

Milling drilling centre
Bohr- Fräsmaschine
Perceuse fraiseuse

JMDT-804516-DRO



CE-Conformity Declaration CE-Konformitätserklärung Déclaration de Conformité CE

Product / Produkt / Produit:

Milling Drilling Machine / Bohr- und Fräsmaschine / Fraiseuse Perceuse

JMDT-804516-DRO

Brand / Marke / Marque:

PROMAC

Manufacturer / Hersteller / Fabricant:

TOOL FRANCE SARL, 9 Rue des Pyrénées, 91090 LISSES, France

We hereby declare that this product complies with the regulations
Wir erklären hiermit, dass dieses Produkt der folgenden Richtlinie entspricht
Par la présente, nous déclarons que ce produit correspond aux directives suivantes

2006/42/EC

Machinery Directive / Maschinenrichtlinie / Directive Machines

2014/30/EU

electromagnetic compatibility
elektromagnetische Verträglichkeit
compatibilité électromagnétique

designed in consideration of the standards
und entsprechend folgender zusätzlicher Normen entwickelt wurde
et été développé dans le respect des normes complémentaires suivantes

**EN ISO 12100:2010, EN 60204-1:2006+AC:2010, EN ISO 13128:2001+A2:2009/AC:2010,
EN 61000-6-4:2007+A1:2011, EN 61000-6-2:2005**

Responsible for the Documentation / Dokumentations-Verantwortung / Responsabilité de Documentation:

Head Product-Mgmt. / Leiter Produkt-Mgmt. / Resp. Gestion des Produits

TOOL FRANCE SARL



2019-09-01 Christophe SAINT SULPICE, General Manager

TOOL FRANCE SARL, 9 Rue des Pyrénées, 91090 LISSES, France

GB - ENGLISH

Operating Instructions

Dear Customer,

Many thanks for the confidence you have shown in us with the purchase of your new PROMAC-machine. This manual has been prepared for the owner and operators of a **JMDT-804516 milling drilling center** to promote safety during installation, operation and maintenance procedures. Please read and understand the information contained in these operating instructions and the accompanying documents. To obtain maximum life and efficiency from your machine, and to use the machine safely, read this manual thoroughly and follow instructions carefully.

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On our own responsibility we hereby declare that this product complies with the regulations listed on page 2.

Designed in consideration with the standards.

2. PROMAC Warranty

TOOL FRANCE SARL guarantees that the supplied product(s) is/are free from material defects and manufacturing faults.

This warranty does not cover any defects which are caused, either directly or indirectly, by incorrect use, carelessness, damage due to accidents, repairs or inadequate maintenance or cleaning as well as normal wear and tear.

Further details on warranty (e.g. warranty period) can be found in the General Terms and Conditions (GTC) that are an integral part of the contract.

These GTC may be viewed on the website of your dealer or sent to you upon request.

TOOL FRANCE SARL reserves the right to make changes to the product and accessories at any time.

3. Safety

3.1 Authorized use

This milling drilling center is designed for milling and drilling machinable metal and plastic materials only. Machining of other materials is not permitted and may be carried out in specific cases only after consulting with the manufacturer.

Never cut magnesium- high danger to fire!

The proper use also includes compliance with the operating and maintenance instructions given in this manual.

The machine must be operated only by persons familiar with its operation and

maintenance and who are familiar with its hazards.

The required minimum age must be observed.

The machine must only be used in a technically perfect condition.

When working on the machine, all safety mechanisms and covers must be mounted.

In addition to the safety requirements contained in these operating instructions and your country's applicable regulations, you should observe the generally recognized technical rules concerning the operation of metalworking machines.

Any other use exceeds authorization. In the event of unauthorized use of the machine, the manufacturer renounces all liability and the responsibility is transferred exclusively to the operator.

3.2 General safety notes

Metalworking machines can be dangerous if not used properly. Therefore the appropriate general technical rules as well as the following notes must be observed.

Read and understand the entire instruction manual before attempting assembly or operation.

Keep this operating instruction close by the machine, protected from dirt and humidity, and pass it over to the new owner if you part with the tool.

No changes to the machine may be made.

Daily inspect the function and existence of the safety appliances before you start the machine.

Do not attempt operation in this case, protect the machine by unplugging the power cord.

Remove all loose clothing and confine long hair.

1. Declaration of conformity

Before operating the machine, remove tie, rings, watches, other jewellery, and roll up sleeves above the elbows.

Wear safety shoes; never wear leisure shoes or sandals.

Always wear the approved working outfit.

Do **not** wear gloves.

Wear goggles when working

Install the machine so that there is sufficient space for safe operation and work piece handling.

Keep work area well lighted.

The machine is designed to operate in closed rooms and must be bolted to the cabinet stand or a solid work bench.

Make sure that the power cord does not impede work and cause people to trip.

Keep the floor around the machine clean and free of scrap material, oil and grease.

Stay alert!

Give your work undivided attention. Use common sense. Do not operate the machine when you are tired.

Do not operate the machine under the influence of drugs, alcohol or any medication. Be aware that medication can change your behaviour.

Never reach into the machine while it is operating or running down.

Never leave a running machine unattended. Before you leave the workplace switch off the machine.

Keep children and visitors a safe distance from the work area.

Do not operate the electric tool near inflammable liquids or gases. Observe the fire fighting and fire alert options, for example the fire extinguisher operation and place.

Do not use the machine in a dump environment and do not expose it to rain.

Work only with well sharpened tools.

Always close the chuck guard and pulley cover before you start the machine.

Remove the chuck key and wrenches before machine operation.

Specifications regarding the maximum or minimum size of the work piece must be observed.

Do not remove chips and work piece parts until the machine is at a standstill.

Do not stand on the machine.

Connection and repair work on the electrical installation may be carried out by a qualified electrician only.

Have a damaged or worn power cord replaced immediately.

Never place your fingers in a position where they could contact any rotating tool, chuck or cutting chips.

Secure workpiece against rotation. Use fixtures, clamps or a vice to hold the workpiece. Never hold the workpiece with your hands alone.

When using a vice, always fasten it to the table.

Never do any works "freehand" (hand-holding the work piece rather than supporting it).

Never move the head while the machine is running.

If a work piece overhangs the table such that it will fall or tip if not held, clamp it to the table or provide auxiliary support.

Check the safe clamping of the work piece before starting the machine.

Remove cutting chips with the aid of an appropriate chip hook when the machine is at a standstill only.

Never stop the rotating chuck or tool with your hands.

Measurements and adjustments may be carried out when the machine is at a standstill only.

Setup work may only be carried out after the machine is protected against accidental starting by pressing the emergency stop button.

