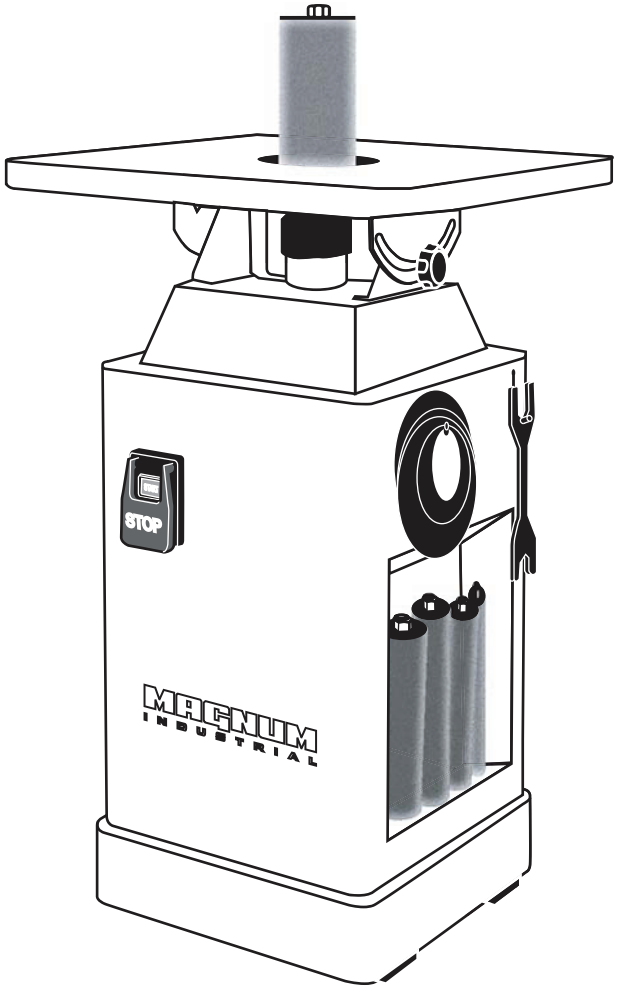
MAGNUM
INDUSTRIAL

MODEL NO.: MI-16150



OPERATING MANUAL

TABLE OF CONTNETS

SAFETY RULES

Read carefully before operating the machine

- To help ensure safe operation, please take a moment to learn the how to operate the machine and understand its applications and limitations, as well as potential hazards.
- Do not operate the sander when tired, distracted or under the effects of drugs, alcohol or any medication that impairs reflexes or alertness.
- Ensure your working area is clean, well lit and free of debris.
- Keep children and visitors at a safe distance when the sander is in operation. Do not permit them to operate the sander.
- Prevent unauthorized or unsupervised use by child proofing and tamper proofing your shop and all machinery with locks, master electrical switches and switch keys.
- Stay alert! Give your work your undivided attention. Even a momentary distraction can lead to serious injury.
- Fine particulate dust is a carcinogen that can be hazardous to health. Work in a well-ventilated area and whenever possible use a dust collector.
- Protect your face, eyes, ears, lungs and body with suitable personal protective equipment.
- Do not wear loose clothing, gloves, bracelets, necklaces or other jewelry while the sander is in operation.
- Remove adjusting wrenches, tools and other clutter from the machine and the table surface before using the machine.
- Keep hands well away from the belt, disc and all moving parts. Use a brush, not your hands, to clear away chips and dust.
- Make sure the sanding spindles are correctly and securely installed on the machine.
- Allow the spindle to reach operating speed before sanding.
- Hold the material firmly against the table.
- Do not operate the sander with worn or damaged spindles.
- Do not force material against the sander. The machine performs better and more safely when working at the rate for which it was designed.
- Avoid working from awkward or off balance positions. Do not overreach and keep both feet on floor.
- Keep guards in place and in working order. If a guard must be removed for maintenance or cleaning, properly re-attach it before using the sander again.
- Never leave the sander unattended while it is running or with the power on.
- Never stand on machinery. Serious injury could result if the sander is tipped over or if the spindle is unintentionally contacted.
- Always disconnect the machine from the power source before changing the spindle; performing any maintenance, cleaning or servicing; or leaving the machine unattended.
- Ensure the switch is in the OFF position before plugging in the power cord.
- Make sure the machine is properly grounded. If equipped with a three-prong plug, use it with a three-pole receptacle. Never remove the third prong.
- Do not use this sander for other than its intended use. If used for other purposes, KMS Tools and Equipment disclaims any real or implied warranty and holds itself harmless for any injury that may result from that use.

