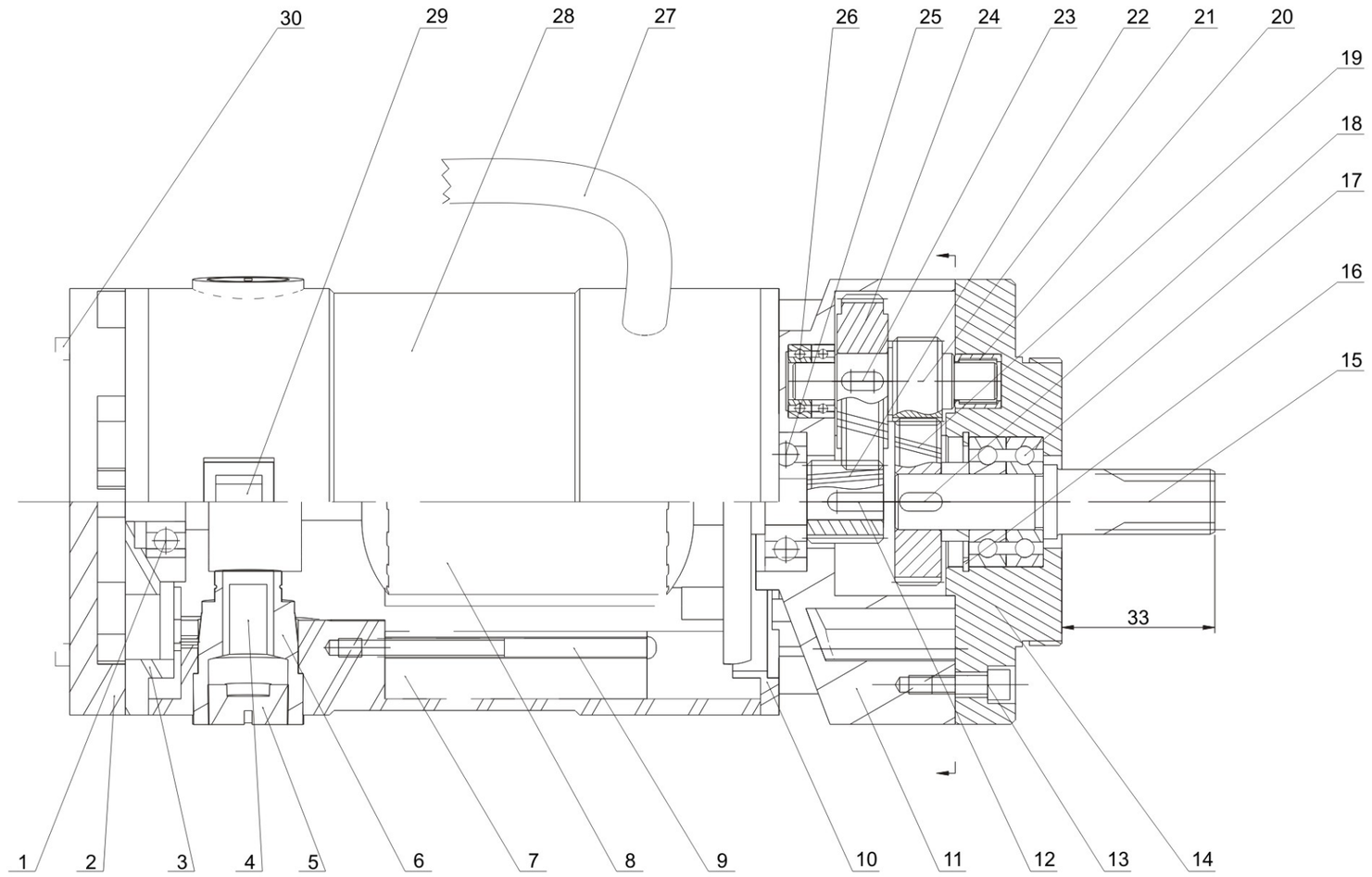
Assembling Drawing of Motor





32		Cylinder pin	2	16		Hole flexible bead flange	1	23		Pin	1	7		Stator	1
31		Inner six hex bolt	4	15	-02-210	Output motor axle	1	22	-02-205	Drive helical gear	1	6		Brush tray	2
30		Inner six hex bolt	4	14	-02-209	Bearing tray of motor	1	21	-02-207	Helical tooth axle	1	5		Brush cap	2
29		Switch	1	13		Inner six hex bolt	3	20		Needle bearing	1	4		Brush	2
28	-02-202	Case of motor	1	12		Pin	1	19	-02-208	Driven helical gear	1	3		Back bearing cap of motor	1
27		Power line	1	11	-02-203	Motor reducer case	1	18		Pin	1	2	-02-201	Back cap of motor	1
26		Radial ball bearing	2	10	-02-204	Motor knot	1	17		Radial ball bearing	1	1	-02-211	Radial ball bearing	1
25		Radial ball bearing	1	9		Semi-circular bolt	2	S.N.	Code	Name	Qty.	S.N.	Code	Name	Qty.
24	-02-206	Driven helical gear	1	8		Rotator	1								
S.N.	Code	Name	Qty.	S.N.	Code	Name	Qty.								

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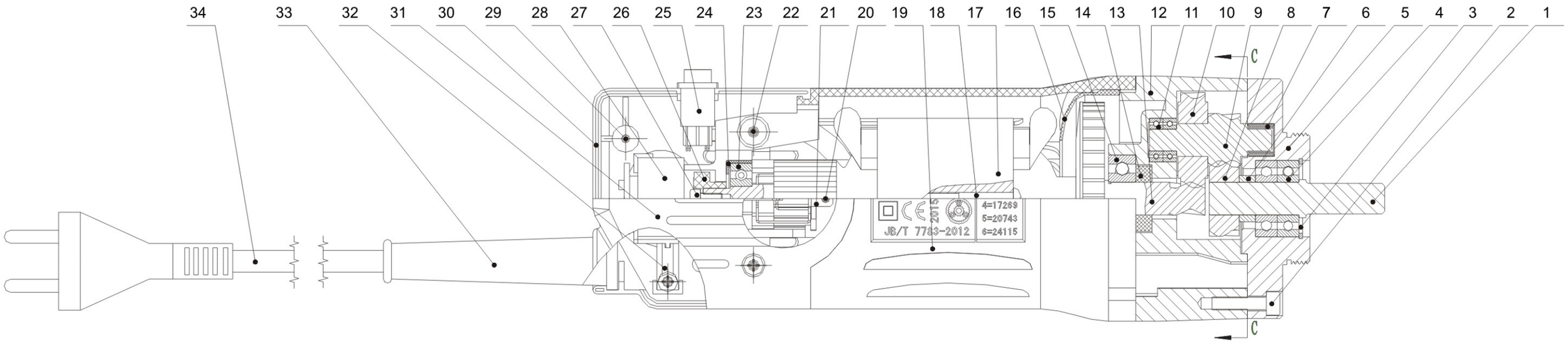
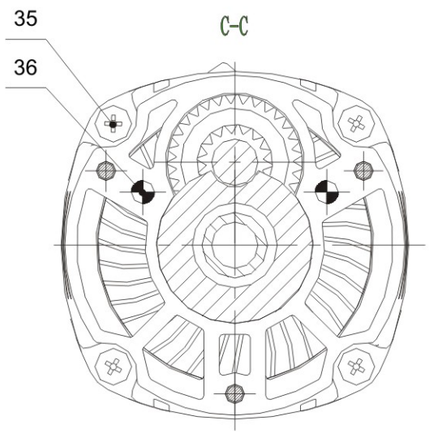
Assembling Drawing of Motor