Maintenance and repair work may only be carried out after the machine is protected against accidental starting by pulling the mains plug.

Do not use wire wheels or grinding wheels on this machine.

To avoid injury from parts thrown by the spring, follow instructions exactly as given when adjusting the spring tension of the quill (see chapter 7.5)

3.3 Remaining hazards

When using the machine according to regulations some remaining hazards may still exist.

The rotating chuck, tool and cutting chips can cause injury.

Thrown and hot work pieces and cutting chips can lead to injury.

Chips, dust and noise can be health hazards. Be sure to wear personal protection gear such as safety goggles, dust mask and ear protection.

The use of incorrect mains supply or a damaged power cord can lead to injuries caused by electricity.

4. Machine specifications

4.1 Technical data

JMDT-804516-DRO:

Drilling capacity(Iron/Steel) 45/45*mm
Milling capacity of face mill 80mm
Milling capacity of end mill 32mm
Tapping capacity(Iron/Steel) 16/16*mm
(*not for intense operations)

Spindle to column 260mm
Distance table to spindle max 460mm
Spindle taper MT-4
Draw bar M16
Spindle travel 120mm
Spindle speeds... 75-435/435-2500rpm
Max travel X-axis 560mm
Max travel Y-axis 190mm
Table size 240x800mm
T-slots...3 14mm

Overall (LxWxH) 1050x980x2100mm
Net weight 480 kg

Mains 3~400V, PE, 50Hz
Output power 1,5 kW S1
Reference current 3.7A
Extension cord (H05VV-F): 4Gx1,5²
Installation protection 6-10A

4.2 Noise emission

Acoustic pressure level (EN 11202):
Idling at maximum speed 85 dB (A)

The specified values are emission levels and are not necessarily to be seen as safe operating levels.

As workplace conditions vary, this information is intended to allow the user to make a better estimation of the hazards and risks involved only.

4.3 Content of delivery

1-13mm drill chuck with arbour MT4
Draw bar M16
Head rising crank and handle
3 Table handwheels
Operating tools
Operating manual
Spare parts list.

5. Transport and start up

5.1 Transport and installation

The machine will be delivered in a closed crate.

For transport use a forklift or hand trolley. Make sure the machine does not tip or fall off during transport.

The machine is designed to operate in closed rooms and must be bolted to the cabinet stand or a solid work bench.

For packing reasons the machine is not completely assembled.

5.2 Assembly

If you notice transport damage while unpacking, notify your supplier immediately. Do not operate the machine!

Dispose of the packing in an environmentally friendly manner.

Clean all rust protected surfaces with petroleum, diesel oil or a mild solvent.

Screw rubber handles onto quill down feed handle rods (A, Fig 1). Screw handle rods into hub and tighten.

Slide handwheels (B) onto table handwheel shafts and tighten set screws.

Install handle (C)

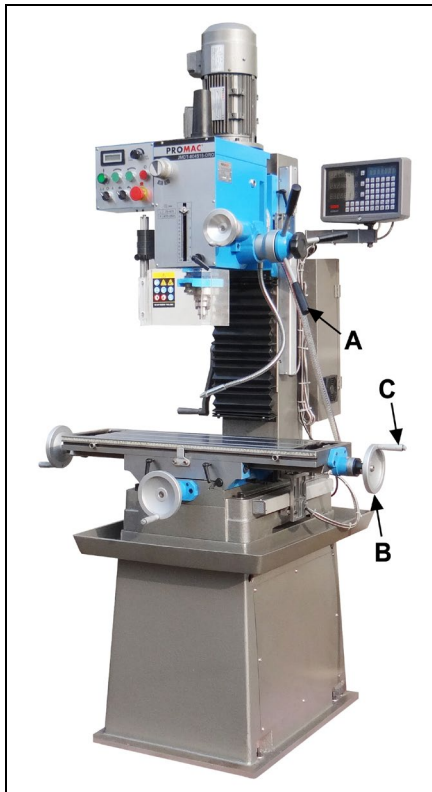


Fig 1

Mounting machine to stand or solid workbench.

Unbolt the machine from the shipping crate bottom.

Caution:

The machine is heavy.

JMDT-804516-DRO= 480 kg!

Assure the sufficient load capacity and proper condition of your lifting devices.

Never step underneath suspended loads.

Carefully place the machine onto the cabinet stand or a solid work bench.

Use a machinist's precision level to make sure that the machine table is level.

Loosen mounting bolts, shim and tighten mounting bolts if needed.

The machine must be level to be accurate.

5.3 Mains connection

Mains connection and any extension cords used must comply with applicable regulations.

The mains voltage must comply with the information on the machine licence plate.

The mains connection must have a 6-10A Circuit breaker.

Only use power cords marked H05VV-F

Connections and repairs to the electrical equipment may only be carried out by qualified electricians.

Connection takes place on the appropriate terminal in the electrical cabinet on the left side of the machine.

5.4 Initial lubrication

The machine must be serviced at all lubrication points before it is placed into service!

Failure to comply may cause serious damage.
(see chapter 8 for lubrication)

5.5 Starting operation

Before starting the machine check the proper chucking (see chapter 6.2)

You can start the machine with the green ON-button (K, Fig 4).

The red button on the control box stops the machine (M).

The emergency stop button (L) stops all machine functions.

Attention:

The machine still has electric power. Turn emergency stop button clockwise to reset.

The Forward/Reverse buttons (P/Q) may only be operated when motor power has been stopped before.

WARNING:

Do not change the spindle running direction while machine is running.

Improper operation may damage the Fw/Rev switch and gears.

6. Machine operation

Warning:

Setup work may only be carried out after the machine is protected against accidental starting. With pressed emergency stop button.

Never place your fingers in a position where they could contact any rotating tool, chuck or cutting chips.

Remove cutting chips with the aid of an appropriate chip hook when the machine is at a standstill only.

Never stop the rotating chuck or tool with your hands.

Always close the chuck guard and pulley cover before you start the machine.

Secure workpiece to the table with clamps or a vice to prevent rotating with the drill bit.

When using a vice, always fasten it to the table.

Check the safe clamping of the workpiece, chuck and tools before starting the machine.

Never do any works "freehand" (hand-holding the work piece rather than supporting it on the table).

Support long workpieces with helping roller stands.

Always adjust the depth stop to prevent drilling into the table or into the workholding device.

Feed a drill bit into the material with only enough force to allow the drill bit to work. Feeding too slowly may cause burning of the workpiece or tool. Feeding too quickly may cause the motor to stop and/or the drill bit to break.

Do not use wire wheels or grinding wheels on this machine.

Never cut magnesium-
high danger to fire!

Measurements and adjustments may be
carried out when the machine is at a
standstill only.