SPECIFICATIONS

MODEL	MI-16150
Table size (L x W)	616 x 616 mm
Table tilt	0 ~ 45°
Spindle speed	1725rpm
Oscillations	59/min
Oscillation stroke	39 mm
Sanding sleeve length	150 ~ 230 mm
Max. workpiece height	55 ~ 160 mm
Dust port diameter	100 mm
Motor	1HP
Table height	990 mm
Overall (L x W x H)	616 x 616 x 990 mm
Weight	145 kg

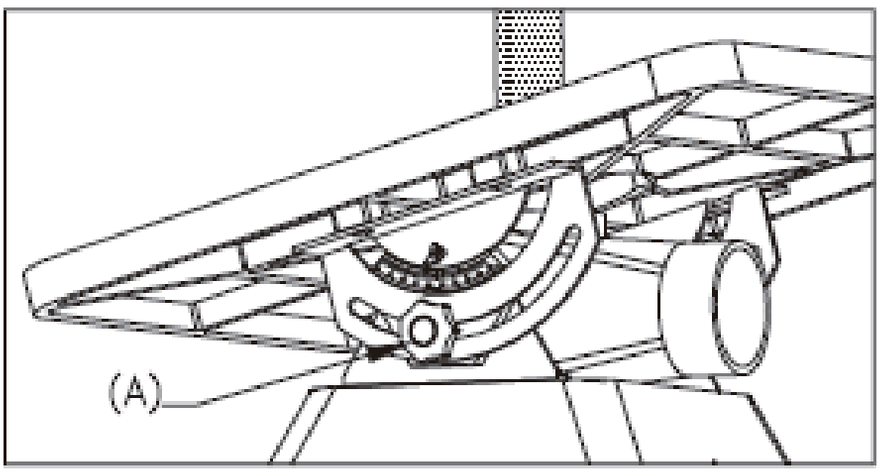
The above specifications are not binding. Supplier reserves the right to amend any specifications or design characteristics without prior notice.

INSTRUCTIONS FOR OPERATION

1. Select a spindle that is smaller than the curve you want to sand.
2. Choose and install an insert plate that comes as close as possible to the spindle without contacting it.
3. Make sure that spindle is properly positioned in taper sleeve socket. With the provided wrench, tighten the nut. NOTE: Never over tighten; it may be difficult to remove the spindle later.
4. When table is set at 0° angle, sanding may be done from any location on table around spindle.
5. When table is positioned at any angle other than 0°, it is necessary to position the work piece over the centerline, as shown on table surface.
6. Always lock the table with the hand nut when setting at any angle; also, to prevent movement, lock the tilting gear shaft.
7. Always loosen both table lock and tilting gear lock before changing the angle position of the table. Never force the table if it does not tilt easily. Instead check to see if the locks are still engaged. Never attempt to over ride the stop locks. This can damage the tilting mechanism.
8. Use a backing board when sanding thin materials.
9. To create a backing board, follow these steps:
    a. Select a piece of wood that's the length of the table.
    b. Using the desired spindle size, sand the wood until a half circle is formed.
    c. Clamp each end of the board to the table.
    d. Proceed to sand the thin material.
10. Before leaving the machine, turn off the power switch, remove leftover particles or pieces, and return the table to 90°.