SN.	Code	Name	Qty	SN.	Code	Name	Qty	SN.	Code	Name	Qty
1	(-02-210	output motor axle	1	13	-02-213	Rotator axel	1	25		Switch	1
2	GB/T 70.1-2000	Inner six hex bolt M5*20	3	14		Seal cover	1	26		Sensor	1
3	GB/T 893.1-1986	Hole Spring Collar	1	15	GB/T 276-1994	NSK Radial Bearing 6201-2Z	1	27	GB/T 70.1-2000	Inner six hex bolt M3*8	1
4	GB/T 276-1994	NSK Radial Bearing 6001-2Z	2	16		Air deflector	1	28		Speed Controller	1
5	(02-209	BACK BEARING CAP OF MOTOR	1	17		Rotator	1	29	GB/T 845	F Cross screw	2
6	(-02-212	Gear spacer sleeve	1	18	GB/T 99	screw 4*60	2	30		Motor case B	1
7	GB/T 290-1998	NEEDLE ROLLER BEARING IKO 0810	1	19		Motor case A	1	31		Motor case C	1
8	-02-206	Helical tooth gear-I	1	20	GB/T 845	C Cross screw	2	32		Line fixer	1
9	-02-207	Helical tooth axel	1	21		Brush tray	2	33		Line cover	1
10	ISY-351-02-208	Helical tooth gear-II	1	22	GB/T 845	F Cross screw	2	34		power line	1
11	GB/T276-1994	NSK Radial Bearing 628/8-2Z	2	23	GB/T 276-1994	NSK Radial Bearing 629-Z	1	35	GB/T 845	F Cross screw	4
12	-02-203	Motor case	1	24		Bearing sleeve	1	36	GB/T 119.1-2000	Cylinder pin 5*24	2