**In case of danger push the
emergency stop button.**

6.1 Controls

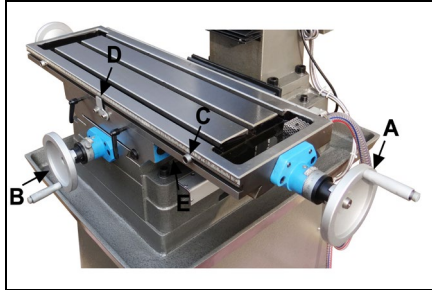


Fig 2

- A....X-axis handwheel
- B....Y-axis handwheel
- C....X-axis adjustable stop
- D....X-axis slide lock
- E....Y-axis slide lock

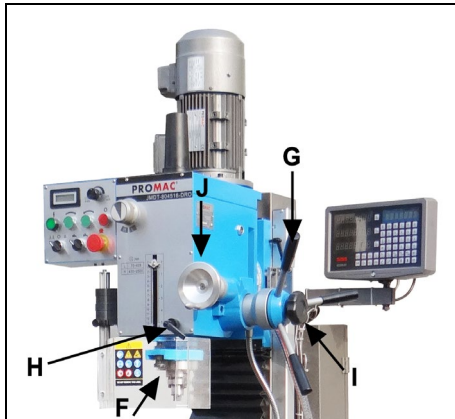


Fig 3

- F....Drill depth stop adjustment knob
- G....Downfeed handles
- H....Fine feed hand wheel
- I....Fine feed engagement knob
- J....Fine feed dial

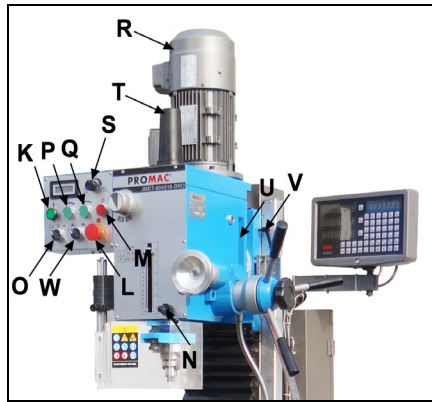


Fig 4

- K....Power ON button / Power Light
- L....Emergency stop button
- M....Power OFF button
- N....Quill lock handle
- O....Drilling / Tapping Switch
- P....Forward button
- Q....Reverse button
- R....Motor
- S.... Speed control knob
- T....Draw bar cover
- U....Head tilting lock nuts
- V....Z-axis slide lock

6.2 Spindle speeds selection

The correct spindle speed depends on
the type of machining, the cutting
diameter, the material to be machined
and the cutting tool.

These are recommended max. speeds
for a 10mm high speed steel (HSS) tool
(e.g. drill bit).

Aluminium, brass	1500 RPM
Cast iron	1000 RPM
Mild steel	800 RPM
High carbon steel	600 RPM
Stainless steel	300 RPM

If a carbide (HM) tool is used about 5
times higher speeds can be chosen.

Generally speaking, the larger in
relation the cutting diameter, the smaller
the possible RPM.

For example:

Milling mild steel with an end mill of
20mm allows a speed of

400 RPM max.	with HSS tool
2000 RPM max.	with carbide tool

7. Setup and adjustments

Warning:

**Setup and adjustment work may only
be carried out after the machine is
protected against accidental starting.
Press emergency stop button!**

7.1 Changing spindle speeds

Speeds may only be changed at
complete spindle standstill.

WARNING:

**Changing speeds during spindle or
motor rotation will damage the gears.**

Refer to the speed chart whenever
changing speeds.

7.2 Arbor replacement

Remove the draw bar cover (T, Fig 4).

Select the lowest spindle speed to keep
the spindle from turning.

Loosen the drawbar with a wrench.

Loosen the drawbar 2 to max 3 full
turns.

Tap the drawbar head with a rubber
mallet to dislodge the tool taper.

7.3 Adjusting the Depth Stop

To drill multiple holes at the same
preset depth, use the depth stop:

Turn the knob of depth stop(F, Fig 3) to
move to the desired position.

7.4 Engaging the Fine Feed Wheel

To activate the fine feed hand wheel
tighten the engagement knob (I, Fig 3).

7.5 Return Spring Adjustment

The return spring is adjusted at the
factory and should not need further
adjustment. If adjustment is necessary:

Loosen knob (X, Fig. 5) approximately
6mm.

Do not remove the spring cover (Y).

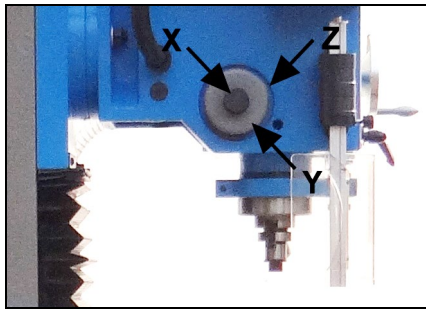


Fig 5

Firmly hold the spring cover (Y).

Pull out the cover and rotate until the pin (Z) on the return spring plate engages the next notch in the coil spring cover. Turn the cover clockwise to decrease tension and counter-clockwise to increase tension.

Tighten knob (X).

7.6 Before Operation

Prepare oil gun with coolant or cutting oil.

In order to keep the accurate precision, the table must be free from dust and oil deposits.

Check to see that the tools are correctly set and the workpiece is set firmly.

Be sure the speed is not set to fast.

Be sure everything is ready before use

7.7 After Operation

Turn off the electric switch.

Turn down the tools.

Clean the machine and coat it with lubricant.

Cover the machine with cloth to keep out the dust.

7.8 Adjustment of Head

To raise and lower the head, loosen the two nuts (V, Fig 6) located on the right side of the Z-slide.

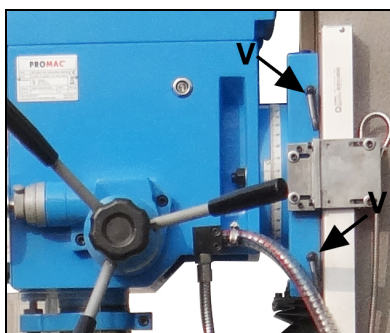


Fig 6

Use the crank (Fig 7) to raise and lower the head.

When the desired height is reached tighten the 2 nuts to avoid vibration.

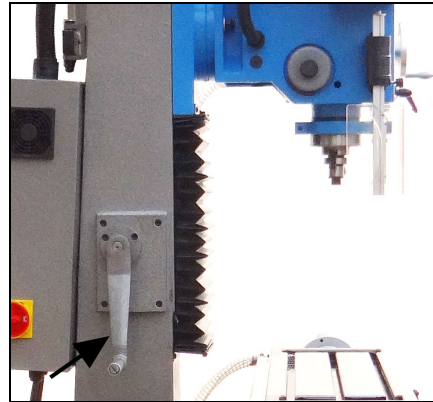


Fig 7

The head may be rotated 360° around the column.