TILTING THE TABLE

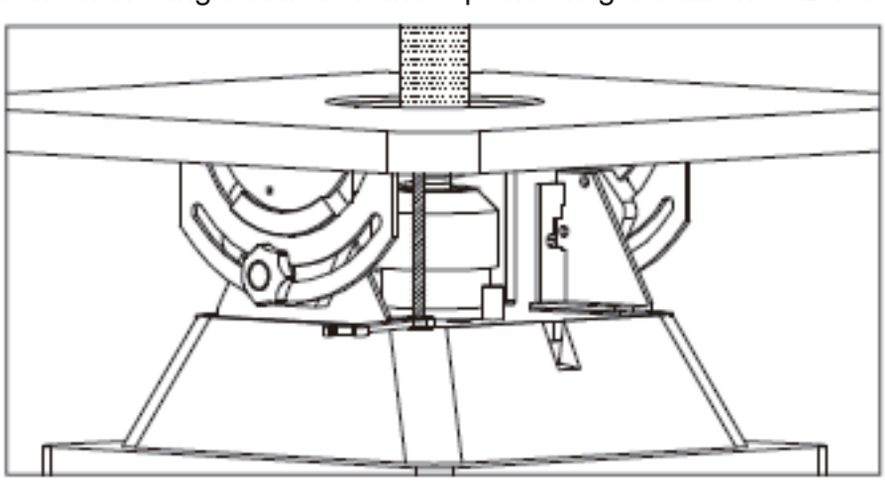
1. Loosen the two table lock knobs (A) located under the table at both sides of the machine
2. Tilt the table forward to the desired angle.
3. Use the angle scale at the right side of the trunnion to find your desired tilt.
4. Tighten the two table lock knobs securely after the table angle has been adjusted.



ADJUSTING THE SPACE BETWEEN TABLE AND DRUM

The vertical space between the table and drum has been adjusted by the factory before shipment. However, after a long period of operation, the space may need to be readjusted.

1. To adjust the space, set the table to a flat horizontal position. The table tilt scale should read zero degrees.
2. Place a 90° combination square on the table and against the spindle drum.
3. If the table is not 90° from the drum, adjust the angle of the table by changing the height of the resting post as shown.
4. If the table is 90° from the drum, but the scale does not read zero degrees, reset the scale to zero by loosening the screw on the angle indicator and repositioning the arrow to zero.

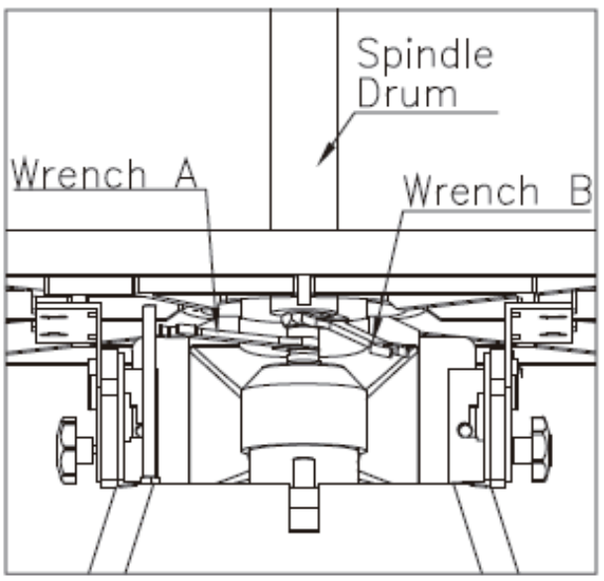


MOUNTING SPINDLE DRUM

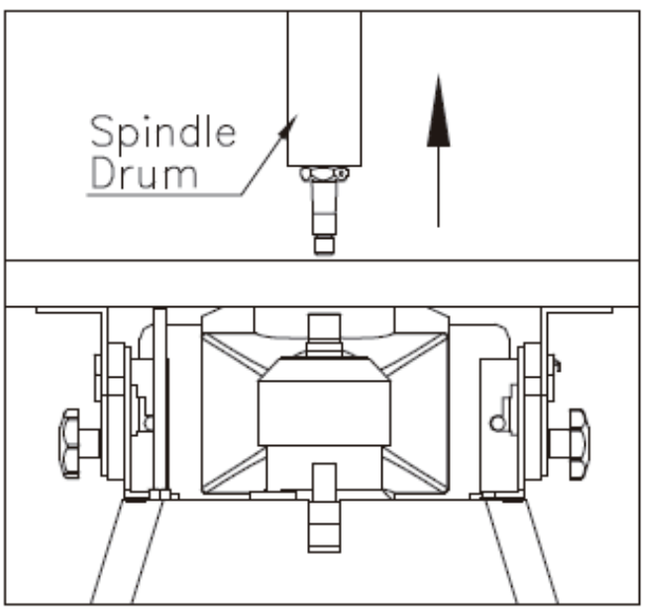
1. Disconnect the sander from the power source.
2. Select the proper diameter of spindle drum.
3. Clean the taper part of the spindle drum before mounting it into the spindle.
4. Use an open-end wrench to lock the spindle by holding its flat surface. At the same time, use another open-end wrench to tighten the spindle drum.
5. Do not over tighten the spindle drum or it will be difficult to remove.

