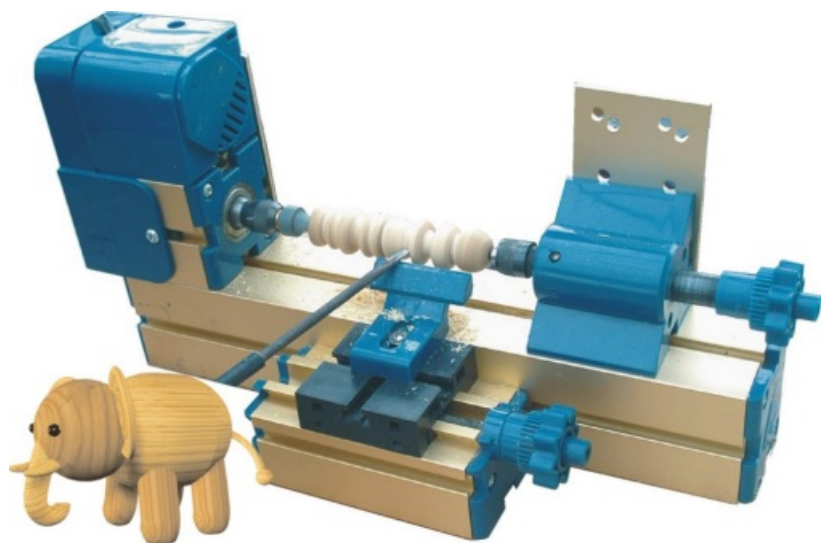
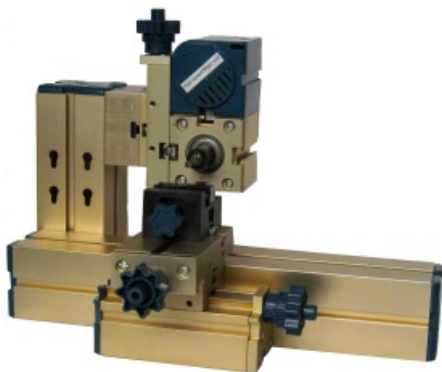


Realizing your dreams·····

MINI MULTIPURPOSE MACHINE



MANUAL

IDEAL TOOLS FOR

DIY Enthusiasts

Hobbyist

Model-makers

Children

Causal and Leisure Groups

Table Of Content

TABLE OF CONTENTS.....	1
ABOUT MINI MULTIPURPOSE MACHINE	2
1.AN IDEAL TOOL	2
2.MACHINE CHARACTERISTICS	2
3.GENERAL CAUTION AND WARNING	3
PART LIST OF PROFESSIONAL KIT SET.....	5
PART LIST OF CLASSIC KIT SET.....	6
PART LIST OF BASIC KIT SET	7
PARTS ASSEMBLY AND OPERATION.....	16
1.CONNECTION PIECE.	16
2.MOTOR UNIT AND WHEEL GEAR BOX	16
3.SMALL SLIDE AND LARGE SLIDE	17
4.SMALL SLIDE AND INTERMEDIATE CONNECTION PIECE	17
5.THREE JAW CHUCK	18
6.TRANSFORMER AND POWER SUPPLY CONNECT	19
ASSEMBLY AND OPERATION OF MINI MULTIPURPOSE MACHINE.....	20
1.JIG SAW	20
2.LATHE	23
3.WOODTURNING LATHE	26
4.DRILLING MACHINE	29
5.MILLING MACHINE	32
6.SANDING MACHINE	35
7.OFF-HAND MACHINE	37
8.DRILLING MACHINE WITH DIVIDING ATTACHMENT	38
METAL MACHINE	42
1. METAL MILLING MACHINE	42
2. METAL LATHE MACHINE	43
3. METAL DRILLING MACHINE	44
4. METAL CIRCULAR SAW MACHINE	45
SPECIALIST MACHINE	46
1.CIRCLE MILLING MACHINE	46
2.ENLARGING DRILLING MACHINE.	47
3.ENLARGING WOODTURNING LATHE	48
4.PROFILE MILLING MACHINE	49
5.PLANER MACHINE	50
6.CIRCULAR SAW MACHINE	51
7.HORIZONTAL GEAR MILLING MACHINE	52
DIGITAL DISPLAY MINI MULTIPURPOSE MACHINE INTRODUCTION....	53
1.INSTRUCTION OF DIGITAL DISPLAY CONTROL BOX	54
2.CONTROLLING SOFTWARE.....	56
3.DIGITAL DISPLAY DRILLING MACHINE	57
4.DIGITAL DISPLAY LATHE	59
5.DIGITAL DISPLAY MILLING MACHINE	61
HOW TO ADJUST SPEED.....	63
HOW TO PROCEED BIGGER DIAMETER WORKING PIECE	64
HOW TO FASTEN THE MACHINE ON THE TABLE.....	65
IMPORTANT DATA.	66
TROUBLE SHOOTING.....	69
HOW TO UPDATE AND GUARANTEE.....	71
MODEL SAMPLES	72

Mini Multipurpose Machines:

1. An Ideal Tool

This machine is the ideal tool for persons, such as,

☞ **Hobbyist and DIY Enthusiasts**

Taking the advantages of the tools' flexibilities and cost effectiveness, hobbyist and DIY Enthusiasts can easily putting your design into practical things.

☞ **Model-makers**

It is not practical to use a big machinery building and developing prototype. The mini tools can satisfy model-makers' needs and they can scale up the final prototypes into products on completion of the prototyping concept.

☞ **Children**

Most children enjoy making handcraft in a team. As a result, this would educate the children aware of the importance of team works. Lacking of mental concentration is common for children. Certain efforts and skills are required to put in to make handcraft and our tools would help children to build up concentration.

☞ **Causal and Leisure Groups**

People like to work together enjoy a lovely moment to produce something that can bring someone's memories forever.

2. Machine Characteristics

The followings are our machine characteristics:

1) **Occupy Little Space**

☞ Our machine can be operated in a small space, even on your dinner table. When finished, you can also place it in your drawer.

2) **Safety Features**

☞ Our special design on 12V DC motor, it can optimize any known dangers for operator.

☞ Operating Jigsaw is completed safe for children aged 10 or above. When someone touching or holding the blade with fingers while the jigsaw is in motion, fingers will not get hurt other than the feelings of the blade vibrations. However, other machines are safe enough when the operators follow our safety instructions as stated in our operational instructions.

☞ Thousands of people have used this machine every year, and no injure case has been reported so far as we are concerned. Obviously, improperly operation can cause serious injure.

3) Cost Saving

Cost saving can be achieved on our offers “Basic Kit” , “Classic Kit” and “Professional Kit” . You can assemble various machines, such as Lathe, Jigsaw, Milling Machine, Drilling Machine, Sanding Machine, Woodturning Lathe, etc., Each machine will have different functions

- ☞ “Basic Kit” - you can operate ONE (1) machine at any one time and you can assemble up to 4 type of machines
- ☞ “Classic Kit” - you can operate ONE (1) machine at any one time and you can assemble up to 6 type of machines
- ☞ “Professional Kit” - you can operate THREE (3) machines concurrently and you can assemble up to 8 type of machines

4) No Major Differences on Professional Machine

Principally there is no difference between our Machine and real-size (professional) Machine. Our machine has the common individual parts, such as, motor, chuck, slide, etc., as the professional machine and both operation is almost identical. The differences are in precision and machine size. Most importantly, it is the price that we are offering is much less than the real-size machine.

5) Handling Wood and Soft Metal

Our machine can handle wood, such as Stone-pin, Larch, Birch, Beech, Ash-tree, Lime-tree, Poplar, etc., And work on hardwood are particular suitable. Other than wood, our machine can handle soft metal, such as, Brass, Copper, Aluminum, Precious metals (Gold, Silver). Iron and Steel are too hard for our machine. However, with persons who have experience on turning lathe and with a sensitive way of working, it is possible that you can also make a thin steel axle.

3. General Caution and Warning

You need to read manual carefully before operating our Mini multipurpose machine. General safety warning and operation caution are listed as follow which cover the whole procedures of operation, maintenance, inspection and cleaning. Further cautions and warning can be viewed under each machine operation instructions.

Proper operation will make your work easier.

The followings are the general safety cautions:



- 1) Keep the working area clean and dry. Do not work under dirty and wet environment. We recommend working in a dust free environment with sufficient airing.
- 2) Keep the children (under age 14) away the working area.
- 3) Do not store the machine in the place where children can be reached.

- 4) Always wear the goggle to protect your eyes when you are operating the machine.
- 5) Keep hair and clothing well away from moving parts.
- 6) Stop the machine instantly when anomalous sound is heard, work away after the reason was found and fixed it.
- 7) Always check the machine before you start operating it, shift or replace the worn parts if required. As some of the components are designed specially for our machine, you are advised to use our components avoiding injury and to extend the life span of your machine
- 8) Keep away from chemical and explosive while operation
- 9) Our manual has not covered all the conditions that you may be confronted. Nevertheless, your know-how and safely awareness are the most importance.
- 10) Some of the images shown in the manual are in different scale in comparison with the real-size.

The followings are the general operation cautions:

- 1) Tighten the parts after adjustment or placement between other parts.
- 2) Avoiding contingency, press the transformer switch to "off" before start to operate. Place the transformer in the environment with sufficient airing and dry.
- 3) Tighten the tools when proceed the working piece.
- 4) Never touch the revolving working piece with any part of your body, in particular, the revolving tools.
- 5) Due to the experience limitation of the junior operator, do not feed-back too fast for the beginner. You can adjust feed-back speed base on your requirement when you become more skillful.
- 6) When the resistance of motor is too hard to reduce the rotating speed, cut the power supplier immediately within 5 seconds and do not delay to shutoff the machine, otherwise, the motor will be destructive. When this happens, check the reason and fix it before restart the machine again.
- 7) Pull out the plug of transformer after you have finished your work.
- 8) Keep the machine clean and dry. From time to time, you may need to grease the moving parts.
- 9) View the hind manual for more cautions of each machine.

Professional Kit Set Part List:

Description	Part No.	Q' ty	Unit	Description	Part No.	Q' ty	Unit
Long Machine Bed	W001	2	pcs	Long Drive Belt	W03202	2	pcs
Short Machine Bed	W002	3	pcs	Drive Belt Cover	W033	1	pcs
Extra Long Machine Bed	W003	1	pcs	Woodturning Support	W034	2	pcs
High Speed Motor Unit	W004	3	set	Protection Cap	W035	1	pcs
Motor Leaf's Slice	W00403	10	pcs	Protection Cap Connection	W036	1	pcs
Low Speed Motor Unit	W006	1	set	Center Needle	W037	2	pcs
Wheel Gear Box	W007	3	set	Small Plate (0.3mm)	W03801	20	pcs
Tailstock	W008	2	set	Large Plate (0.4mm)	W03802	20	pcs
Small Slide	W009	3	pcs	Turning Tools Fastener	W039	1	pcs
Large Slide	W010	2	pcs	Fastener Stabilizing Plates	W04001	2	pcs
Longitudinal Silde	W011	1	pcs	Protective Goggles	W041	1	pcs
Three Jaw Chuck	W012	1	set	Intermediate Connect Plate	W042	6	pcs
Machine Vise	W013	2	pcs	Slot Nut	W043	28	pcs
Connection Piece	W014	18	pcs	Two Hole Clamping Plate	W044	16	pcs
Jigsaw Case	W015	1	set	Clamping Jaw	W048	7	pcs
Cam	W016	1	pcs	Collet Holder	W049	4	pcs
Drive Center	W017	2	pcs	Screwdriver	W050	1	pcs
Clamping Plate	W018	1	pcs	Allen Key	W051	2	pcs
Grinding Wheel	W01901	1	pcs	Rod	W052	2	pcs
Grinding Wheel Assy.	W01902	2	pcs	Center Finder	W053	2	pcs
Live Center	W020	2	pcs	Drill Bit (2mm)	W05401	1	pcs
12V Transformer	W021	1	pcs	Drill Bit (3mm)	W05402	1	pcs
Power Supply Connector	W022	1	pcs	Milling Cutter (3mm)	W05501	1	pcs
Dividing Attachment Assy.	W023	1	set	Milling Cutter (4mm)	W05502	1	pcs
Dividing Attachment	W024	1	pcs	Milling Cutter (5mm)	W05503	1	pcs
Sanding Paper	W025	10	pcs	Milling Cutter (6mm)	W05504	1	pcs
Jigsaw Table	W026	1	pcs	Turning Tool	W058	1	pcs
Drilling Table	W027	1	pcs	Turning Gouge	W059	1	pcs
Drilling Lever	W028	2	pcs	Saw Blade	W060	20	pcs
Press Plank	W029	1	pcs	Collets	*W062	2	set
Jigsaw Base	W030	1	pcs	Standard Hardware	*W064	1	set
Intermediate Piece	W031	6	pcs	Grinder Tools	*W065	1	set
Short Drive Belt	W03201	4	pcs	Manual With VCD	W066	1	set
Fastener Stabilizing Elbow Plates	W04003	2	pcs				

*W062 Collets include 8 pcs ,see Table 1.

*W064 Standard Hardware include screws and nuts, etc.,see Table 3.

*W065 Grinder Tools include 7 pcs,see Table 2.



Classic Kit Set Part List:

Description	Part No.	Q' ty	Unit	Description	Part No.	Q' ty	Unit
Long Machine Bed	W001	1	pcs	Long Drive Belt	W03202	1	pcs
Short Machine Bed	W002	1	pcs	Drive Belt Cover	W033	1	pcs
High Speed Motor Unit	W004	1	set	Woodturning Support	W034	1	pcs
Motor Leaf's Slice	W00403	1	pcs	Protection Cap	W035	1	pcs
Wheel Gear Box	W007	1	set	Protection Cap Connection	W036	1	pcs
Tailstock	W008	1	set	Center Needle	W037	1	pcs
Small Slide	W009	2	pcs	Small Plate (0.3mm)	W03801	10	pcs
Large Slide	W010	1	pcs	Large Plate (0.4mm)	W03802	10	pcs
Three Jaw Chuck	W012	1	set	Turning Tools Fastener	W039	1	pcs
Machine Vise	W013	1	pcs	Fastener Stabilizing Plates	W04001	2	pcs
Connection Piece	W014	7	pcs	Protective Goggles	W041	1	pcs
Jigsaw Case	W015	1	set	Intermediate Connect Plate	W042	2	pcs
Cam	W016	1	pcs	Slot Nut	W043	10	pcs
Drive Center	W017	1	pcs	Two Hole Clamping Plate	W044	10	pcs
Clamping Plate	W018	1	pcs	Clamping Jaw	W048	4	pcs
Grinding Wheel	W01901	1	pcs	Collet Holder	W049	1	pcs
Grinding Wheel Assy.	W01902	1	pcs	Screwdriver	W050	1	pcs
Live Center	W020	1	pcs	Allen Key	W051	1	pcs
12V Transformer	W021	1	pcs	Rod	W052	2	pcs
Power Supply Connector	W022	1	pcs	Center Finder	W053	1	pcs
Sanding Paper	W025	5	pcs	Drill Bit (2mm)	W05401	1	pcs
Jigsaw Table	W026	1	pcs	Milling Cutter (3mm)	W05501	1	pcs
Drilling Table	W027	1	pcs	Turning Tool	W058	1	pcs
Drilling Lever	W028	1	pcs	Turning Gouge	W059	1	pcs
Press Plank	W029	1	pcs	Saw Blade	W060	10	pcs
Jigsaw Base	W030	1	pcs	Collets	*W062	1	set
Intermediate Piece	W031	3	pcs	Standard Hardware	*W064	1	set
Short Drive Belt	W03201	1	pcs	Manual With VCD	W066	1	set
Fastener Stabilizing Elbow Plates	W04003	1	pcs				

*W062 Collets include 8 pcs , see Table 1.

*W064 Standard Hardware include screws and nuts, etc., see Table 3.



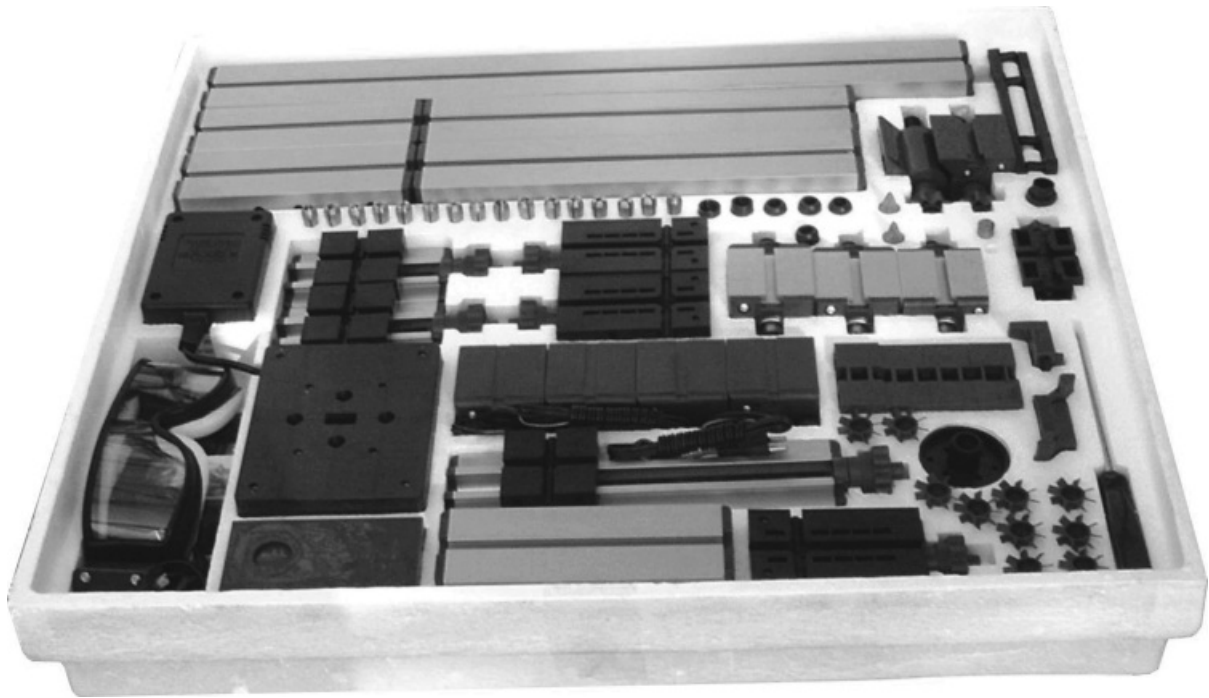
Basic Kit Set Part List:

Description	Part No.	Q' ty	Unit	Description	Part Number	Q' ty	Unit
Long Machine Bed	W001	1	pcs	Protective Goggles	W041	1	pcs
High Speed Motor Unit	W004	1	set	Slot Nut	W043	5	pcs
Motor Leaf's Slice	W00403	1	pcs	Two Hole Clamping Plate	W044	2	pcs
Wheel Gear Box	W007	1	set	Collet Holder	W049	1	pcs
Tailstock	W008	1	set	Small Screwdriver	W05001	1	pcs
Large Slide	W010	1	pcs	Large Screwdriver	W05002	1	pcs
Connection Piece	W014	5	pcs	Allen Key	W051	1	pcs
Jigsaw Case	W015	1	set	Center Finder	W05301	1	pcs
Cam	W016	1	pcs	vernier caliper	W05302	1	pcs
Drive Center	W017	1	pcs	Drill Bit (2mm)	W05401	1	pcs
Clamping Plate	W018	1	pcs	Drill Bit (3mm)	W05402	1	pcs
Grinding Wheel	W01901	1	pcs	Turning Gouge	W059	1	pcs
Grinding Wheel Assy.	W01902	1	pcs	Saw Blade	W060	10	pcs
Live Center	W020	1	pcs	Collets	*W062	1	set
12V Transformer	W021	1	pcs	Grinder Tools	*W065	1	set
Power Supply Connector	W022	1	pcs	Manual With VCD	W066	1	set
Sanding Paper	W025	5	pcs	A3 x 16 Screw	W06339	4	pcs
Jigsaw Table	W026	1	pcs	M2 x 10 Bolt	W06311	3	pcs
Drilling Table	W027	1	pcs	M4 x 6Bolt	W06315	6	pcs
Press Plank	W029	1	pcs	M4 x 10Bolt	W06317	2	pcs
Jigsaw Base	W030	1	pcs	M4 x 12Bolt	W06318	4	pcs
Intermediate Piece	W031	2	pcs	Allen screw	W06324	1	pcs
Short Drive Belt	W03201	1	pcs	M4 Nut(White)	W06329	1	pcs
Drive Belt Cover	W033	1	pcs	8.8 x 4.2 x 0.6 Gasket	W06334	5	pcs
Woodturning Support	W034	1	pcs	A 3 x 10 Screw	W06304	2	pcs
Protection Cap	W035	1	pcs				
Protection Cap Connection	W036	1	pcs				

*W062 Collets include 8 pcs , see Table 1.

*W065 Grinder Tools include 7 pcs,see Table 2.

Professional Kit Set:



Description:

The total parts of Professional Kit Set(model No.W50000) can be assembled into maximum 8 kinds of different machine tools, such as Jig-Saw, Lathe, Woodturning Lathe, Drilling Machine, Milling Machine, Sanding Machine, On-hand Machine, Drilling Machine With Dividing Attachment.

However at the same time, the total parts are only available to be assembled for any three kinds out of the Eight.

The Professional Kit Set can also be assembled into some Specialist Machine tools, such as Circle Milling Machine, Enlarging Drilling Machine, Enlarging Woodturning Lathe, Profile Milling Machine, Planner Machine , Circular Saw Machine, Horizontal Gear Milling Machine.

Classic Kit Set:



Description:

The total parts of classic kit Set(model No.W40000) can be assembled into maximum 6 kinds of different machine tools, such as Jig-Saw, Lathe, Woodturning Lathe, Drilling Machine, Milling Machine, Sanding Machine . However at the same time, the total parts are only available to be assembled for one kind out of the Six.

Basic kit

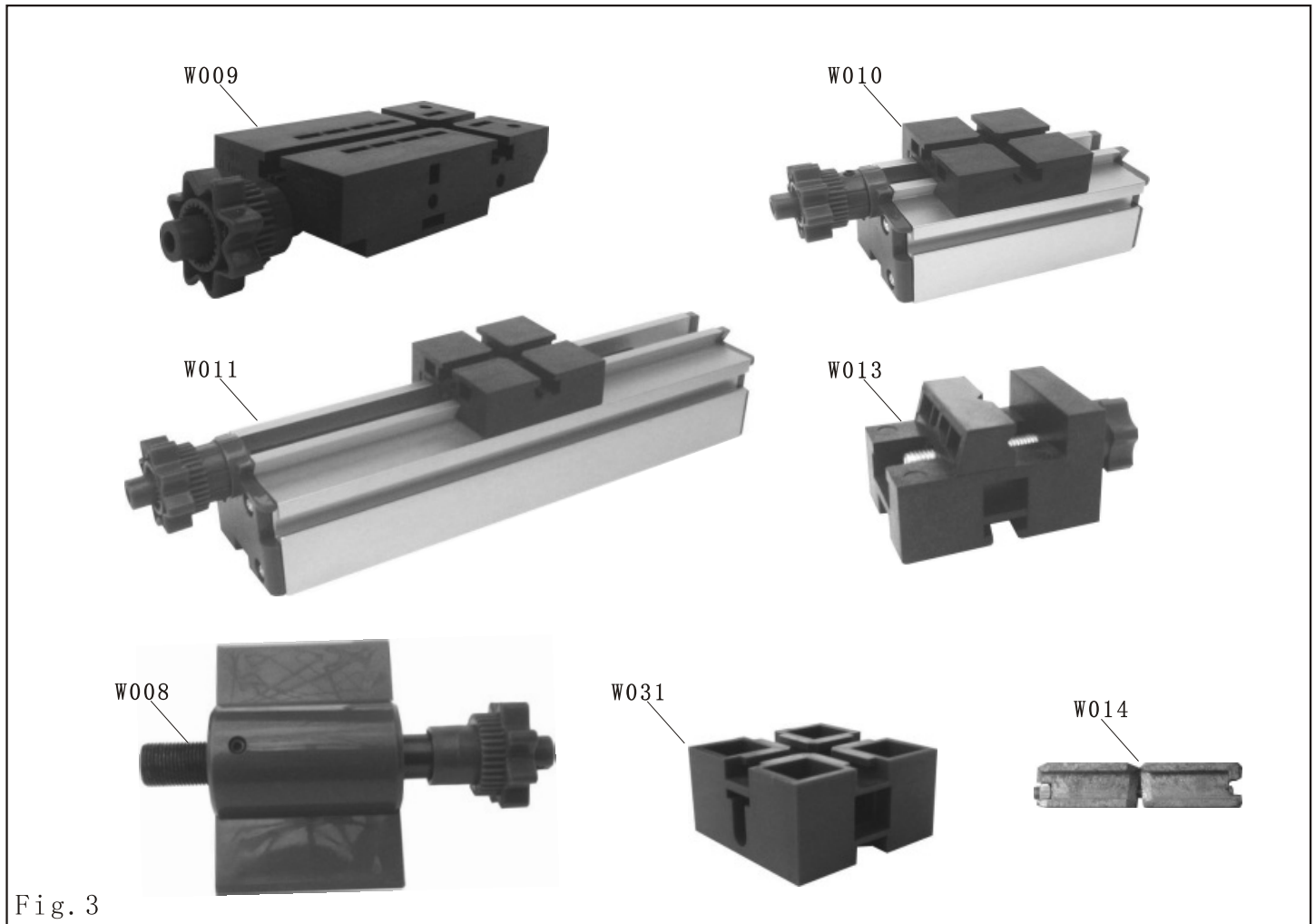
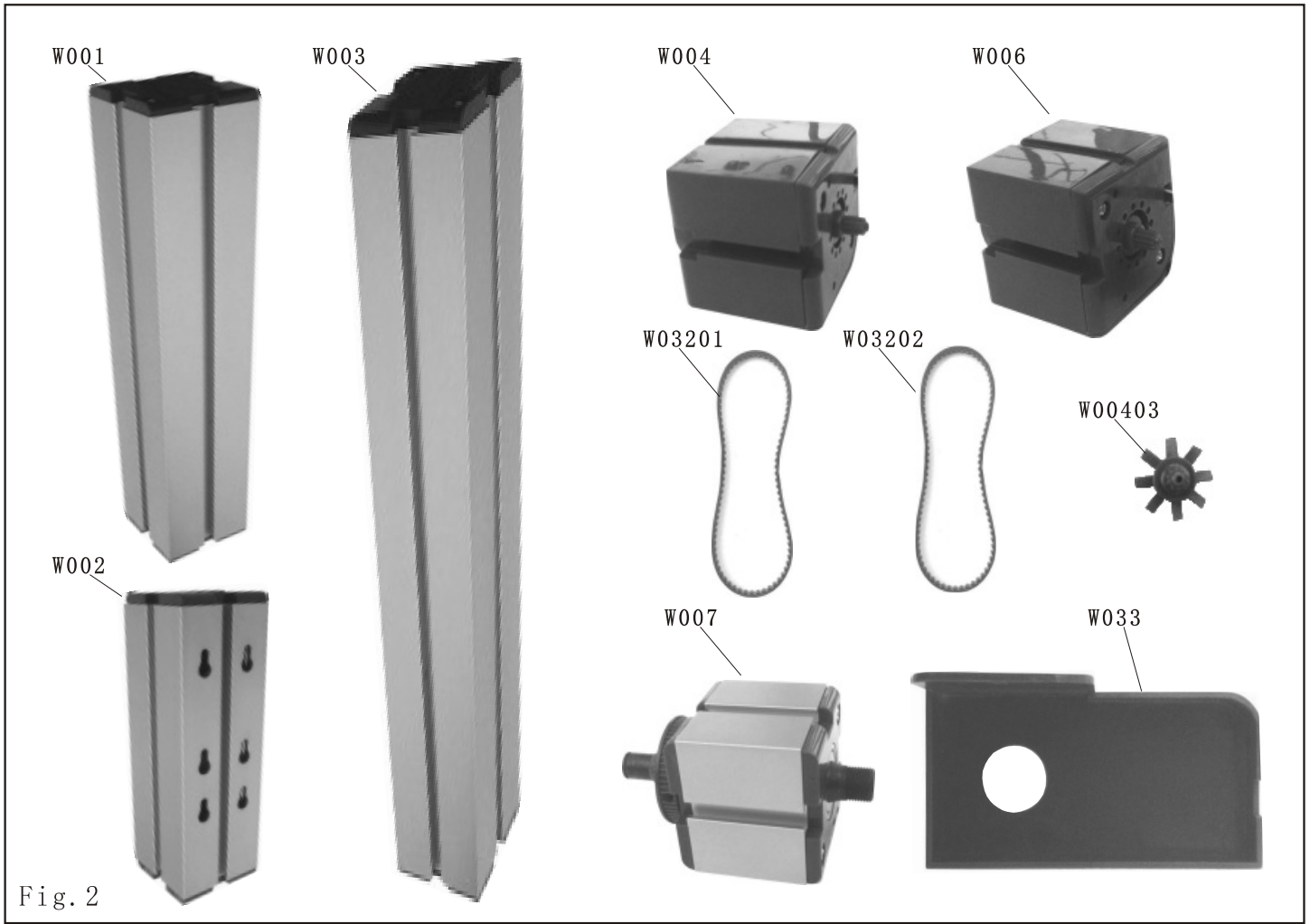


Description:

The total parts of basic kit Set(model No.W70000) can be assembled into maximum 4 kinds of different machine tools, such as Jig-Saw, Woodturning Lathe, Sanding Machine, On-hand Machine .

However at the same time, the total parts are only available to be assembled for one kind out of the four.