Loosen the 2 nuts (V, Fig 6).

Adjust the head, then well tighten the nuts to avoid movement under machining loads.

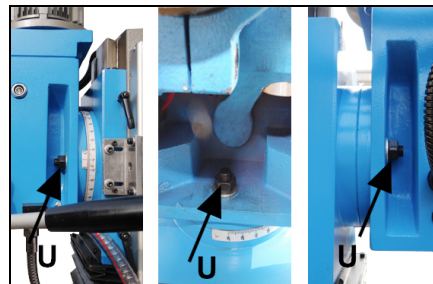


Fig 8

The head may be tilted left/right.

Loosen 3 nuts (U, Fig 8).

Tilt the head to the degrees you wish on the scale, then well tighten the 3 nuts to avoid vibration.

7.9 Preparing for Drilling.

Loosen the quill lock (N, Fig 4, Fig 9).

Loosen the knob (I) to make loose the taper clutch of worm gear, to disengage the fine feed (H).

Set the positive depth stop (F) to the desired drilling depth.

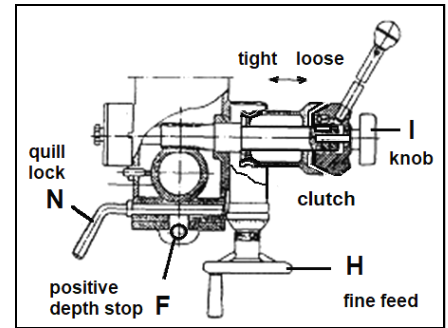


Fig 9

7.10 Preparing for Milling

Adjust the positive depth stop (F, Fig 9) to highest point position.

Turn tight of the knob (I) to engage the taper clutch, to engage the fine feed (H).

Turn the fine feed hand wheel (H) to adjust the desired machining height.

Tighten the quill lock (N) to avoid vibration.

8. Maintenance and inspection

General notes:

Maintenance, cleaning and repair work may only be carried out after the machine is protected against accidental starting. Push the emergency stop button and disconnect from the power source!

Clean the machine regularly.

Defective safety devices must be replaced immediately.

Repair and maintenance work on the electrical system may only be carried out by a qualified electrician.

8.1 Weekly Lubrication:

Weekly apply oil:

DIN 51502 CG ISO VG68

(e.g. BP Maccurat 68, Castrol Magna BD 68, Mobil Vectra 2)

- X-axis lead screw

Apply oil on entire length.

- Y-axis lead screw

Move the table forward and remove the way cover for access.
Apply oil on entire length.

- Z-axis lead screw

Move the head up and remove the way cover for access.
Apply oil on entire length.

8.2 Daily Lubrication:

Daily apply oil:

CGLP DIN 51502 ISO VG68

(e.g. BP Maccurat 68, Mobil Vectra 2)

- X/Y-axis hand wheels

Lubricate ball oilers.

- Z-axis crank handle

Lubricate ball oiler.

- X/Y-axis ways

Lubricate ways on entire length.

- Z-axis ways

Fill reservoir oiler.

- Spindle quill

Apply oil on entire length.

clockwise appr. a quarter turn.

Try and repeat until slide moves freely without play.

8.4 Lead screw nut adjustment

The table is fitted with an adjustable (slotted) leadscrew nut.

Tighten adjusting screw on leadscrew nut to reduce the backlash.

9. Trouble shooting

Motor doesn't start

*No electricity-
check mains and fuse.

*Defective switch, motor or cord-
consult an electrician.

Machine vibration

*Incorrect belt tension-
adjust belt tension.

*Stand on uneven floor-
adjust stand for even support.

*Tool deflection-
reduce tool length.

*Slide backlash-
adjust slide gibs.

*Slides running dry-
lubricate with oil.

*Dry spindle quill-
lubricate spindle quill.

*Dull tool tip-
resharpen or change tool.

*Chip load too high-
reduce depth of cut or feed-

*Table leadscrew nut has play-
tighten adjusting screw.

Tool tip burns

*Cutting speed too high-
reduce spindle speed.

*Dull tool tip-
resharpen tool tip.

Drill leads off

*cutting lips or angle not equal-
resharpen drill bit correctly.

*drilled hole off centre-
drill a pilot hole first.

*bent drill bit-
use a proper drill bit.

*drill bit not properly installed-
install drill bit correctly.

10. Environmental protection

Protect the environment.

Your appliance contains valuable materials which can be recovered or recycled. Please leave it at a specialized institution.



This symbol indicates separate collection for electrical and electronic equipment required under the WEEE Directive (Directive 2012/19/EC) and is effective only within the European Union.

11. Available accessories

Refer to the PROMAC-Pricelist for various accessories.

8.3 Slide adjustments

X-axis and Y-axis slides are fitted with tapered gibs.