! WARNING !

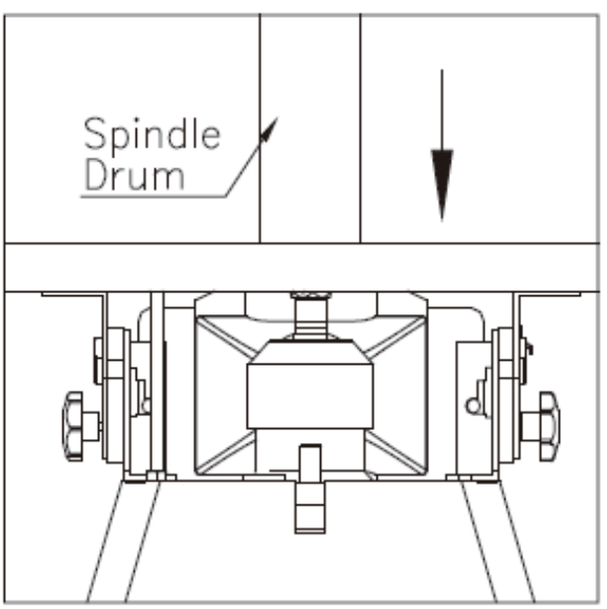
Disconnect the power source before removing the drum.



Use a wrench to lock the spindle.Use another wrench to loose the spindle drum.



Removing an old spindle drum.



Fitting a new spindle drum.

SELECTION GUIDE FOR DRUM TO TABLE INSERT

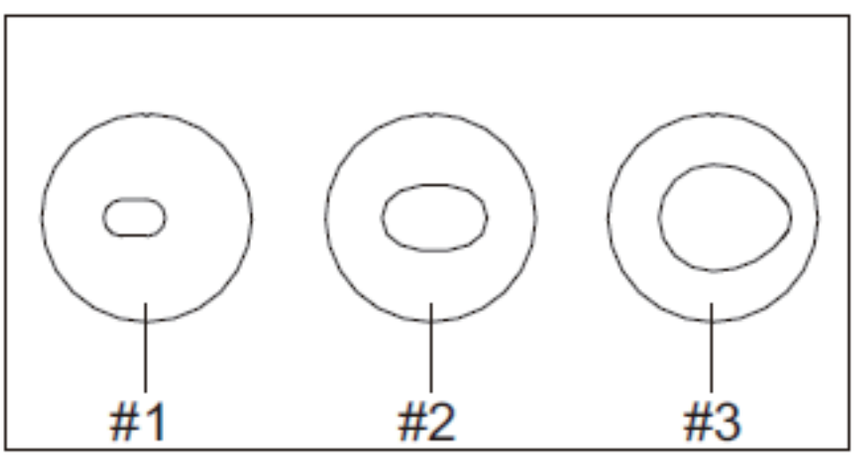
This machine includes 10 spindle drums, ranging in diameter from 1/4" to 4". Whenever the spindle diameter is changed, also change the table insert to the proper size.

The table below shows which table insert to use for various drum diameters.

! WARNING !

Failure to use the correct insert with the corresponding drum may result in injury!

Drum diameter	Table insert
#1 1/4" Dia. x 5" long	#1
#2 3/8" Dia. x 6" long	#1
#3 1/2" Dia. x 6" long	#1
#4 5/8" Dia. x 6" long	#1
#5 3/4" Dia. x 9" long	#1
#6 1" Dia. x 9" long	#2
#7 1 1/2" Dia. x 9" long	#2
#8 2" Dia. x 9" long	#3
#9 3" Dia. x 9" long	None
#10 4" Dia. x 9" long	None



MAINTENANCE OF SPINDLE SANDER

- Keep the spindle sander and attachments clean at all times.
- Clean tapered sleeves and tapered socket before use; this will protect spindle sleeves from nicks.
- Straighten bent sleeves by placing them in the tapered socket and slipping a small pipe over the steel shaft. Use a dial indicator to check the position is correct.
- Check gearbox for proper oil level (About one quarter on the sight glass).
  ‘’Replace the gear oil with 50-90 wt gear oil approximately every 1000 hours of use’’
- Apply a small amount of grease to the table tilting screw once a month.
- This machine's bearings do not require lubrication.