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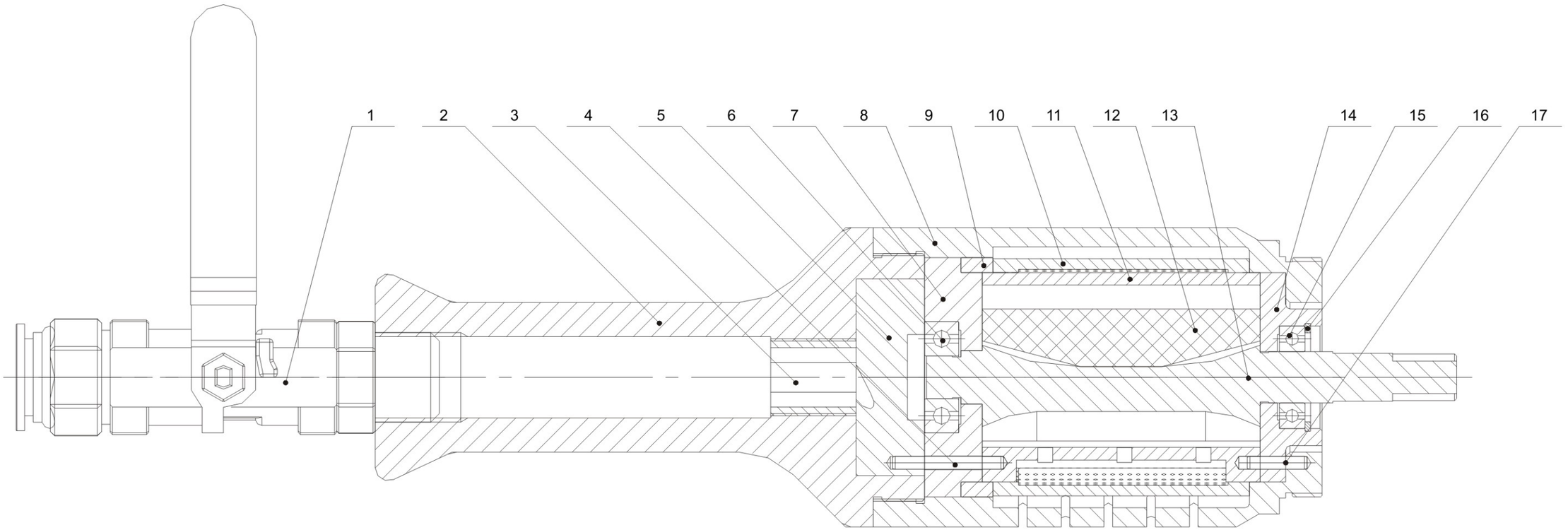
Assembling Drawing of Pneumatic Motor



SN.	Code	Name	Qty	SN.	Code	Name	Qty	SN.	Code	Name	Qty
1		valve switch	1	7	−03-306	lower cap of core	1	13	−03-305	New pneumatic motor axel	1
2	−03-304	valve connector	1	8	-03-308	Shell of motor	1	14	-03-310	New upper cap of core	1
3	-03-316	fix screw	1	9	-03-311	location sleeve	1	15	GB/T 276-94	Radial ball Bearing	1
4	GB/T 119.1-2000	Cylinder pin	1	10	-03-307	Absorber	1	16	GB/T 893.11986	A type Hole Spring Collar	1
5	-03-315	Cap	1	11	-03-309	New pneumatic motor core	1	17	GB/T 119.1-2000	Cylinder pin	1
6	GB/T 276-94	Radial ball Bearing	1	12	-03-314	Air Blade	5				