Fig. 1



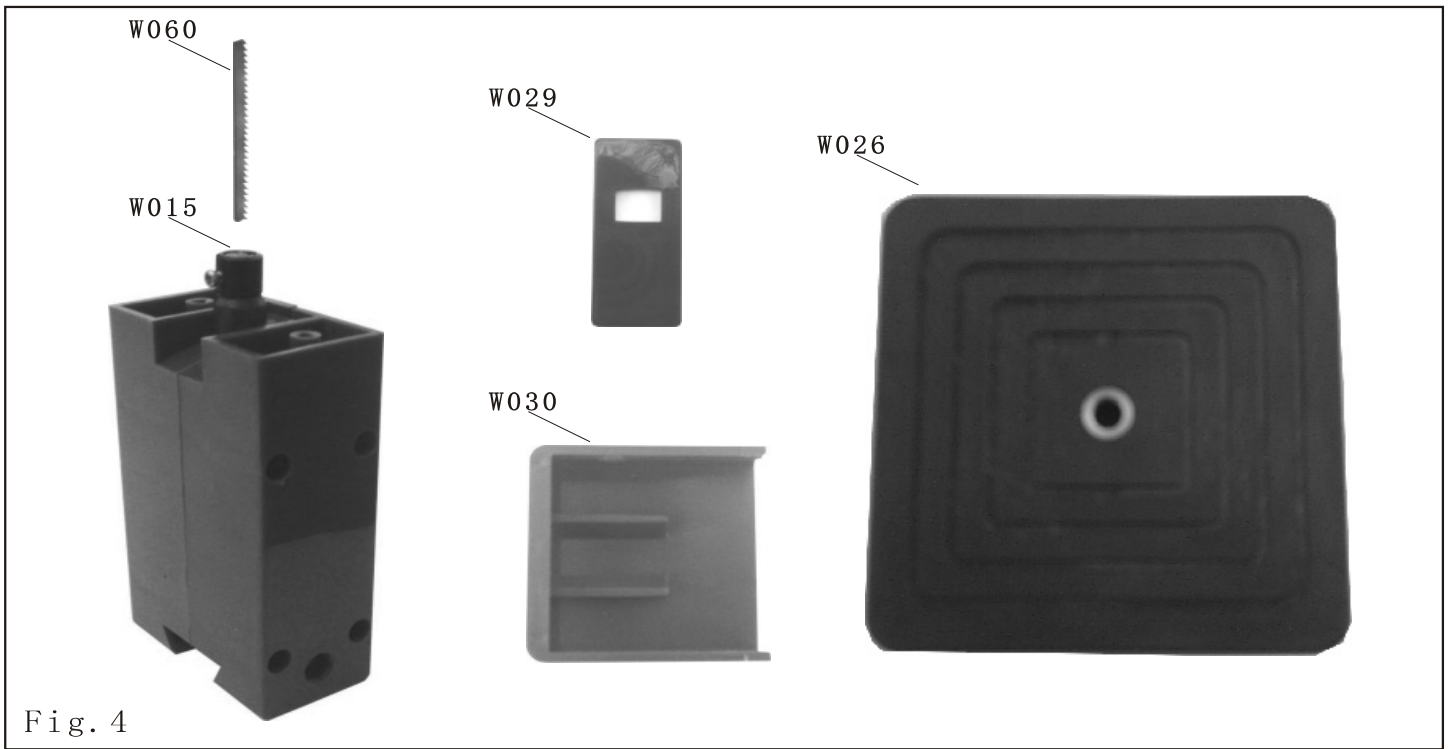


Fig. 4

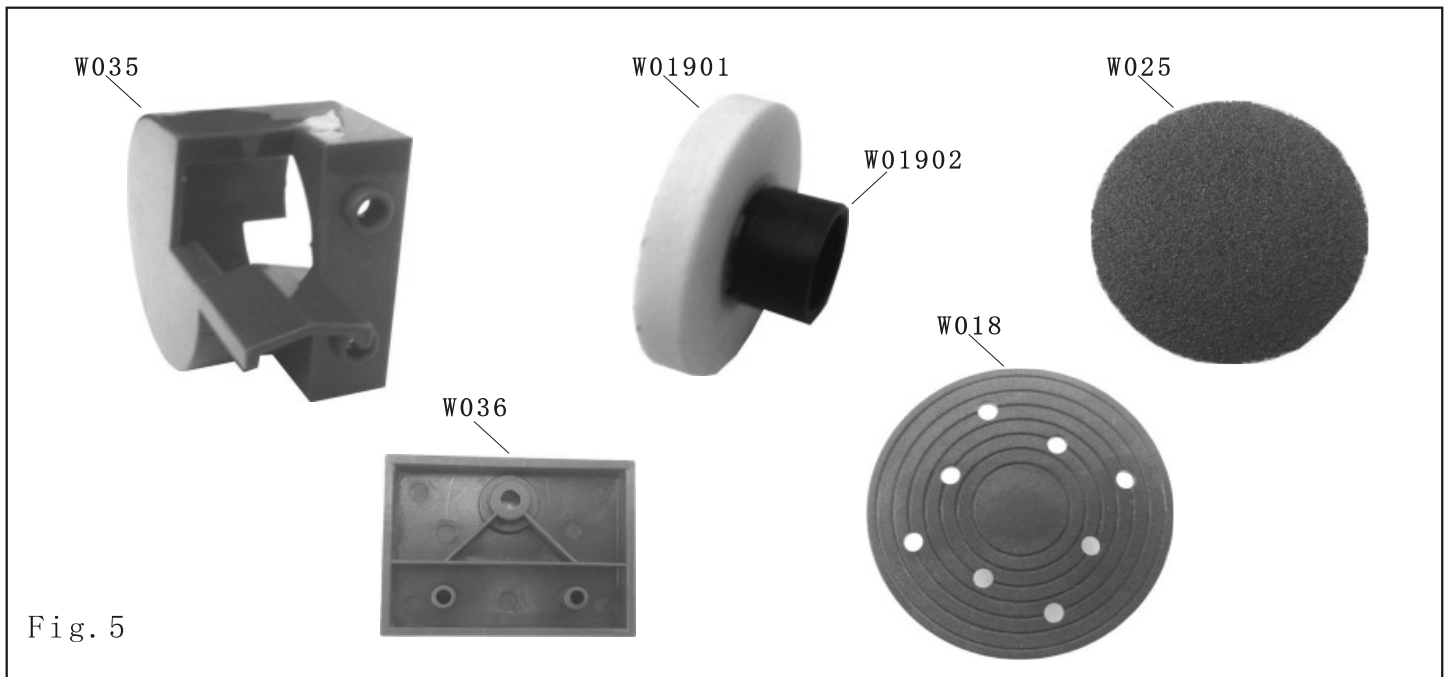


Fig. 5

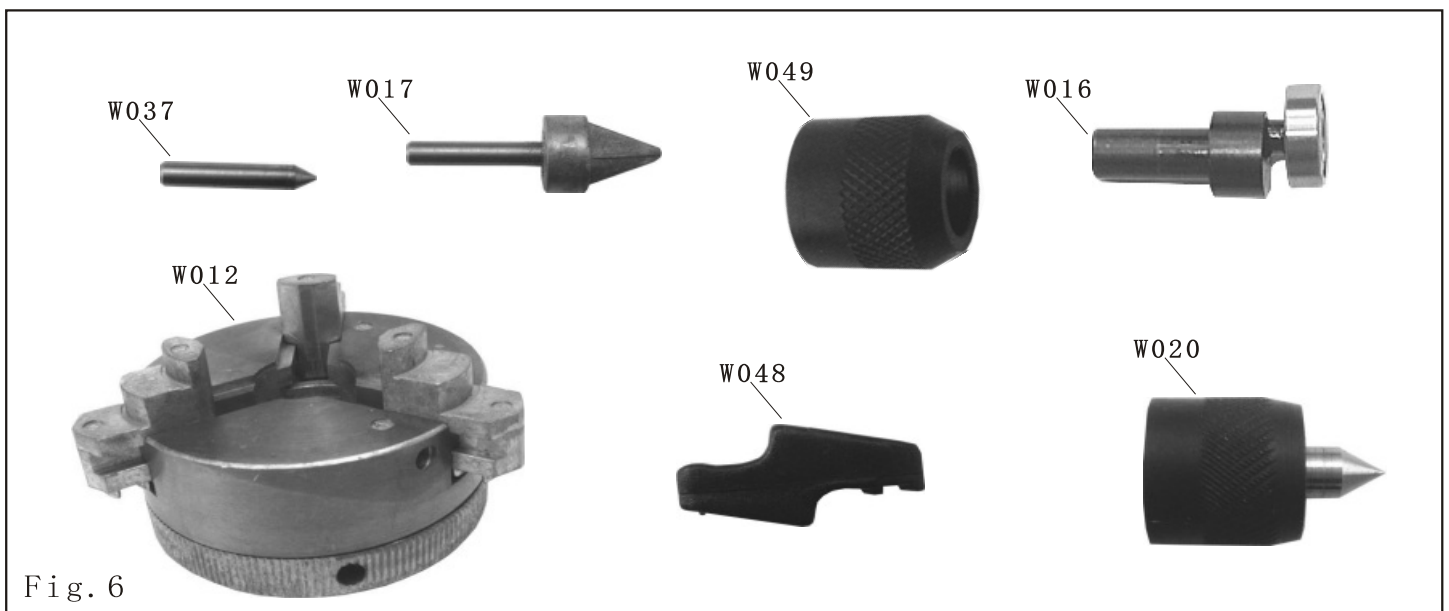


Fig. 6

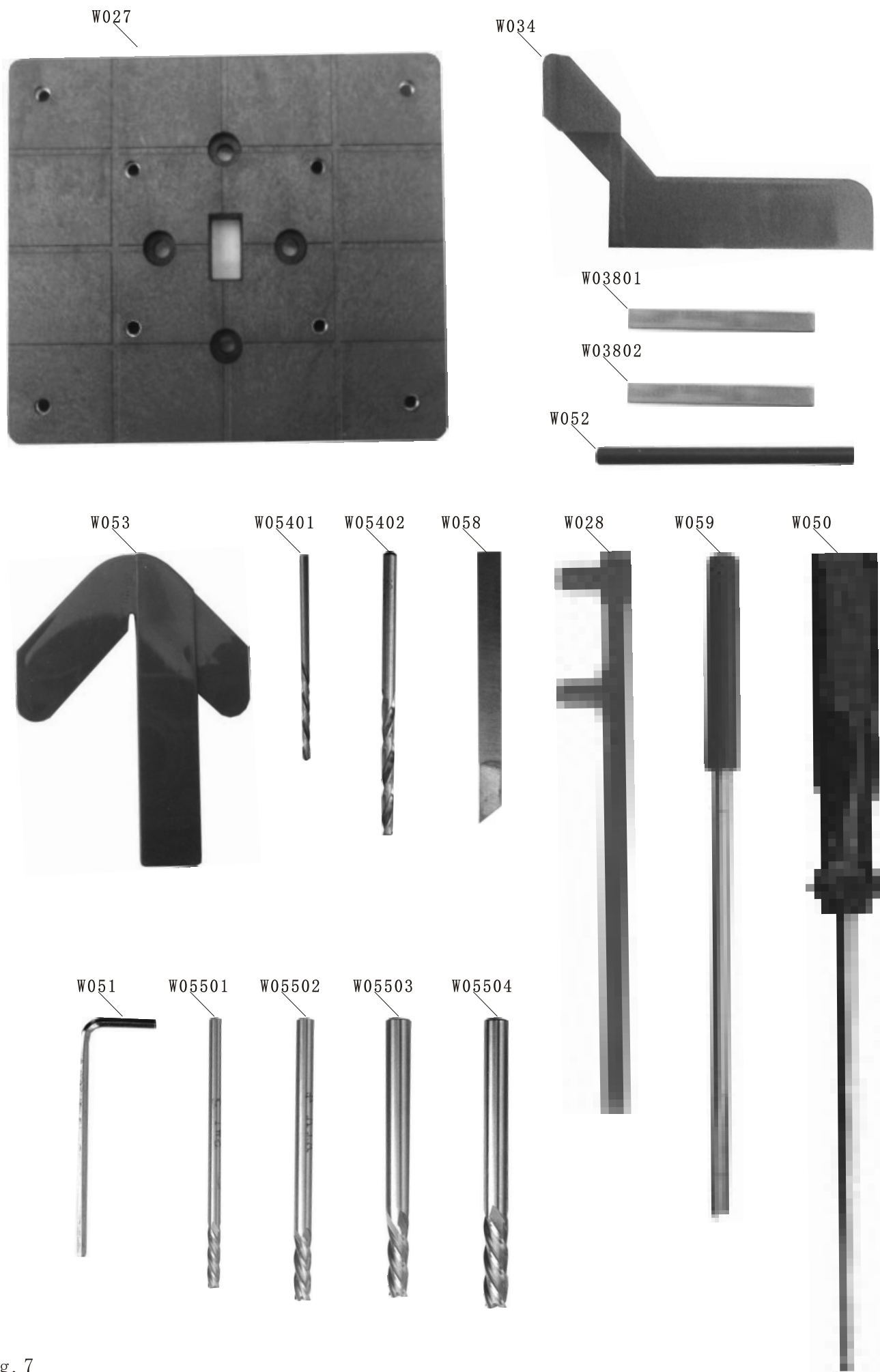


Fig.7

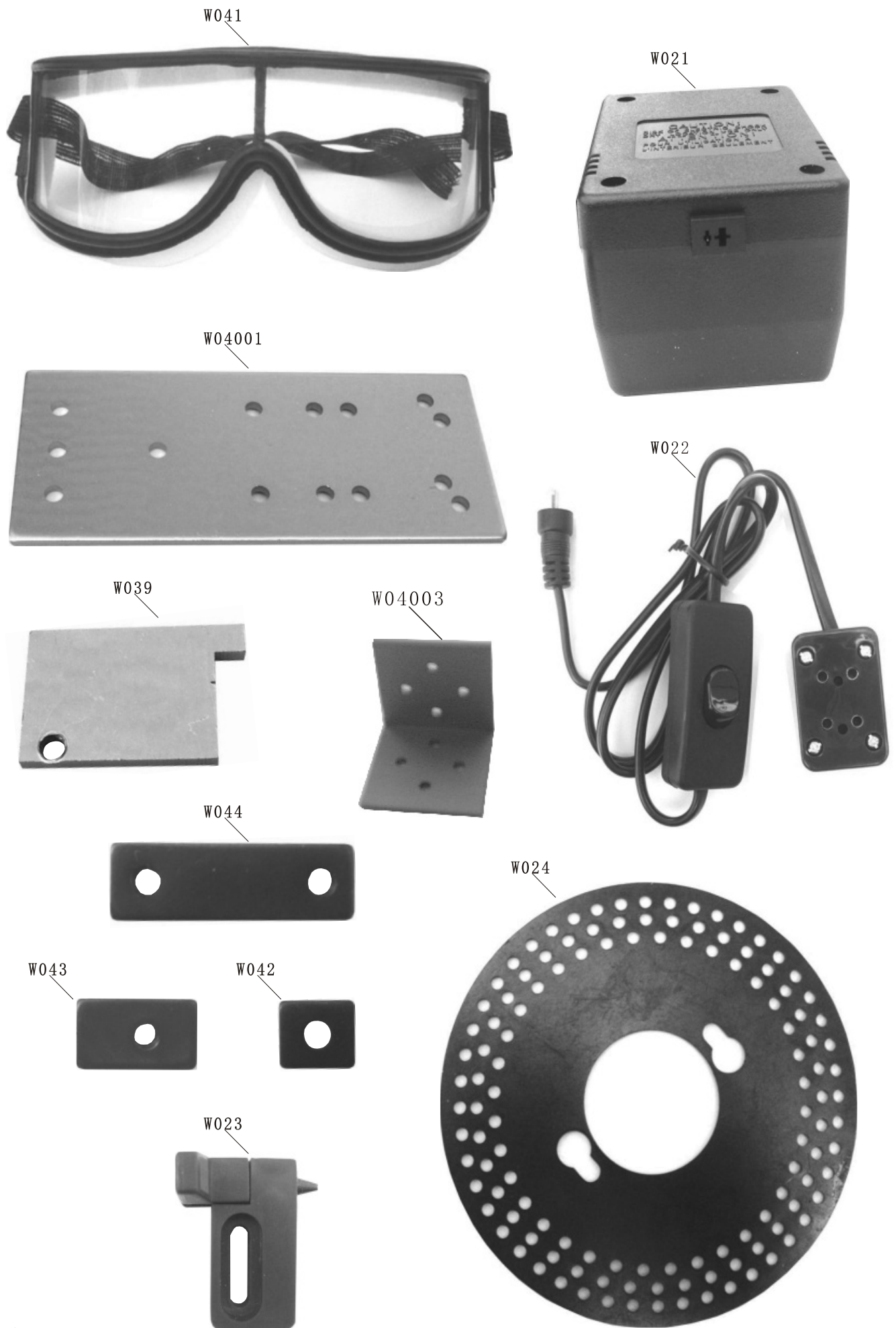


Fig. 8



Table 1: Collects include **8** P CS.

Collets	W062	ϕ 1mm	W06201
		ϕ 2mm	W06202
		ϕ 2.5mm	W06203
		ϕ 3mm	W06204
		ϕ 3.5mm	W06205
		ϕ 4mm	W06206
		ϕ 5mm	W06207
		ϕ 6mm	W06208

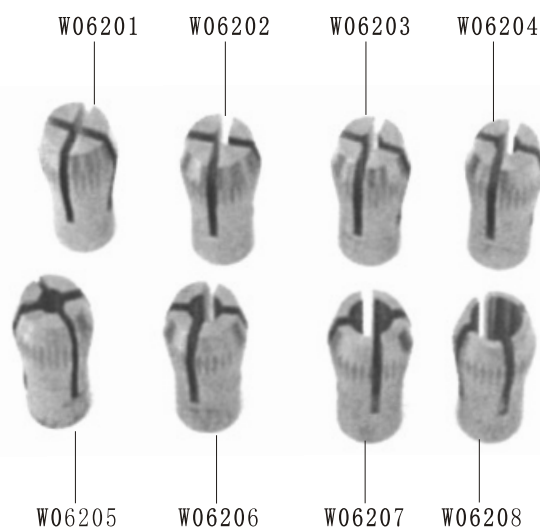


Fig9



Table 2: Grinder Tools include **7** P CS.

Grinder Tools	W065	Cylinder Grinder	W06501
		Pellet Grinder	W06502
		Disc Grinder	W06503
		Cone Grinder	W06504
		Semicircle Grinder	W06505
		Woolen Grinder	W06506
		Wire Disc Grinder	W06507

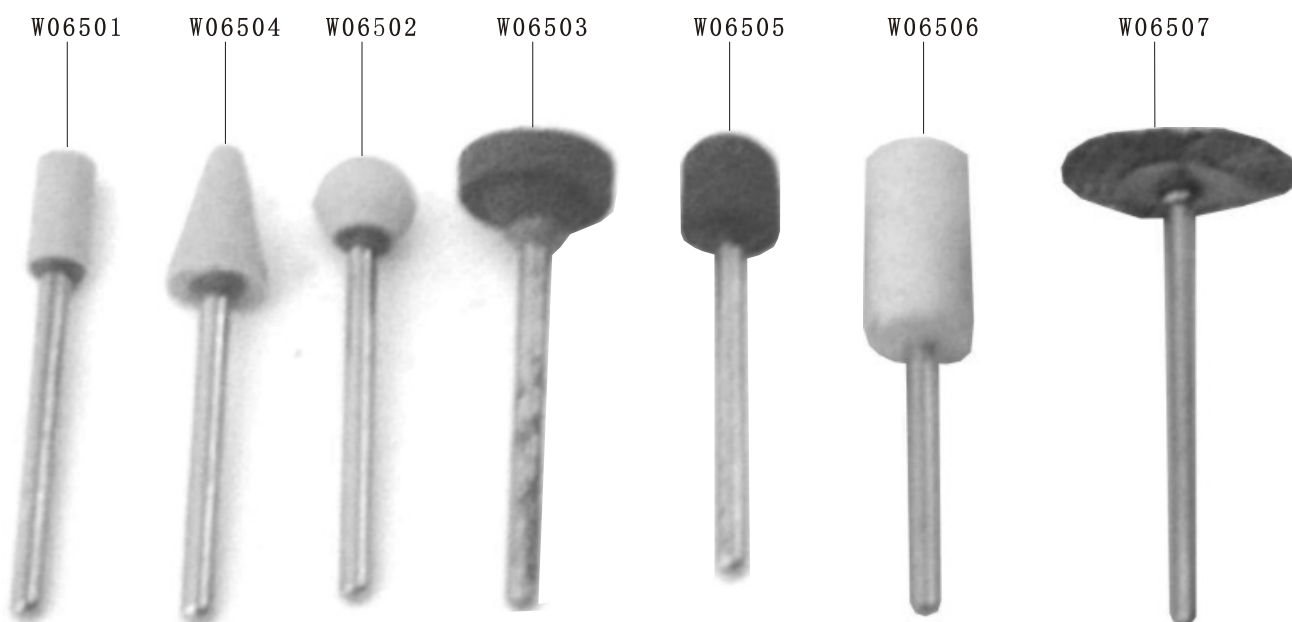


Fig. 10



Table 3: Standard Hardware List.

Standard Hardware	W064	M3X16Bolt	W06338	2 pcs
		A3x10 Screw	W06304	12 pcs
		M2x10 Bolt	W06311	8 pcs
		M3x40 Bolt	W06314	10 pcs
		M4x6 Bolt	W06315	20 pcs
		M4x8 Bolt	W06316	20 pcs
		M4x10 Bolt	W06317	16 pcs
		M4x12 Bolt	W06318	8 pcs
		M4x16 Bolt	W06319	10 pcs
		M4x25 Bolt	W06320	10 pcs
		M4x50 Bolt	W06321	6 pcs
		M4x70 Bolt	W06323	4 pcs
		M3 Nut	W06327	10 pcs
		M4 Nut (White)	W06329	6 pcs
		M4 Nut (Black)	W06330	4 pcs
		M4 Square Nut	W06331	10 pcs
		φ 8.8x4.2x0.6 Gasket	W06334	20 pcs
		A3X16 Screw	W06339	8pcs

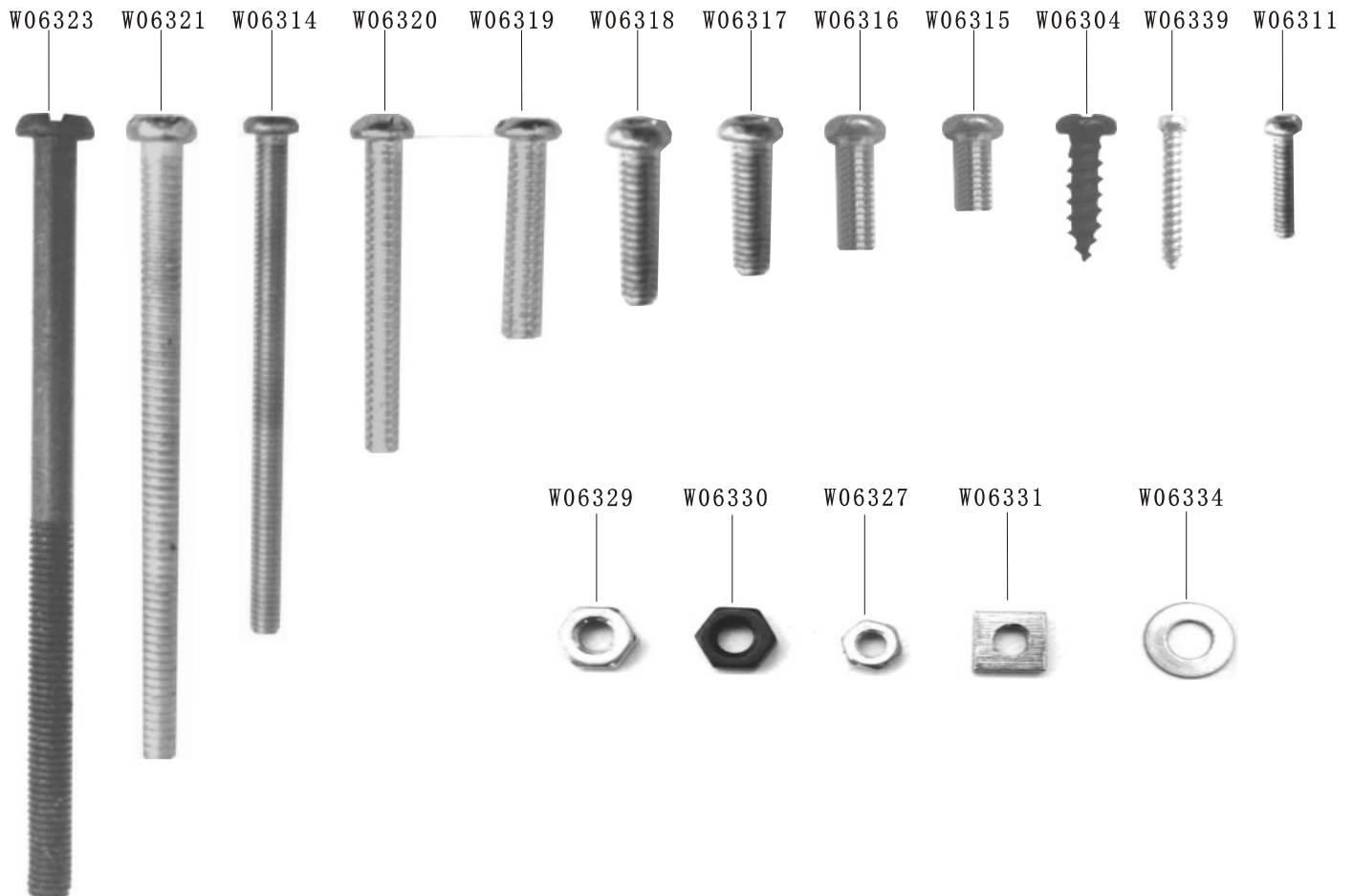


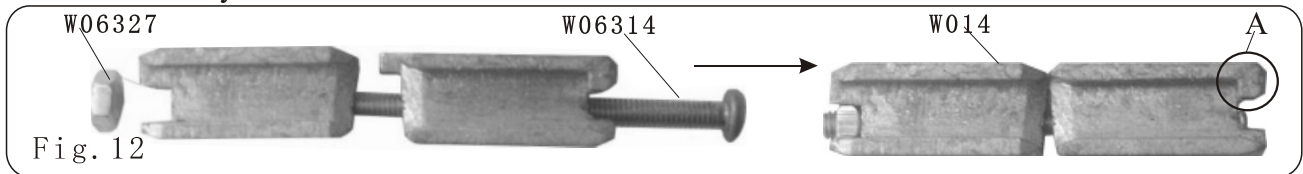
Fig. 11

Parts Assembly And Operation:

1. Assembly And Operation Of Connection Piece (W014) :

Join all connection pieces as shown (Fig. 12)

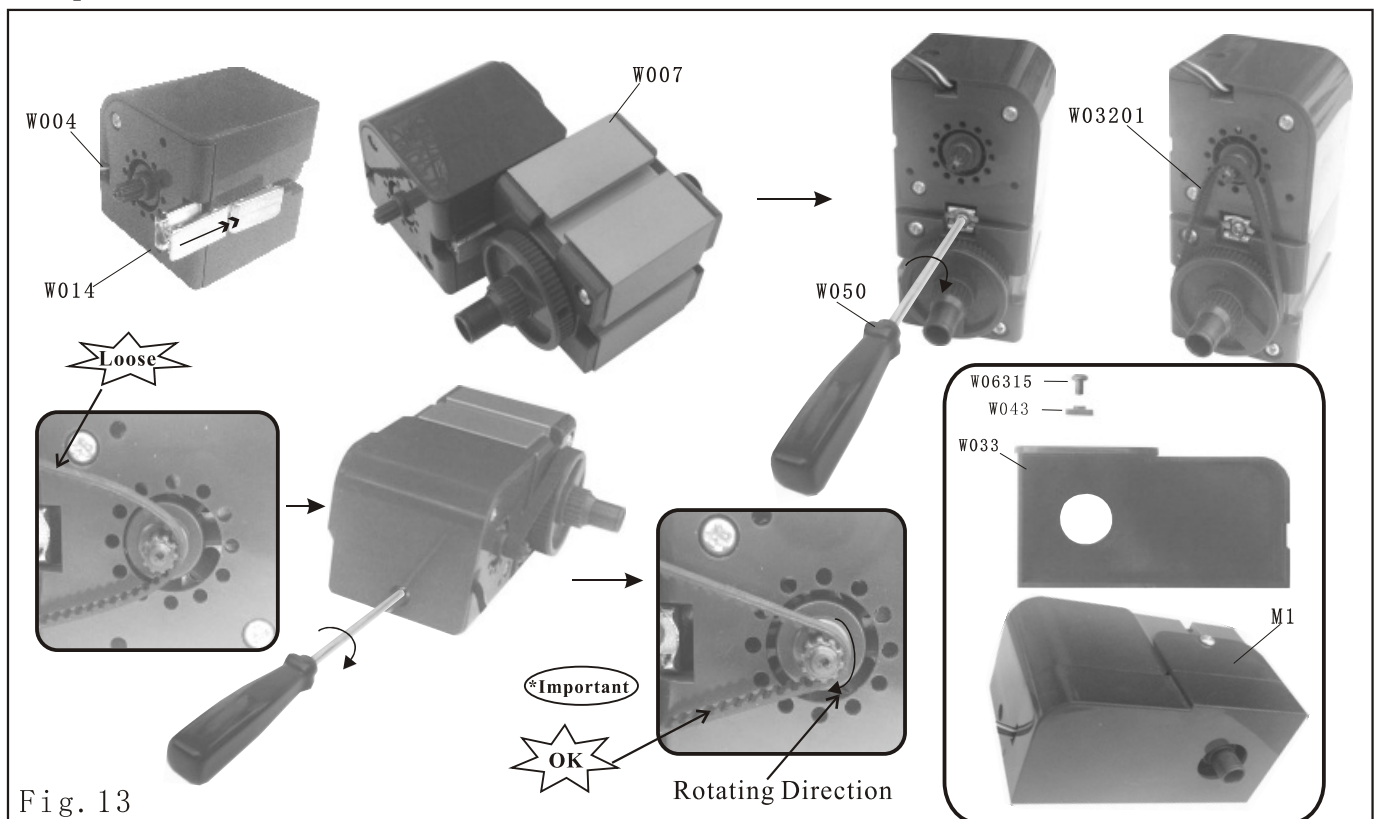
Notice: There is a nose(A) of one section of the connection, the nose is important use for assembly of machine.



2. Assembly And Operation Of Motor-Wheel Gear Box Unit (M1):

The followings are series of steps for assembling the Motor-Wheel Gear Box Unit (M1):

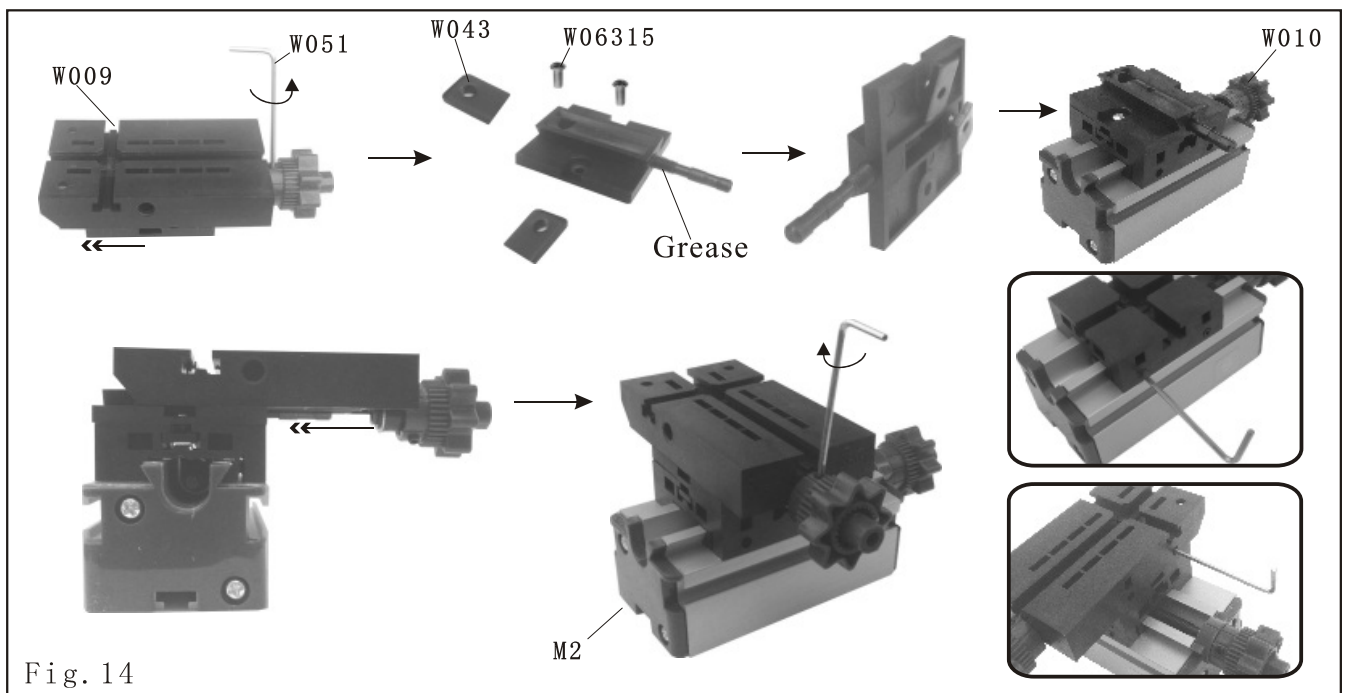
- ☞ Slide the Connection Piece (W014) into the Motor (W004)
After inserting the Connection Piece into the Motor, connecting the Motor with the Wheel Gear Box (W007) by sliding the Connection Piece into the groove of the Motor as shown in Fig.13. Once both the Motor and the Wheel Gear Box are in the corrected position, fashion and tighten the connection piece to hold the Motor and the Wheel Gear Box together.
- ☞ Fit the drive belt (W03201) into the Motor
- ☞ Finally, the Motor-Wheel Gear Box Unit (M1) has been assembled. Adjust the belt tension by tightening or loosening the screw of the motor with a Screw/Driver (W050) as shown in the diagram.
- ☞ Ensuring the drive belt having the right tension as the drive belt has major influence on the motor and work performance. It is very important for adjusting the tension of the drive belt before starting the motor.
- ☞ The motor rotating direction is clockwise while face to the motor leaf's slice.
- ☞ Using the nut and bolt (W06315) to fashion the driver belt cover (W033) onto the motor to protect the drive belt in most situations



3. Assembly And Operation Of Small Slide(W009)And Large Slide(W010)Unit(M2):

As shown in Fig 14:

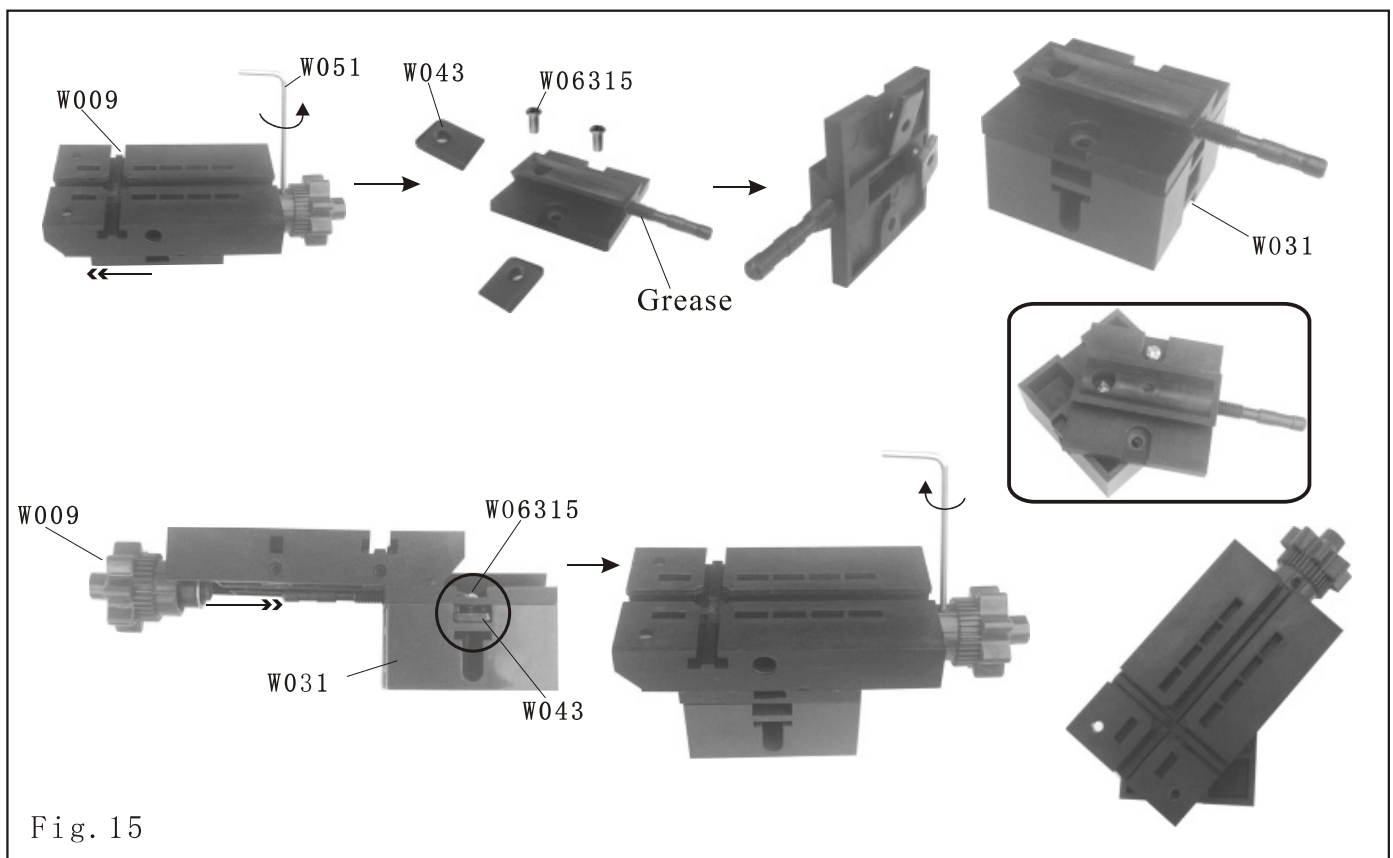
- ☞ Before slot nut (W043) is connected to Small Slide (W009), hold the Small Slide tightly and use the Allen Key (W051) to loosen the bolt in the position as shown in the diagram.
- ☞ Grease slot nut as shown in the diagram. After that, push the base of small slide out. Slide two slot nuts into the "T" groove of the big slide. Then, fix the small slide base on the Large slide (W010) by tightening the bolts by the two slot nuts.
- ☞ Place the other parts of the small slide on the base, use the Allen key to tighten the bolt in the handle. When the above adjustment is done, the Small Slide and the Large Slide Unit (M2) have completed the assembly as shown in the diagram.
- ☞ Grease the moving sections as required, such as bolt, "V" groove of small slide, Large slide, etc.,



4. Assembly And Operation Of Small Slide(W009) And Intermediate Piece(W031) Unit (M3):

As shown in Fig 14:

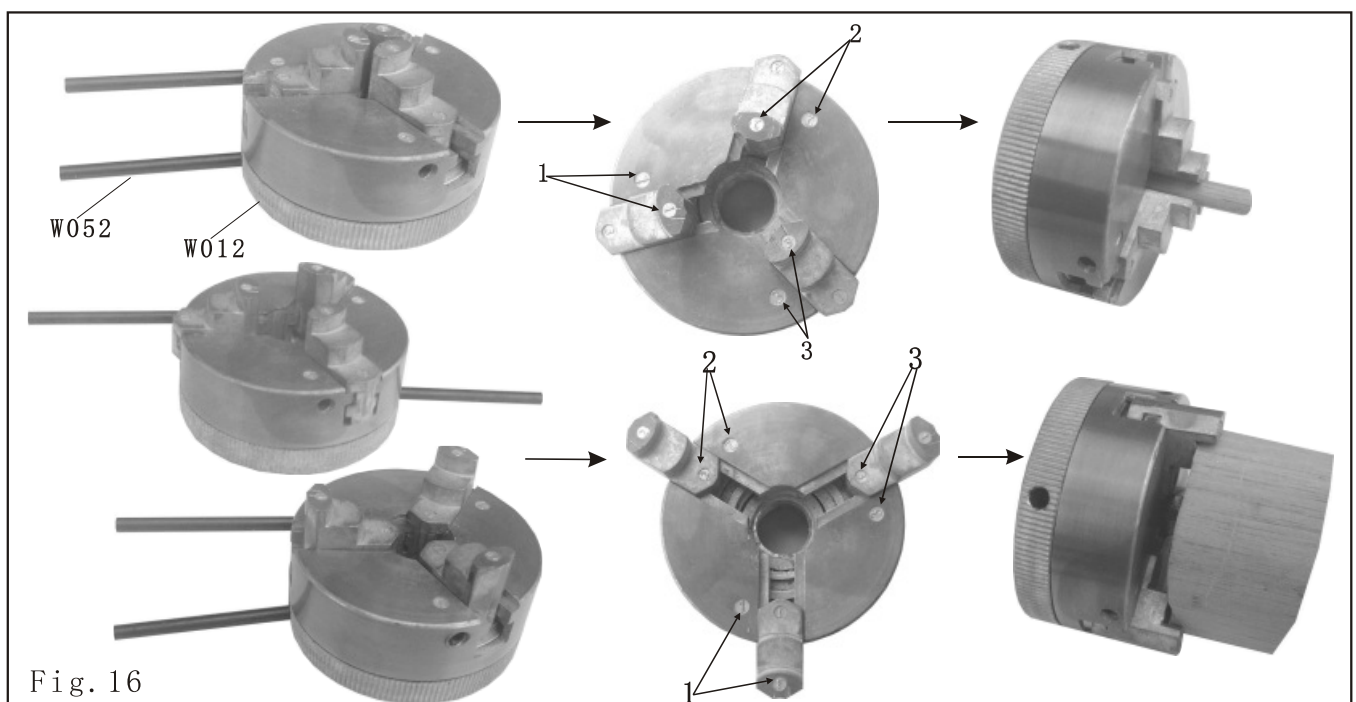
- ☞ Use the Allen key (W051) to loosen the bolt in the handle of the small slide(W009). Then, push the base of small slide out .
- ☞ Slide two slot nuts (W043) into the "T" groove of the intermediate piece (W031), fix the small slide base on the intermediate piece by tightening the bolts into two slot nuts.
- ☞ Replace the other parts of the small slide on the base, tighten the bolt in the handle by Allen key.
- ☞ On completion of the above steps, the Small Slide-Intermediate Piece Unit (M3) has been assembled as shown in the diagram.
- ☞ If you are working with tilted slide, you may need to tighten slide base to the intermediate piece in a desired angle as shown in the diagram.



5、 Operation Of Three Jaw Chuck(W012) :

As shown in Fig 16:

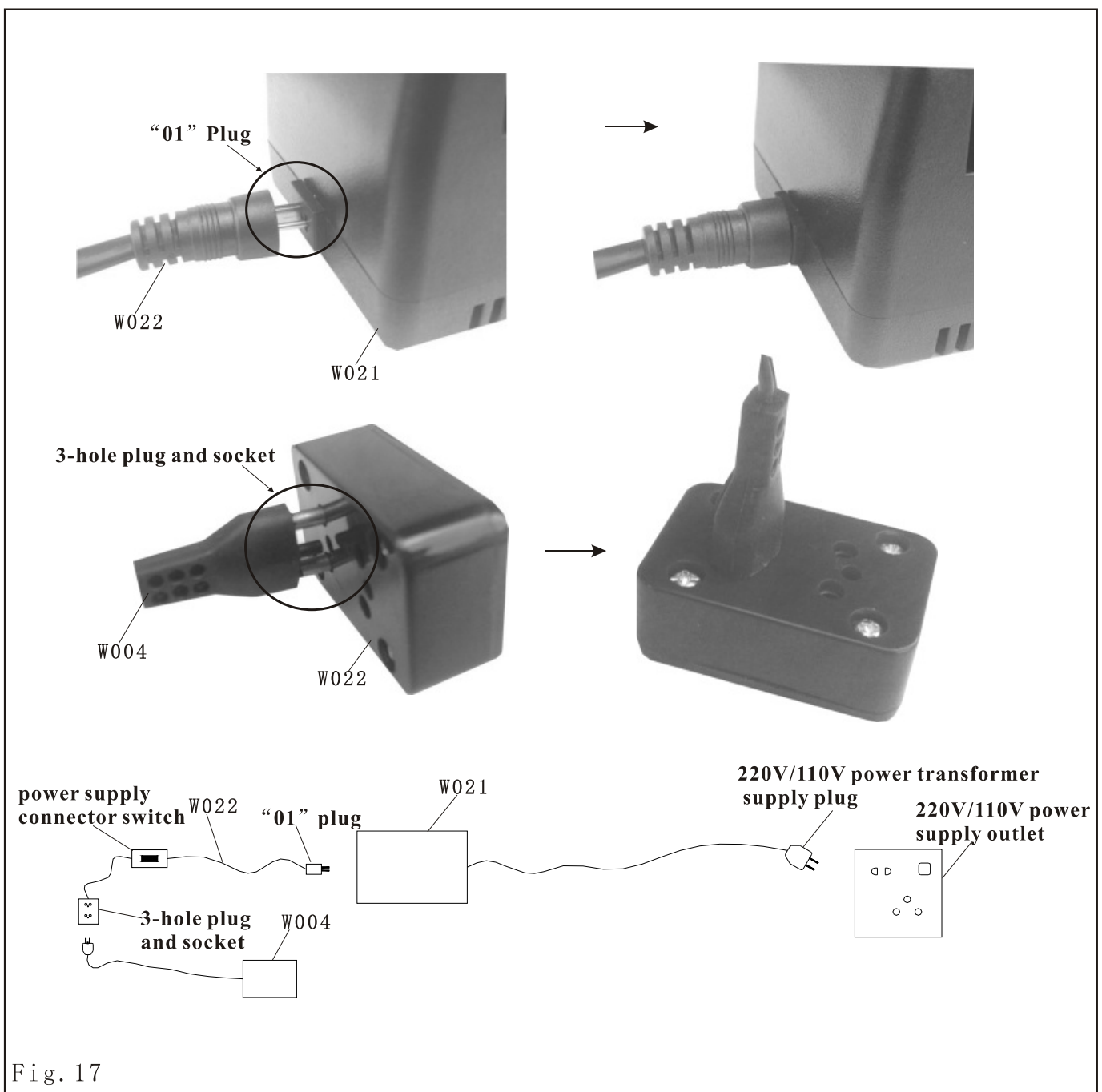
- ☞ Place the rod (W052) into the hole of Three Jaw Chuck (W012), use the rod as lever to rotate the chuck that makes the jaws to open or close.
- ☞ Working on a bigger diameter work piece with the chuck, you need to rotate the chuck until the jaws drop out. As soon as the jaws dropped out, reverse the jaws into the chuck.
- ☞ The position of the numbers of jaw must be corresponding to the chuck top, i.e. Clamp big work piece by using inner jaws, while Clamp big work piece by using outer jaws.