CAUTION

If nicks or burrs form on a spindle's taper, that spindle could potentially seize in the sanding machine. Seized spindles are not covered by manufacturers warranty.

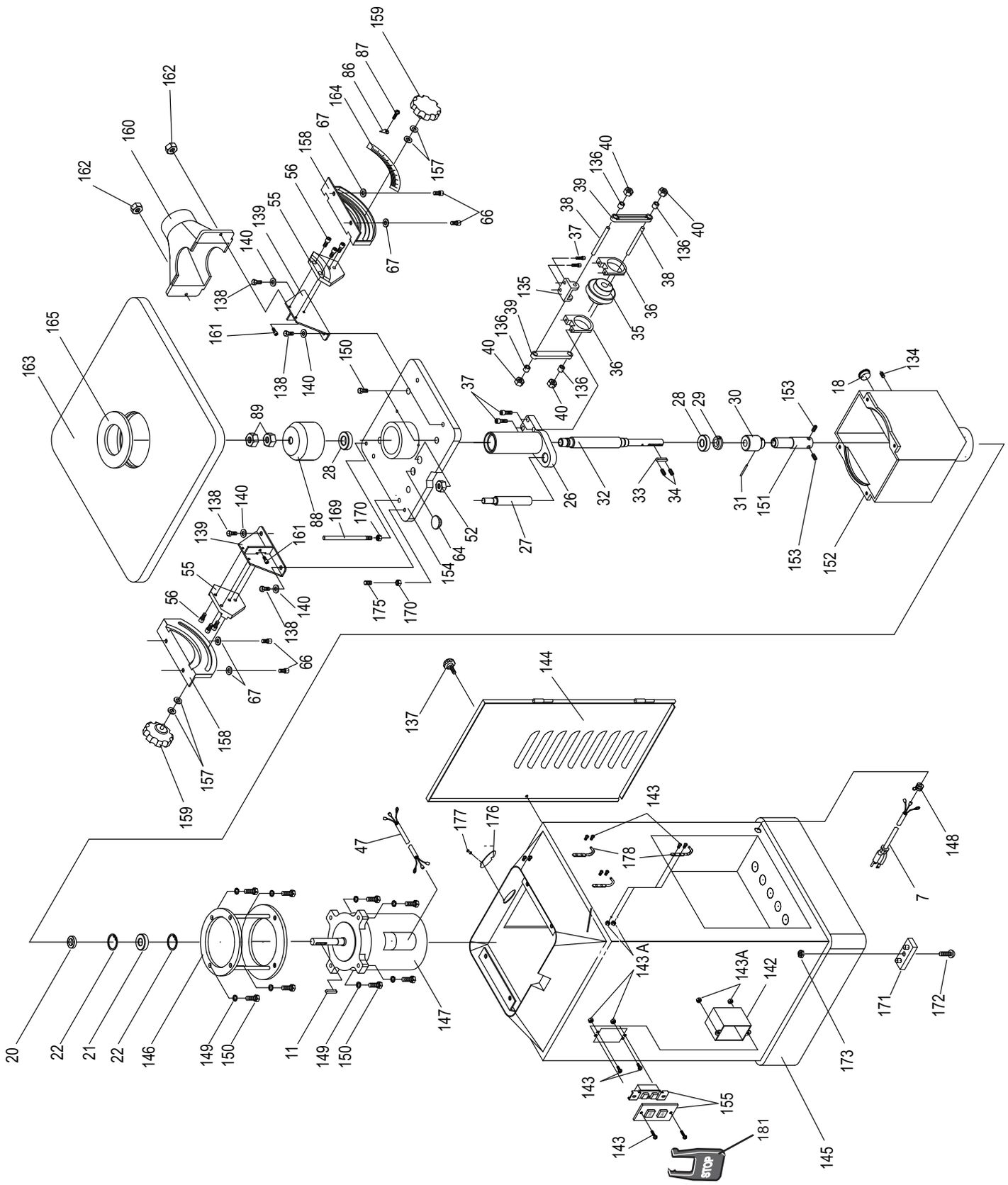
- To prevent seizure, handle spindles with care and keep them clean.
- Always double check both spindle and receiving taper before installing a new spindle.
- Wipe down any saw dust or foreign objects on the spindle taper and the receiving taper.
- If your spindle shows nicks or burrs, remove them before using the spindle OR replace the spindle with a new one.