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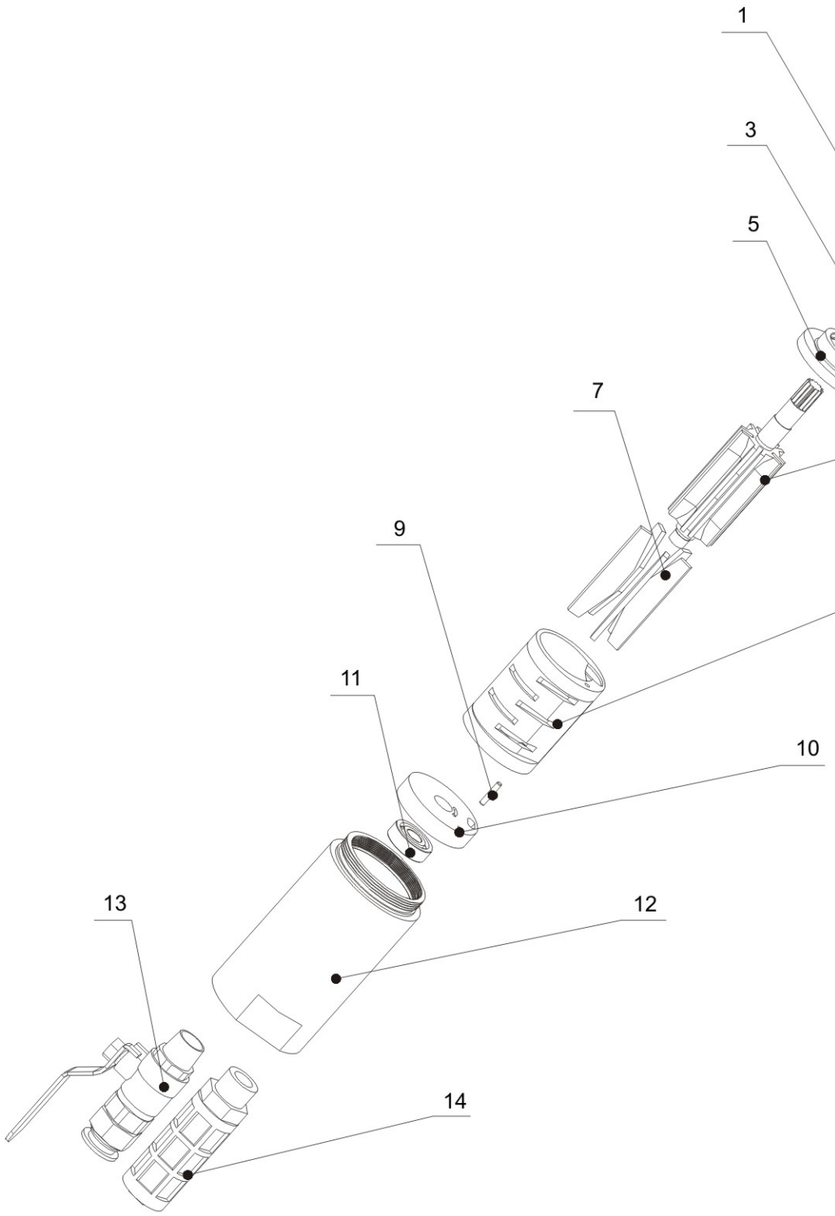

Assembling Drawing of Pneumatic Motor

SN.	Code	Name	Qty
1	750-03-311	Screw	1
2		Circlip	1
3		Radial ball bearing	1
4		Cylinder pin	1
5	750-03-310	Motor chip up cover	1
6	750-03-305	Pneumatic motor axle	1
7		Vane	5
8	750-03-309	Pneumatic motor chip	1
9		Pin	1
10	750-03-306	Motor chip lower cover	1
11		Radial ball bearing	1
12	750-03-308	Pneumatic motor shell	1
13		1/2" ball valve	1
14		1/2" Absorber	1