6、Operation Of Transformer (W021) And Power Supply Connector (W022)

As shown in Fig 17:

- ☞ Plug into socket of Transformer with "01" plug of power supply connector and plug into 3-hole socket of Power Supply Connector with "01" plug of Motor. Alternatively, if the plug of Motor is "01" plug, you may plug into the socket of transformer directly.
- ☞ Turn the switch of Power Supply Connector or Motor off before the Transformer plug in.
- ☞ When the Transformer plug in, turn the switch of power supply connector or motor on making sure the motor is rotating and the rotated direction is corrected as shown on the diagram.
- ☞ Different country has adopted different voltage. The transformer comes with the machine can either be 120V or 230V input and both are approved with UL or CE certification. However, make sure that the corrected transformer is chosen.



Assembly And Operation of mini Multipurpose Machine:

1. Jigsaw (W10001) :



Jigsaw Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W002	Short Machine Bed	1	W022	Power Supply Connector	1	W044	Two Hole Clamping Plate	2
W004	High Speed Motor Unit	1	W026	Jigsaw Table	1	W049	Collect Holder	1
W00403	Motor Leaf's Slice	1	W029	Press Plank	1	W060	Saw Blade	10
W007	Wheel Gear Box	1	W030	Jigsaw Base	1	W06208	6 Collet	1
W014	Connection Piece	4	W031	Intermediate Piece	1	W06311	M2X10 Bolt	1
W015	Jigsaw Case	1	W03201	Short Drive Belt	1	W06315	M4X6 Bolt	1
W016	Cam	1	W033	Drive Belt Cover	1	W06339	A3X16 screw	2
W021	12V Transformer	1	W043	Slot Nut	1			

1.1.Assembly :

As shown Fig. 18,19:

☞ Fix the intermediate piece(W031) on short bed (W002) by connection piece (W014).

☞ Fasten motor-wheel gear box unit(M1) on the intermediate piece.

☞ Clamp the cam(W016) into the wheel gear box with collet(W06208) and collet holder(W049); measure the extension of cam with press plank (W029);

☞ Then slide jigsaw case(W015) into jigsaw base(W030),and slide the press plank into to the groove of jigsaw base. Fasten the them on short machine bed.

☞ Assemble the saw blade(W060) in jigsaw case, then fix the jigsaw table (W026) on the jigsaw case with two screws.

☞ At last, assemble the diver belt cover(W033)

1.2.Operation:

The jigsaw is not dangerous at all! For the small stroke(only 4mm) of the saw blade the skin only vibrates. You may press the workpiece both sides on the jigsaw table, drag the work-piece opposite to blade teeth, when you are cutting the workpiece.

1.3.Notice:

Do not press too hard when sawing(otherwise the saw blade will break).The saw blade should always be vertical(do not bend),even when cutting curve, otherwise it will break easily and cause unexpected harm!Do not forget to ware your goggles when you are working.

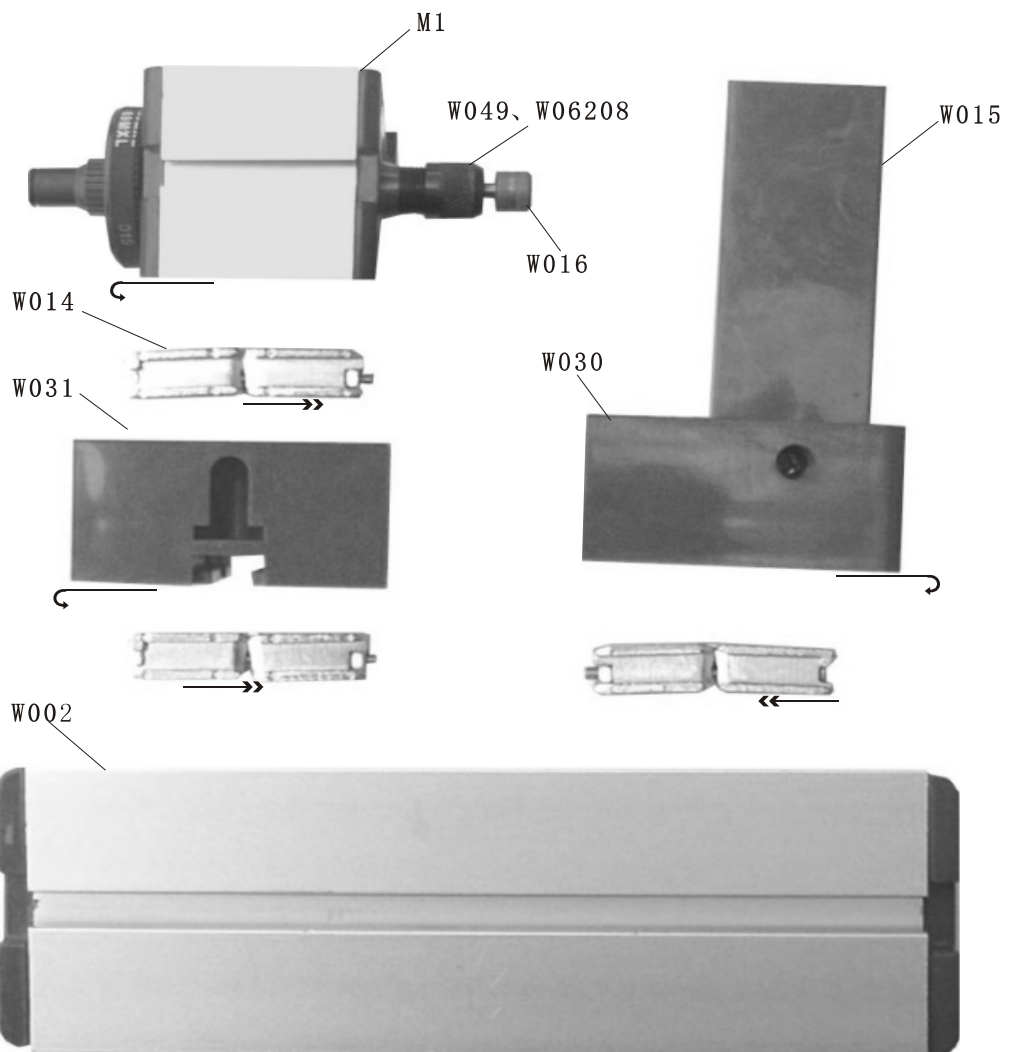
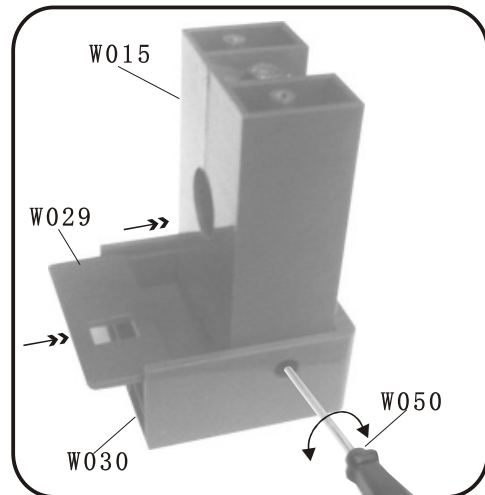
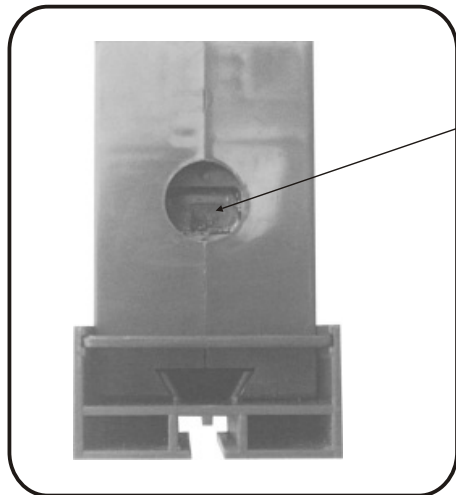
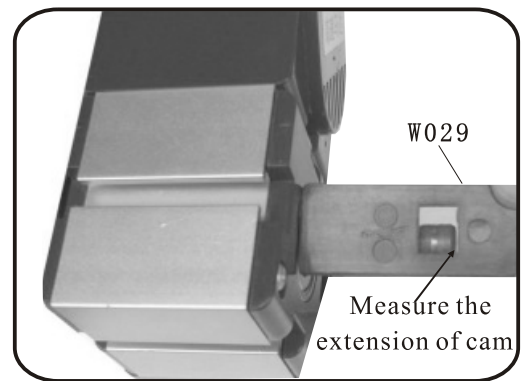
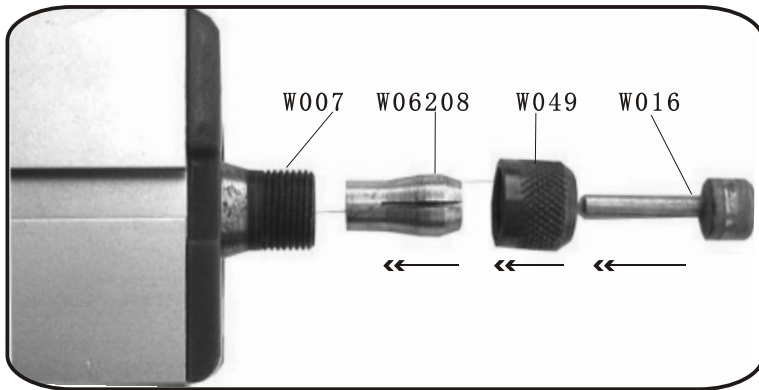
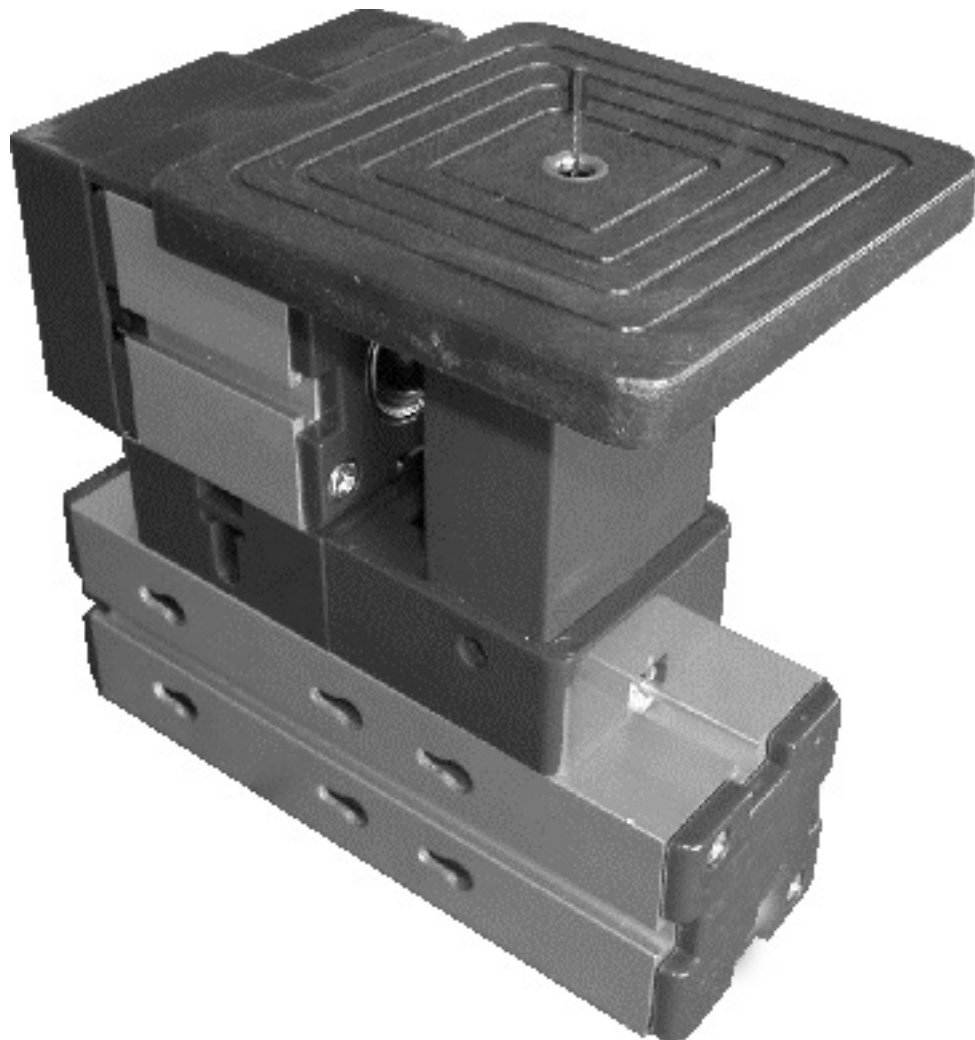
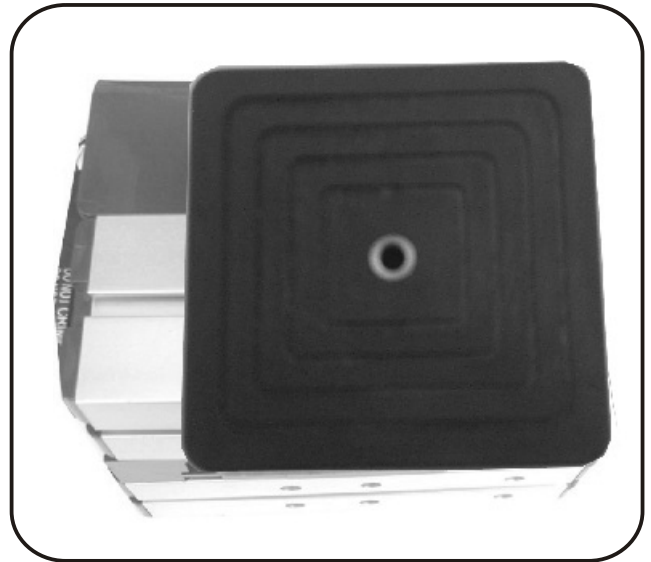
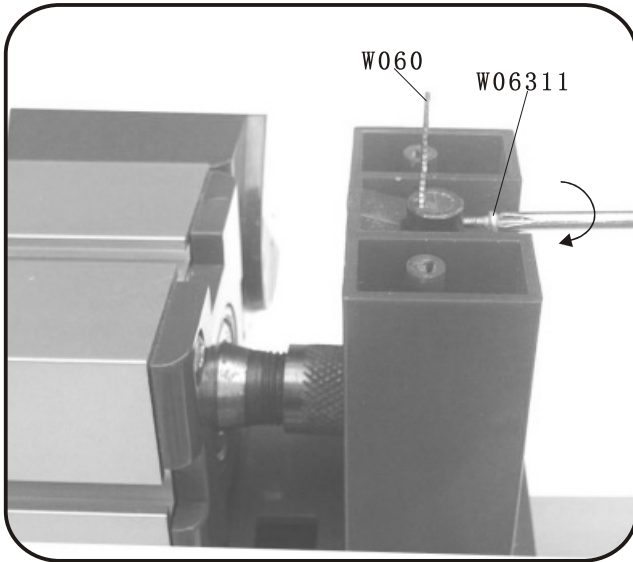


Fig. 18



Jig-Saw (W10001)

Fig. 19

2. Lathe (W10003) :



Lathe Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W022	Power Supply Connector	1	W052	Rod	2
W004	High Speed Motor Unit	1	W03201	Short Drive Belt	1	W053	Center Finder	1
W00403	Motor Leaf's Slice	1	W033	Drive Belt Cover	1	W058	Turning Tool	1
W007	Wheel Gear Box	1	W03801	Small plate (0.3mm)	5	W06339	A3X16Screw	2
W008	Tailstock	1	W03802	Large Plate (0.4mm)	5	W06315	M4X6 Bolt	1
W009	Small Slide	1	W039	Turning Tool Fastener	1	W06316	M4X8 Bolt	1
W010	Large Slide	1	W04001	Fastener Stabilizing Plates	2	W06318	M4X12 Bolt	1
W012	Three Jaw Chuck	1	W043	Slot Nut	4	W06320	M4X25 Bolt	1
W014	Conection Piece	5	W044	Two Hole Clamping Plate	6	W06334	φ 8.8x4.2x0.6 Gasket	4
W020	Live Center	1	W048	Clamping Jaw	1			
W021	12V Transformer	1	W051	Allen Key	1			

2.1.Assembly :

As shown Fig. 20,21:

- ☞ Fix motor-wheel gear box unit(M1) on the left of long bed(W001)by connection piece(W014), screw three jaw chuck(W012) into axle of motor-wheel gear box unit(M1).
- ☞ Fix small slide-large slide unit(M2) on the obverse of long machine bed.
- ☞ Fasten turning tool fastener(W039) beside small slide with 4X25mm bolt.
- ☞ Fasten turning tool(W058) on the left corner of small slide by clamping jaw(W06320).
- ☞ Fix tailstock (W008) on the right of long machine bed, screw live center(W020) into tailstock.
- ☞ In order to reinforce the connection of the machine, you may use two fastener stabilizing plates(W04001) to realize it: fix fastener stabilizing plates on wheel gear box, long machine bed, tailstock with two hole clamping plate(W044). After all are finished, assemble drive belt cover with slot nut.

2.2.Operation:

Make sure work piece has been clamped tightly before working, otherwise it will fly out and cause unexpected harm! Never touch the revolving working piece with any part of your body and your clothes, and wear goggles! Always adjust the height of turning tool with work piece axis. Sharp tool with grinding wheel (W01901) follow the operation of sanding machine. If you proceed large diameter work piece with lathe(Max Dia. 50mm), you may heighten wheel gear box, tailstock, small slide with intermediate piece. If the stroke of large slide is too short to do with demand, Adjust the position of large slide that respond to long machine bed.

2.3.Notice:

- ☞ Firmly adjust the free movement of slides(they should move without stop) in order to enhance precision The turning tool must be positioned exactly at the height of the rotational axle of the work piece(usually a plate(W03801 or W03802) will fit).
- ☞ The groove of clamping jaw is similar to the width of turning tool so that turning tool is pressed on the small slide and hard to move! (See Fig.21).

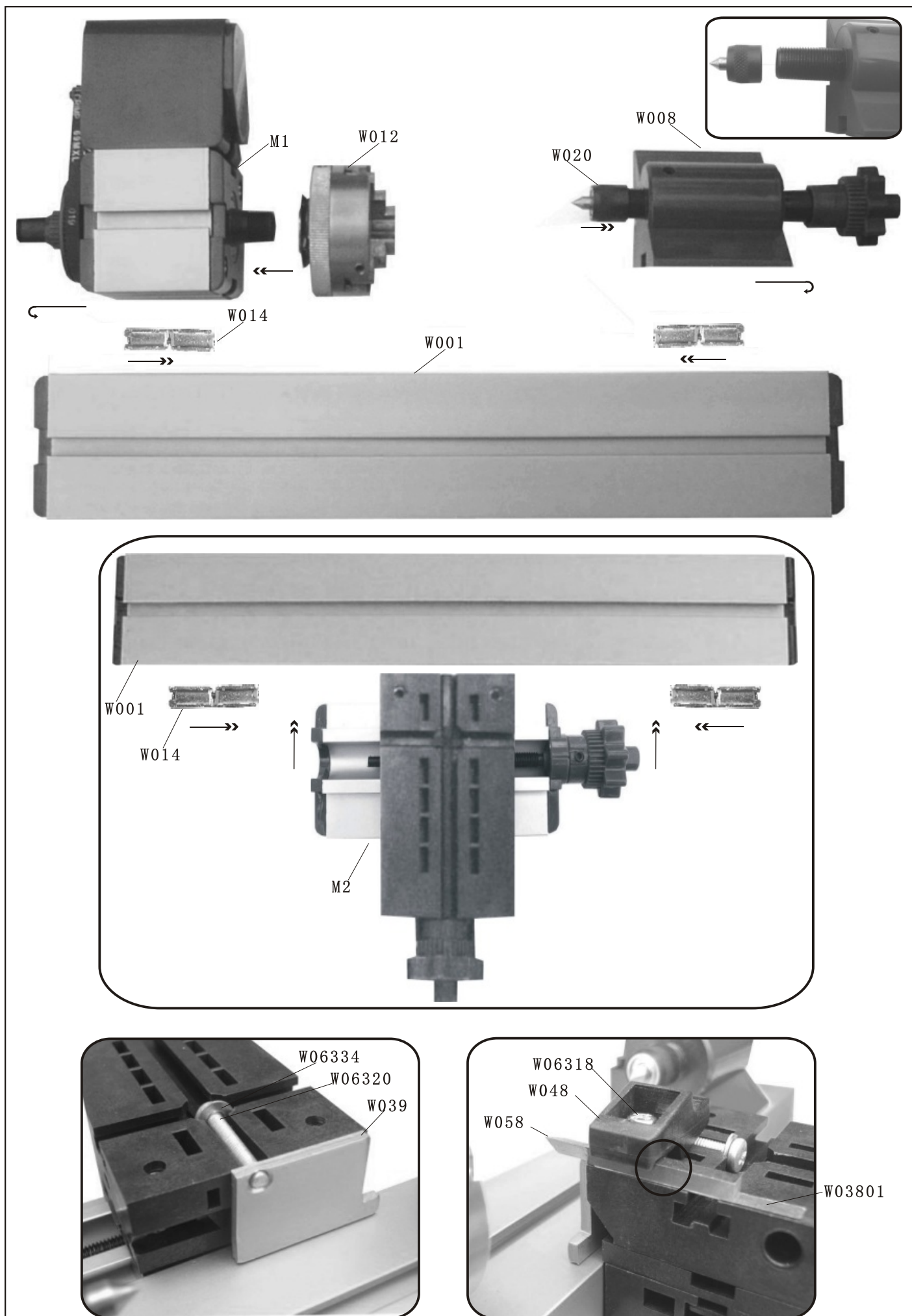
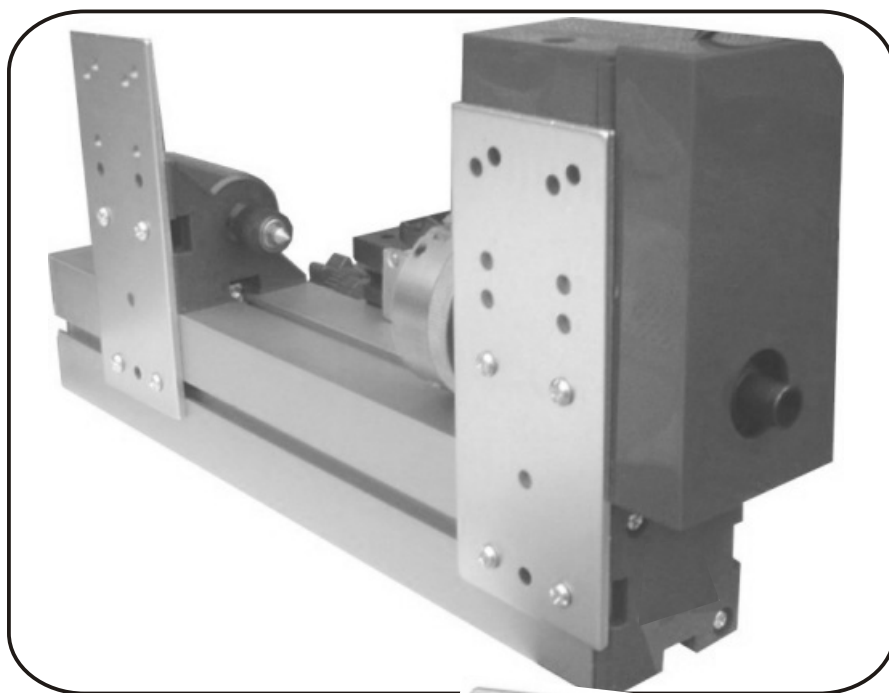
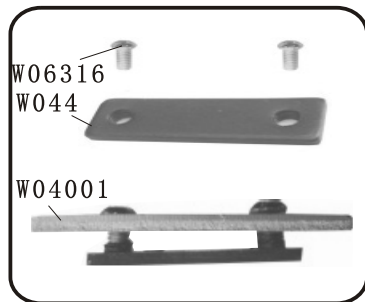


Fig. 20



Lathe (W10003)

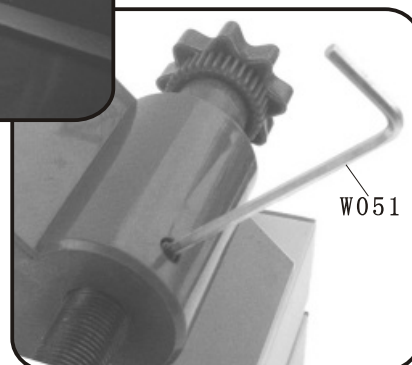
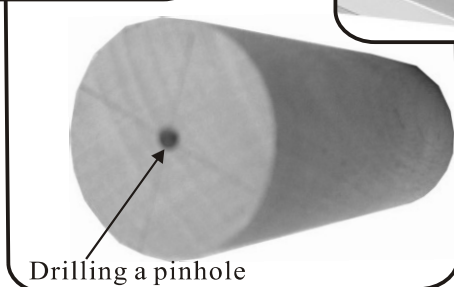
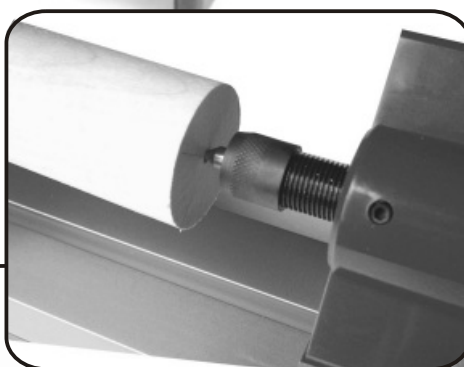
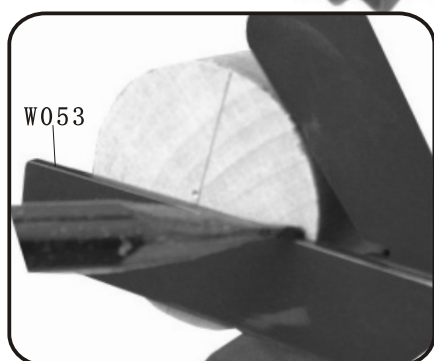
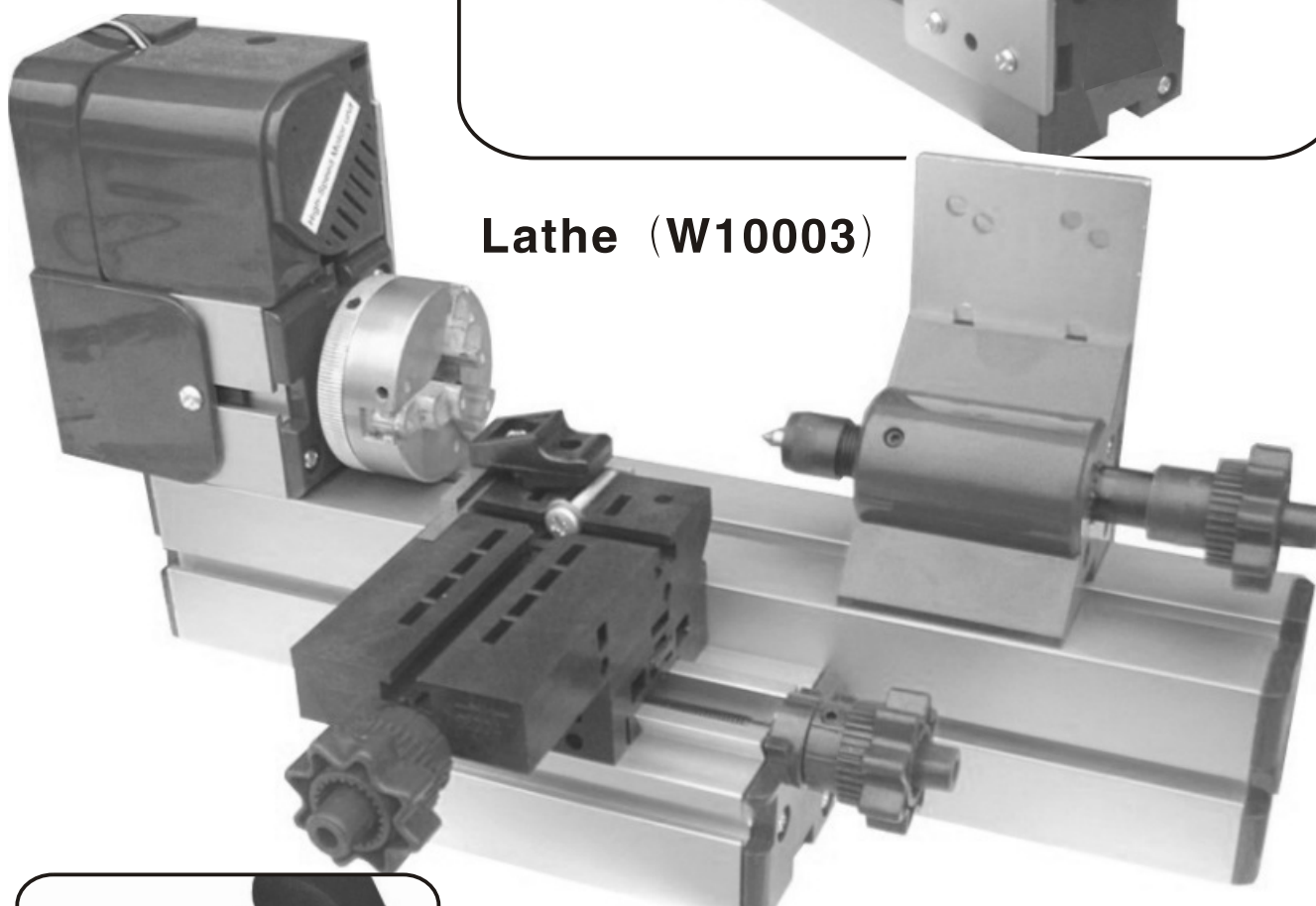


Fig. 21

3. Woodturning Lathe (W10002) :



Woodturning Lathe Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W021	12V Transformer	1	W051	Allen Key	1
W004	High Speed Motor Unit	1	W022	Power Supply Connector	1	W053	Center Finder	1
W00403	Motor Leaf's Slice	1	W03201	Soft Drive Belt	1	W059	Turning Gouge	1
W007	Wheel Gear Box	1	W033	Drive Belt Cover	1	W06206	4 Collet	1
W008	Tailstock	1	W034	Woodturning Support	1	W06339	A3X16 Screw	2
W010	Large Slide	1	W04001	Fastener Stabilizing Plates	2	W06315	M4X6 Bolt	1
W014	Connection Piece	5	W043	Slot Nut	2	W06316	M4X8 Bolt	8
W017	Drive Center	1	W044	Two Hole Clamping Plate	6	W06317	M4X10 Bolt	1
W020	Live Center	1	W049	Collet Holder	1	W06334	8.8x4.2x0.6 Gasket	1

3.1. Assembly :



As Shown Fig. 22,23:

- ☞ Fasten the drive center (W017) into the wheel gear box (W007) by colleted both $\phi 4$ Collet (W06206) and Collet (W049),
- ☞ Fix motor-wheel gear box unit (M1) on the left of long machine bed (W001) by connection piece (W014).
- ☞ Fix Large Slide (W010) on the obverse of long machine bed by connection piece.
- ☞ Fix woodturning support (W034) on the large slide (W010) with slot nut (W043).
- ☞ Fix tailstock (W008) on the right of long machine bed with connection piece, screw live center (W020) into tailstock.
- ☞ Use the two fastener stabilizing plates (W04001) to reinforce the connection of the machine on wheel gear box, long machine bed, tailstock with two holes clamping plate (W044).
- ☞ Using the nut and bolt (W06315) to fashion the driver belt cover (W033) onto the motor to protect the drive belt in most situations.

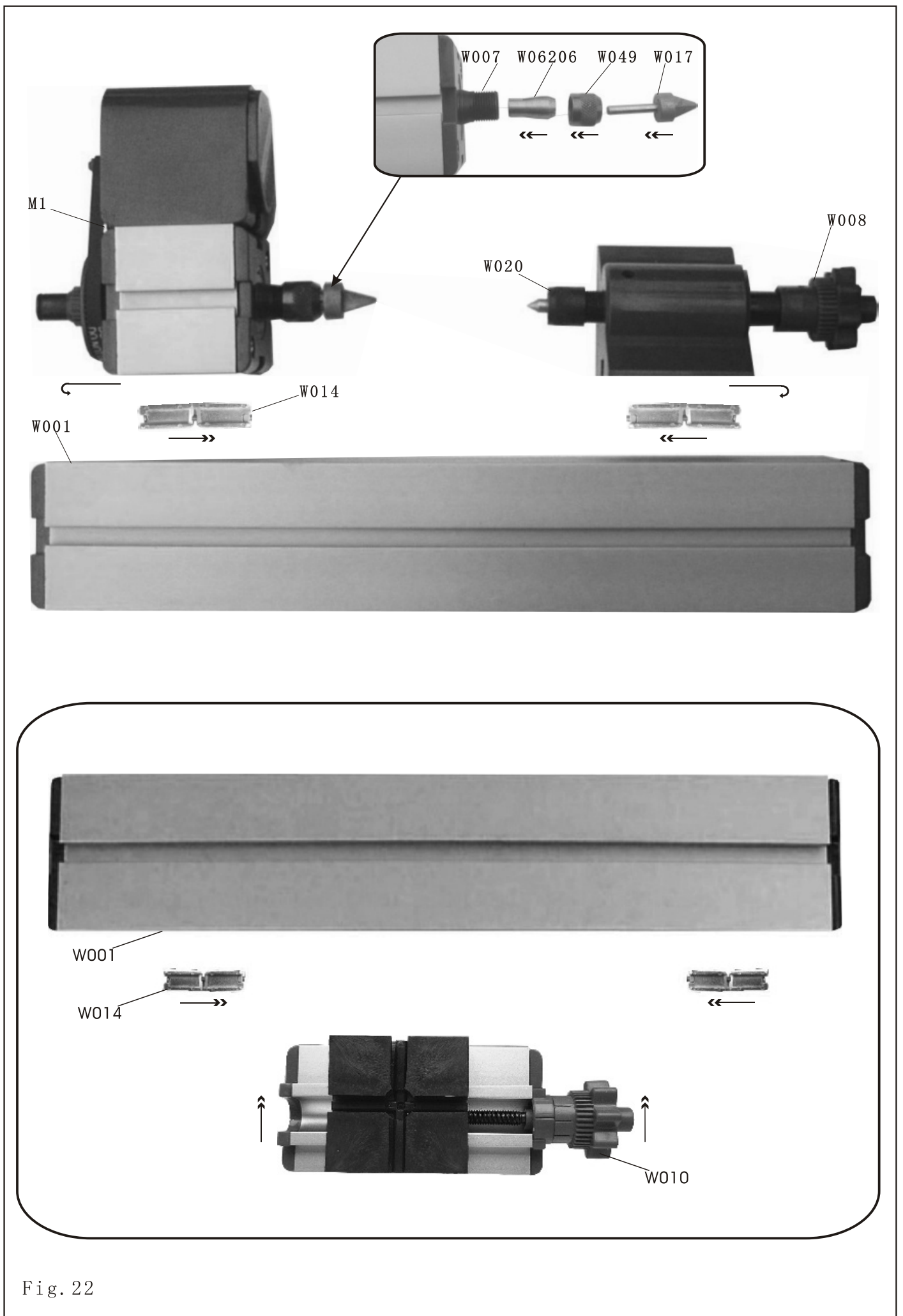
3.2. Operation:



- ☞ Determine the center of round work piece with center finder (W017).
- ☞ Press the drive center (W017) into the center of work piece with a hammer.
- ☞ Use a Dia. 5mm drill bit for the center-hole of the other end (maximum depth 5mm)
- ☞ On completion of the assemble of the driver center and work piece, press live center (W020) with hand wheel of tailstock against work piece until it is firmed.
- ☞ Tighten tailstock with Allen key (W051) to avoid work piece dropping out. This will prevent the bolt of tailstock from loosing when it is in motion.
- ☞ Woodturning support should be closed enough to the work piece, but without touching it.
- ☞ Press the turning gouge (W059) on woodturning support and hold the handle of the turning gouge. Use your right hand holding the handle of the turning gouge at the lower position of the woodturning support.
- ☞ Move the turning gouge to the left and to the right when working
- ☞ If the stroke of large slide is too short to work on, adjust the position of the large slide corresponding to the longer machine bed.