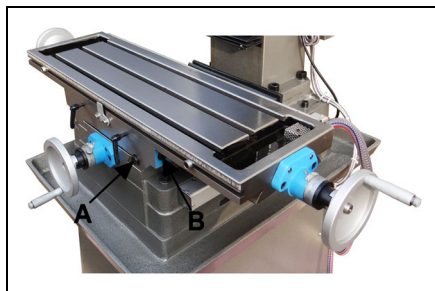
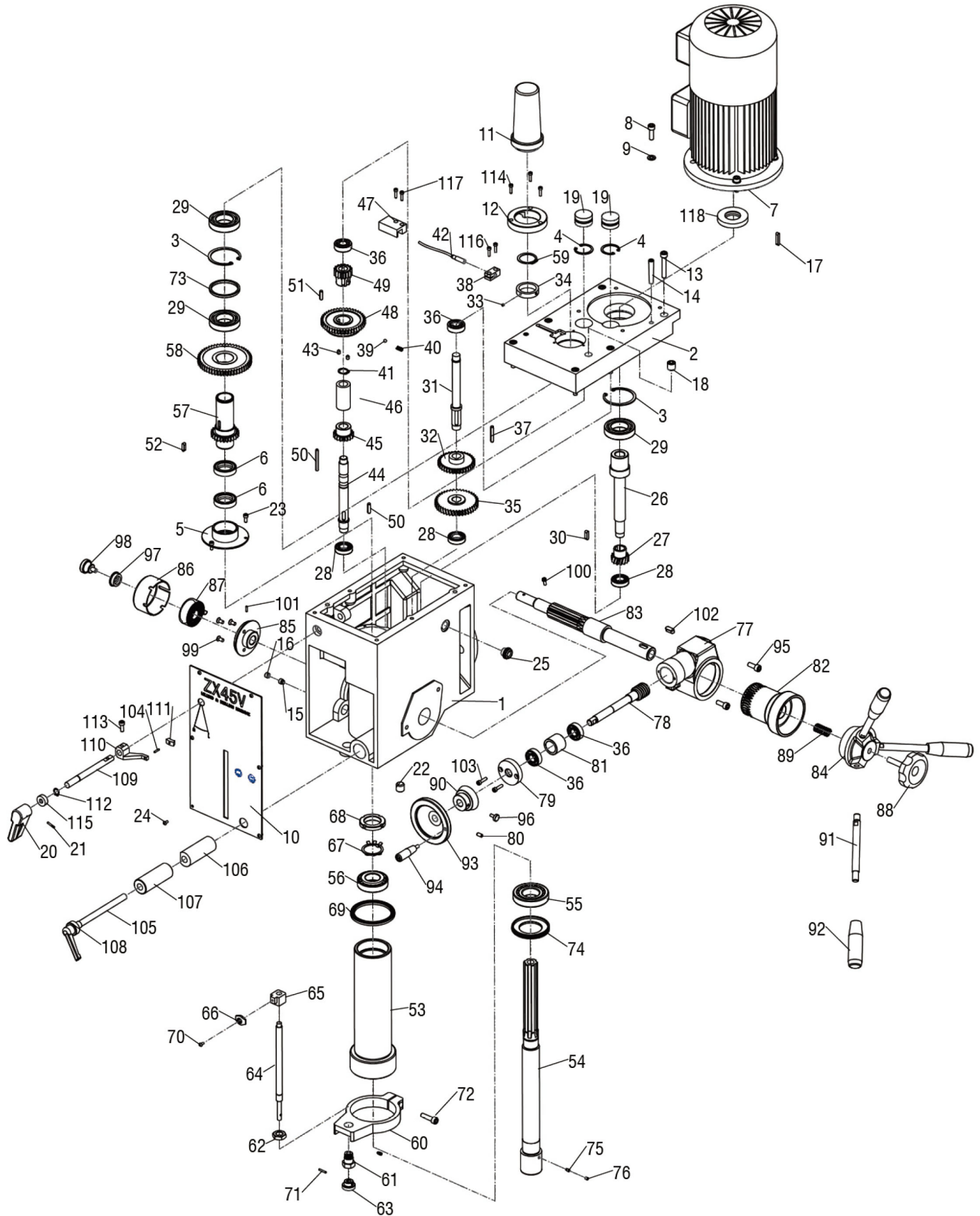


Fig 10

If adjustment is needed:
Tighten gib screw (A, B, Fig 10)

JMDT-804516-DRO Headstock Assembly -1



JMDT-804516-DRO Parts List for Headstock Assembly -1

Index No.	Part No.	Description	Size	Qty.
1	JMDT804516-1001	head body	20010B	1
2	JMDT804516-1002	head body cover	20011B	1
3	JMDT804516-1003	Int retaining ring	Φ62 GB/T893.1-1986	2
4	JMDT804516-1004	Int retaining ring	Φ35 GB/T894.1-1986	2
5	JMDT804516-1005	airtight base	20018B	1
6	JMDT804516-1006	airtight ring	45×35X10 GB/T9877.1-1988	2
7	JMDT804516-1007	motor	1.5KW	1
8	JMDT804516-1008	screw	M8X25	1
9	JMDT804516-1009	washer	8 GB/T97.1-2002	1
10	JMDT804516-1010	plate	20201	1
11	JMDT804516-1011	arbor bolt cover	20304-1B	1
12	JMDT804516-1012	arbor bolt cover base	20304V1	1
13	JMDT804516-1013	screw	M8X45 GB/T70.1-2000	6
14	JMDT804516-1014	pin	8×40 GB/T118-2000	2
15	JMDT804516-1015	screw	M10×10 GB/T79-2000	1
16	JMDT804516-1016	screw	M10×8 GB/T77-2000	1
17	JMDT804516-1017	key	6X28 GB/T1096-2003	1
18	JMDT804516-1018	bolt	ZG3/8"	1
19	JMDT804516-1019	cap	20020B	2
20	JMDT804516-1020	speed lever	20307B	2
21	JMDT804516-1021	pin	3X18 GB/T879.2-2002	2
22	JMDT804516-1022	oil plug	ZG3/8"	1
23	JMDT804516-1023	screw	M5x10	3
24	JMDT804516-1024	screw	M4X8 GB/T818-2000	6
25	JMDT804516-1025	oil pointer	M18X1.5	1
26	JMDT804516-1026	I shaft	20105B	1
27	JMDT804516-1027	Gear Z14	20105-1-B	1
28	JMDT804516-1028	bearing	6003 / P5 GB/T276-1994	3
29	JMDT804516-1029	bearing	6007 / P5 GB/T276-1994	3
30	JMDT804516-1030	key	5X25 GB/T1096-2003	1
31	JMDT804516-1031	II shaft	20106V	1
32	JMDT804516-1032	Gear Z35	20110V	1
33	JMDT804516-1033	Magnetic beads		4
34	JMDT804516-1034	spacer bush	20304V	1
35	JMDT804516-1035	Gear Z41	20106-1-B	1
36	JMDT804516-1036	bearing	6202 / P5 GB/T276-1994	4
37	JMDT804516-1037	key	6X36	1
38	JMDT804516-1038	The probe holder		1
39	JMDT804516-1039	ball	8	1
40	JMDT804516-1040	spring		1
41	JMDT804516-1041	Ext retaining ring	18 GB/T894.1-1986	1
42	JMDT804516-1042	searching unit		1
43	JMDT804516-1043	screw	M6X12 GB/T71-1985	2
44	JMDT804516-1044	III shaft	20107V	1
45	JMDT804516-1045	Gear Z18	20110-2-B	1
46	JMDT804516-1046	spacer bush	20107V.1	1
47	JMDT804516-1047	Accused of head cover	20304V2	1
48	JMDT804516-1048	Gear Z43	20113-B	1
49	JMDT804516-1049	Gear Z16	20115-B	1