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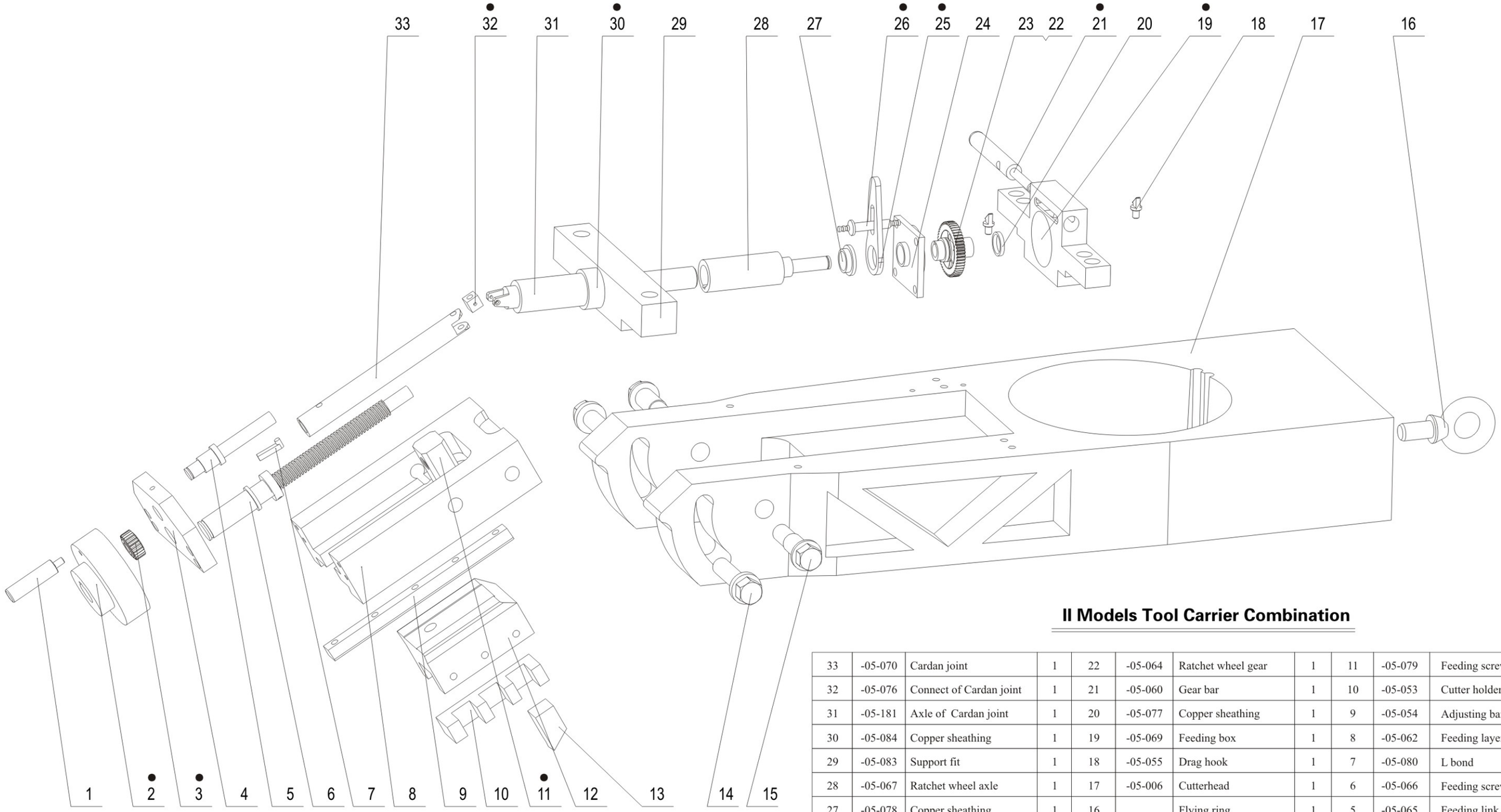