3.3. Notice: !

- ☞ Always wear protective goggles when working with the machine
- ☞ Never touch the revolving working piece with any part of your body and your clothes
- ☞ Never hold the handle of the turning gouge when it is positioned higher than the woodturning support.



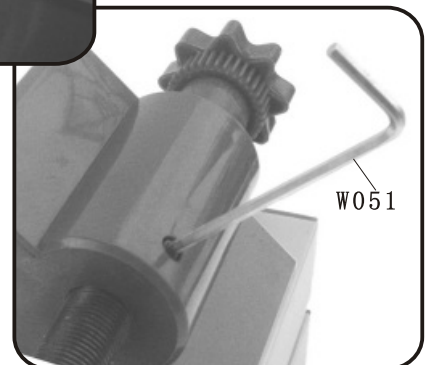
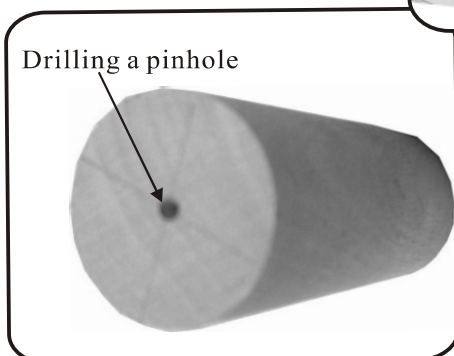
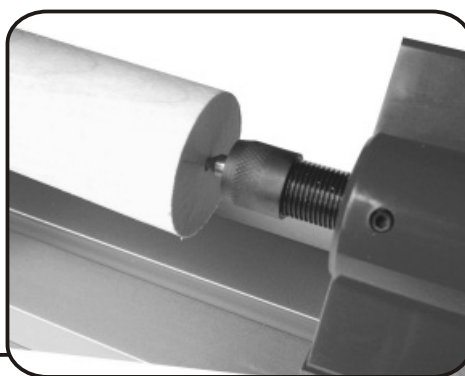
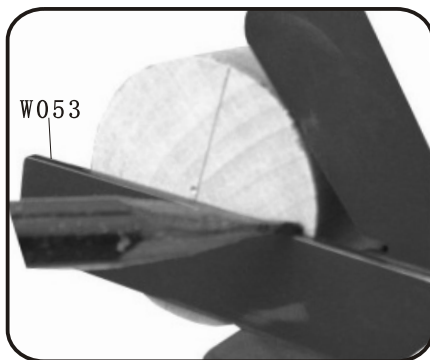
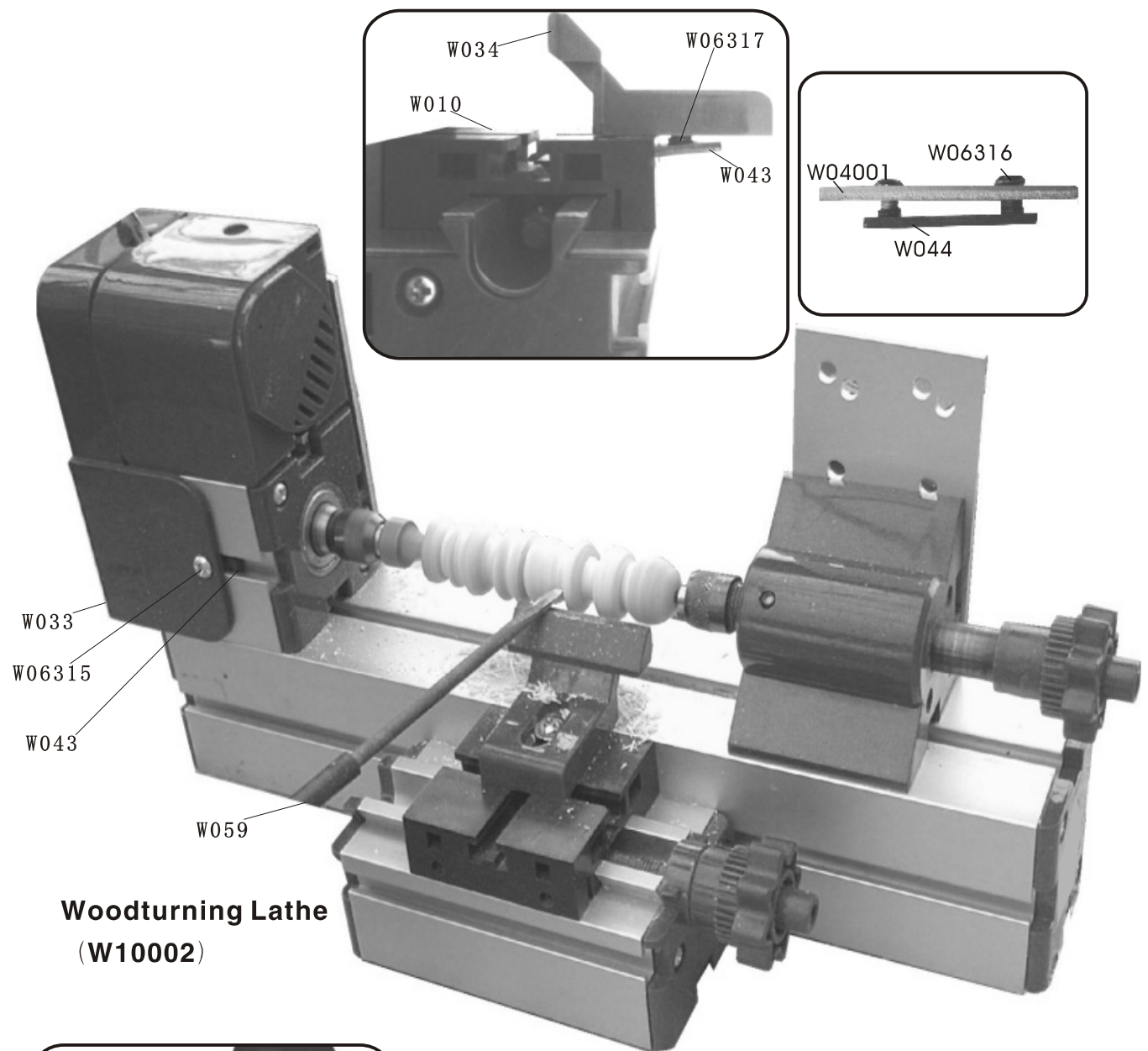


Fig. 23

4. Drilling Machine(W10005):



Drilling Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W022	Power Supply Connector	1	W051	Allen Key	1
W002	Short Machine Bed	1	W027	Drilling Table	1	W053	Center Finder	1
W004	High Speed Motor Unit	1	W028	Drilling Lever	1	W05401	φ 2Drill bit	1
W00403	Motor Leaf's Slice	1	W031	Intermediate Piece	1	W05402	φ 3Drill bit	1
W007	Wheel Gear Box	1	W03201	Short Drive Belt	1	W062	Collet	1
W009	Small Slide	2	W043	Slot Nut	8	W06339	A3X16 Screw	2
W010	Large Slide	1	W044	Two Hole Clamping Plate	5	W06315	M4X6 Bolt	2
W014	Connection Piece	5	W048	Clamping Jaw	4	W06316	M4X8Bolt	10
W021	12V Transformer	1	W049	Collect Holder	1	W06318	M4X12 Bolt	6
W06334	φ 8.8X4.2X0.6 Gasket	8	W04003	Fastener Stabilizing Elbow Plates	1	W06338	M3X16Bolt	2

4.1. Assembly :



As Shown Fig. 24,25:

- ☞ First, screw into two hole clamping plate(W044) with two 4X6 bolts (W06315), then slide the two hole clamping plate with two 4X6 bolts into the "T" groove of long machine bed(W001), insert the two bolt heads into the pearshaped holes of short machine bed(W002)(insert them into bulge-like part of hole, then into neck-like part), firmly tighten screws through short machine bed with screwdriver, then place the long machine bed vertically.
- ☞ Fix the drilling table(W027) on small slide-large slide unit(M2) by using two slot nuts with 4X12 bolt(W06318). Fix four clamping jaws(W048) on four corner of the drilling table,
- ☞ Fix motor-wheel gear box unit(M1) on small slide-intermediate unit(M3) with two connection pieces, Fasten the drill bit(W05401) into the axle of wheel gear box by using collet(W06202) and collet holder(W049), then fix the whole unit on long machine bed.
- ☞ Turn the handle of small slide clockwise until stop, loosen Allen-screw on the handle with Allen Key(W051) until the handle can be moved free from the bolt axle of small slide, stick on drilling lever(W028) between the hole of intermediate piece and small slide. You may drive the drilling lever up and down while working.

4.2. Operation:



As the stroke of drilling lever is limited, you may adjust the position of intermediate piece respond to long machine bed with regard to different working depth and work piece. Different drilling bits for different collets. Adjust the position of large slide respond to long machine bed if the stroke of large slide is not met for the working requirement. By tilting small slide, work piece can be drilled at some angle(See Fig.25).

4.3. Notice: !

Always wear protective goggles when working. Never touch the revolving drilling bit with any part of your body and your clothes. Never touch the revolving drive belt and gear as the drive belt cover is not assemble on the motor-wheel gear box unit(M1) regarding drilling machine.

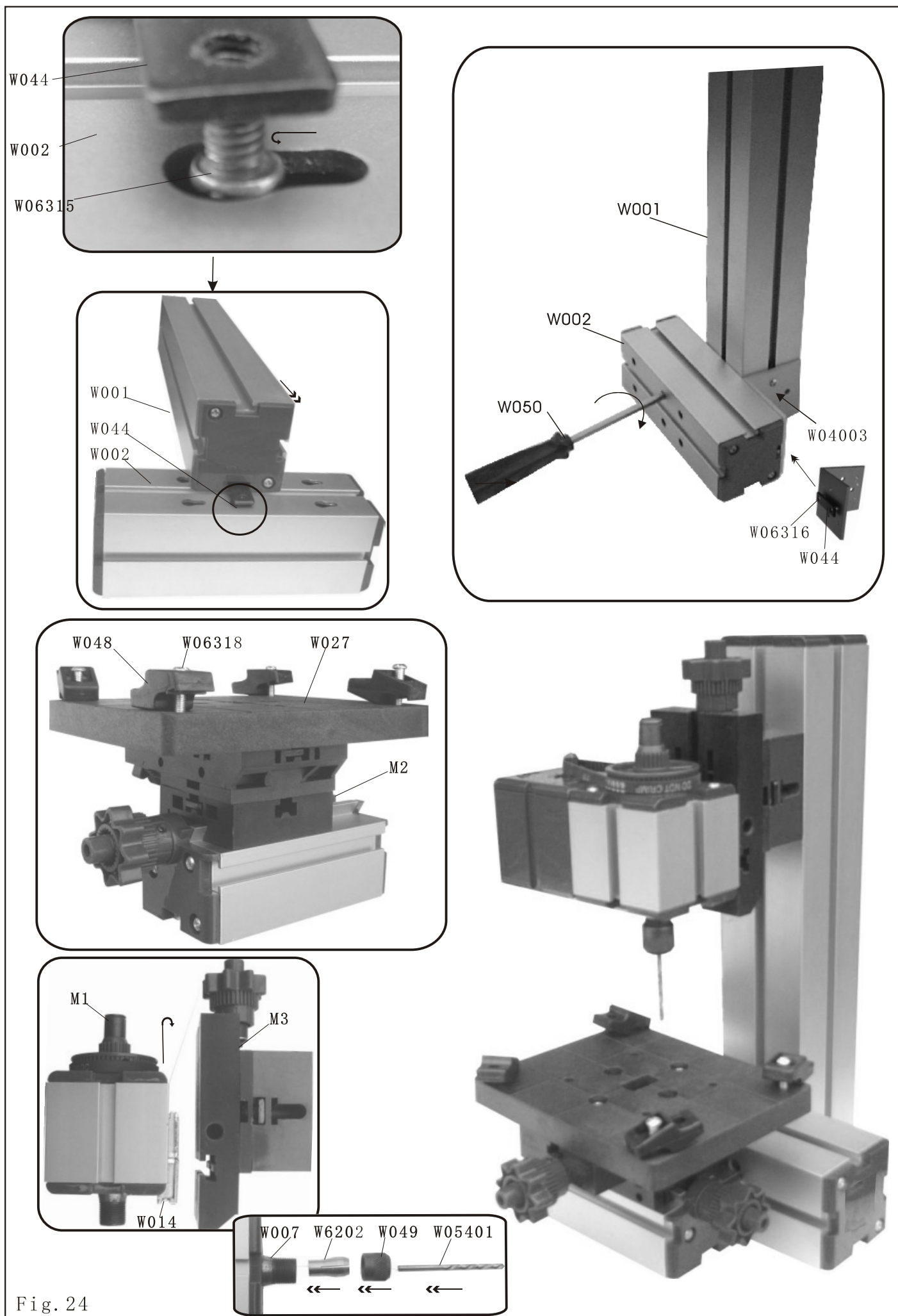
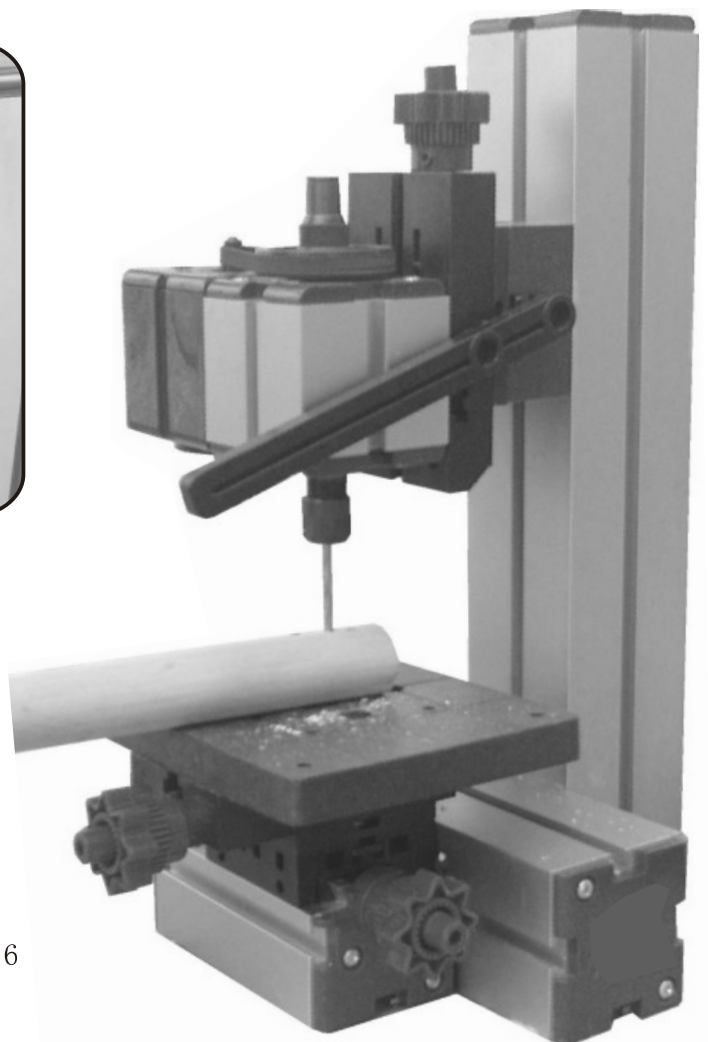
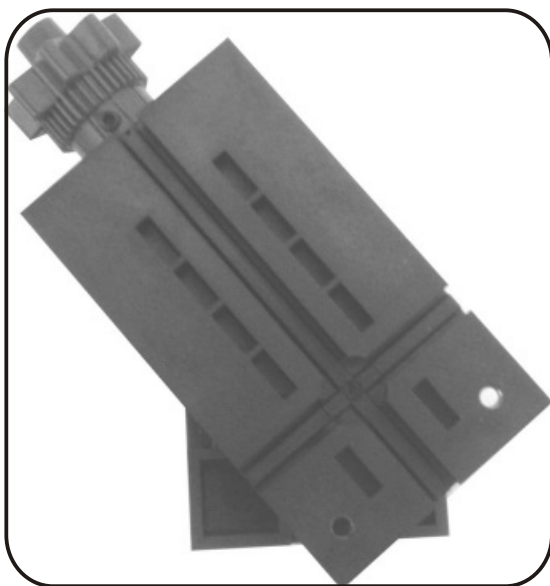
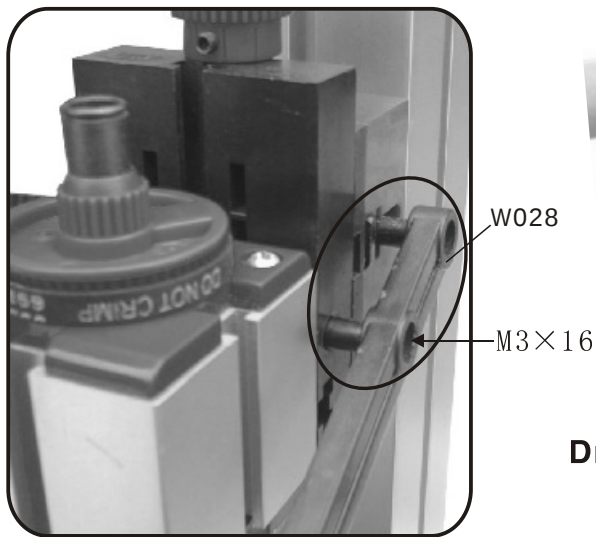
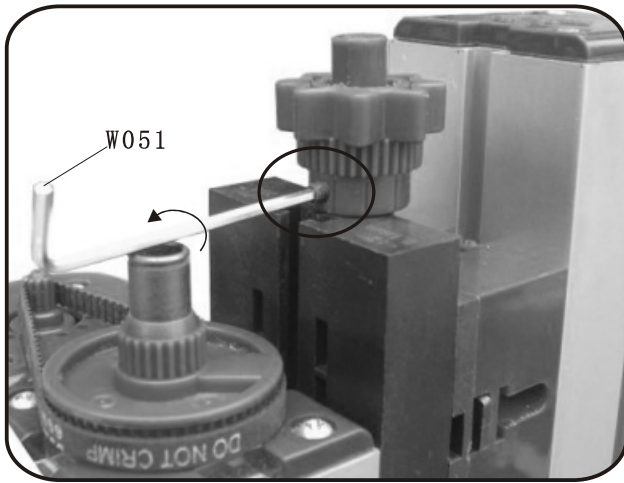
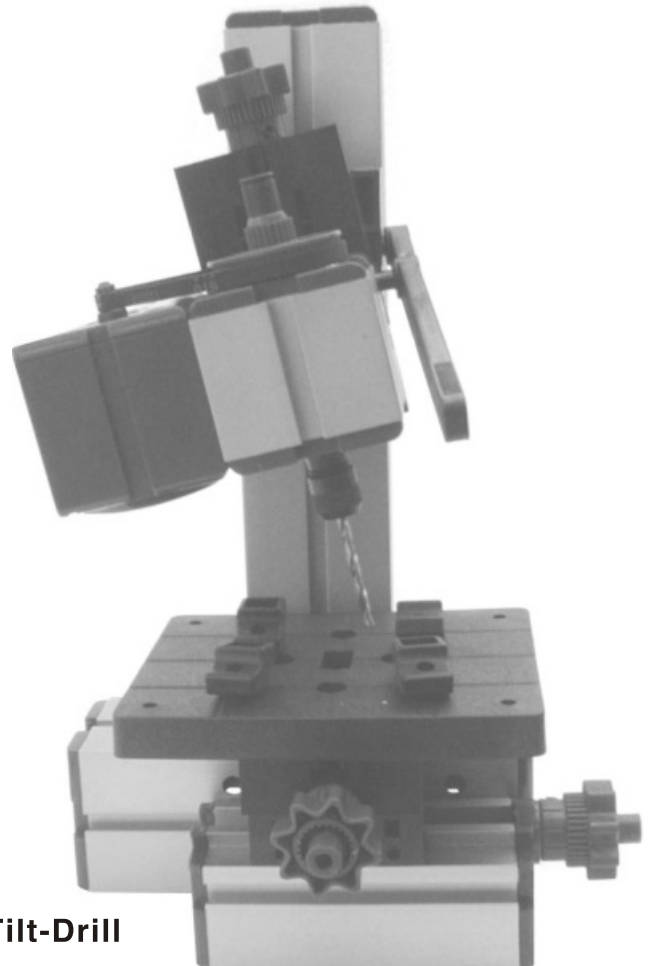


Fig. 24



Drilling Machine(W10005)



Tilt-Drill

Fig. 25

5. Milling Machine (W10004):



Milling Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W014	Connection Piece	6	W051	Allen Key	1
W002	Short Machine Bed	1	W021	12V Transformer	1	W05501	φ3 Milling Cutter	1
W004	High Sped Motor Unit	1	W022	Power Supply Connector	1	W05502	φ4 Milling Cutter	1
W00403	Motor Leaf's Slice	1	W031	Intermediate Piece	1	W05503	φ5 Milling Cutter	1
W007	Wheel Gear Box	1	W03201	Short Drive Belt	1	W05504	φ6 Milling Cutter	1
W009	Small Slide	2	W043	Slot Nut	6	W062	Collet	1
W010	Larger Slide	1	W044	Two Hole Clamping Plate	5	W06339	A3X16 Screw	2
W013	Machine Vise	1	W049	Collet Holder	1	W06315	M4X6 Bolt	2
W04003	Fastener Stabilizing Elbow Plates	1	W06334	8.8x4.2x0.6Gasket	6	W06316	M4x8Bolt	10

5.1. Assembly:

As Shown Fig. 26 and 27:

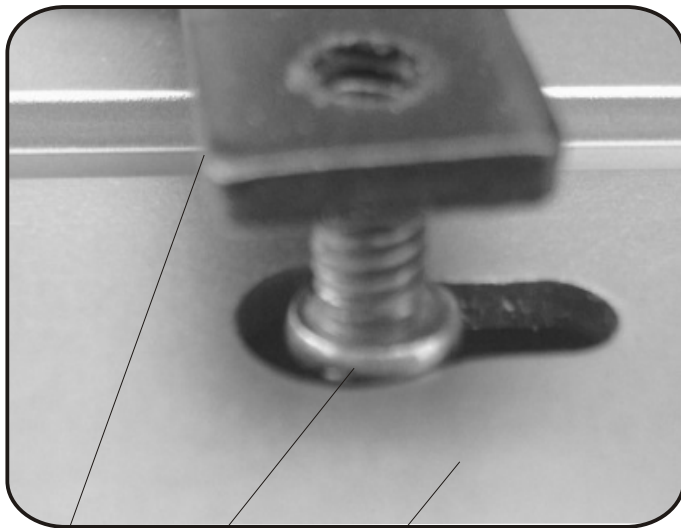
- ☞ Screw and slide the two 4x6 bolts (W06315) into two hole clamping plate (W044) and the "T" groove of the long machine bed (W001) respectively.
- ☞ Insert the two bolt heads into the pear-shaped holes of short machine bed (W002). The insertion must be straight through the bulge-like part of hole into the neck-like part.
- ☞ Tighten the screws firmly with screwdriver.
- ☞ Hold the long machine bed horizontally.
- ☞ Fasten the small slide-intermediate piece unit onto the small slide vertically with the connection piece (W014).
- ☞ Fasten the milling cutter (W05501) into the axle of wheel gear box by using collet (W06204) and collet holder (W049).
- ☞ Ensure the whole unit (M1) holding the small slide-intermediate piece unit firmly.
- ☞ Connect the machine vise (W013) to the small slide-large slide unit (M2) with connection piece. Connect the small slide-large slide unit to the long machine bed obverse with connection piece.

5.2. Operation:

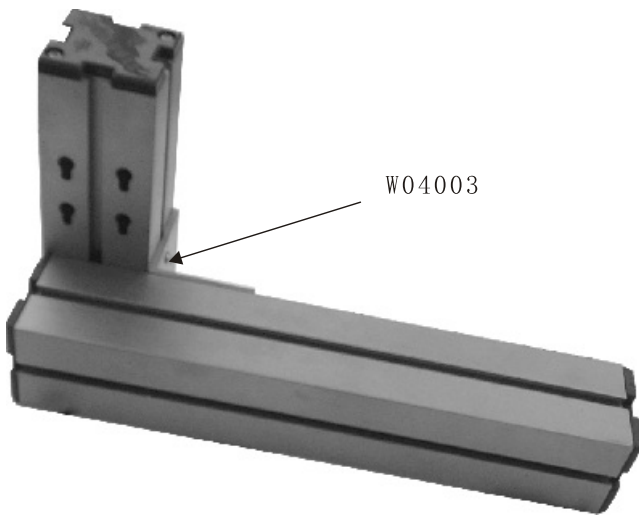
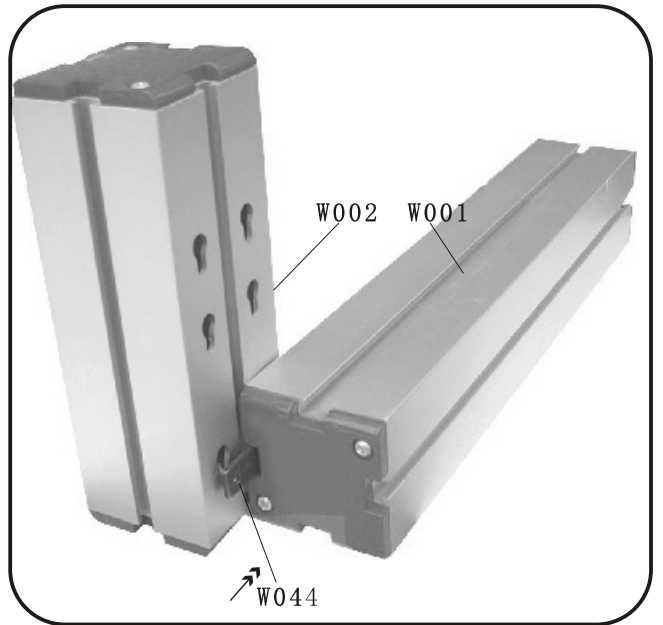
- ☞ Due to the stroke limitation of the drilling lever, adjustment to the position of the intermediate piece in corresponding to the long machine bed to accommodate different working depth and the height of the work piece.
- ☞ Use different milling cutters bits for different collets (W062)
- ☞ When the stroke of the large slide is insufficient, adjust the position of the large slide in corresponding to the long machine bed. By tilting small slide, work piece can be drilled at some angle as shown in the diagram.
- ☞ Use the three jaw chucks and their accessories (W023 and W024) for dividing work and dividing attachment

5.3. Notice:

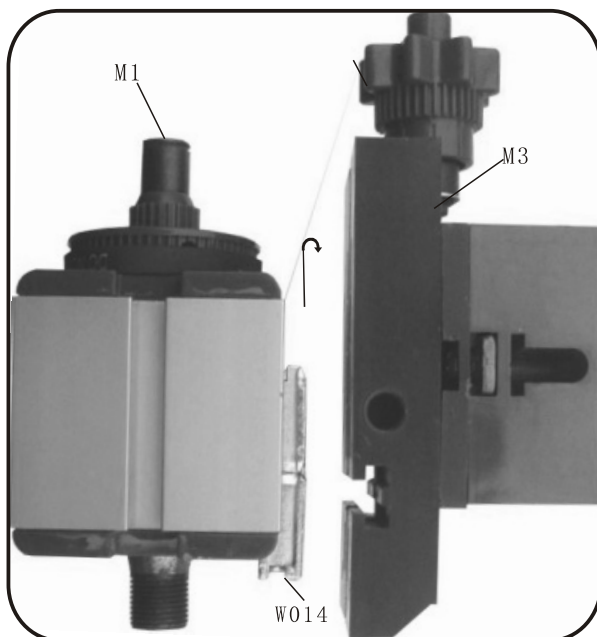
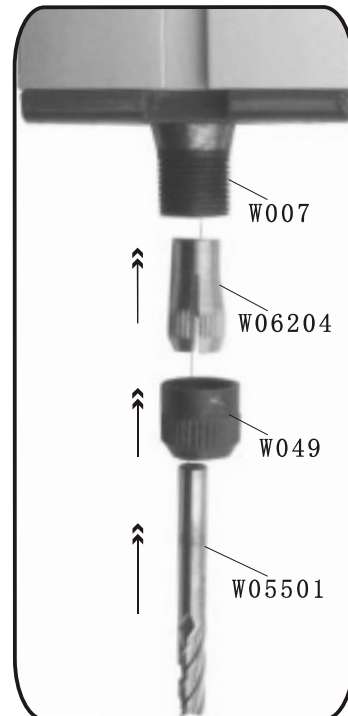
- ☞ Always wear protective goggles when working with the machine.
- ☞ Never touch the revolving working piece with any part of your body and your clothes.
- ☞ Be aware of the danger of the milling cutter as the drill is very sharp.



W044 W06315 W002



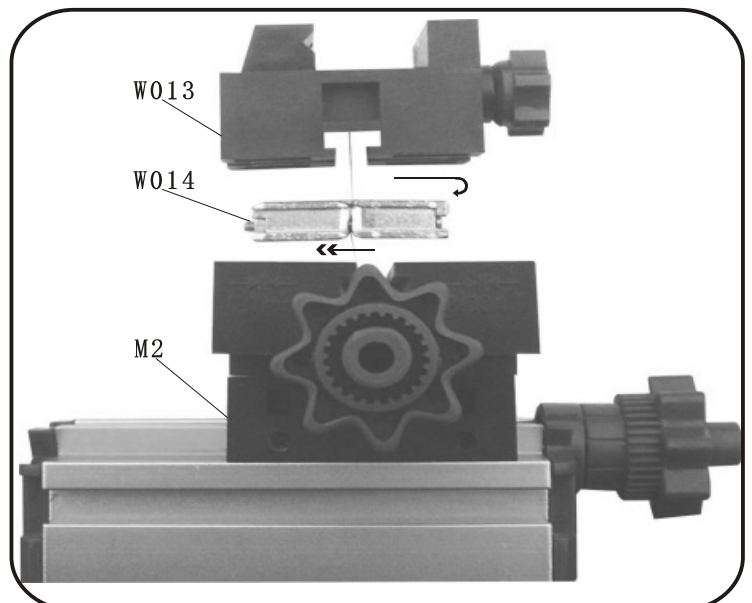
W04003



M1

M3

W014

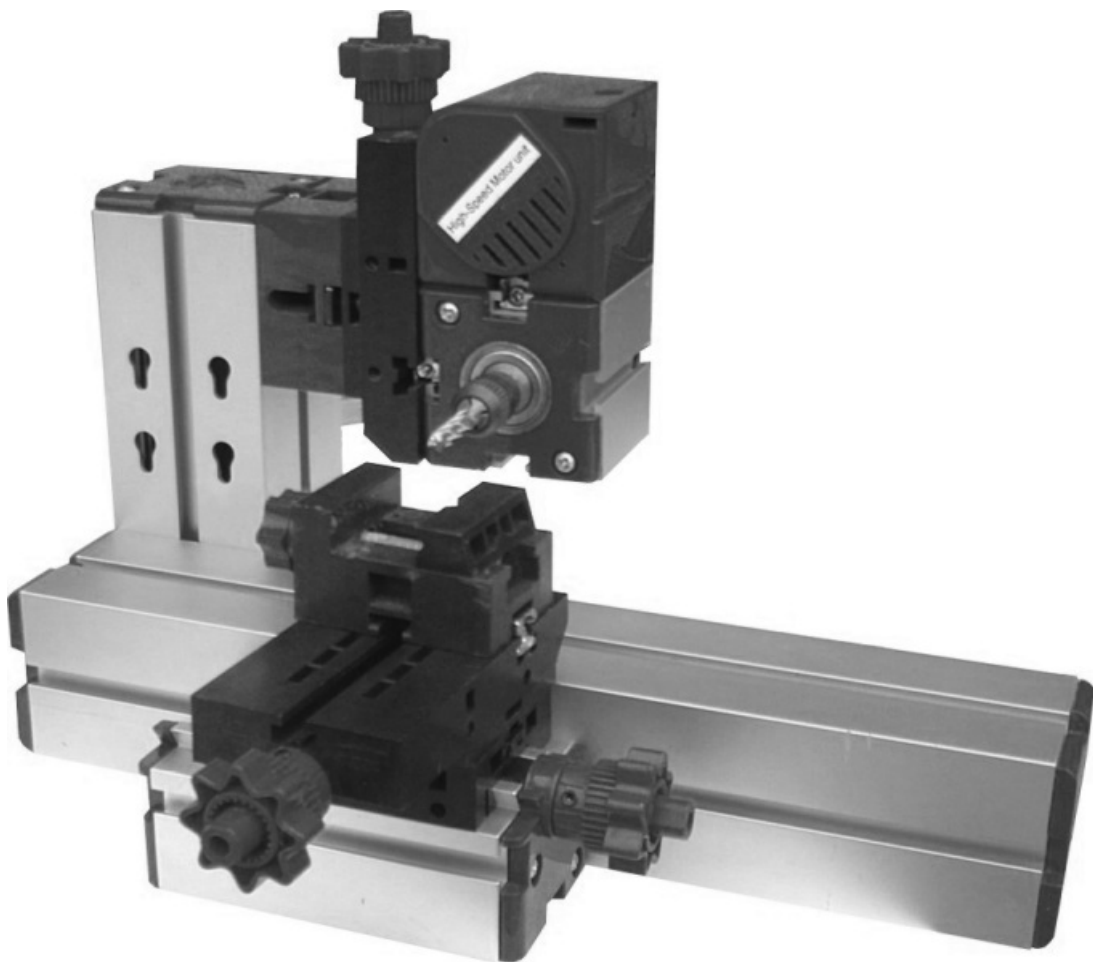


W013

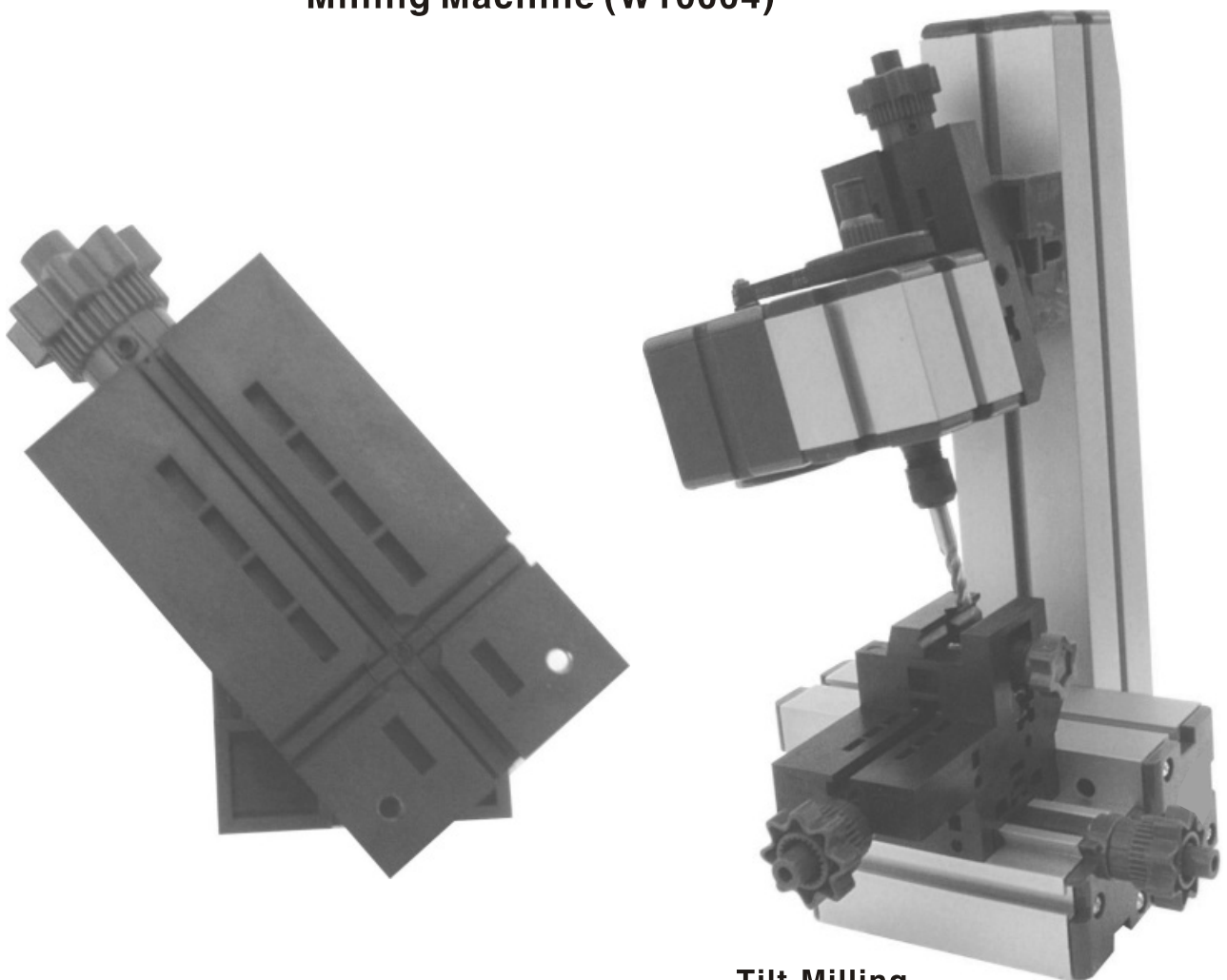
W014

M2

Fig. 26



Milling Machine (W10004)



Tilt-Milling

Fig. 27

6.Sanding Machine(W10006) :



Sanding Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W01902	Grinding Wheel Assy.	1	W036	Protection Cap Connection	1
W004	High Speed MotorUnit	1	W021	12V Transformer	1	W043	Slot Nut	3
W00403	Motor leaf's Slice	1	W022	Power Supply Connector	1	W044	Two Hole Clamping Plate	2
W007	Wheel Gear Box	1	W025	Sanding Paper	5	W06304	A3X10 Screw	2
W014	Connection Piece	2	W027	Drilling Table	1	W06317	M4X10 Bolt	1
W018	Clamping Plate	1	W03201	Short Drive Belt	1	W06318	M4X12 Bolt	2
W01901	Grinding Wheel	1	W035	Protection Cap	1	W06339	A3x16screw	2

6.1.Assembly:

As Shown Fig. 28:

- ☞ Connect the Motor-Wheel Gear Box Unit (M1) to the left of Long Machine Bed (W001) with Connection Piece(W014).
- ☞ Put the Sanding Paper (W025) to the Clamping Plate (W018).
- ☞ Reverse the Sanding Paper if the Sanding Paper is sticky.
- ☞ Screw the Clamping Plate(W018)) into the Axle of Wheel Gear Box(W007).
- ☞ Use the Slot Nut (W043) to connect the Drilling Table (W027) to the top of the Long Machine Bed near to the Sanding Paper.
- ☞ Use the Grinding Wheel Assy. (W01902) to install the Grinding Wheel (W01901) to the Grinding Wheel
- ☞ Insert the Grinding Wheel and its accessories into the end of the Axle of Wheel Gear Box and the flange of Grinding Wheel Assy.
- ☞ Ensure that the Grinding Wheel aligns to the groove between the Gears.
- ☞ Install the protection cap to protect the Protection Cap Connection (W036) with two 3x10 Bolts (W06304).
- ☞ Install the unit on Wheel Gear Box with Slot Nut.