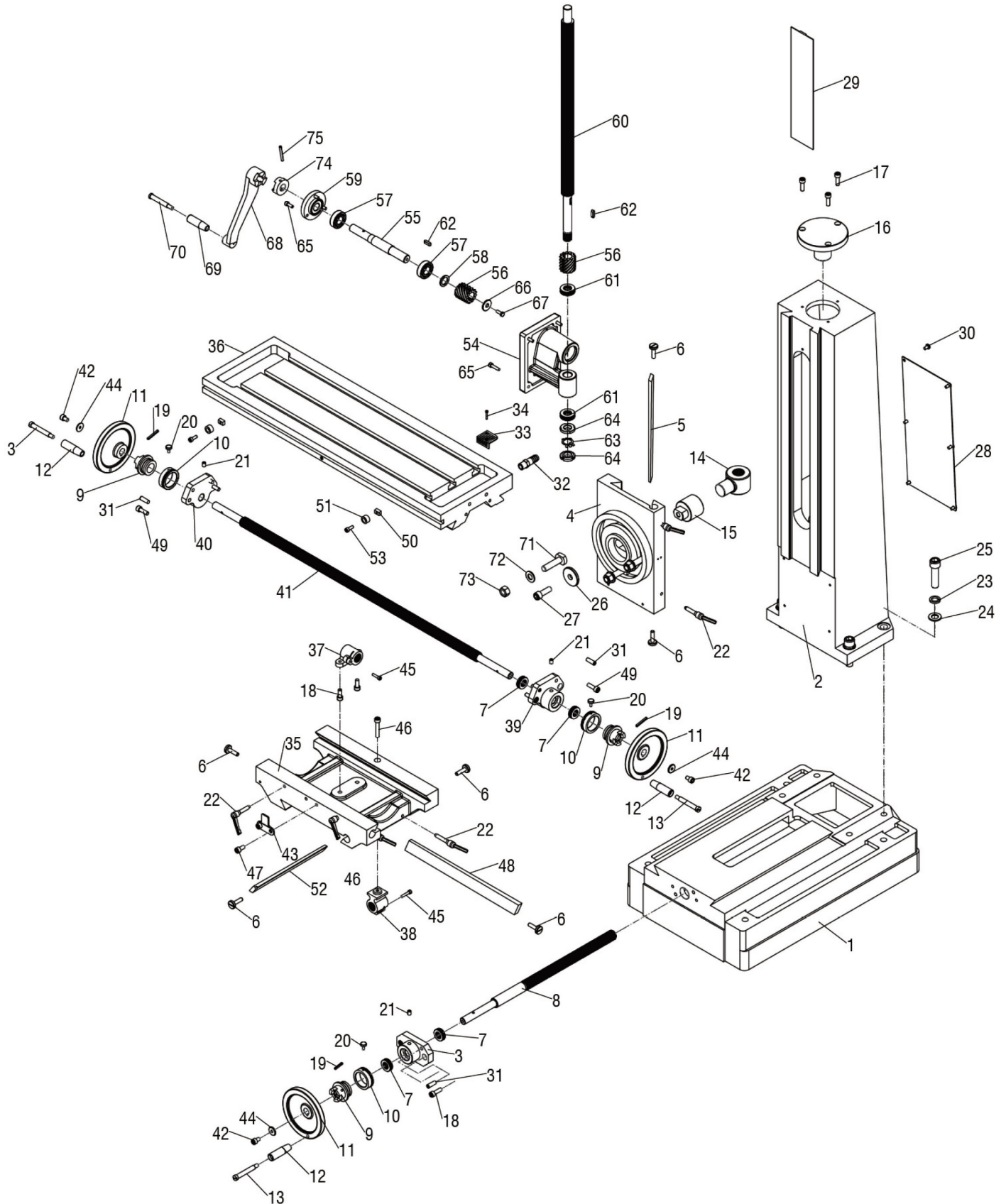
JMDT-804516-DRO Parts List for Headstock Assembly -1

Index No.	Part No.	Description	Size	Qty.
50	JMDT804516-1050	key.....	5X50 GB/T1096-2003	1
51	JMDT804516-1051	key.....	6X18 GB/T1096-2003	1
52	JMDT804516-1052	key.....	6X18 GB/T1096-2003	1
53	JMDT804516-1053	spindle sleeve.....	20019	1
54	JMDT804516-1054	spindle.....	20104B	1
55	JMDT804516-1055	bearing	30207 /P5	1
56	JMDT804516-1056	bearing.....	30206 /P5	1
57	JMDT804516-1057	splined sleeve Z25.....	20114V	1
58	JMDT804516-1058	Gear Z53.....	20116-B	1
59	JMDT804516-1059	Ext retaining ring.....	35	1
60	JMDT804516-1060	feed base.....	20012	1
61	JMDT804516-1061	support base	20128	1
62	JMDT804516-1062	nut.....	20129	1
63	JMDT804516-1063	knob.....	20130	1
64	JMDT804516-1064	graduated rod	20131	1
65	JMDT804516-1065	fixed bolt	20021	1
66	JMDT804516-1066	scale board	20132	1
67	JMDT804516-1067	lock washer	30	1
68	JMDT804516-1068	lock nut	M30X1.5	1
69	JMDT804516-1069	rubber washer.....	20308	1
70	JMDT804516-1070	screw.....	M4X8	1
71	JMDT804516-1071	split pin	3X18	1
72	JMDT804516-1072	bolt.....	M8X30	1
73	JMDT804516-1073	separating ring.....	20024B	1
74	JMDT804516-1074	Bearing cover	20133B	1
75	JMDT804516-1075	screw.....	M5X6	1
76	JMDT804516-1076	pin	M5X4	1
77	JMDT804516-1077	worm wheel box	20015	1
78	JMDT804516-1078	worm shaft.....	20119	1
79	JMDT804516-1079	worm cover	20302	1
80	JMDT804516-1080	screw.....	M6X12 GB/T77-2000	1
81	JMDT804516-1081	separating ring.....	20120	1
82	JMDT804516-1082	worm wheel	20016	1
83	JMDT804516-1083	pinion shaft	20117	1
84	JMDT804516-1084	handle body	20013	1
85	JMDT804516-1085	spring base.....	20118	1
86	JMDT804516-1086	spring cap.....	20123	1
87	JMDT804516-1087	spring plate	20122	1
88	JMDT804516-1088	big ripple handle	20303	1
89	JMDT804516-1089	compression spring.....		1
90	JMDT804516-1090	graduated plate	20017	1
91	JMDT804516-1091	handle rod.....	20121B	1
92	JMDT804516-1092	handle ball	20301B	1
93	JMDT804516-1093	handle wheel	20306B	1
94	JMDT804516-1094	handle rod.....	20305-B	1
95	JMDT804516-1095	screw.....	M8X25 GB/T70.1-2000	2
96	JMDT804516-1096	screw.....	10107	1
97	JMDT804516-1097	washer	203063	1
98	JMDT804516-1098	screw.....	203066	1
99	JMDT804516-1099	screw.....	M6X12 GB/T818-2000	3