II Models Tool Carrier Combination

33	-05-070	Cardan joint	1	22	-05-064	Ratchet wheel gear	1	11	-05-079	Feeding screw nut	1
32	-05-076	Connect of Cardan joint	1	21	-05-060	Gear bar	1	10	-05-053	Cutter holder	1
31	-05-181	Axle of Cardan joint	1	20	-05-077	Copper sheathing	1	9	-05-054	Adjusting bar	1
30	-05-084	Copper sheathing	1	19	-05-069	Feeding box	1	8	-05-062	Feeding layer	1
29	-05-083	Support fit	1	18	-05-055	Drag hook	1	7	-05-080	L bond	1
28	-05-067	Ratchet wheel axle	1	17	-05-006	Cutterhead	1	6	-05-066	Feeding screw mandrel	1
27	-05-078	Copper sheathing	1	16		Flying ring	1	5	-05-065	Feeding link rod	1
26	-05-073	Pin bond	1	15	-05-056	Cutterhead bolt(01)	1	4	-05-081	Shell cover of feeding	1
25	-05-075	Butting block	1	14	-05-057	Cutterhead bolt(02)	1	3	-05-071	Feeding gear	1
24	-05-072	Feeding box cover	1	13		Beveling tool	1	2	-05-068	Feeding hand wheel	1
23	-05-059	Ratchet wheel	1	12	-05-058	Blade carrier	1	1	-05-016	Turn hand shank	1
S.N.	Code	Name	Qty.	S.N.	Code	Name	Qty.	S.N.	Code	Name	Qty.

Note: 2/3/11/19/21/25/26/30/32 are engine oil added position

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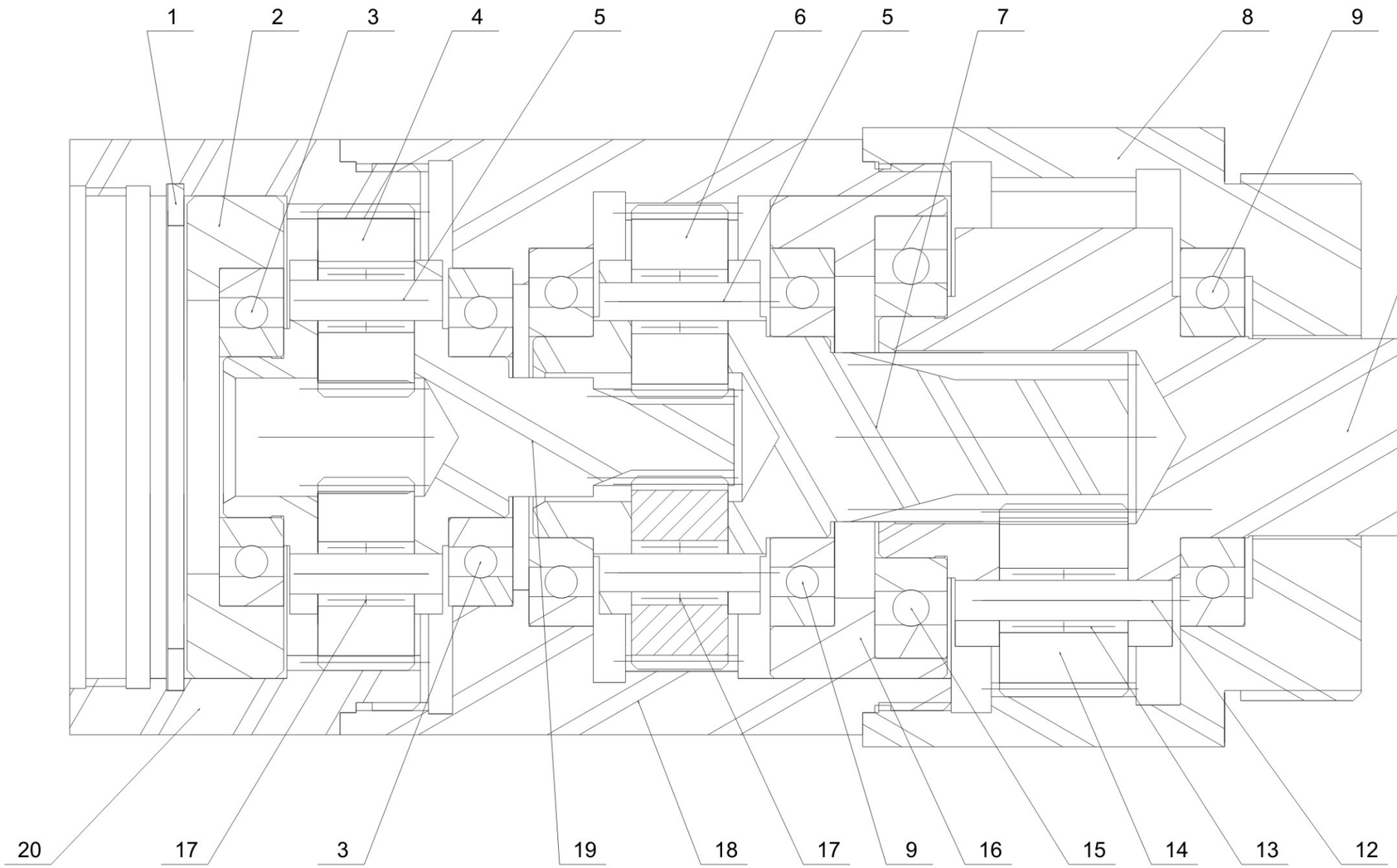