6.2.Operation:

- ☞ Ensure the grinding wheel of the Grind tools aligns with the axis of grinding wheel while grinding.
- ☞ Sand work piece has the sanding paper being put on.
- ☞ Observe the direction of work piece movement and it must be opposite towards the rotating direction of grinding wheel.

6.3.Notice:

- ☞ Always wear protective goggles when working with the machine.
- ☞ Never touch the revolving working piece with any part of your body and your clothes.
- ☞ Never dismantle protection cap while working to avoid accidents.

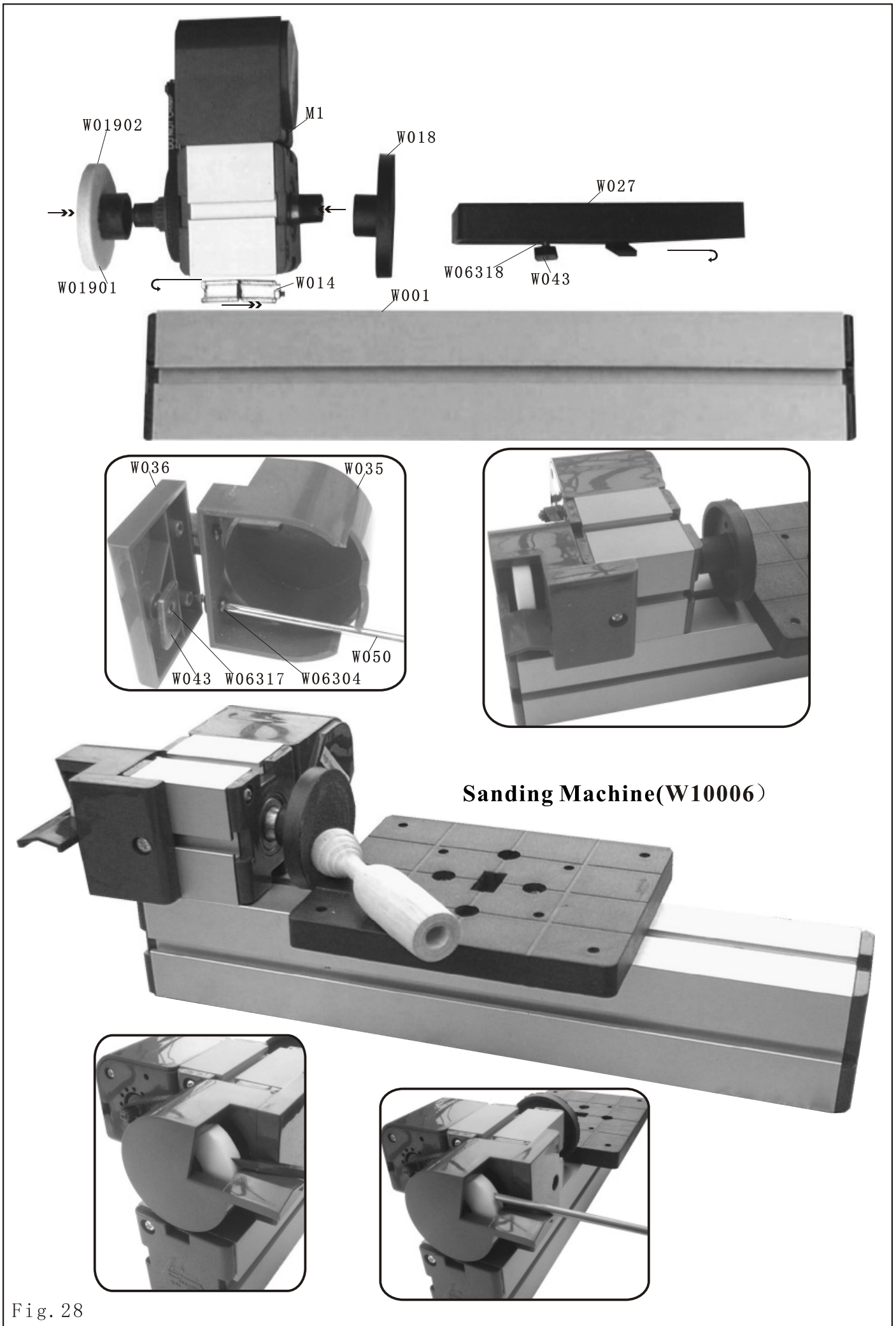


Fig. 28

7.On-hand Machine (W20001) :



On-hand Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W004	High Speed Motor Unit	1	W021	12V Transformer	1	W043	Slot Nut	1
W00403	Motor Leaf's Slice	1	W022	Power Supply Connector	1	W049	Collet Holder	1
W007	Wheel Gear Box	1	W025	Sanding Paper	5	W062	Collect	1
W014	Connection Piece	1	W03201	Short Drive Belt	1	W06315	4X6 Bolt	1
W018	Clamping Plate	1	W033	Drive Belt Cover	1	W065	Grinder Tools	1
W05401	φ 2 Drill bit	1	W05402	φ 3 Drill bit	1			

7.1.Assembly:

As Shown Fig. 29:

- ☞ Fix drive belt cover(W033) on motor-wheel gear box unit(M1). Screw clamping plate(W018) into the axle of wheel gear box. Stick on clamping plate with sanding paper(W025).
- ☞ You may use collet and collet holder instead of clamping plate, when drilling bit(W05401) is assembled, you will get a "hand" drill machine; similarly, you will get "hand" grinding machine, "hand" milling machine etc.

7.1.Notice: ⚠

Always wear protective goggles(W041) when working, Never touch the revolving working piece with any part of your body and your clothes,

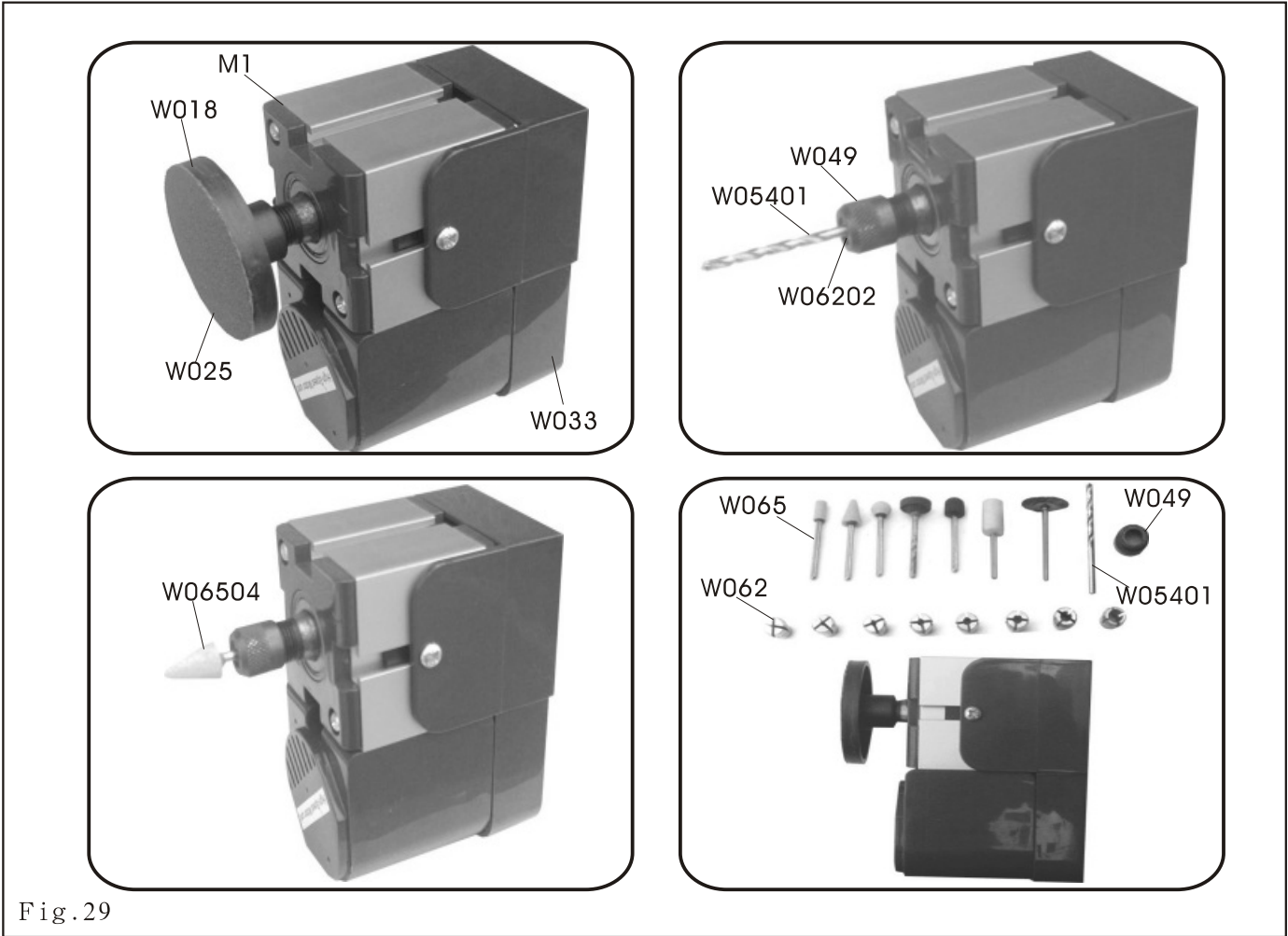


Fig.29

8. Drilling Machine With Dividing Attachment (W20012) :



Drilling Machine With Dividing Attachment Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W022	Power Supply Connector	1	W052	Rod	2
W002	Short Machine Bed	1	W023	Dividing Attachment Assy.	1	W053	Center Finder	1
W004	High Speed Motor Unit	1	W024	Dividing Attachment	1	W05401	Drill Bit (2mm)	1
W00403	Motor Leaf s Slice	1	W028	Drilling Lever	1	W05402	Drill Bit (3mm)	1
W007	Wheel Gear Box	2	W031	Intermediate Piece	1	W062	Collets	1
W009	Small Slide	2	W03201	Short Drive Belt	1	W06304	A3X10 Screw	2
W010	Large Slide	1	W043	Slot Nut	7	W06315	M4X6 Bolt	2
W012	Three Jaw Chuck	1	W044	Two Hole Clamping Plate	5	W06318	M4X12 Bolt	1
W014	Connection Piece	6	W049	Collet Holder	1	W06338	M3x16Bolt	2
W021	12V Transformer	1	W051	Allen Key	1	W04003	Fastener Stabilizing Elbow Plates	1
W06316	M4x8Bolt	10	W06334	8.8x4.2x0.6Gasket	7	W06339	A3x16 Screw	2

8.1. Assembly:



As Shown Fig. 30 and 31 and 32:

- ☞ First, screw into two hole clamping plate(W044) with two 4X6 bolts(W06315), then slide the two hole clamping plate with two 4X6 bolts into the "T" groove of long machine bed(W001), insert the two bolt heads into the pearshaped holes of short machine bed(W002) (insert them into bulge-like part of hole, then into neck-like part), firmly tighten screws through short machine bed with screwdriver, then place the long machine bed vertically.
- ☞ Fix small slide-larger slide unit(M2) on small machine bed with two connection pieces.
- ☞ Fix wheel gear box (W007) on slide-larger slide unit(M2) with two connection pieces, the end with gear wheel of wheel gear box must be pointed to right as shown Fig.30.
- ☞ Fasten dividing attachment assy.(W023) on wheel gear box with slot nut and 4X12 bolt (W06318), Screw into two hole of three jaw chuck(W012) reverse with two 3X10 screws (W06304), then insert the two screw heads into the pearshaped holes of dividing attachment (W024) (insert them into bulge-like part of hole, then turn into neck-like part), firmly tighten screws with screwdriver. Screw three jaw chuck into the axle of wheel gear box, adjust dividing attachment assy. position until the mandrel of dividing attachment assy. can be aligned to the small hole of dividing attachment.
- ☞ Fix motor-wheel gear box unit(M1) on small slide-intermediate piece unit, fasten the drill bit (W05401) into the axle of wheel gear box by using collet(W06202) and collet holder(W049), then fix the whole unit on long machine bed with connection piece.
- ☞ Turn the handle of small slide clockwise until stop, loosen Allen-screw on the handle with Allen Key(W051) until the handle can be moved free from the bolt axle of small slide, stick on drilling lever(W028) between the hole of intermediate piece and small slide. You may drive the drilling lever up and down while working.

6.2. Operation:



- ☞ Clamping work piece with three jaw chuck tightly. There are three rings of small holes(36,40, 48) around dividing attachment, Select the hole ring respond to working demand.
- ☞ For example: if you need drill 10 equivalent dividing holes around the work piece, choose the ring with 40 holes and catch in the mandrel, bore in a hole, move the dividing attachment 4 holes further, make mandrel catch in again and bore another hole, then repeat this process ten times, you may get your need.

- ☞ As the stroke of drilling lever is limited, you may adjust the position of intermediate piece respond to long machine bed with regard to different working depth and work piece.
 - ☞ Adjust the position of large slide respond to long machine bed if the stroke of large slide is not met for the working requirement.
- By tilting small slide, work piece can be drilled at some angle(See).

6.3.Notice:

Always wear protective goggles(W041) when working, Never touch the revolving drilling bit with any part of your body and your clothes Never touch the revolving drive belt and gear as the drive belt cover is not assemble on the motor-wheel gear box unit(M1) regarding drilling machine.

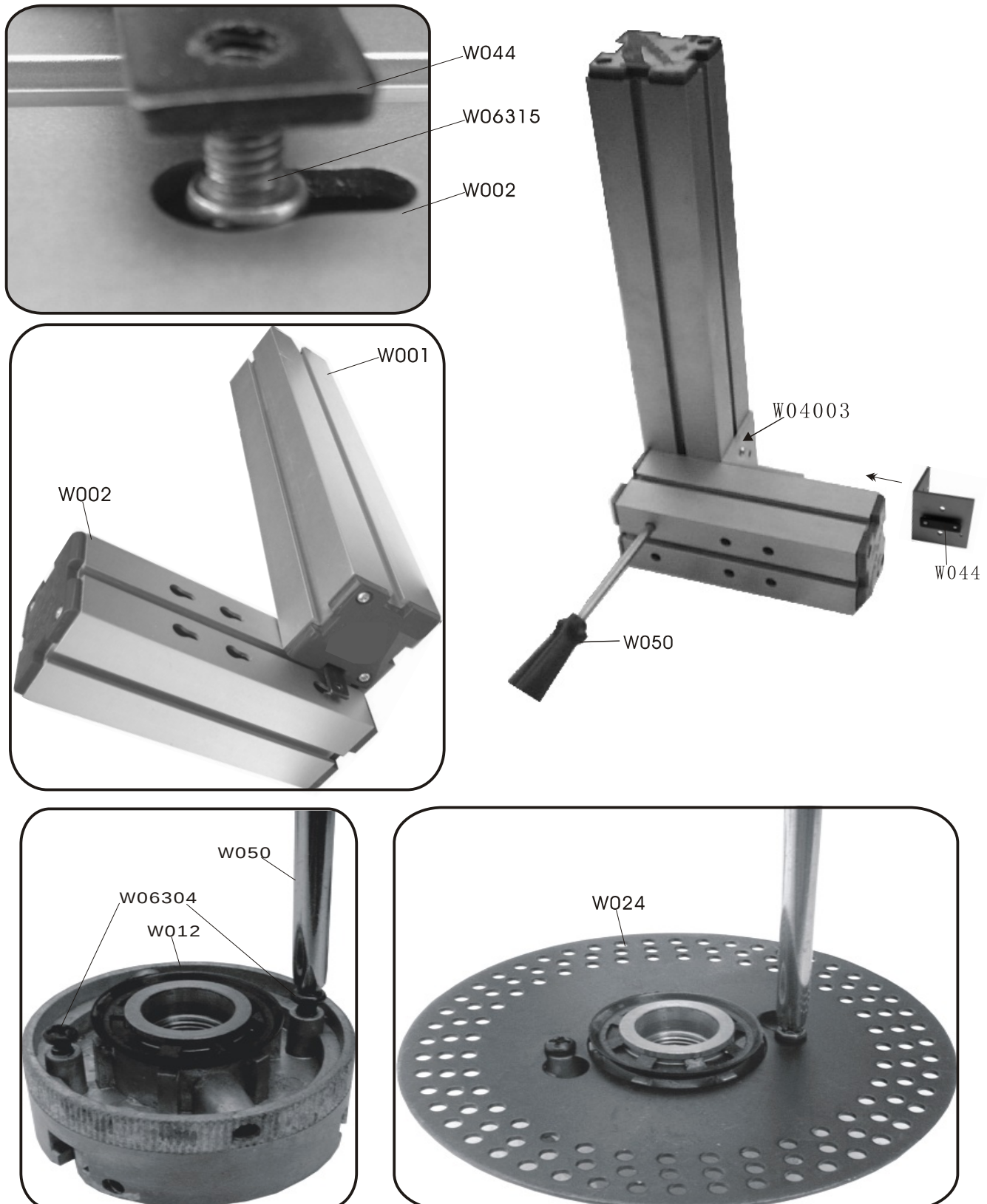


Fig.30

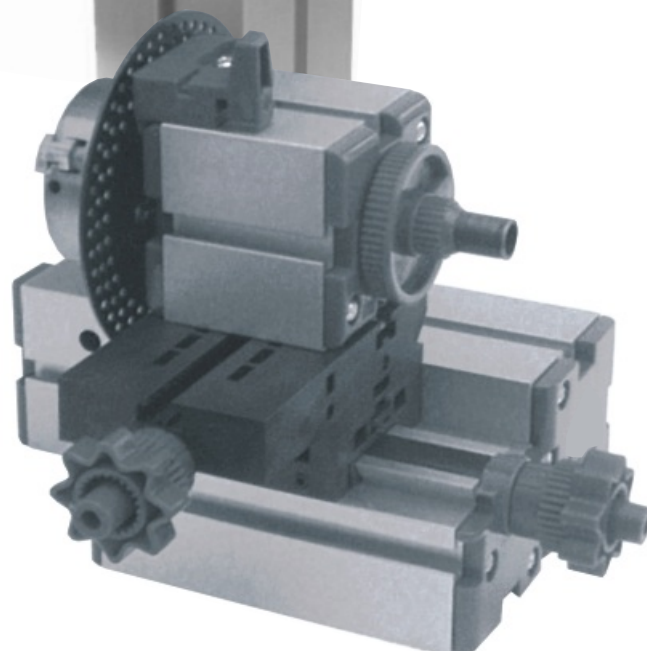
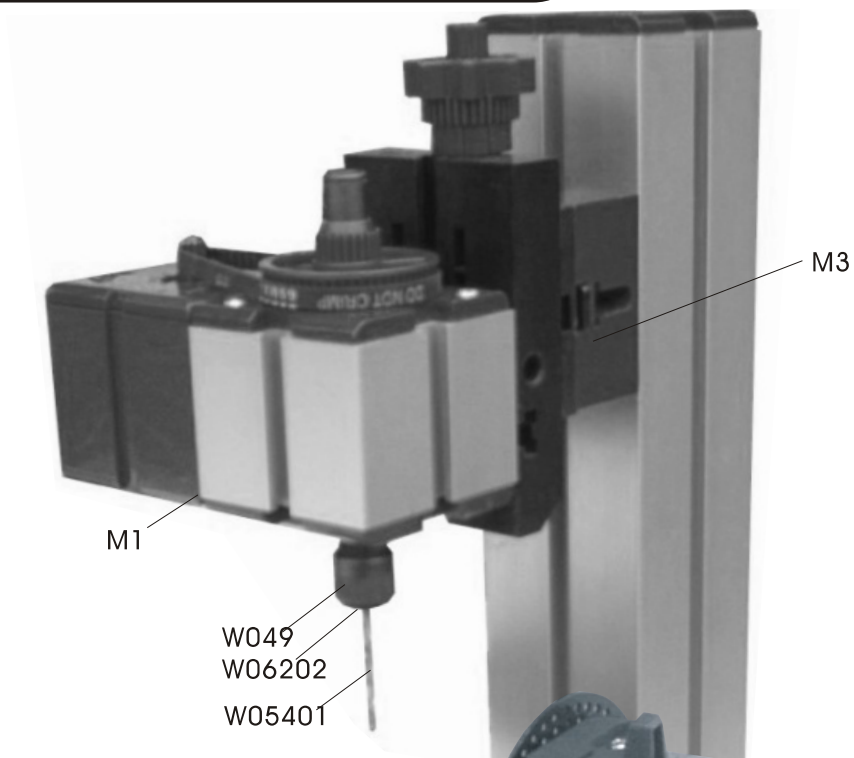
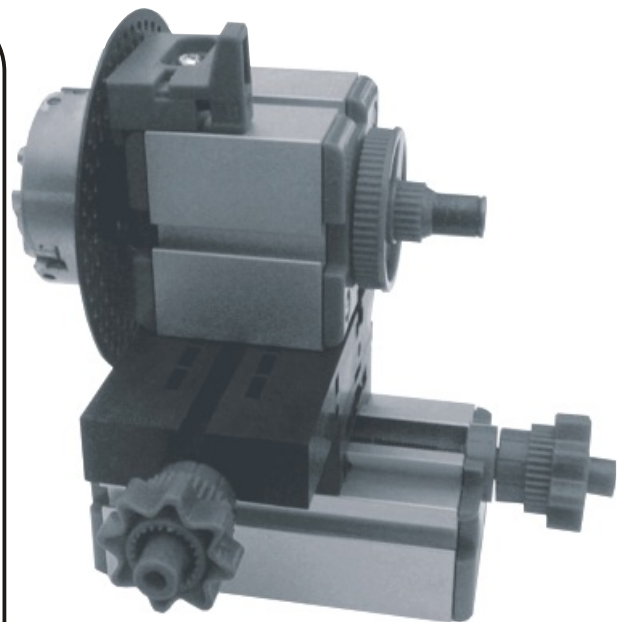
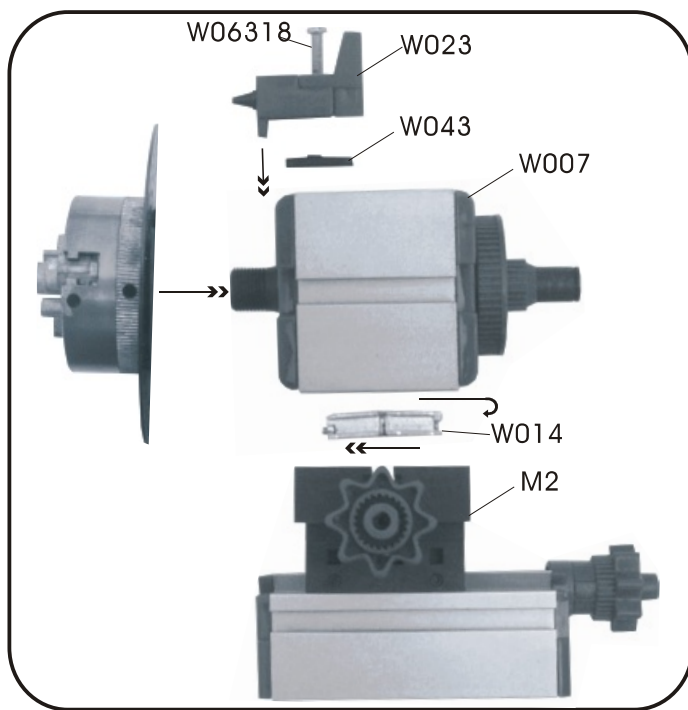


Fig.31

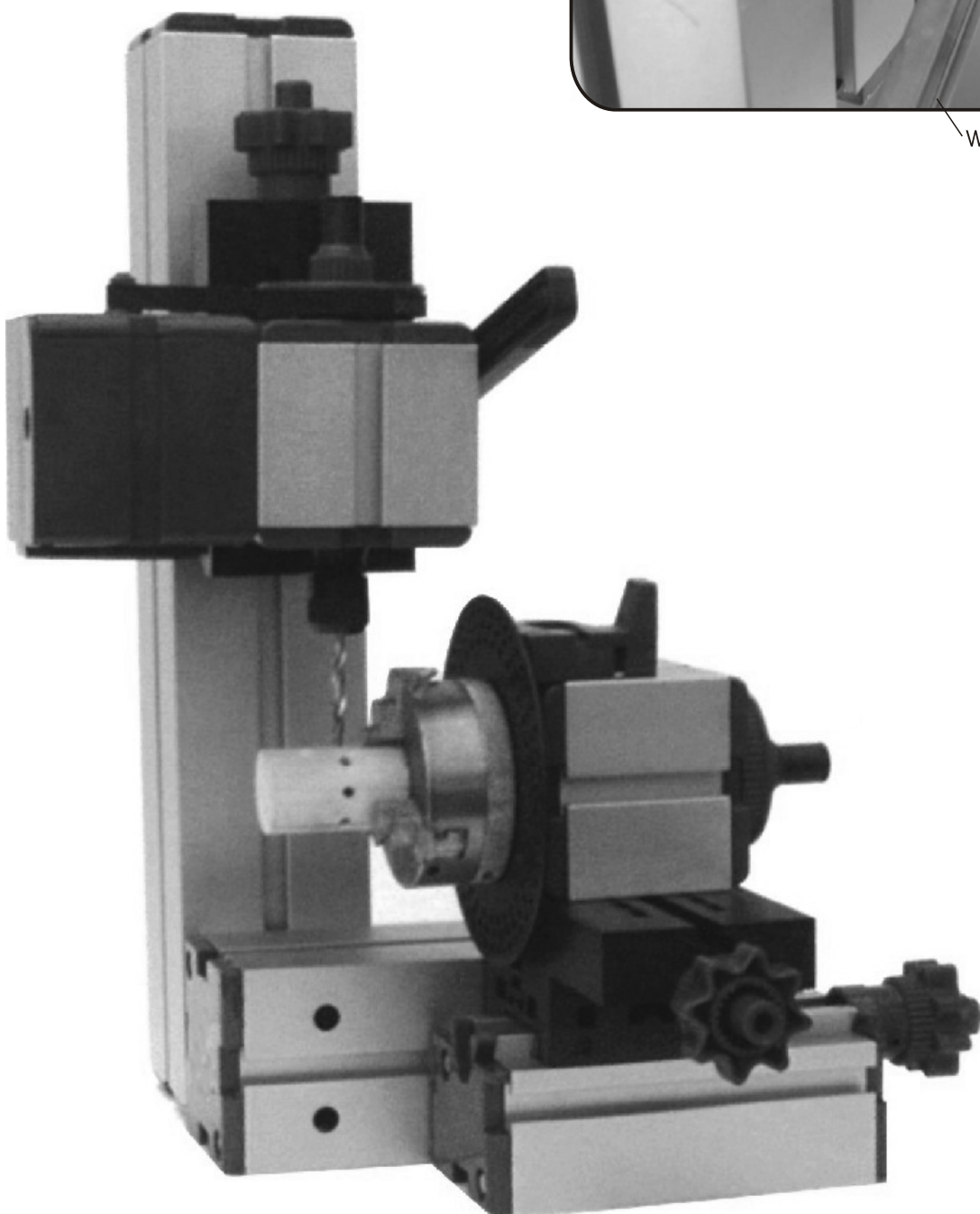
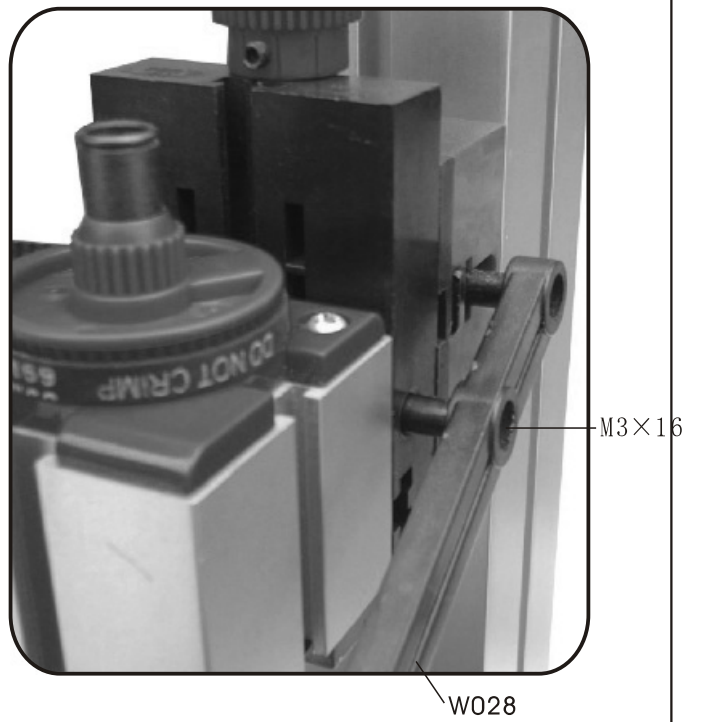
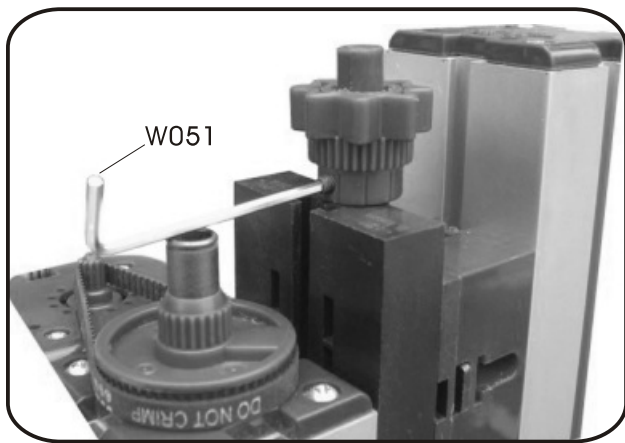


Fig.32

Drilling Machine With Dividing Attachment (W20012)

Metal Machine:

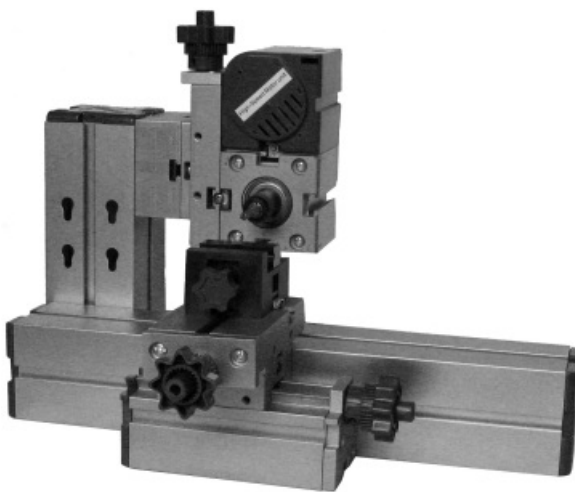
1.Metal Milling Machine (W10004M) :

Metal Milling Machine Part List

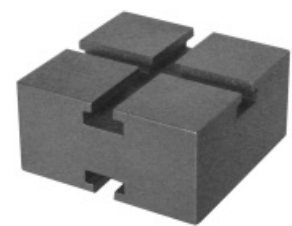
Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W014	Connection Piece	6	W051	Allen Key	1
W002	Short Machine Bed	1	W021	12V Transformer	1	W05501	$\phi 3$ Milling Cutter	1
W004	High Spped Motor Unit	1	W022	Power Supply Connector	1	W05502	$\phi 4$ Milling Cutter	1
W00403	Motor Leaf's Slice	1	W031M	Metal Intermediate Piece *	1	W05503	$\phi 5$ Milling Cutter	1
W007M	Metal Wheel Gear Box *	1	W03201	Short Drive Belt	1	W05504	$\phi 6$ Milling Cutter	1
W009M	Metal Small Slide *	2	W043	Slot Nut	6	W062	Collet	1
W010M	Metal Larger Slide *	1	W044	Two Hole Clamping Plate	5	W06339	A3X16 Screw	2
W013	Machine Vise	1	W049	Collet Holder	1	W06315	M4X6 Bolt	2
W04003	Fastener Stabilizing Elbow Plates	1	W06334	8.8x4.2x0.6Gasket	6	W06316	M4x8Bolt	10

☞ The parts which are marked with "*" in part list are not including with Classic Kit or Professional Kit. You may buy them solely.

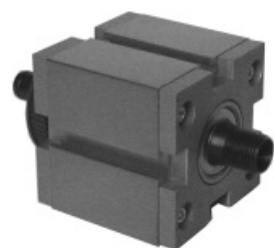
The assembly and operation for metal milling machine please refer to W10004



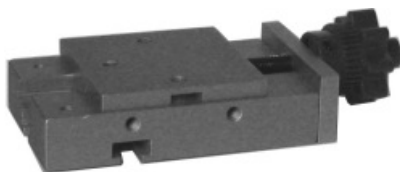
Metal Milling(W10004M)



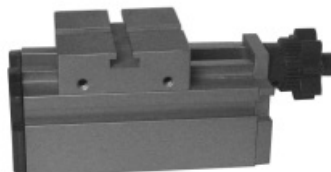
Metal Intermediate Piece



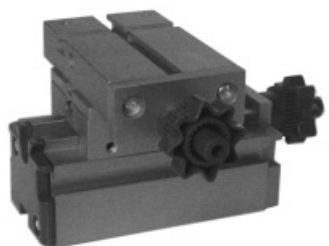
Metal wheel Gear Box



Metal Small Slide



Metal Large Slide



Metal M2

Fig.33

2.Metal Lathe Machine (W10003M) :



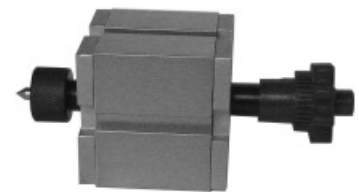
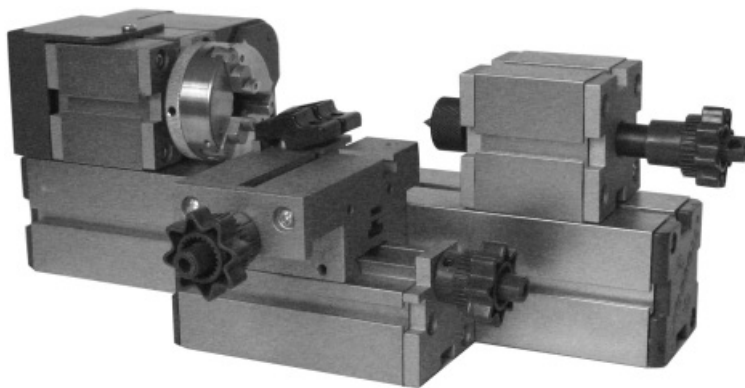
Metal Lathe Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W022	Power Supply Connector	1	W052	Rod	2
W004	High Speed Motor Unit	1	W03201	Short Drive Belt	1	W053	Center Finder	1
W00403	Motor Leaf's Slice	1	W033	Drive Belt Cover	1	W058	Turning Tool	1
W007M	Metal Wheel Gear Box*	1	W03801	Small plate (0.3mm)	5	W06339	A3X16Screw	2
W008M	Metal Tailstock *	1	W03802	Large Plate (0.4mm)	5	W06315	M4X6 Bolt	1
W009M	Metal Small Slide *	1	W039	Turning Tool Fastener	1	W06316	M4X8 Bolt	1
W010M	Metal Large Slide *	1	W04001	Fastener Stabilizing Plates	2	W06318	M4X12 Bolt	1
W012	Three Jaw Chuck	1	W043	Slot Nut	4	W06320	M4X25 Bolt	1
W014	Conection Piece	5	W044	Two Hole Clamping Plate	6	W06334	φ 8.8x4.2x0.6 Gasket	4
W020	Live Center	1	W048	Clamping Jaw	1			
W021	12V Transformer	1	W051	Allen Key	1			

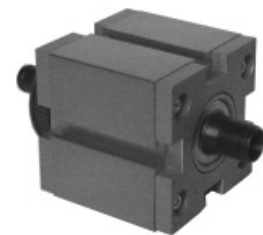
☞ The parts which are marked with "*" in part list are not including with Classic Kit or Professional Kit. You may buy them solely.