JMDT-804516-DRO Parts List for Headstock Assembly -1

Index No.	Part No.	Description	Size	Qty.
100	JMDT804516-1100	screw	M5X12 GB/T70.1-2000	1
101	JMDT804516-1101	pin	3X12	2
102	JMDT804516-1102	key	8X20	1
103	JMDT804516-1103	screw	M5X20	2
104	JMDT804516-1104	pin	3X15 GB/T879.2-2002	1
105	JMDT804516-1105	fixed bolt	20124B	1
106	JMDT804516-1106	fixed tight block	20203B	1
107	JMDT804516-1107	fixed tight block	20202B	1
108	JMDT804516-1108	adjust handle		1
109	JMDT804516-1109	lever shaft	20125B	1
110	JMDT804516-1110	lever	20022-1B	1
111	JMDT804516-1111	lever bracket	20204-2B	1
112	JMDT804516-1112	Ext retaining ring	12 GB/T9877.1-1988	1
113	JMDT804516-1113	screw	M6X16 GB/T70.1-2000	1
114	JMDT804516-1114	screw	M4X16	3
115	JMDT804516-1115	oil seal	12X22X8 GB/T9877.1-1988	2
116	JMDT804516-1116	screw	M4X16	2
117	JMDT804516-1117	screw	M4X18	2
118	JMDT804516-1118	oil seal	FB35X62X10 GB/T9877.1-1988	1

JMDT-804516-DRO BASE PARTS -2



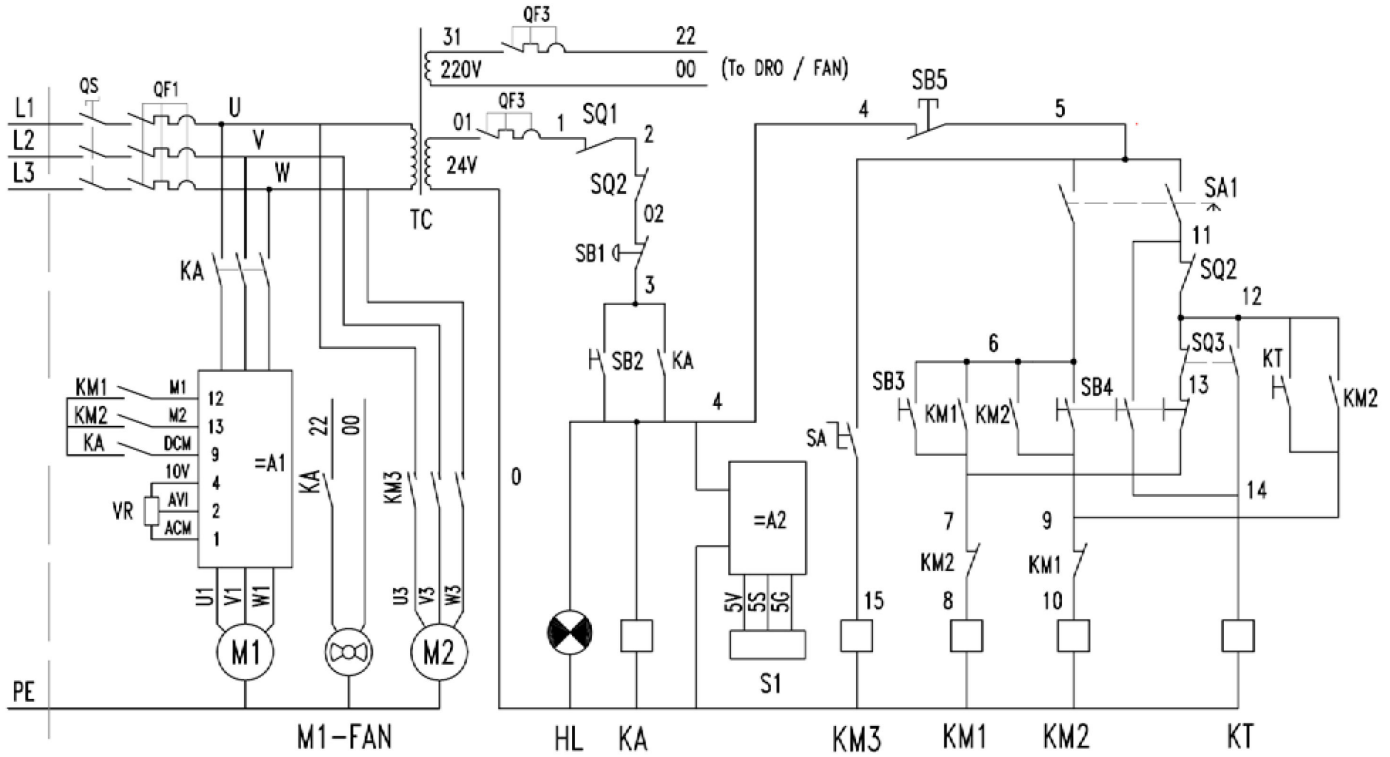
JMDT-804516-DRO Parts List for BASE PARTS -2

Index No.	Part No.	Description	Size	Qty.
1	JMDT804516-2001	Base.....	10010.....	1
2	JMDT804516-2002	column	10013.....	1
3	JMDT804516-2003	square flange	10021.....	1
4	JMDT804516-2004	raise and lower base.....	10016.....	1
5	JMDT804516-2005	gib strip	10025.....	1
6	JMDT804516-2006	screw	10106.....	6
7	JMDT804516-2007	bearing.....	51103 GB/T301-1995	4
8	JMDT804516-2008	table screw.....	10104.....	1
9	JMDT804516-2009	dial clutch.....	10102.....	3
10	JMDT804516-2010	graduated plate	10111.....	3
11	JMDT804516-2011	wheel	10301.....	3
12	JMDT804516-2012	turn handle	20305-1B	3
13	JMDT804516-2013	screw.....	20305-1B	3
14	JMDT804516-2014	nut.....	10024.....	1
15	JMDT804516-2015	nut bracket.....	10117.....	1
16	JMDT804516-2016	cover	10014.....	1
17	JMDT804516-2017	screw.....	M8X20 GB/T70.1-2000.....	3
18	JMDT804516-2018	screw.....	M8X25 GB/T70.1-2000.....	4
19	JMDT804516-2019	pin	5X35 GB/T879.2-2000	3
20	JMDT804516-2020	screw.....	10107 GB/T70.1-2000	2
21	JMDT804516-2021	oil cup.....	8.....	5
22	JMDT804516-2022	fixed handle	M8	6
23	JMDT804516-2023	washer	16 GB/T97.1-2002	4
24	JMDT804516-2024	washer	16 GB/T93-1987	4
25	JMDT804516-2025	bolt.....	M16X60 GB/T70.1-2000.....	4
26	JMDT804516-2026	washer	10120.....	1
27	JMDT804516-2027	screw.....	M12X35 GB/T70.1-2000.....	1
28	JMDT804516-2028	plate.....	10119.....	1
29	JMDT804516-2029	protecting cover.....	10124.....	1
30	JMDT804516-2030	screw.....	M6X12 GB/T818-2000.....	6
31	JMDT804516-2031	pin	8X30 GB/T118-2000	6
32	JMDT804516-2032	Pipe joint.....		1
33	JMDT804516-2033	filter screen		1
34	JMDT804516-2034	screw.....	M3X25 GB/T70.1-2000.....	2
35	JMDT804516-2035	center base	10011.....	1
36	JMDT804516-2036	table.....	10012.....	1
37	JMDT804516-2037	table nut.....	10202.....	1
38	JMDT804516-2038	table base nut	10203.....	1
39	JMDT804516-2039	right flange.....	10020.....	1
40	JMDT804516-2040	left flange	10019.....	1
41	JMDT804516-2041	table screw.....	10103.....	1
42	JMDT804516-2042	screw	M6X16 GB/T70.1-2000.....	3
43	JMDT804516-2043	Dial clutch	10105.....	1
44	JMDT804516-2044	washer	6 GB/T97.1-2002	3
45	JMDT804516-2045	screw	M5X20 GB/T70.1-2000.....	2
46	JMDT804516-2046	screw.....	M8X45 GB/T70.1-2000.....	1
47	JMDT804516-2047	screw.....	M8X15 GB/T70.1-2000.....	2
48	JMDT804516-2048	gib strip	10022.....	1
49	JMDT804516-2049	screw.....	M8X25 GB/T70.1-2000.....	4
50	JMDT804516-2050	movable fixed block.....	10108.....	2