Assembling Drawing of Speed Reducer

20	-09-903	First order annular gear	1	10	-09-008	Third planet carrier	1
19	-09-902	First order planet carrier	1	9		Radial ball bearing	3
18	-09-905	Second annular gear	1	8	-09-909	Thind annular gear	1
17		Needle roller	52	7	-09-905	Second planet carrier	1
16	-09-911	Second bushing	1	6	-09-904	Second gear	2
15		Radial ball bearing	1	5		Cylinder pin	4
14	-09-907	Third gear	3	4	-09-901	First gear	2
13		Needle roller	39	3		Radial ball bearing	2
12		Cylinder pin	3	2	-09-910	First bushing	1
11		pin	1	1		Hole flexible bead flange	1
S.N.	Code	Name	Qty.	S.N.	Code	Name	Qty.

◆SECTION 8
MAINTENANCE AND REPAIR

Maintenance and repair must be operated by proficient technician.
To guarantee the machine to work well, original parts and accessories are preferable.

⚠ **Caution：** Before equipment maintenance，make sure the power is cut off.

Keep original package well to transport equipments and accessories conveniently and promptly.

Keep the equipment clean to make the equipment work on the optimal condition.

After using every time, the equipment should be cleaned by brush and grease antirust.

Don't put the equipment in the humid and dirty place.

⚠ **Caution：** Don't put anything on the rotation axis.

⚠ **Caution：** Clean the equipment with brush.

⚠ **Warn:** Don't clean equipment with compressed air.

Before using every time, please clean the equipment and ensure no remains.

Take apart the work piece and grease lubricant by professionals every year.

◆SECTION 9

ORDERING INFORMATION AND FEEDBACK

To order Aotai products or get more detailed information, please call at:
0086–577–86817214 86829982 86830918 86808798 86906156

Ordering information:

Please refer to ◆SECTION 7 on this manual. Note the part name and number of required replacement parts for fast and accurate ordering.

Repair information:

Please call Aotai Machinery company prior to returning any equipment for repair. We will advise you of shipping and handling. All repair work done in our plant will be estimated and the customers are advised of cost and time required to complete repair.

Note: Please enclose with equipment to be required your name, address, phone number and a brief description of problem or work to be done or estimated, which can obviously improve the quality and efficiency of our service.

Warrant information:

Aotai company have filled up the warranty table before the equipments leave factory. Please fill out the user's feedback sheet ASAP after confirming the equipment, and send it to Aotai company. We will offer you repair service as per warranty table and sales contract.

Feedback information:

To improve the quality of products and our service constantly, please help us to finish the following feedback sheet, to your helpful commitment. If you have better operation of machines, maintenance and technical data optimization, please kindly contact Aotai compnay immediately. We will check and amend your kind guidance and update our products and this manual.

Aotai Machine Manufacturing Co.,LTD
Address：Binhai Third Avenue, Tenth Road, Binhai Industry, Wenzhou, China
Post code：325025 Fax：0577–86821773
Website：www.zjaotai.com E–mail: wzaotai@wz.zj.cn
Tel：0086–577–86817214 86829982 86830918 86808798 86906156

AOTAI MACHINE MANUFACTURING CO.,LTD

INFORMATION FEEDBACK

Dear customers,

Thanks for using the products of **AOTAI**.

To improve the quality of products and our service constantly, please help us to finish the following questionnaires, to your helpful commitment. If you have better operation of machines, maintenance and technical data optimization, please kindly contact Aotai company immediately. We will check and amend your kind guidance and update our products and this manual.

Products which you bought this time:

Model：_____

Size：_____

Number：_____

Your whole appraisal on the products of **Aotai**:

Your suggestion after using the products of **Aotai**:

Date:

（name and seal）

Thank you for your support and cooperation sincerely, please post or fax our company copies of this information feedback, we will include your valuable suggestion in the database immediately.

NOTE：