The assembly and operation for metal Lathe machine please refer to W10003

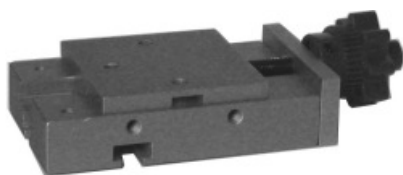
Metal Lathe(W10003M)



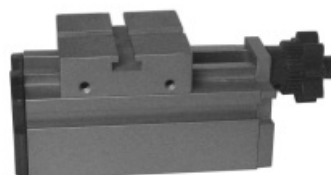
Metal Tailstock



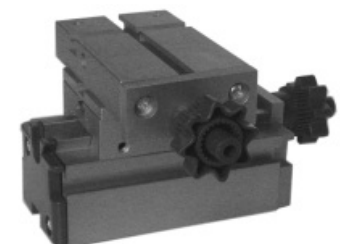
Metal wheel Gear Box



Metal Small Slide



Metal Large Slide



Metal M2

Fig.34

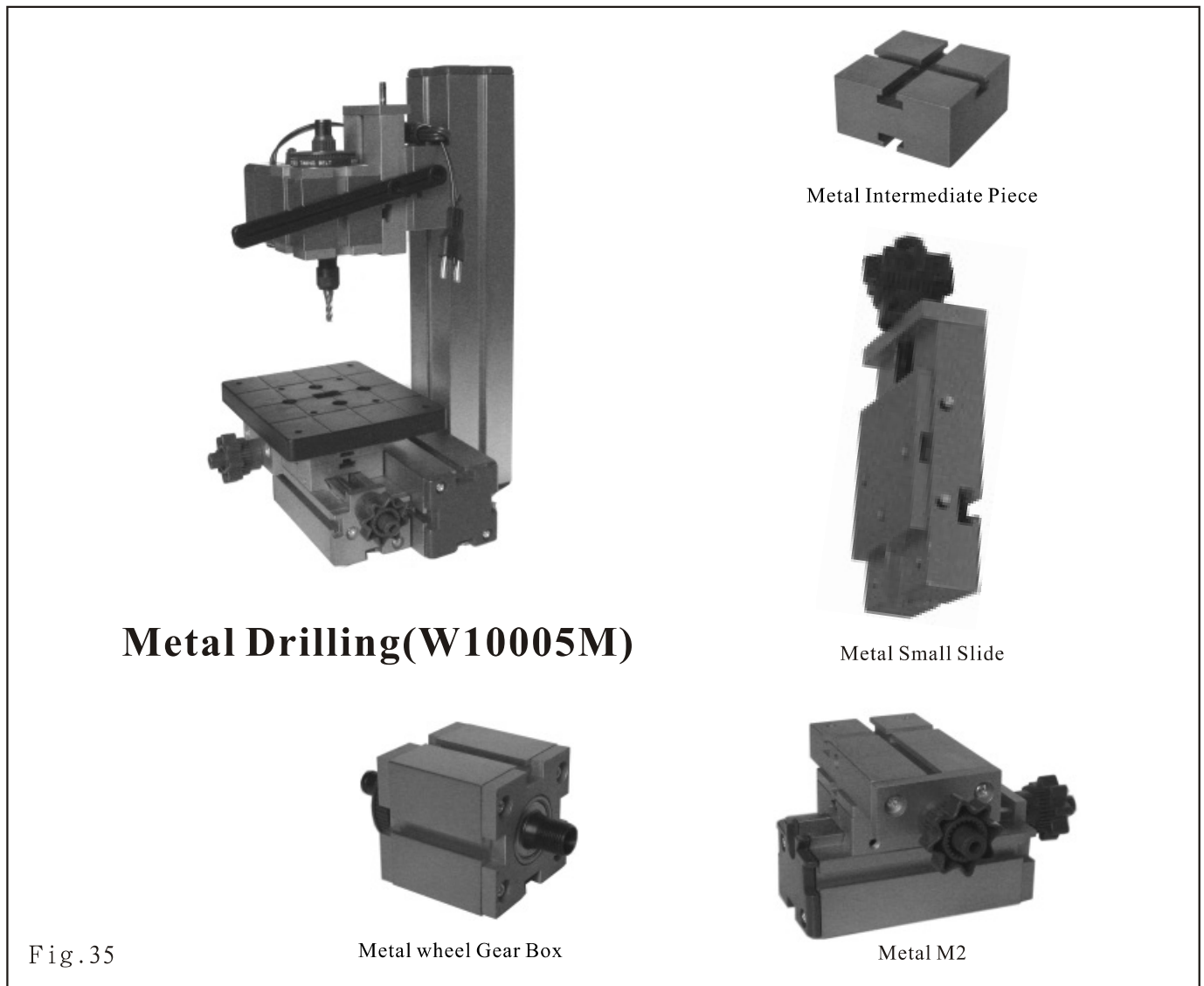
3.Metal Drilling Machine (W10005M) :

Metal Drilling Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W022	Power Supply Connector	1	W051	Allen Key	1
W002	Short Machine Bed	1	W027	Drilling Table	1	W053	Center Finder	1
W004	High Speed Motor Unit	1	W028	Drilling Lever	1	W05401	φ 2Drill bit	1
W00403	Motor Leaf's Slice	1	W031M	Metal Intermediate Piece*	1	W05402	φ 3Drill bit	1
W007M	Metal Wheel Gear Box *	1	W03201	Short Drive Belt	1	W062	Collet	1
W009M	Metal Small Slide *	2	W043	Slot Nut	8	W06339	A3X16 Screw	2
W010M	Metal Large Slide *	1	W044	Two Hole Clamping Plate	5	W06315	M4X6 Bolt	2
W014	Connection Piece	5	W048	Clamping Jaw	4	W06316	M4X8Bolt	10
W021	12V Transformer	1	W049	Collect Holder	1	W06318	M4X12 Bolt	6
W06334	φ8.8X4.2X0.6 Gasket	8	W04003	Fastener Stabilizing Elbow Plates	1	W06338	M3X16Bolt	2

☞The parts which are marked with "*" in part list are not including with Classic Kit or Professional Kit. You may buy them solely.

The assembly and operation for metal drilling machine please refer to W10005

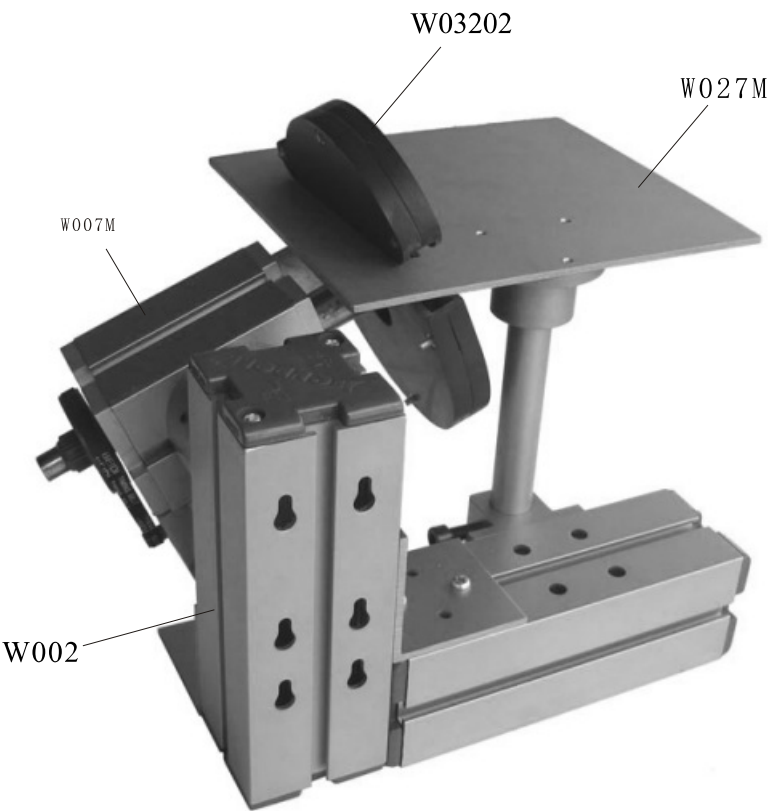


4. Metal Circular Saw Machine (W20008M) :

 Metal Circular Saw Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W031	Intermediate Piece	1	W06100	Circle Saw Blade*	1
W002	Short Machine Bed	2	W03201	Short Drive Belt	1	W06339	A3X16 Screw	2
W004	High Speed Motor Unit	1	W03202	Saw Blade Shield*	1	W06315	M4X6 Bolt	1
W00403	Motor Leaf 's Slice	1	W033	Drive Belt Cover	1	W06318	M4X12 Bolt	2
W007M	Metal Wheel Gear Box*	1	W043	Slot Nut	3	W027M	Metal Drilling Table*	1
W014	Connection Piece	5	W044	Two Hole Clamping Plate	2	W06102	Shield Connection Piece*	1
W021	12V Transformer	1	W04700	Saw Blade Collet*	1	W04003	Fastener Stabilizing Elbow Plates	1
W022	Power Supply Connector	1	W049	Collet Holder	1			

👉 The parts which are marked with "*" in part list are not including with Classic Kit or Professional Kit. You may buy them solely.



Metal Circular Saw Machine (W20008M)

Fig.36

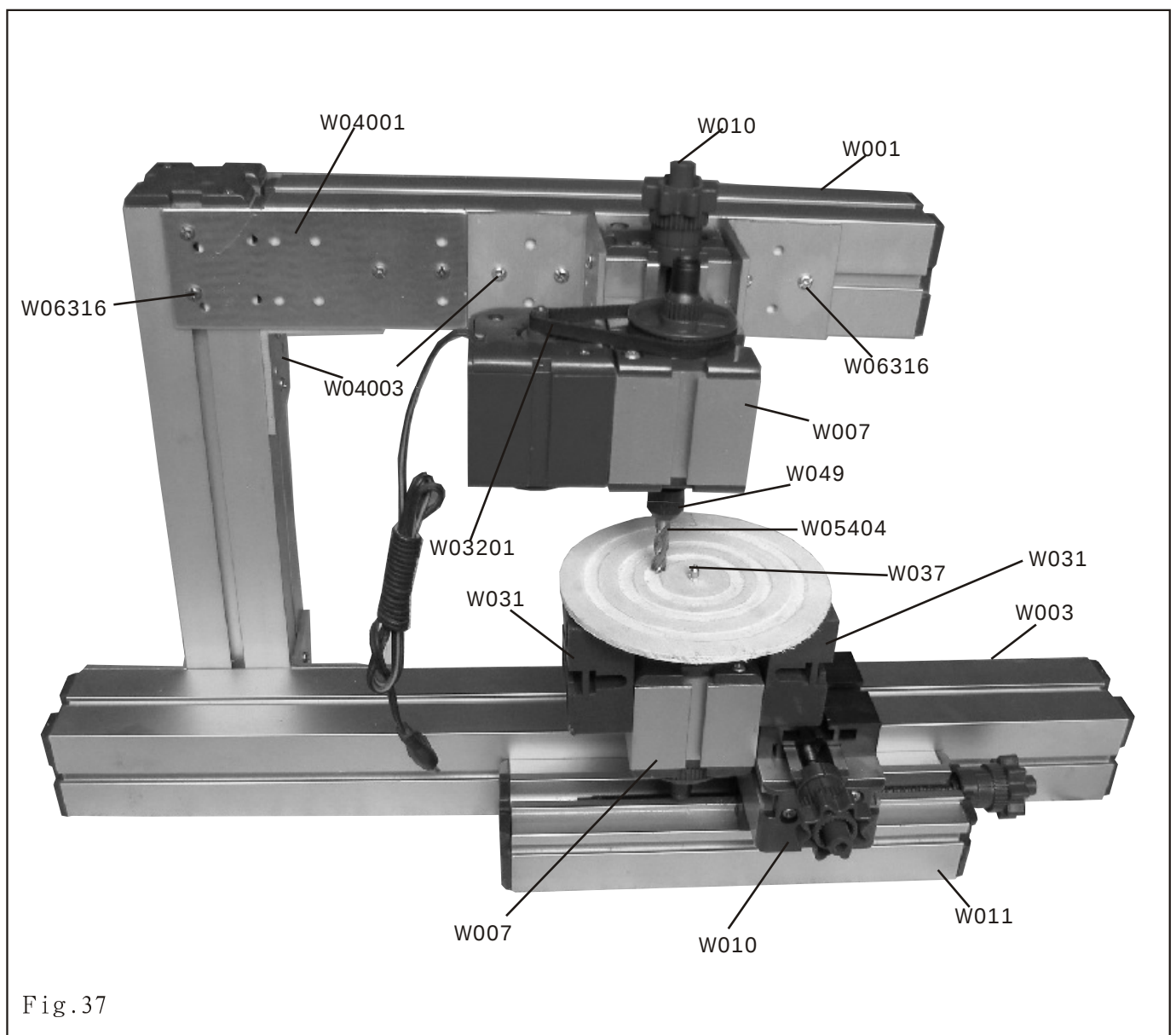
Specialist Machine:

1.Circle Milling Machine (W20005) :



Circle Milling Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	2	W022	Power Supply Connector	1	W051	Allen Key	1
W003	Extra Long Machine Bed	1	W031	Intermediate Piece	2	W05501	Milling Cutter (3mm)	1
W00403	Motor Leaf' s Slice	1	W03201	Short Drive Belt	1	W05502	Milling Cutter (4mm)	1
W006	Low Speed Motor Unit	1	W037	Center Needle	1	W05503	Milling Cutter (5mm)	1
W007	Wheel Gear Box	2	W04001	Fastener Stabilizing Plates	2	W05504	Milling Cutter (6mm)	1
W010	Large Slide	2	W042	Intermediate Connect Plate	1	W062	Collets	1
W011	Longitudinal Silde	1	W043	Slot Nut	1	W06339	A3X16 Screw	2
W014	Connection Piece	7	W044	Two Hole Clamping Plate	16	W06316	M4X8 Bolt	28
W021	12V Transformer	1	W049	Collet Holder	2	W06321	M4X50 Bolt	1
W04003	Fastener Stabilizing Elbow Plates	5						

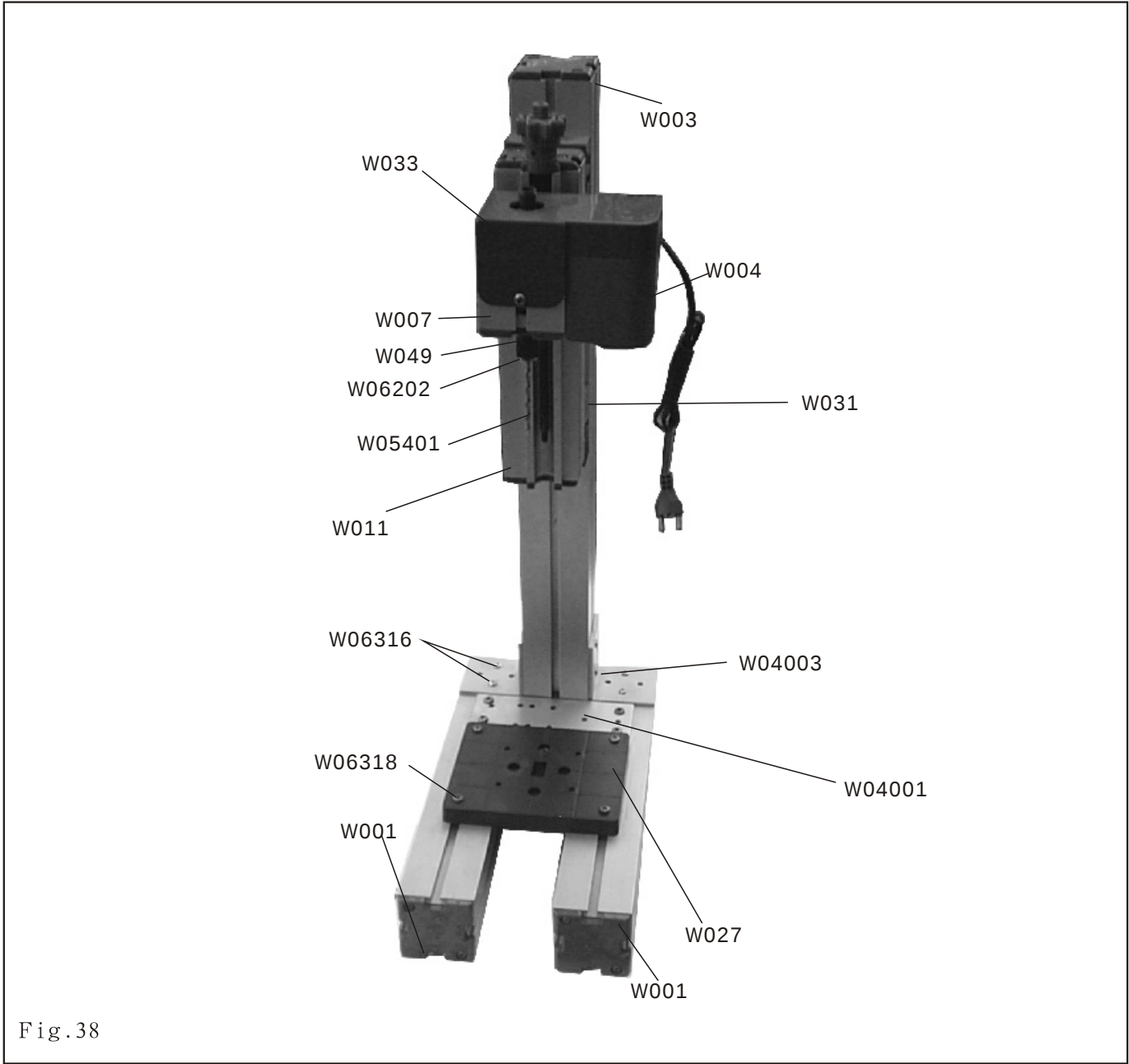


2.Enlarging Drilling Machine (W20004) :



Enlarging Drilling Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	2	W027	Drilling Table	1	W053	Center Finder	1
W003	Extra Long Machine Bed	1	W031	Intermediate Piece	2	W05401	Drill Bit (2mm)	1
W004	High Speed Motor Unit	1	W03201	Short Drive Belt	1	W062	Collets	1
W00403	Motor Leaf' s Slice	1	W04001	Fastener Stabilizing Plates	1	W06339	A3X16 Screw	4
W007	Wheel Gear Box	1	W04003	Fastener Stabilizing Elbow Plates	2	W06315	M4X6 Bolt	1
W011	Longitudinal Silde	1	W043	Slot Nut	5	W06316	M4X8 Bolt	12
W014	Connection Piece	6	W044	Two Hole Clamping Plate	10	W06318	M4X12 Bolt	4
W021	12V Transformer	1	W049	Collet Holder	1	W033	Drive Belt Cover	1
W022	Power Supply Connector	1	W051	Allen Key	1			

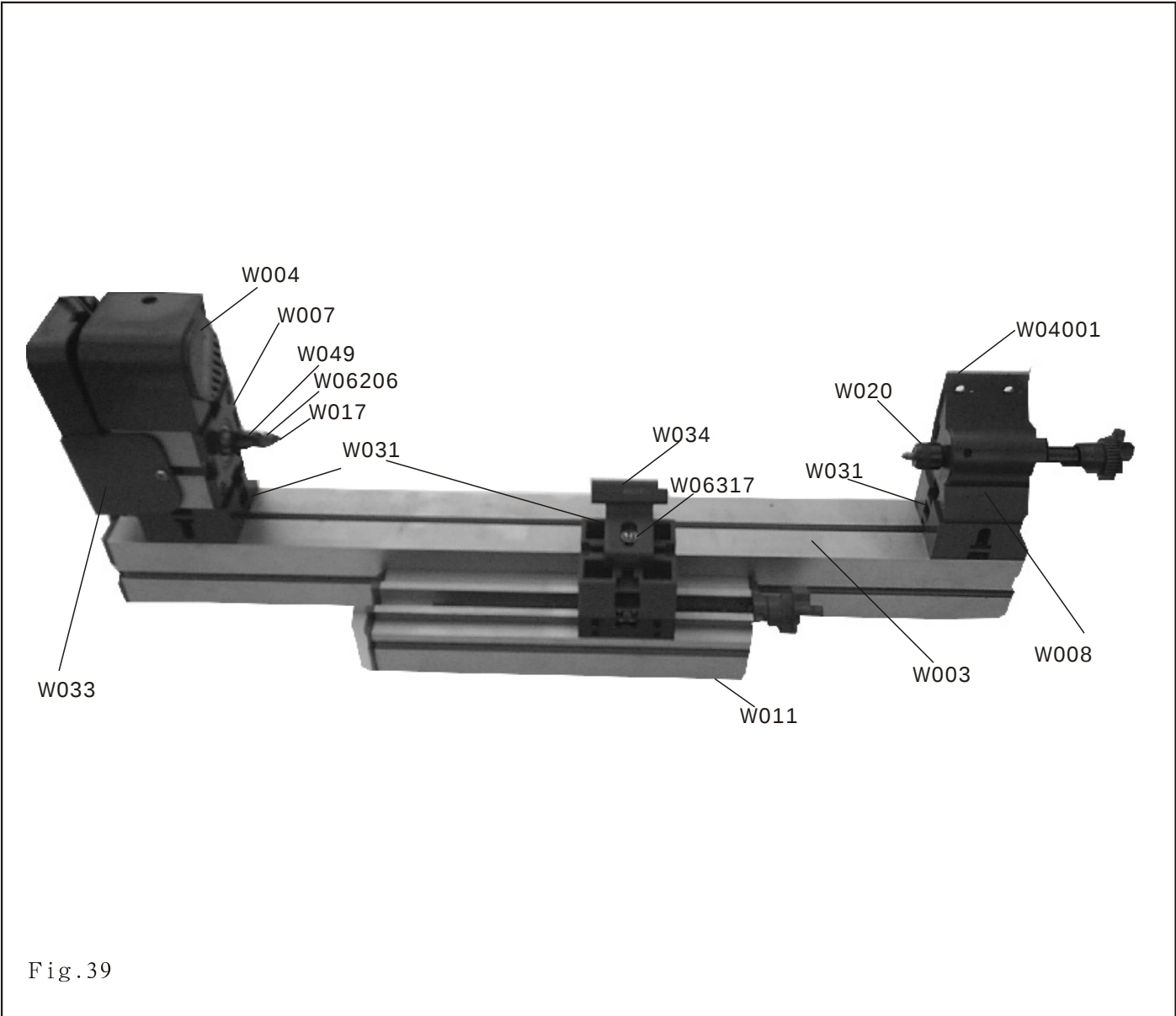


3.Enlarging Woodturning Lathe (W20003) :



Enlarging Woodturning Lathe Part List

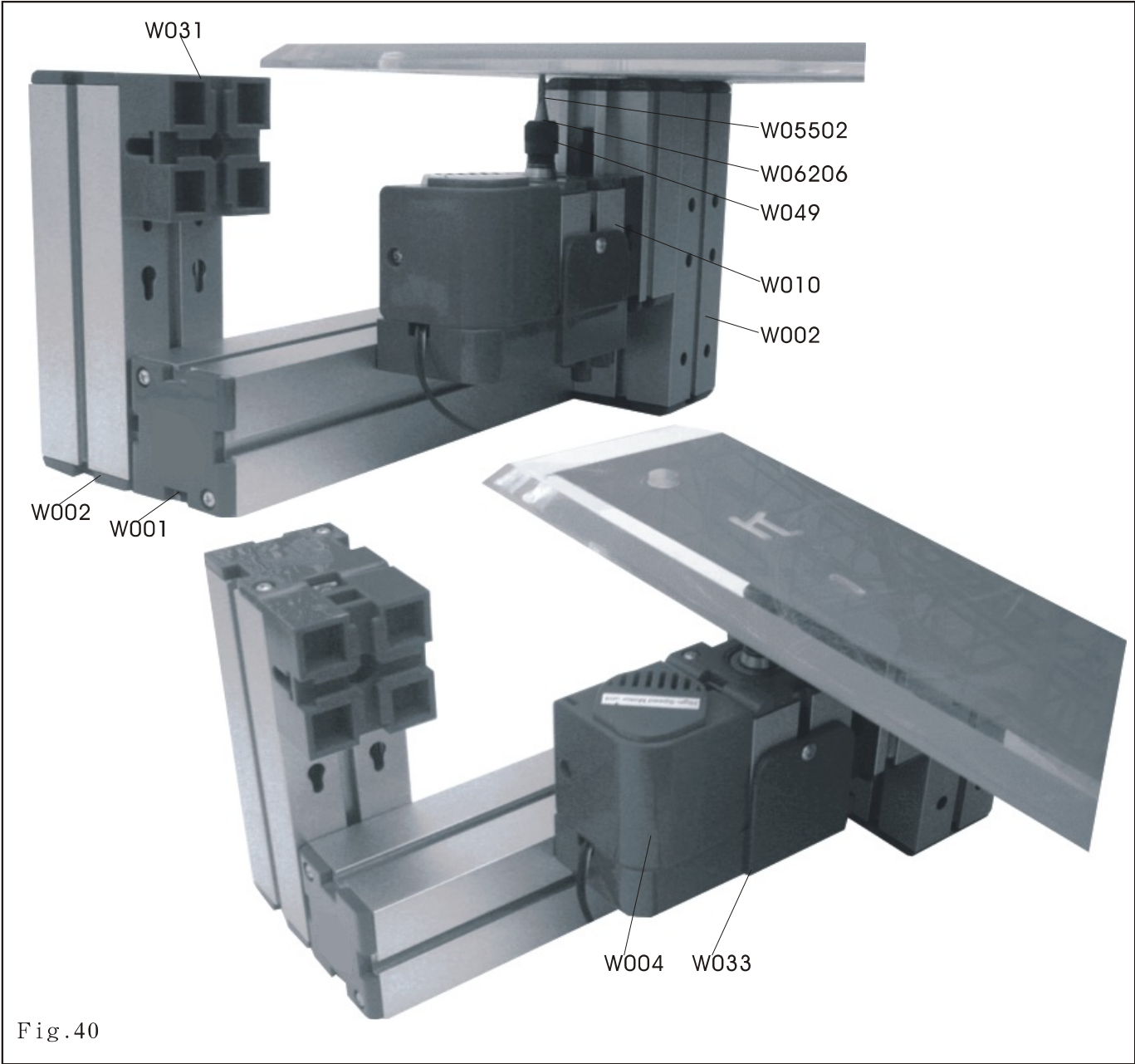
Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W003	Extra Long Machine Bed	1	W021	12V Transformer	1	W051	Allen Key	1
W004	High Speed Motor Unit	1	W022	Power Supply Connector	1	W053	Center Finder	1
W00403	Motor Leaf 's Slice	1	W031	Intermediate Piece	3	W059	Turning Gouge	1
W007	Wheel Gear Box	1	W03201	Short Drive Belt	1	W06206	φ4Collets	1
W008	Tailstock	1	W033	Drive Belt Cover	1	W06339	A3X16 Screw	2
W011	Longitudinal Silde	1	W034	Woodturning Support	1	W06315	M 4X6 Bolt	1
W014	Connection Piece	8	W043	Slot Nut	2	W06316	M 4x8Bolt	8
W017	Drive Center	1	W044	Two Hole Clamping Plate	6	W06317	M 4X10 Bolt	1
W020	Live Center	1	W049	Collet Holder	1	W04001	Fastener Stabilizing Plates	2



4.Profile Milling Machine (W20006) :

 Profile Milling Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W022	Power Supply Connector	1	W05501	Milling Cutter (3mm)	1
W002	Short Machine Bed	2	W031	Intermediate Piece	2	W05502	Milling Cutter (4mm)	1
W004	High Speed Motor Unit	1	W03201	Short Drive Belt	1	W05503	Milling Cutter (5mm)	1
W00403	Motor Leaf ' s Slice	1	W033	Drive Belt Cover	1	W05504	Milling Cutter (6mm)	1
W007	Wheel Gear Box	1	W043	Slot Nut	3	W062	Collets	1
W010	Large Slide	1	W044	Two Hole Clamping Plate	8	W04003	Fastener Stabilizing Elbow Plates	1
W014	Connection Piece	6	W049	Collet Holder	1	W06315	M 4X6 Bolt	5
W021	12V Transformer	1	W051	Allen Key	1	W06339	A 3x16 Screw	2
W06316	M4x8 Bolt	8	W06322	M4x55Bolt	2			



5.Planner Machine (W20007) :



Planner Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W021	12V Transformer	1	W051	Allen Key	1
W002	Short Machine Bed	1	W022	Power Supply Connector	1	W052	Rod	2
W004	High Speed Motor Unit	1	W023	Dividing Attachment Assy.	1	W05700	Planner Tool*	1
W00403	Motor Leaf' s Slice	1	W024	Dividing Attachment	1	W06304	A3X10 Screw	2
W007	Wheel Gear Box	2	W031	Intermediate Piece	1	W06315	M4X6 Bolt	2
W009	Small Slide	2	W03201	Short Drive Belt	1	W06318	M4X12 Bolt	1
W010	Large Slide	1	W043	Slot Nut	7	W06324	M4X6 Allen Bolt*	1
W012	Three Jaw Chuck	1	W044	Two Hole Clamping Plate	5	W06334	φ 8.8x4.2x0.6 Gasket	7
W014	Connection Piece	6	W04600	Planner Collet*	1	W06316	M4x8 Bolt	10
W04003	Fastener Stabilizing Elbow Plates	1	W06339	A3x16Screw	2			

☞ The parts which are marked with "*" in part list are not including with Classic Kit or Professional Kit. You may buy them solely.

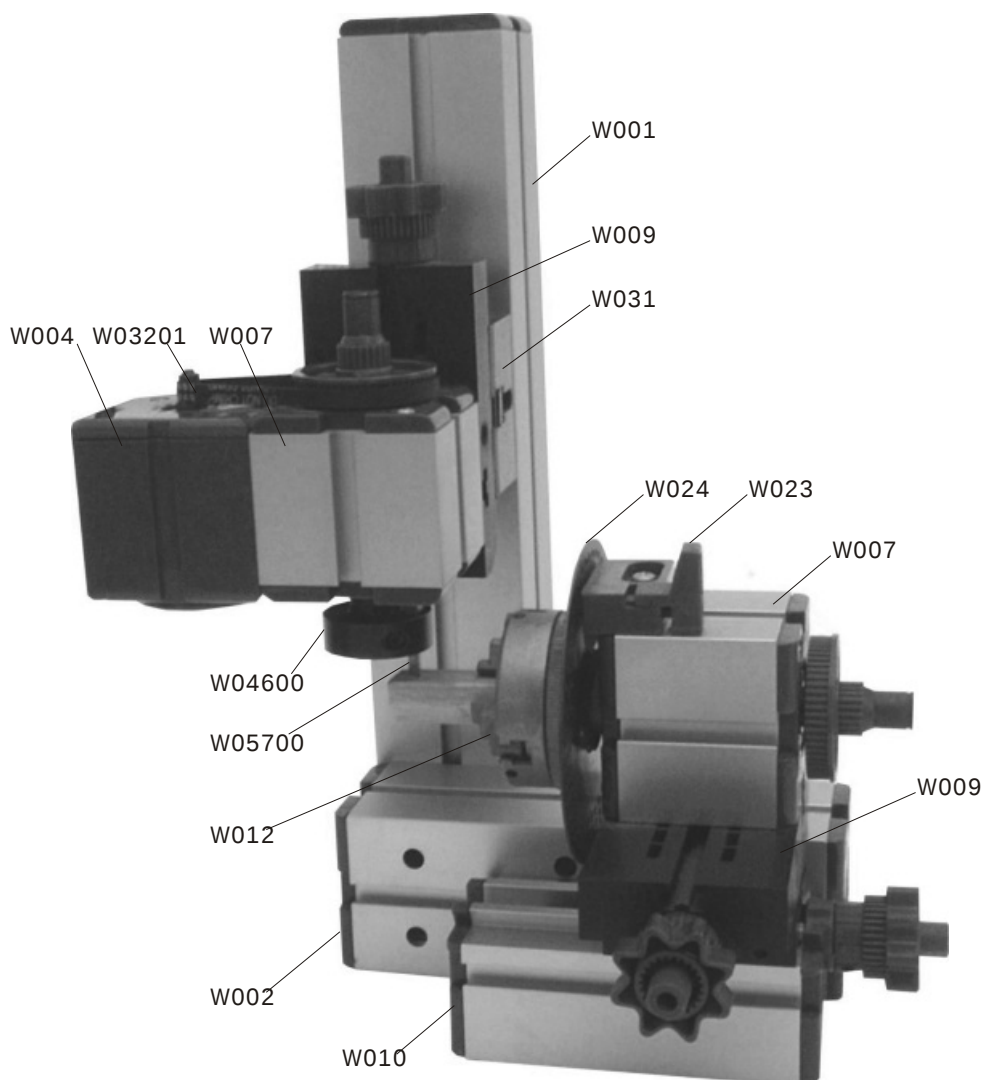


Fig.41

6.Circular Saw Machine (W20008) :



Circular Saw Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W022	Power Supply Connector	1	W049	Collet Holder	1
W002	Short Machine Bed	1	W031	Intermediate Piece	1	W06100	Circle Saw Blade*	1
W004	High Speed Motor Unit	1	W03201	Short Drive Belt	1	W06339	A3X16 Screw	2
W00403	Motor Leaf 'sSlice	1	W033	Drive Belt Cover	1	W06315	M4X6 Bolt	1
W007	Wheel Gear Box	1	W043	Slot Nut	3	W06318	M4X12 Bolt	2
W014	Connection Piece	5	W044	Two Hole Clamping Plate	2	W027	Drilling Table	1
W021	12V Transformer	1	W04700	Saw Blade Collet*	1			

☞ The parts which are marked with "*" in part list are not including with Classic Kit or Professional Kit. You may buy them solely.

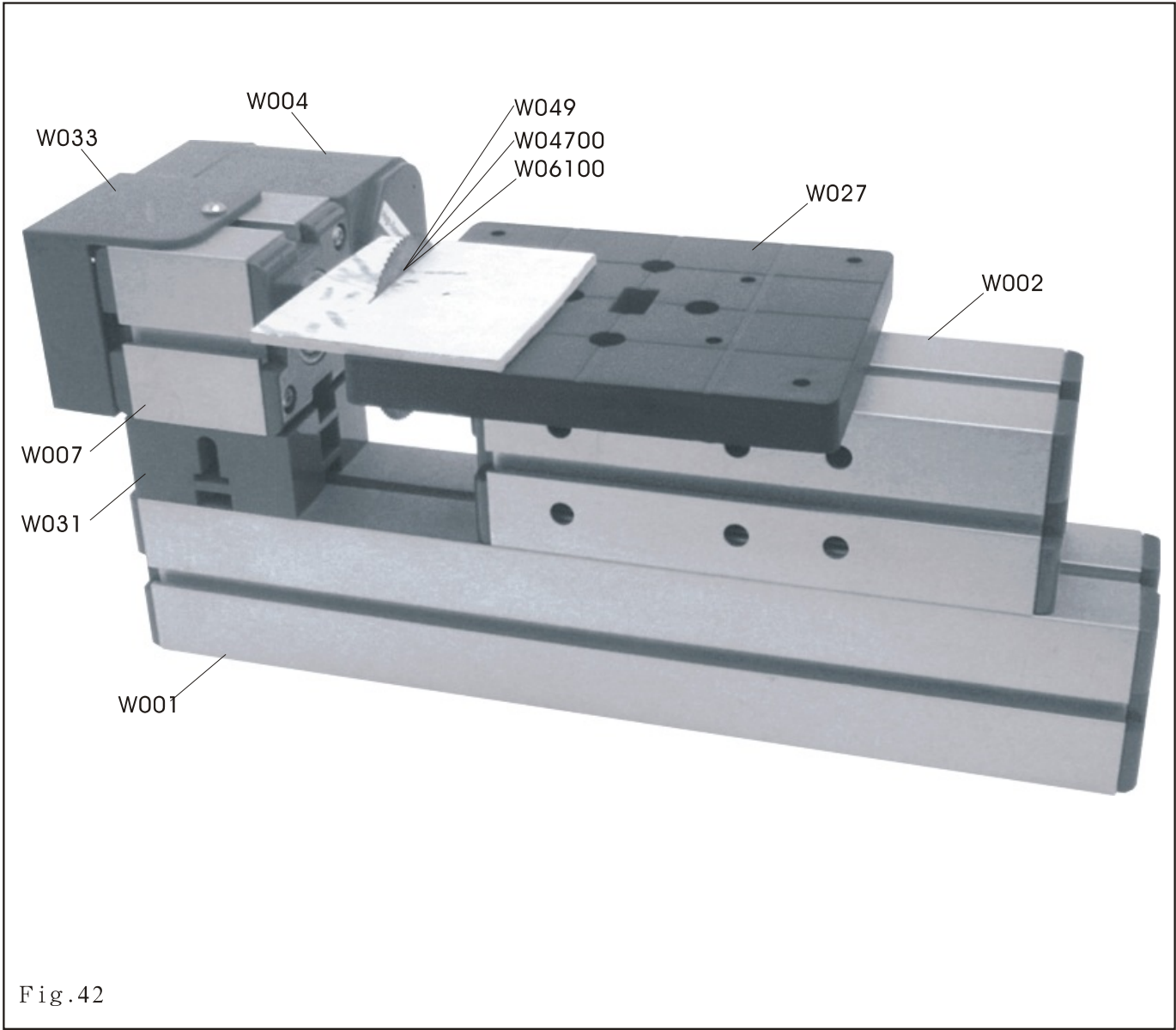


Fig.42

7.Horizontal Gear Milling Machine (W20009) :



Horizontal Gear Milling Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W020	Live Center	1	W051	Allen Key	1
W002	Short Machine Bed	1	W021	12V Transformer	1	W052	Rod	2
W004	High Speed Motor Unit	1	W022	Power Supply Connector	1	W05600	Gear Milling Tool*	1
W00403	Motor Leaf ' s Slice	1	W023	Dividing Attachment Assy.	1	W06304	A3X10 Screw	2
W007	Wheel Gear Box	2	W024	Dividing Attachment	1	W06316	M4X8 Bolt	3
W008	Tailstock	1	W031	Intermediate Piece	3	W06318	M4X12 Bolt	1
W009	Small Slide	1	W03201	Short Drive Belt	1	W06324	M4X6 Allen Bolt*	1
W010	Large Slide	2	W043	Slot Nut	4	W06334	φ8.8x4.2x0.6 Gasket	4
W012	Three Jaw Chuck	1	W044	Two Hole Clamping Plate	2	W06339	A3x16 Screw	2
W014	Connection Piece	12	W04500	Gear Milling Toll Collet*	1			

☞ The parts which are marked with "*" in part list are not including with Classic Kit or Professional Kit. You may buy them solely.