JMDT-804516-DRO Parts List for BASE PARTS -2

Index No.	Part No.	Description	Size	Qty.
51	JMDT804516-2051	fixed block support	10109	2
52	JMDT804516-2052	gib strip	10023	1
53	JMDT804516-2053	screw	M6X16 GB/T818-2000	2
54	JMDT804516-2054	raise and lower base	10017	1
55	JMDT804516-2055	shaft	10113	1
56	JMDT804516-2056	gear	20109	2
57	JMDT804516-2057	bearing	6004 GB/T276-1994	2
58	JMDT804516-2058	washer	100218	1
59	JMDT804516-2059	flange	10015 GB/T879.2-2002	1
60	JMDT804516-2060	raise and lower screw	10016	1
61	JMDT804516-2061	bearing	51104 GB/T301-1995	2
62	JMDT804516-2062	key	6X20 GB/T1096-2003	2
63	JMDT804516-2063	lock washer	20 GB/T858-1988	1
64	JMDT804516-2064	lock nut	M20X1.5 GB/T812-1988	2
65	JMDT804516-2065	screw	M6X20 GB/T70.1-2000	7
66	JMDT804516-2066	washer	20109.1	1
67	JMDT804516-2067	screw	M8X16	1
68	JMDT804516-2068	handle	10018	1
69	JMDT804516-2069	turn handle	10018.1	1
70	JMDT804516-2070	screw	10018.2	1
71	JMDT804516-2071	bolt	M14X55	3
72	JMDT804516-2072	washer	14 GB/T97.1-2002	3
73	JMDT804516-2073	nut	M14 GB/T6170-2000	3
74	JMDT804516-2074	dial clutch	450209	1
75	JMDT804516-2075	pin	5x40 GB/T879.2-2002	1

JMDT-804516-DRO Wiring Diagram



Index No.	Part No.	Description	Type	Spec.
QS	JMDT804516DRO -QS	Main power switch	JCH13-20 20/41000	AC21A 380V 20A
QF1	JMDT804516DRO -QF1	Circuit breaker	JCM6-25	GV2ME14C/6-10A
QF3	JMDT804516DRO -QF3	Circuit breaker	DZ47-63	C2 230/400V
TC	JMDT804516DRO -TC	Transformer	JBK5	400V 24V
SB1	JMDT804516DRO -SB1	Emergency stop button	LA125H-BS542	AC15 240V 3A
SB2	JMDT804516DRO -SB2	Power ON button	LA125J-11D/206A	AC24V
SB3	JMDT804516DRO -SB3	Forward	LA125H-BA31	AC15 240V 3A
SB4	JMDT804516DRO -SB4	Reverse	LA125H-BA31	AC15 240V 3A
SB5	JMDT804516DRO -SB5	Stop button	LA125H-BA42	AC15 240V 3A
SQ1	JMDT804516DRO -SQ1	Spindle Guard Switch	KW-7	16A 125V
SQ2	JMDT804516DRO -SQ2	Tapping micro switch	KW3-0Z	16A 125V
SQ3	JMDT804516DRO -SQ3	Tapping limit switch	KW3-0Z	16A 125V
KM1	JMDT804516DRO -KM1	Contactor	3TB41	Ui=660V Ith=30A 24V/50HZ
KM2	JMDT804516DRO -KM2	Contactor	3TB41	Ui=660V Ith=30A 24V/50HZ
KM3	JMDT804516DRO -KM3	Contactor	3TB41	Ui=660V Ith=30A 24V/50HZ
KA	JMDT804516DRO -KA	Contactor	3TB41	Ui=660V Ith=30A 24V/50HZ
SA	JMDT804516DRO -SA	Cooling pump button	LA125H-BD21	AC15 240V 3A
SA1	JMDT804516DRO -SA1	Drilling / Tapping Switch	LA125H-BD33	AC15 240V 3A
KT	JMDT804516DRO -KT	Time relay	H3Y-2	24VAC 5A
M1	JMDT804516DRO -M1	Motor	YVF90L-4	400V/5-100Hz/3PH 1.5kw
FAN	JMDT804516DRO -M1	Motor	G-90	230V/50Hz/1PH 0.03kw
M2	JMDT804516DRO -M1	Motor	DB-12	400V/50Hz/3PH 0.04kw
DRO	JMDT804516DRO -M1	Motor	SDS6	AC100-240V

JMDT-804516-DRO Accessories

Index No.	Part No.	Description	Size	Qty.
1		Draw bar	M16	1
2		Adapter	MT4/MT3	1
3		Taper shank for drilling chuck	MT4/B16	1
4		Drilling chuck B16	Φ1 Φ 13mm	1
5		T slot bolt	M12×55	2
6		Washer	12	2
7		Nut	M12	2
8		Tilted wedge		2
9		Spanner	19-22/22-24	2
10		Arbor	MT4/M16	1
11		Hex wrench set	#2.5, #3, #4, #5, #10	5
12		Oil gun		1