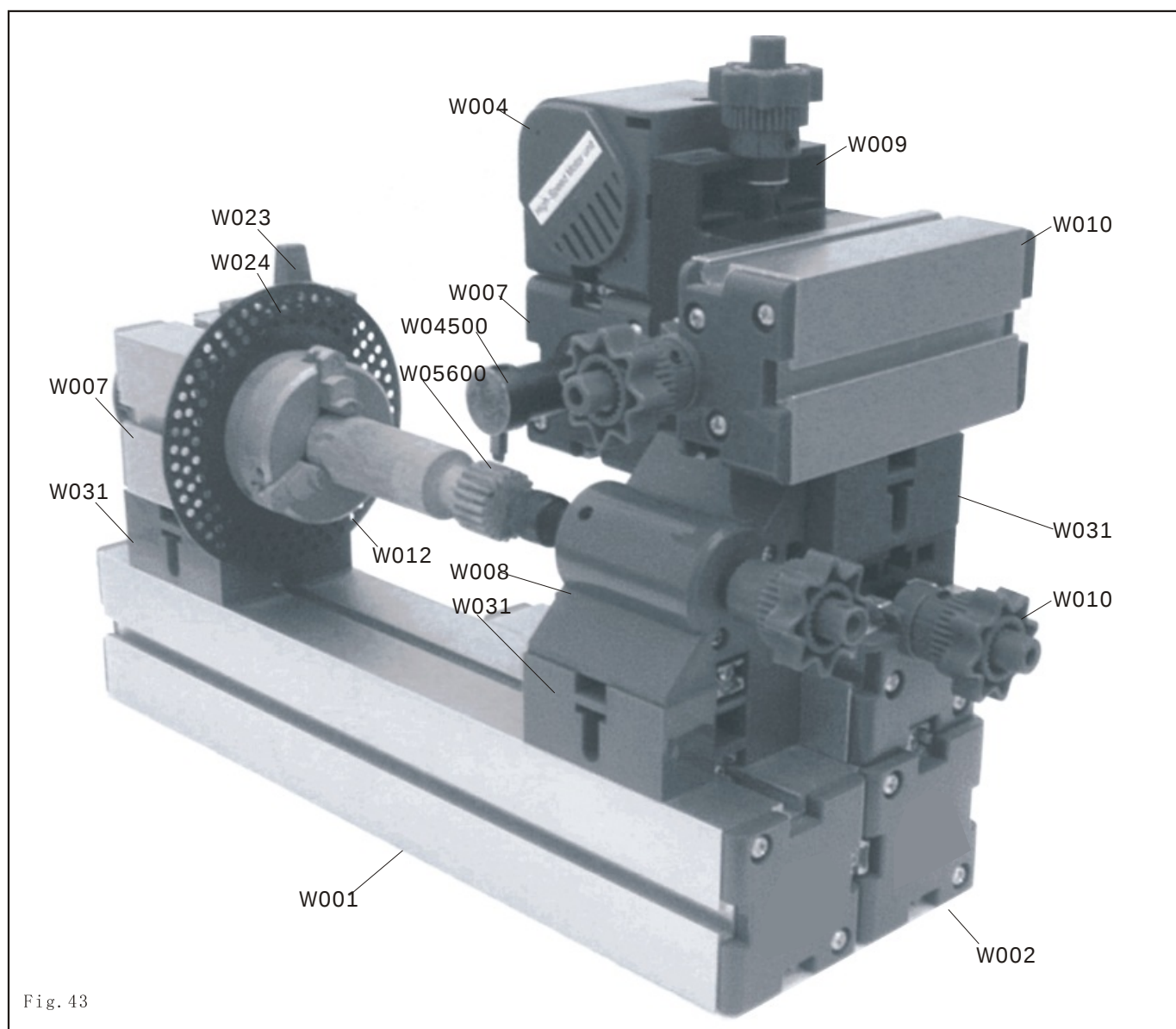


Fig. 43

Digital Display Machine Introduction

Digital display machine is widely used for display processing on industry ,and it further expands the processing function and production efficiency of manual machine. We developed this technology in order to be understand the operational theory and develop tendency.

Feature

Intuitionistic:: Clearly know the position of every axis and the speed of spindle.

Accurate: The display accuracy of feeding can be reached 0.01mm/0.005in.

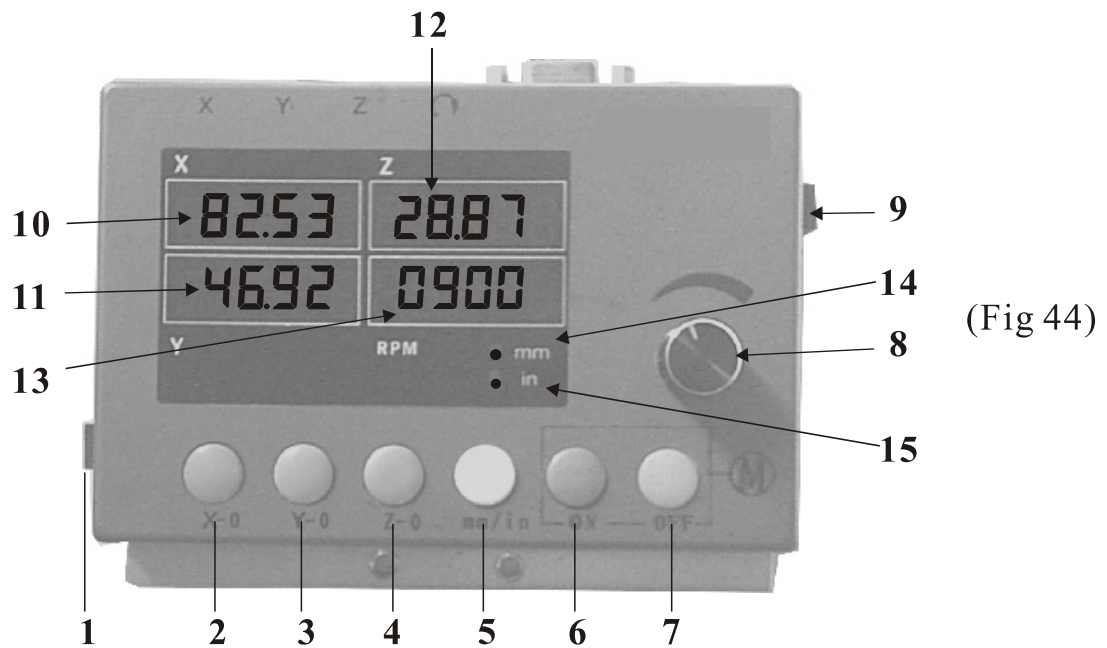
Easy-control: Any key can be cleaned to "0", without complicated calculation of measurement, and can convert the unit conversion at the same time.

Flexible : Easy to control the spindle speed with variable speed adjusting.

General Safety Cautions:

- 1 、 Keep the working area clean and dry. Do not work under dirty and wet environment . We recommend working in a dust free environment with sufficient airing.
- 2 、 Keep the children(under age 10)away the working area, for the milling machine is most danger of other machines, children should use the machine with very strict care by professional.
- 3 、 Do not store the machine in the place where children can be reached.
- 4 、 Alway wear the goggle to protect your eyes when you are operating the machine.
- 5 、 Keep hair and clothing well away from moving part.
- 6 、 Stop the machine instantly when anomalous sound is heard, work away after the reason was found and fixed it.
- 7 、 Always check the machine before you start operating it, shift or replace the worn parts if required. As some of components are designed specially for our machine, you are advised to use our components avoiding injury and to extend the life span of your machine.
- 8、 The speed must be turned down least before you stop working.
- 9、 Keep away from chemical and explosive while operation
- 10、 Avoiding contingency,press the transformer switch to off before start to operate. Place the transformer in the environment with sufficient airing and dry.
- 11、 Never touch the revolving working piece with any part of your body, in particular, the revolving tools.
- 12、 When the resistance of motor is too hard to reduce the rotating speed, cut the power supplier immediately within 5 seconds and do not delay to shut off the machine , otherwise , the motor will be destructive. When this happens, check the reason and fix it before restart the machine again
- 13、 Make sure definite distance between the turning tool and workpiece.

Instruction of Digital Display Control Box(we call it DDCB as follow) (as fig 44)



(Fig 44)

- 1、 The power supply of DDCB.
- 2、 "X-0" key: Press this key, the number showed the coordinates of X axis will return to zero. If continue to slide the slide of the X axis, the number will start to change from zero.
- 3、 "Y-0" key: Press this key, the number showed the coordinates of Y axis will return to zero. If continue to slide the slide of Y axis, the number will start to change from zero.
- 4、 "Z-0" key: Press this key, the number showed the coordinates of Z axis will return to zero. If continue to slide the slide of Z axis, the number will start to change from zero.
- 5、 "MM/In" key: The key is used to exchange the unit between mm and inch. Press this key, the unit of the X、 Y、 Z axis will change between mm and inch.
- 6、 "ON" key: Press this key, the motor will start.
- 7、 "Off" key: Press this key, the motor will stop.
- 8、 Speed controlling knob: It controls the speed of motor. When turn the knob clockwise, the speed will go up. When turn the knob anti-clockwise, the speed will go down.
- 9、 The power supply of the motor.
- 10、 "X": Showing the position of the X axis (MM /Inch). After press the "X-0" key, the number is negative when turn the handle wheel of the slide clockwise. The number is positive number when turn anti-clockwise.
- 11、 "Y": Showing the position of the Y axis (MM /Inch). After press the "Y-0" key, the number is negative when turn the handle wheel of the slide clockwise. The number is positive number when turn anti-clockwise.
- 12、 "Z": Showing the position of the Z axis (MM /Inch). After press the "Z-0" key, the number is negative when turn the handle wheel of the slide clockwise. The number is positive number when turn anti-clockwise.
- 13、 "RPM": When press the "ON" key, the speed of the spindle is showed .Speed unit is rotation per minute.
- 14、 "MM": Indicator light of the metric . When this light shine, the number's unit is mm.
- 15、 "IN": Indicator light of inch. When this light shine, the number's unit is inch.

Instruction of DDCB (fig 45)

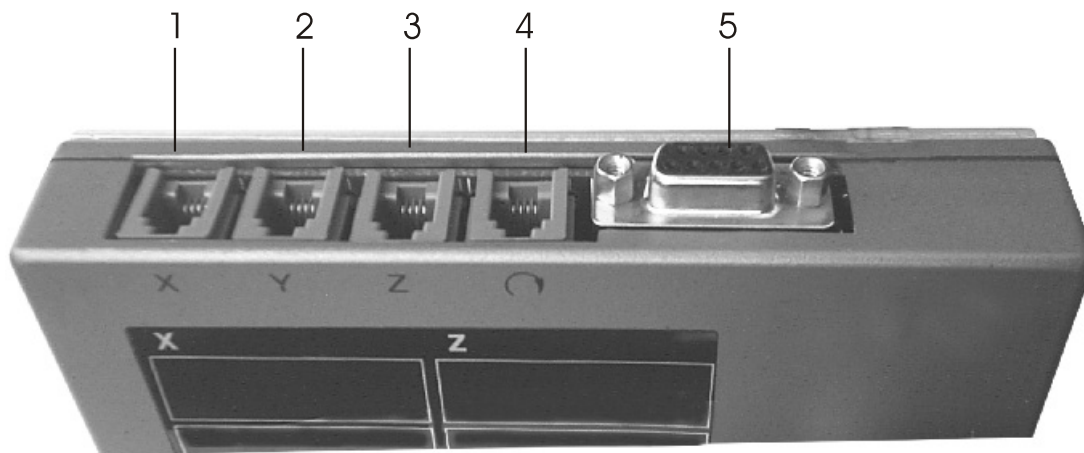


Fig45

- 1.The port of the X axis' coordinates data.
- 2.The port of the Y axis' coordinates data.
- 3.The port of the Z axis' coordinates data.
- 4.The port of the spindle' speed.
- 5.RS232 serial port.

Notice

1 .Before use the digital display machine , make sure the cable of each sensor to place right port. Especially the cable of the speed's sensor can't be placed to data port of the X、Y 、 Z axis.

2 .RS232 serial port is connected with the computer by DB9 serial cable.

3 .The display accuracy of feeding can be reached 0.01mm(0.005in),when the handle wheel of slide be turned a circuit anti-clockwise,the coordinates increase 1mm(0.05in).

4.The method of how to accurately process workpiece : Before turn the slide to right place and returning to zero ,you must lightly slide the slide a little bit toward the direction that prepare to move to, till a little of strength is required to slide the slide .Here you can clear zero .Because there is a little of clearance between the screw and the nut ,this operation can make sure the operation accurately . In the same way when the slide overrun the right position, such as you want to move 3 mm ,but you carelessly move 3.2mm, because there is a little of some clearance between the screw and the nut ,You can't simply move the slide back to the position of 3mm ,this position is not right .In order to accurately process workpiece ,you must move the slide back to the position of 2mm. When the position at the 2mm , you can move the slide to the position of 3mm ,this position is right .

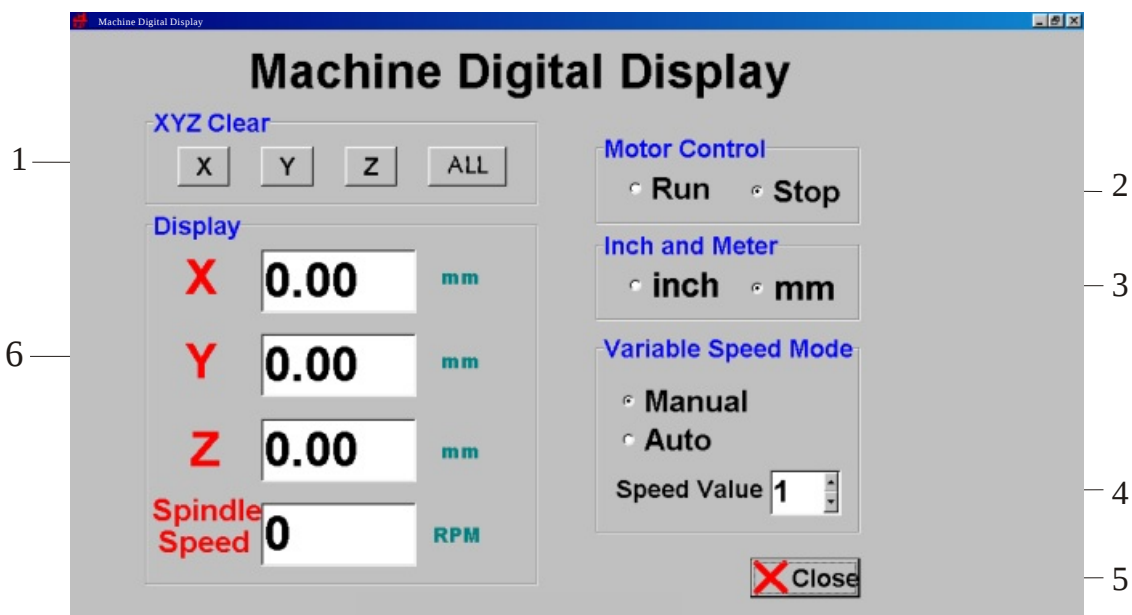
Controlling Software(fig 46)

To install machine digital display software

1. Close all programs
- 2.double click the install software Icon
- 3.Installation will begin automatically. Simply follow the on-screen instructions to continue
The installation program then prompts you to install
- 4.Click **Next** to start the installation
- 5.Follow the on-screen instructions. then click finish.

To uninstall the software:

- 1.From the Start menu select **Settings** then click **Control Panel**,
- 2.Double click **Add or Remove Programs**
- 3.Click the **Install/Uninstall** tab.
- 4.From the list of program that you can remove select machine digital display
- 5.Click **Change/Remove**
- 6.Select the **Remove** option, then click **Next**
- 7.At the prompt, click **OK** to confirm that you want to remove it
8. click **Finish**.



(Fig46)

- 1 、 X 、 Y 、 Z clear.
- 2 、 Motor control:When selecting "run",the motor star. When selecting "stop",the motor stop.
- 3、 Unit select:When selecting mm ,the unit is mm. When selecting inch, the unit is inch.
- 4、 Variable speed mode: when selecting manual, changing the speed only by DDCB. When selecting auto, changing the speed only by the computer. When selecting the ▲ ,the display number will go up from one, the max number is 32.When selecting the ▼ ,the number will go down ,the mix number is 1
- 5、 The exit button. When you select it ,the software is close.
- 6、 Showing the coordinates value of the X、 Y 、 Z axis and the speed of the spindle.

1.Digital Display Drilling Machine(W10004-DRO):



Digital Display Drilling Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W04001	Fastener Stabilizing Plates	1	W051	Allen Key	1
W002	Short Machine Bed	1	W027	Drilling Table	1	W053	Center Finder	1
W004	High Speed Motor Unit	1	W031	Intermediate Piece	1	W05401	φ 2Drill bit	1
W00403	Motor Leaf's Slice	1	W03201	Short Drive Belt	1	W05402	φ 3Drill bit	1
W007	Wheel Gear Box	1	W043	Slot Nut	9	W062	Collet	1
W09500	Digital display Small Slide	2	W044	Two Hole Clamping Plate	7	W06339	A3X16 Screw	2
W09600	Digital display Large Slide	1	W048	Clamping Jaw	4	W06315	M4X6 Bolt	3
W014	Connection Piece	5	W049	Collect Holder	1	W06318	M4X12 Bolt	6
W021	12V Transformer	1	R S232	RS232 serial Line	1	D00106	silver paper	1
D00100	Digital display control Box	1	W06317	M4x10Bolt	4	W06307	A3.5x16 Screw	3
W04003	Fastener Stabilizing Elbow Plates	2	W06334	φ 8.8x4.2x0.6 Gasket	12	W09700	Drive Belt Cover	1
W06316	M4X8Bolt	10						

Assembly :

As Shown Fig. 47 and 48.

First, screw into two hole clamping plate(W044) with two 4X6 bolts (W06315), then slide the two hole clamping plate with two 4X6 bolts into the "T" groove of long machine bed (W001),insert the two bolt heads into the pear shaped holes of short machine bed(W002) (insert them into bulge-like part of hole, then into neck-like part),firmly tighten screws through short machine bed with screwdriver, then place the long machine bed vertically.

Fix the drilling table(W027) on small slide-large slide unit (M2D) by using two slot nuts with 4X12 bolt(W06318). Fix four clamping jaws(W048) on four corner of the drilling table, Fix motor-wheel gear box unit(M1D)on small slide-inter mediate unit(M3D) with two connection pieces, Fasten the drill bit(W05401) into the axle of wheel gear box by using collet(W06202) and collet holder(W049),then fix the whole unit on long machine bed.

Turn the handle of small slide clockwise until stop, loosen Allen-screw on the handle with Allen Key(W051) until the handle can be moved free from the bolt axle of small slide, stick on drilling lever(W028) between the hole of intermediate piece and small slide. You may drive the drilling lever up and down while working.

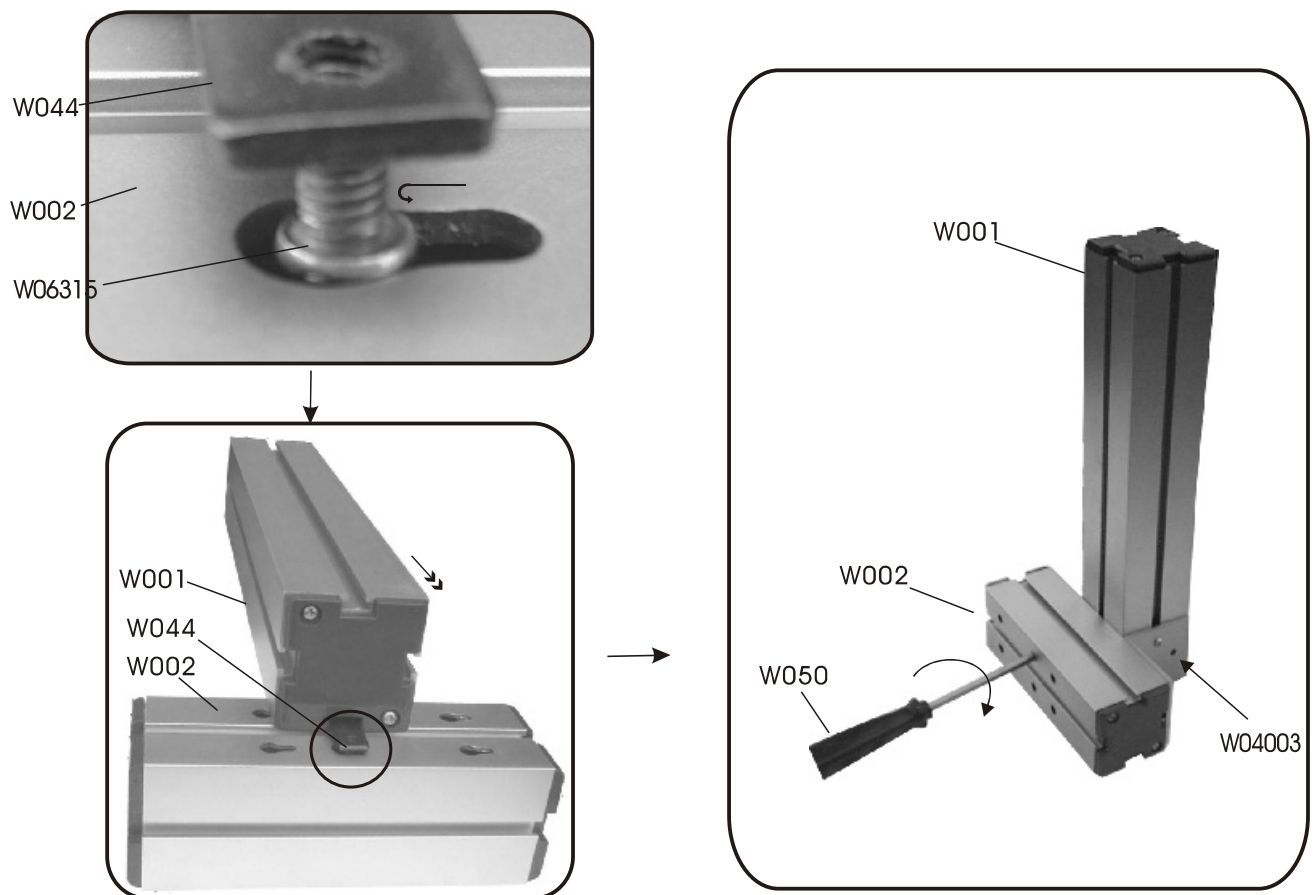


Fig47

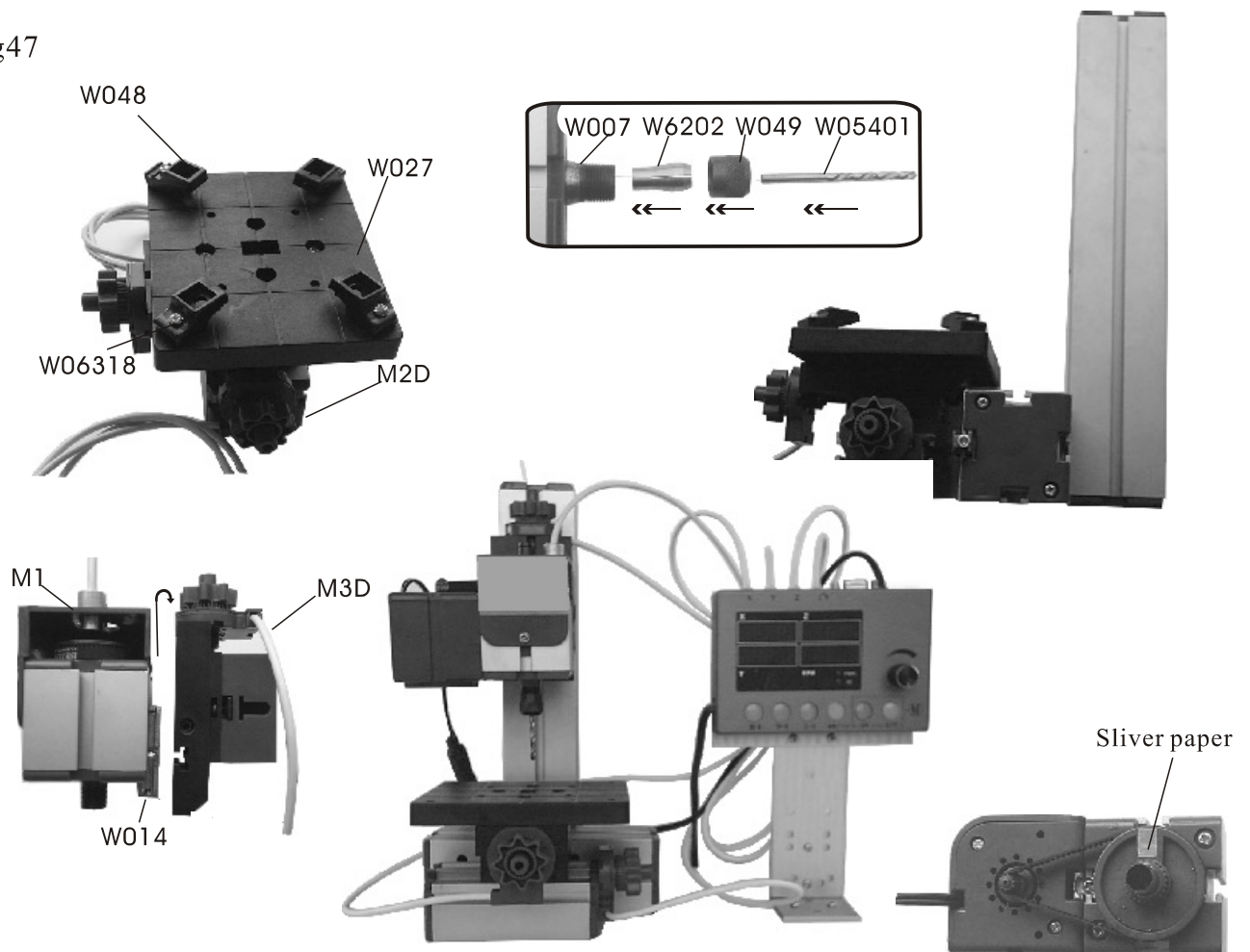


Fig48

W10004-DRO

2.Digital Display Lathe (W10003-DRO) :



Digital Display Lathe Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W021	12V Transformer	1	W051	Allen Key	1
W004	High Speed Motor Unit	1	W03201	Short Drive Belt	1	W052	Rod	2
W00403	Motor Leaf's Slice	1	W09800	Drive Belt Cover	1	W053	Center Finder	1
W007	Wheel Gear Box	1	W03801	Small plate(0.3mm)	5	W058	Turning Tool	1
W008	Tailstock	1	W03802	Large Plate(0.4mm)	5	W06315	M4X6 Bolt	1
W09500	Digital Display Small Slide	1	W039	Turning Tool Fastener	1	W06316	M4X8 Bolt	11
W09600	Digital Display Large Slide	1	W04001	Fastener Stabilizing Plates	3	W06317	M4X10 Bolt	4
W012	Three Jaw Chuck	1	W043	Slot Nut	4	W06318	M4x12 Bolt	1
W014	Connection Piece	5	W044	Two Hole Clamping Plate	8	W06320	M4x25 Bolt	1
W020	Live Center	1	W048	Collet Holder	1	W06334	φ8.8x4.2x0.6 Gasket	5
W04003	Fastener Stabilizing Elbow Plates	1	W06307	A3.5x16 Screw	3	D00100	Digital display Control Box	1
D00106	Sliver paper	1	W06339	A3x16 Screw	2	R S232	R S232 Serial Line	1

Assembly:As Shown Fig. 49 and 50.

1. Assemble the motor(W004)on the wheel gear box (w007)with connection piece(w014).
2. Fix motor-wheel gear box unit (M1D) on the left of long bed (W001) by connection piece(W014),screw three jaw chuck(W012) into axle of motor-wheel gear box unit(M1D).
3. Fix small slide-large slide unit (M2D) on the obverse of long machine bed.
4. Fasten turning tool fastener(W039) beside small slide with 4 X25mm bolt.
5. Fasten turning tool(W058) on the left corner of small slide by clamping jaw (W 06320).
6. Fix tailstock (W008) on the right of long machine bed .screw live center (W020) into tailstock.
7. In order to reinforce the connection of the machine ,you may use two fastener stabilizing plates (W 04001) to realize it : fix fastener stabilizing plates on wheel gear box ,long machine bed ,tailstock with two hole clamping plate (W 044) .After all are finished ,assemble drive belt cover with slot nut .

Notice 

Don't stave the silver paper when assembly the machine(as fig51)

Operation

Please adjust the position of small slide-large slide unit (M2D)as Fig 49~Fig52 when you take the lathe from the packing. Make sure work piece has been clamped tightly before working, otherwise it will fly out and cause unexpected harm. Never touch the revolving working piece with any part of your body and your clothes, and wear goggle. Always adjust the height of turning tool with work piece axis. Sharp tool with grinding wheel(W01901)follow the operation of sanding machine. If you process large diameter work piece with lathe, you may heighten wheel gear box, tailstock, small slide with intermediate piece. If the stroke of large slide is too short to match demand, adjust the position of large slide that respond to long machine bed.

According to the display coordinates of the DDCB ,you can process the workpiece accurately .

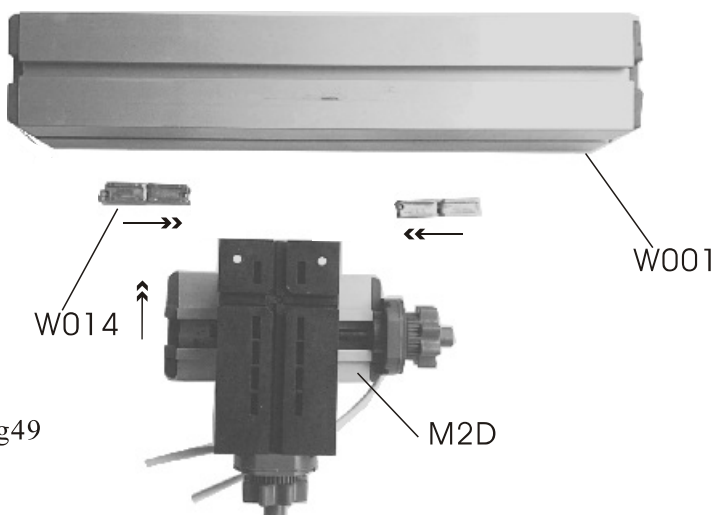
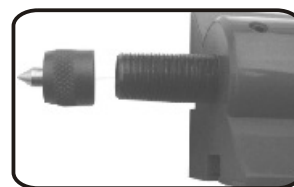
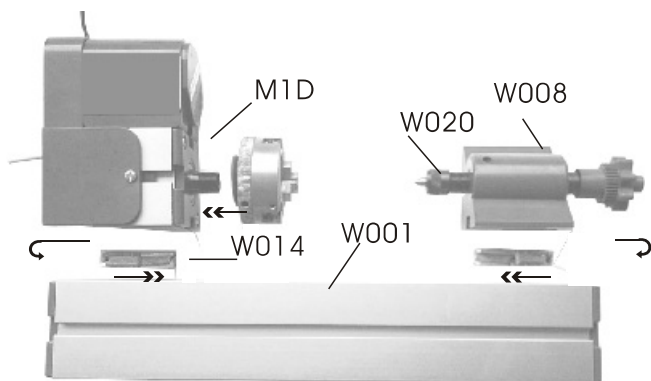


Fig49

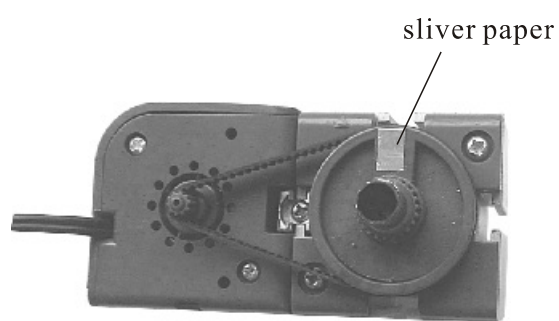


Fig51

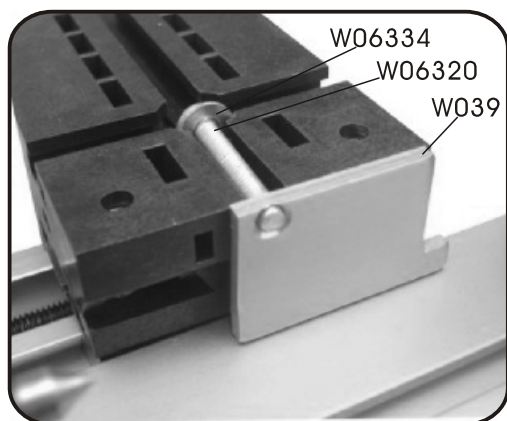


Fig50

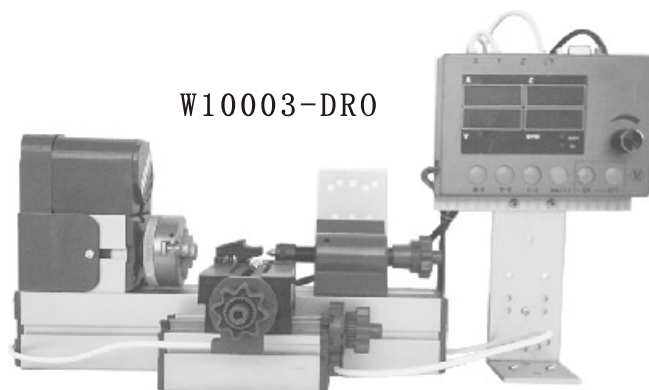


Fig52

3.Digital DisplayMilling Machine (W10005-DRO):



Digital DisplayMilling Machine Part List

Part No.	Description	Q'ty	Part No.	Description	Q'ty	Part No.	Description	Q'ty
W001	Long Machine Bed	1	W014	Connection Piece	6	W051	Allen Key	1
W002	Short Machine Bed	1	W021	12V Transformer	1	W05501	φ 3 Milling Cutter	1
W004	High Sped Motor Unit	1	W031	Intermediate Piece	1	W05502	φ 4 Milling Cutter	1
W00403	Motor Leaf's Slice	1	W03201	Short Drive Belt	1	W05503	φ 5 Milling Cutter	1
W007	Wheel Gear Box	1	W043	Slot Nut	7	W05504	φ 6 Milling Cutter	1
W09500	Digital Display Small Slide	2	W044	Two Hole Clamping Plate	7	W062	Collet	1
W09600	Digital Display Larger Slide	1	W049	Collet Holder	1	W06339	A3X16 Screw	2
W013	Machine Vise	1	R S232	R S232 Serial Line	1	W06315	M4X6 Bolt	3
D00100	Digital Display Control Box	1	W04001	Fastener Stabilizing Plates	1	W06316	M4x8Bolt	10
W04003	Fastener Stabilizing Elbow Plates	2	W09700	Drive Belt Cover	1	W06307	A3.5x16 Screw	3
W06334	φ 8.8x4.2x0.6Gasket	6	D00106	Sliver paper	1			

Assembly

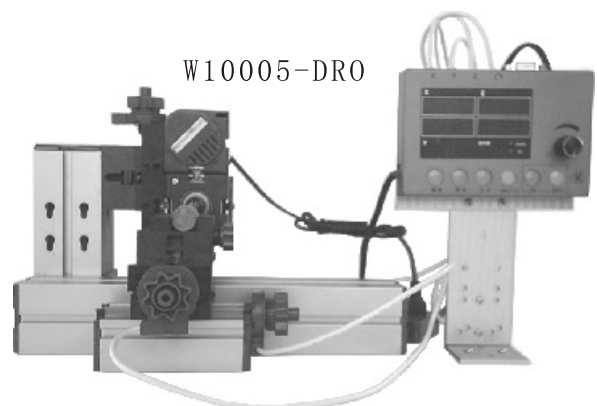
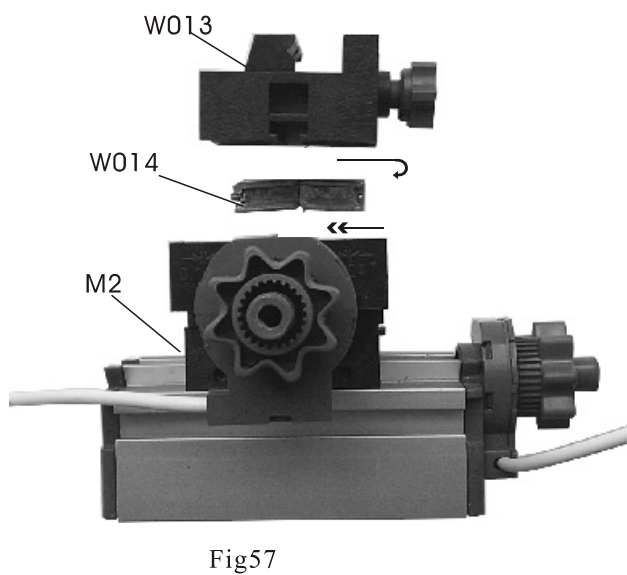
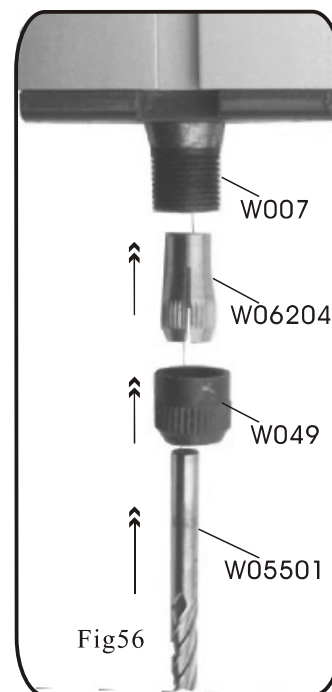
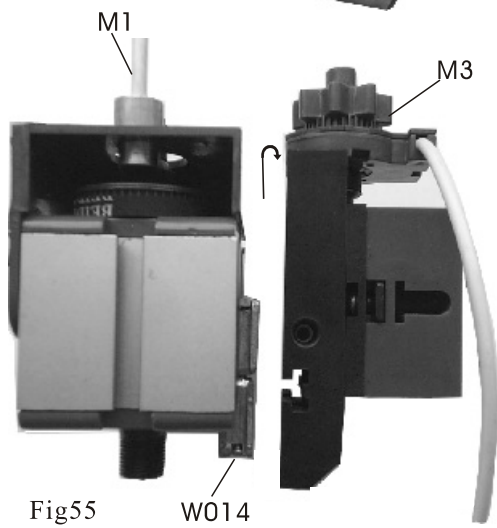
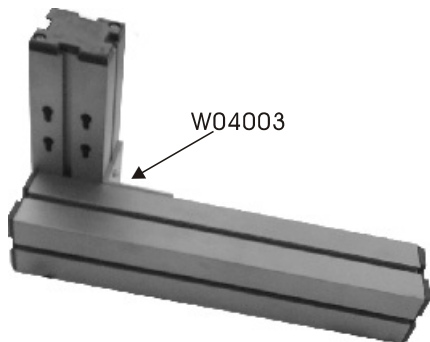
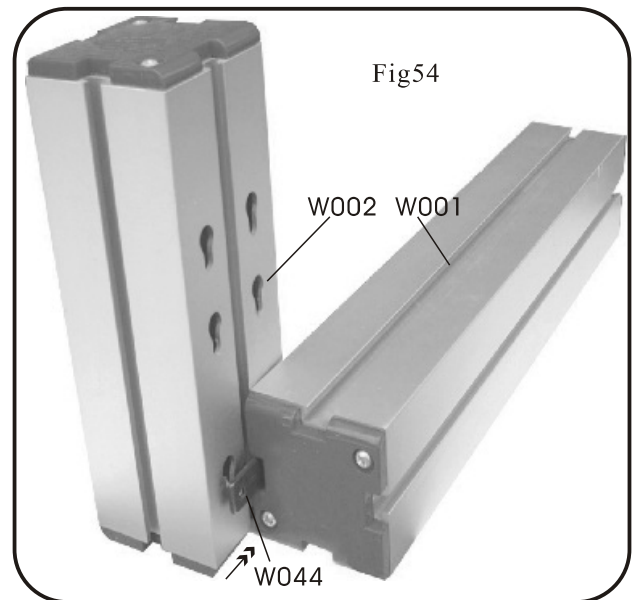
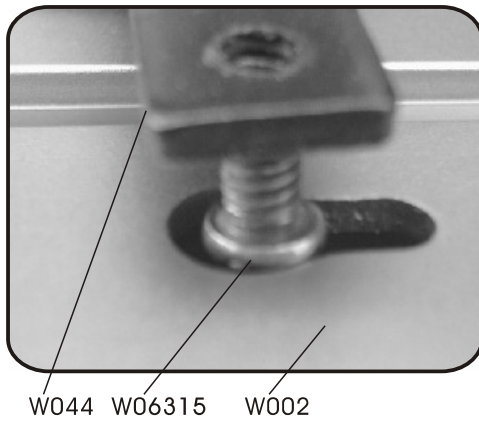
As shown Fig53~57

- 1)Screw and slide the two 4×6bolts (W06315)into two hole clamping plate (W043)and the "T"groove of the long machine bed (W001)respectively .
- 2)Insert the two bolt heads into the pear-shaped holes of short machine bed (W002).The insertion must be straight through the bulge-like part of hole into the neck-like part .
- 3)tighten the screws firmly with screwdriver .
- 4)Hold the long machine bed horizontally.
- 5)Fasten the small slide-intermediate piece unit onto the small slide vertically with the connection piece (W049).
- 6)Fasten the milling cutter (W05501)into the axle of wheel gear box by using collet (W06204)and collet holder .
- 7)Ensure the whole unit (M1D)holding the small slide-intermediate piece unit firmly .
- 8)Connect the machine vise (W013)to the small slide unit (M2D) with connection piece .Connect the small slide-large slide unit to the long machine bed obverse with connection piece .
- 9)Different assembling methods can get vertical or horizontal milling machine. Operation:
 - 1)Due to the stroke limitation of the drilling lever, adjustment to the position of the intermediate piece in corresponding to the long machine bed to accommodate different working depth and the height of the work piece.
 - 2)Use different milling cutters bit for different collets(W062)
 - 3)When the stroke of the large slide is insufficient, adjust the position of the large slide in corresponding to the long machine bed .
 - 4)Use the three jaw chucks and their accessories(W023and W024) for dividing work and dividing attachment.
 - 5)According to the display coordinates of the DDCB ,you can process the workpiece accurately .

Notice

1. Always wear protective goggle when working with the machine.
2. Never touch the revolving working piece with any part of your body and you clothes.
3. Be aware of the danger of the milling cutter as the drill is very sharp.
4. Do not stave the silver paper when assembly the machine

Fig53



Digital Display Milling Machine

How To Adjust Speed:

1. Tripling the speed:

As Shown Fig.58:

Assemble intermediate piece(W031) between wheel gear box(W007) and high speed motor (W004) with connection piece, long drive belt(W03202) applies to the small gear rim of wheel gear box; then the whole unit is fastened on long machine bed(W001).and you may triple the speed of axle of wheel gear box.

As shown Fig.41, You can also triple the speed with the other method: fix wheel gear box upon long machine bed, fix motor beside long machine bed, long drive belt applies to the small gear rim of wheel gear box, save up intermediate piece in this method.

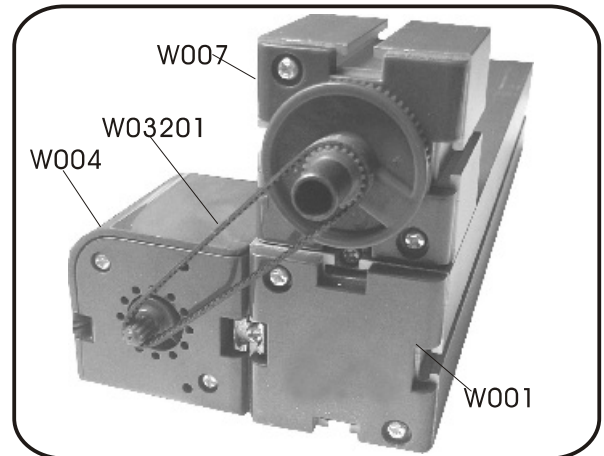
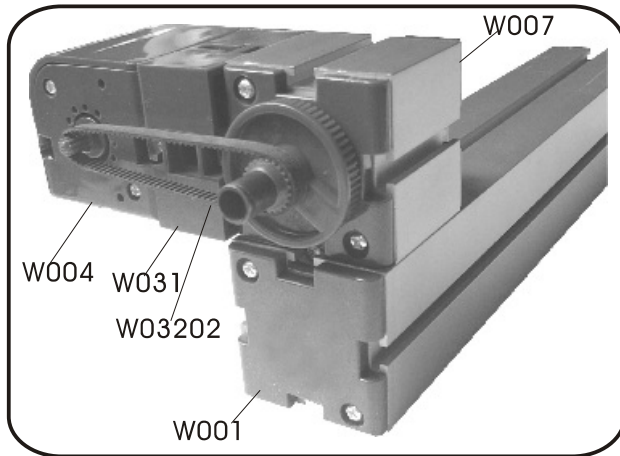


Fig. 58

2. Triple force/trisect speed:

As shown Fig.59:

Fix a wheel gear box on the long machine bed(W001) with connection piece, then fix high speed motor-wheel gear box unit(M1) beside the wheel gear box with connection piece; long drive belt (W03202) applies to the small gear rim of wheel gear box and large gear rim of the wheel gear box on long machine bed. you may trisect the speed of axle of wheel gear box and get triple turning force. You can also work with three wheel gear box(nine times the force at 1/9th of speed).

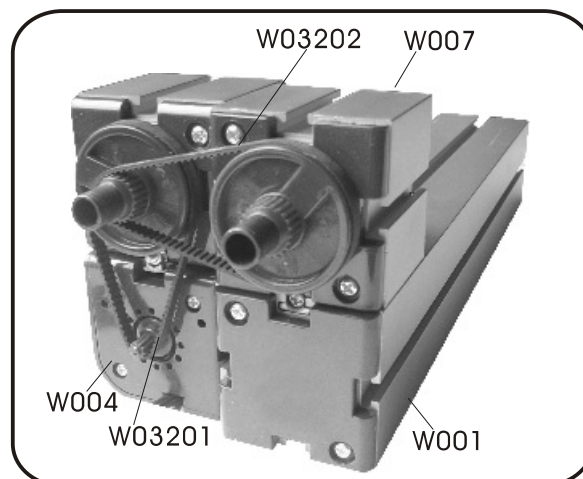


Fig. 59

How To Proceed Bigger Diameter Working Piece:

Working with bigger Dia. work piece:

As shown Fig.60:

Fix the intermediate piece(W031) between wheel gear box(W007) and long machine bed (W001); do the same thing between tailstock (W008) and long machine bed.

Lathe: fix intermediate piece between small slide(W009) and large slide (W010) too, at this condition, lathe can be proceeded work piece diameter up to 50mm with three jaw chuck.

Woodturning lathe: fix intermediate piece between woodturning support (W034) and large slide too, Woodturning lathe can be proceeded work piece diameter more than 50mm with fixing more intermediate piece under the positions of wheel gear box, tailstock, small slide (woodturning support).

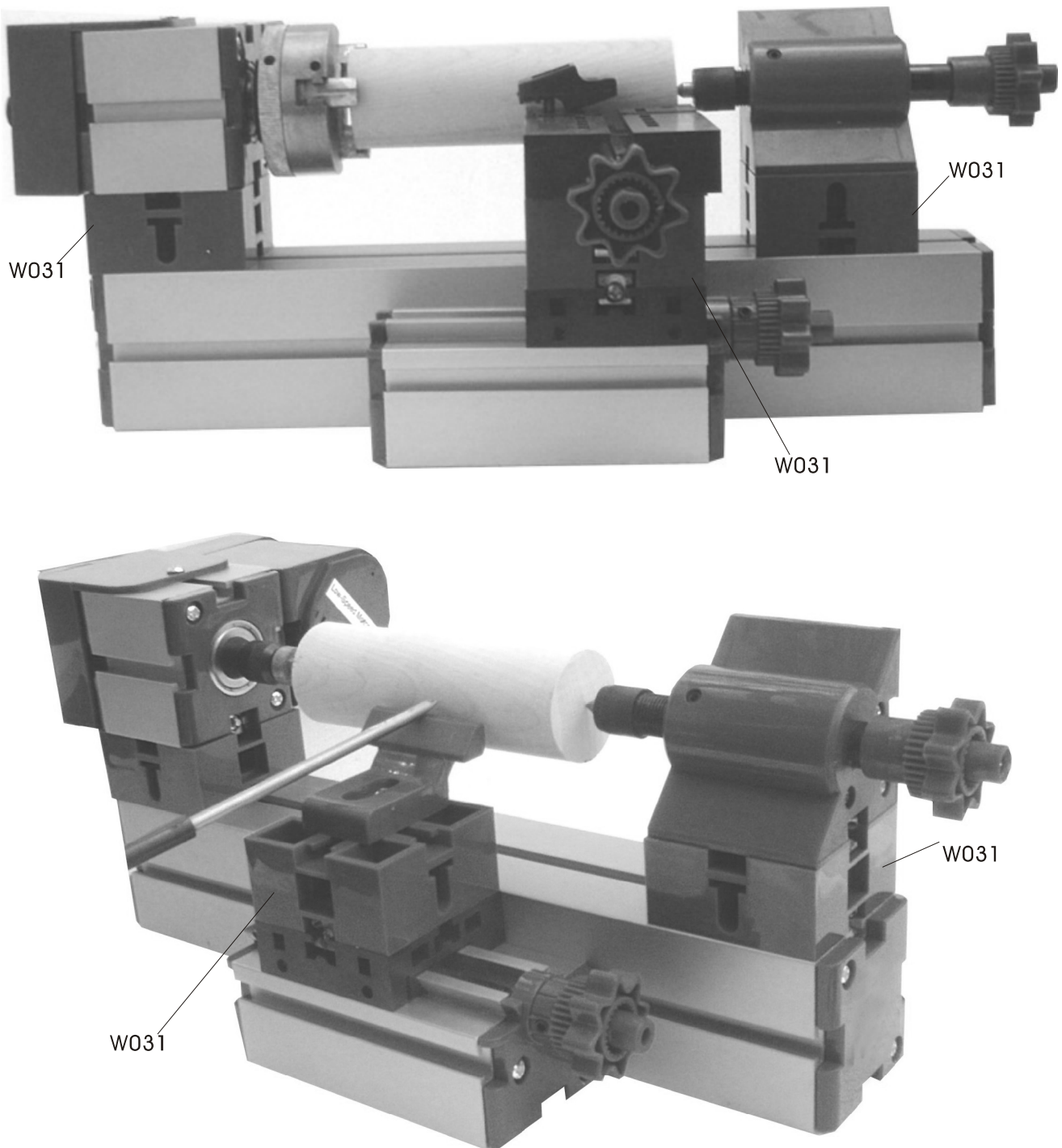
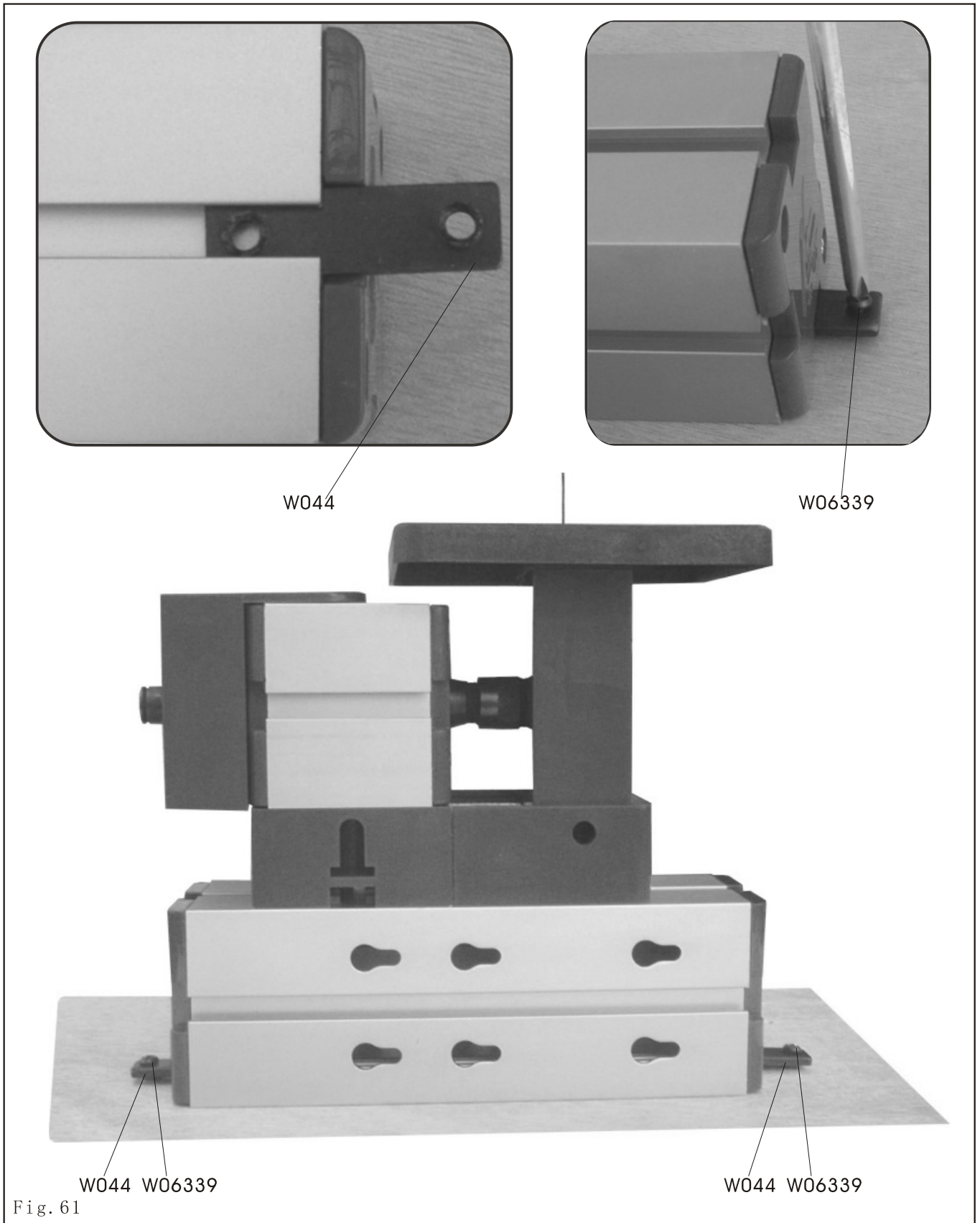


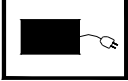
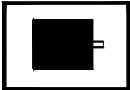
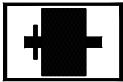
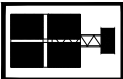
Fig. 60

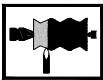
How To Fasten The Machine On The Table:

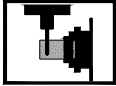
As Shown Fig.61 : Slice two hole clamping plate into "T" groove of short/long machine bed at both end of machine bed, but half section of two hole clamping plate should be discovered; fasten the two hole clamping plate on the wood board or table with A3X16 screw by screwdriver so that you may work steadily.



Important Data:

Description	Important Data
Transformer 	Prim.Input Voltage:220V~240V,50~60Hz/110V~120V,50Hz~60Hz
	Sek.Output Voltage:12V DC
	Direct Current:2A
	Power Supply:24W
	With thermostat protector
Motor 	12V DC,Power input up to 2A. Current/Power Supply:500mA/6W
	Speed of high speed motor up to 20,000 rpm
	Speed of Low speed motor up to 12,000 rpm
	Motor Leaf's slice gear rim: 10 teeth
Wheel Gear Box 	Axle Nose: M12X1
	Hole Through Axle:8mm
	Wheel Gear Box gear rim: 23 teeth /60 teeth
	Bearing: Ball Bearing
Tailstock 	Axle Nose:M12X1,Travel of tailstock: 15mm
Machine Vise 	Clamping Capacity: 25X35mm
Small/Large Slide 	One turn with the handle is 1mm feed
	One dash of the handle is 0.1mm feed
	Travel of small slide:30m m
	Travel of large slide:50mm

Description	Important Data
Jigsaw 	Stroke of saw blade: 4mm
	Material and max.depth of cut: balsa 18 mm, plywood 7mm
	hard wood 4mm, plexi-glass 2mm, aluminium plate 1mm
Lathe 	Center height from the machine bed: 25mm, (with intermediate piece can be heighten to 50mm)
	Center distance: 135mm, (with extra long machine bed can be longer to 365mm)
	Max.cutting diameter: 20mm (bigger diameter up to 50mm is possible with intermediate piece)
	Material of turning: any kind of wood(hard wood will be better) Soft metal(such as gold, silver,aluminium etc.)
Woodturning Lathe 	Center height from the machine bed: 25mm, (with intermediate piece can be heighten to 50mm)
	Center distance: 135mm, (with extra long machine bed can be longer to 365mm)
	Max.cutting diameter: 20mm (bigger diameter up to 50mm is possible with intermediate piece)
	Material of turning: any kind of wood(hard wood will be better)
Drilling Machine 	Travel of drilling lever: 25mm
	Drilling table size: 123X100mm
	Collet clamping size for drill bit: 1mm, 2mm, 2.5mm, 3mm, 3.5mm, 4mm, 5mm, 6mm.
	Material of turning: any kind of wood(hard wood will be better) Soft metal(such as gold, silver,aluminium etc.)
Milling Machine 	Collet clamping size for milling cutter: 1mm, 2mm, 2.5mm, 3mm, 3.5mm, 4mm, 5mm, 6mm.
	Material of turning: any kind of wood(hard wood will be better) Soft metal(such as gold, silver,aluminium etc.)
Sanding Machine 	Clamping plate size: Dia.50mm
	Drilling table size: 123X100mm
	Grain of sanding paper: 100# or choose other you need
	Material of turning: any kind of wood(hard wood will be better) Soft metal(such as gold, silver,aluminium etc.)

Description	Important Data
On-hand Machine 	Clamping plate size: Dia.50mm
	Grain of sanding paper: 100# or choose other you need
	Collet clamping size for drill bit: 1mm, 2mm, 2.5mm, 3mm, 3.5mm, 4mm, 5mm, 6mm.
	Material of turning: any kind of wood(hard wood will be better) Soft metal(such as gold, silver,aluminium etc.)
Drilling Machine With Dividing Attachment 	Travel of drilling lever: 25mm
	Collet clamping size for milling cutter: 1mm, 2mm, 2.5mm, 3mm, 3.5mm, 4mm, 5mm, 6mm.
	three rings of small holes(36,40, 48) around dividing attachment
	workpiece diameter up to 50mm
	Material of drilling: any kind of wood(hard wood will be better) Soft metal(such as gold, silver,aluminium etc.)
Circle Milling Machine	only for proceeding circle plate
Enlarging Drilling Machine	proceed workpiece height up to 300mm
Enlarging Woodturning Lathe	proceed workpiece length up to 300mm
Profile Milling Machine	can carve on a plan
Planner Machine	3.5x3.5x25mm planner tool is available
Circular Saw Machine	Circle Saw Size: Dia.50, Thickness 0.5mm, Teeth: 72
Horizontal Gear Milling Machine	$A=20\phi$ Gear milling tool character: module $m=1$

Trouble Shooting:

No.	Malfunction	Analyzation	Trouble Shooting
1	Motor does not work when power is connected	Power socket(110/220V) is not connected rightly or no power output	Check and make sure power is connected
		socket of transformer or power supply connector is broken off	check the wire connection with manual guide
		fuse of transformer is broken off	replace transformer
		motor wire is broken	check the wire connection with manual guide
		Motor is broken off	replace motor
		tension of drive belt is too tightly to stop the motor	adjust the tension again base on the manual
		take down the drive belt, then turn on the motor switch; the axle of wheel gear box maybe get stuck if the motor run normally	take down the wheel gear box, grease the bearing or replace it if the wheel gear box is not rotating normally
		see if it does not run after clamping the workpiece, check again after taking down the workpiece	check if the live center is screwed into the workpiece too deep to resist the rotation; or see if some thing is resisted the workpiece
2	Noise is loudly when running	the connection piece is loosen	check the connection piece is screwed tightly or not with manual guide
		tension of drive belt too tightly or too loosen will cause loudly noise	adjust the tension again with the manual guide
		maybe the axes of workpiece is not superposition with the the axes of wheel gear box	reassemble the workpiece until the axes is superposition
		carbon brush of motor is worn off	replace motor
		the moving parts is not greased enough for long time	grease the moving parts right now with manual guide
3	Feed back hardly	accumulate too many dust to resist the feedback	clean on time
		screw of slide is seldom greased	grease the connection
		adjustable bolt of slide is screwed too tightly	adjust base on manual, for too loosen or tightly can be effected the precision
4	Stop suddenly when working	fuse of transformer is broken off	replace transformer
		carbon brush of motor is worn off	replace motor
		Motor is broken off	replace motor

No.	Malfunction	Analyzation	Trouble Shooting
5	Jigsaw is cutting hardly	working piece too thick or improper force direction	read the concerned pages in manual carefully before working
		forward direction of working piece is not rightabout towards the saw blade teeth	read the concerned pages in manual carefully before working
		drive belt is worn out for long time working	replace the drive belt
		cam is worn out	replace the cam
		the axle of jigsaw case is worn out	maintain or replace the axle of jigsaw case
		saw blade is worn off for long time cutting	replace the saw blade
6	Saw blade is broken	improper force direction or saw blade is assembled loose	See the manual, reassemble the saw blade,(saw blade is used up to 3 times)
7	Turning Hardly in lathe	feed back too fast	feed back slowly for beginner until you get more experience, different material for different feedback.
		knifepoint of tool is not positioned at the rotation center of work piece	adjust the height of tool until the knifepoint is positioned at the rotation center of work piece.
		turning tool is not sharp	often sharp the tool and sharp the right angles of tool-edge
		drive belt is worn out for long time working	replace the drive belt
		axle of tailstock or live center is loosen	adjust the position of tailsock and live center in the right way (see the manual), screw the bolt of tailstock tightly
8	Turning hardly in woodturning lathe	feed back too fast	feed back slowly for beginner until you get more experience, different material for different feedback.
		knifepoint of gouge is not positioned at the rotation center of work piece	place the gouge on the woodturning support,knifepoint of tool is position at the rotation center of work piece
		gouge is not sharp	often sharp the tool and sharp the right angles of tool-edge
		drive belt is worn out for long time working	replace the drive belt
		axle of tailstock or live center is loosen	adjust the position of tailsock and live center in the right way (see the manual), screw the bolt of tailstock tightly

How To Update And Guarantee:



We have developed new function machines which is met your demand, such as: Auto Feedback machine, Computer Control machine, etc,. You may keep in touch with local wholesaler and retailer, or visit our website , you may find many interesting products and models . we will often update our website. Our product has one year guarantee, but the easy waste parts(such as tools, sanding paper, grinding tools, motor carton brush etc.,) Please fill in the following table, and re-send to local retailer or our company .As soon as we receive your message, we will distribute a member account No. to you, you may register on our website and become our VIP member, you may get more super service from it (such as: newest product and models information, how to maintain machine, even chat with us on line).

Registration Card

Owner name:

Address:

Tel:

E-mail:

Website:

Date of purchase:

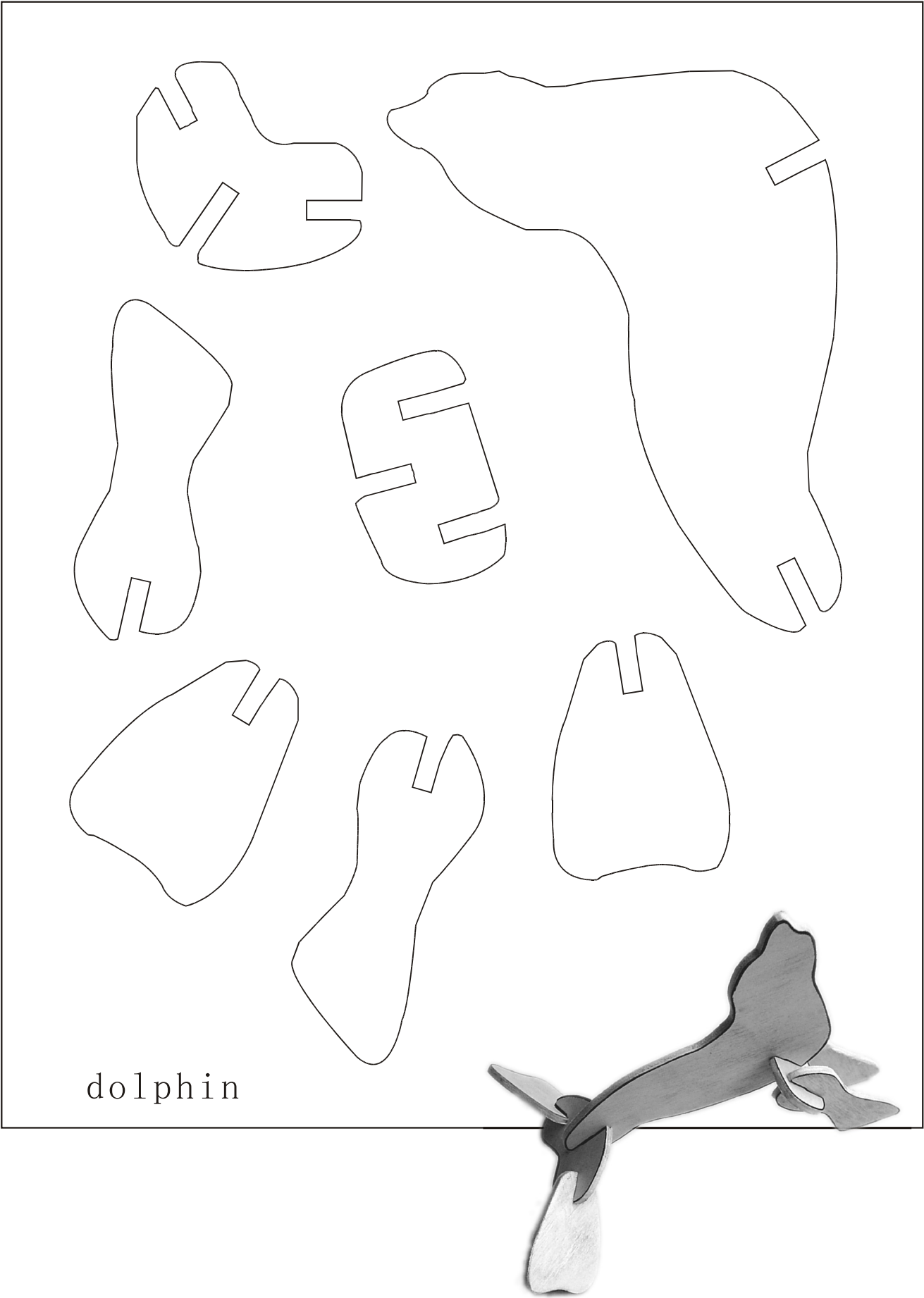
Retailer:

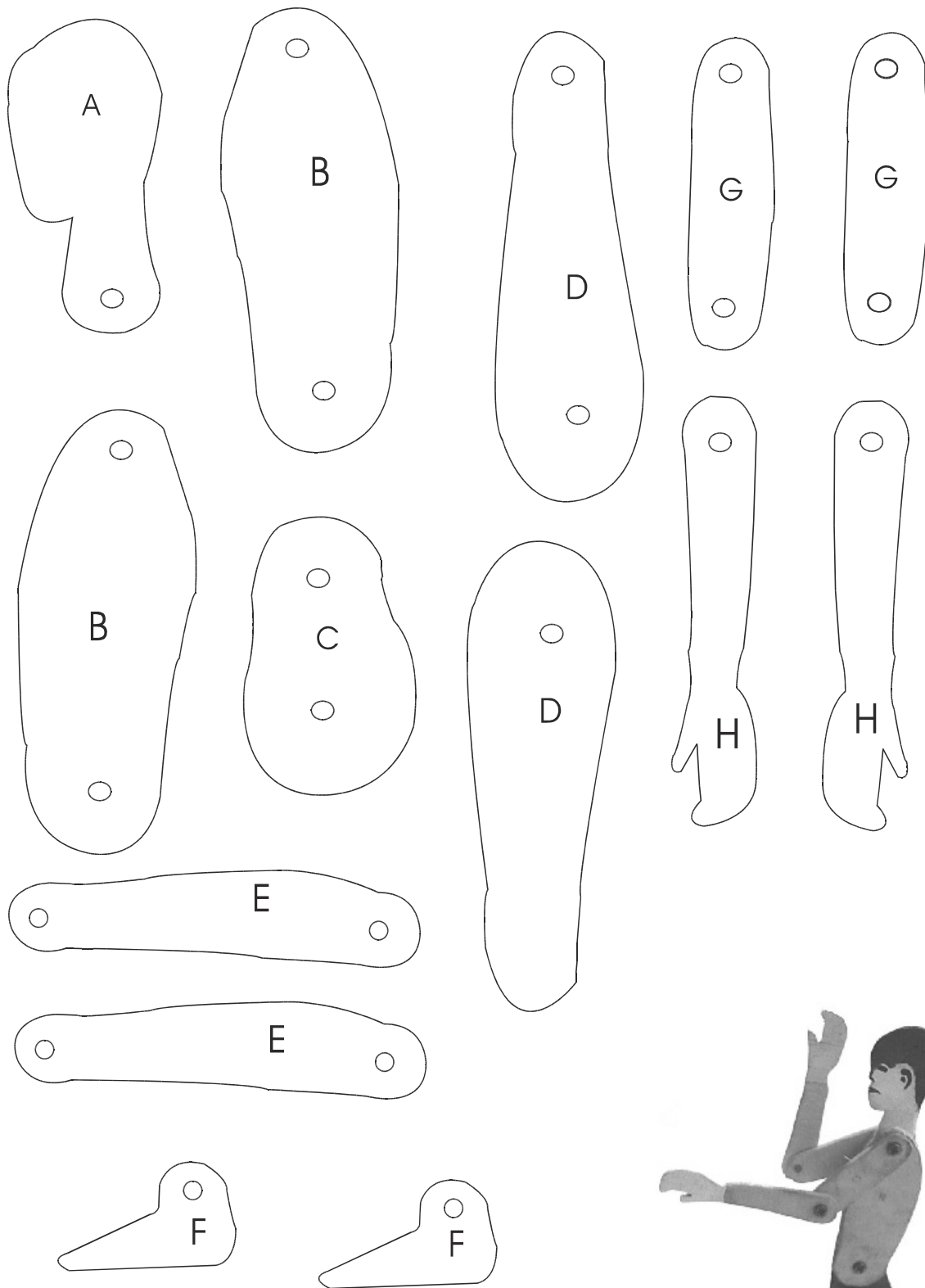
Product Name:

Code Bar:

Model Sample:

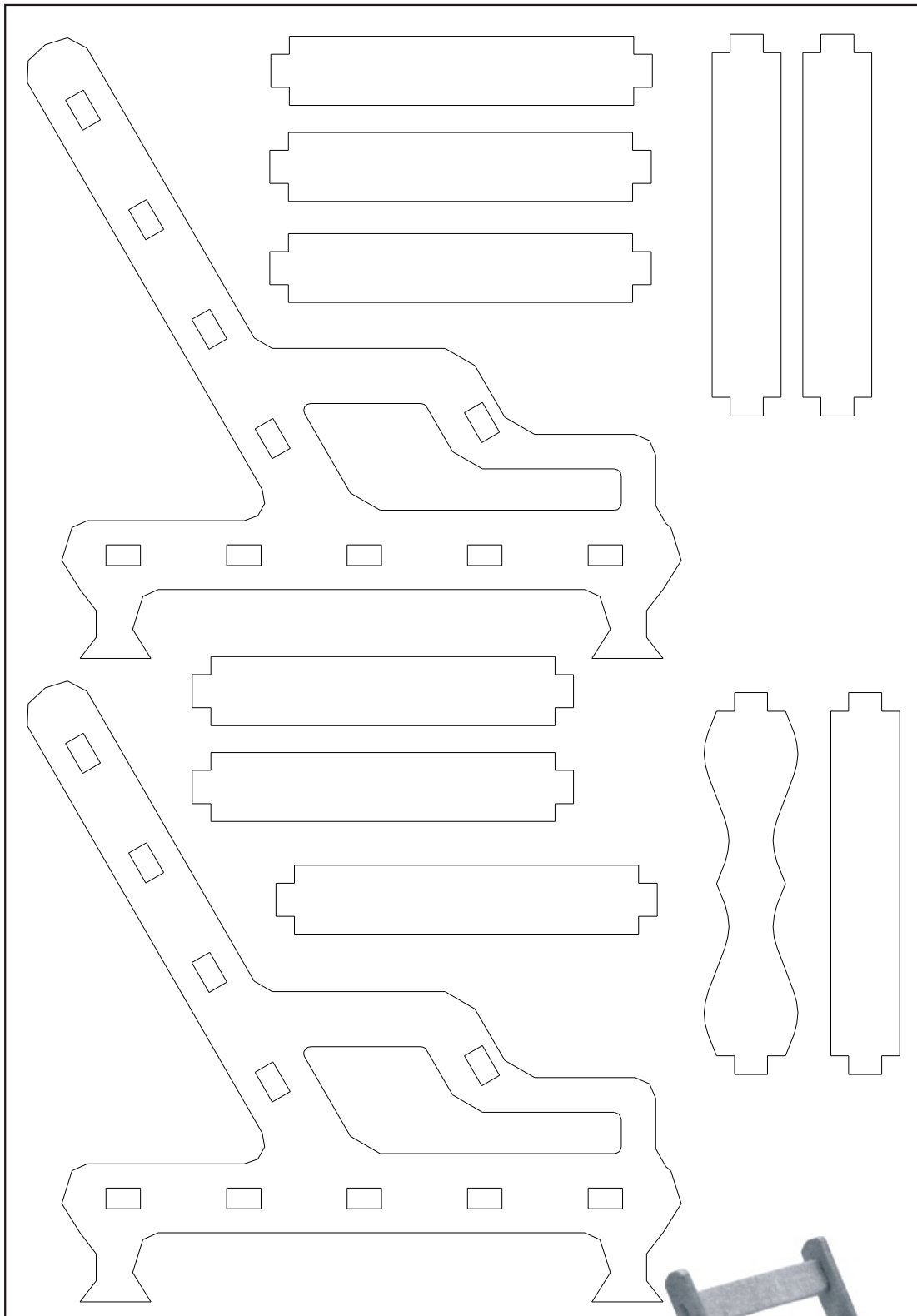
As space limited, we provide some starting samples for you.
You may download more details in our website.





people





Chair (Mobil Holder)



Main Content

- What Can Do
- How To Assemble
- How To Operate
- Operation Caution
- Works For Beginner