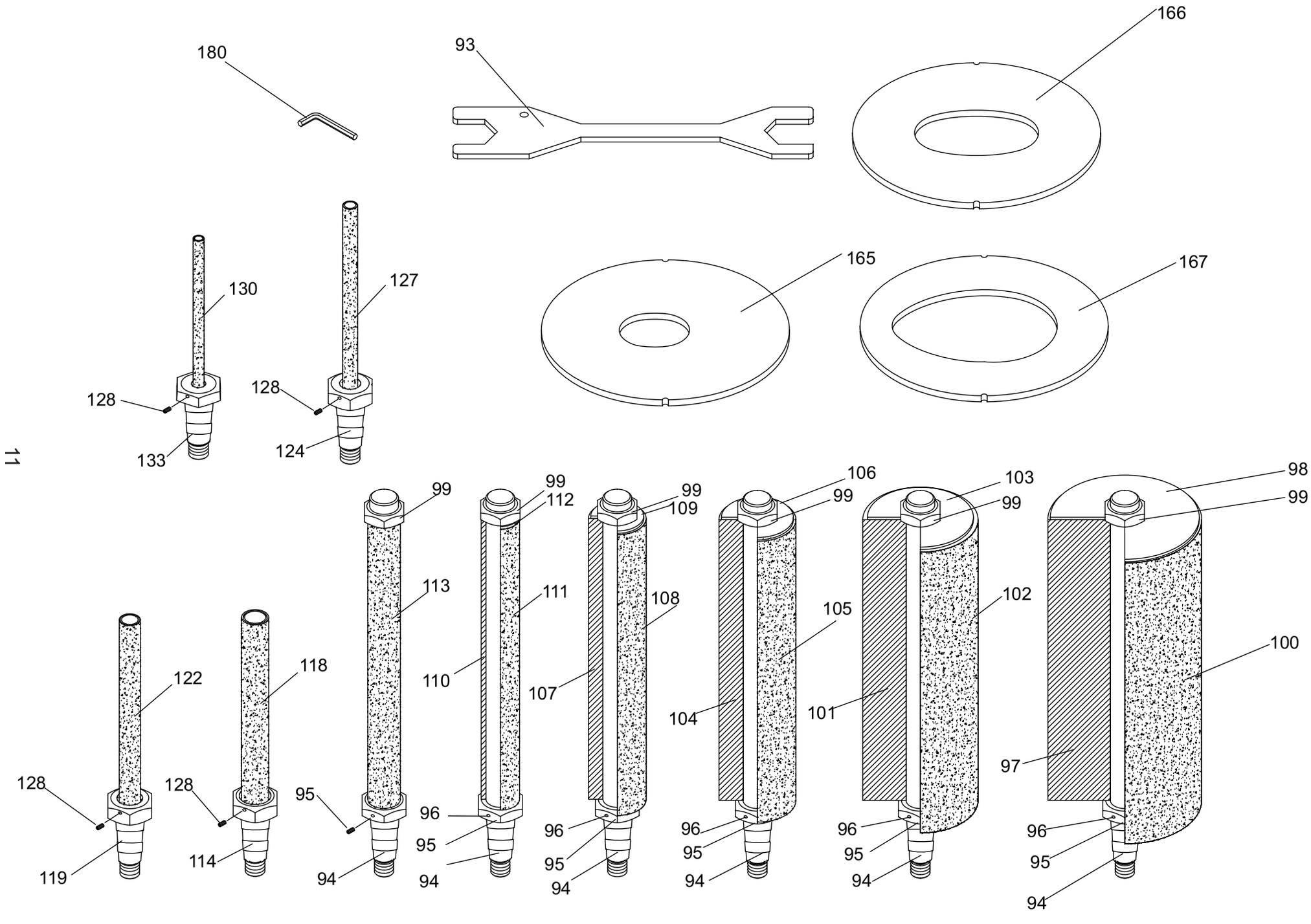
If your spindle is seized and won't loosen with a normal amount of torque, DO NOT FORCE THE SPINDLE! Instead try heating the spindle and receiving taper with a heat gun. Then, using a wrench, turn and free the spindle. If turning does not work, try adding more pressure or rapping on the wrench.

TROUBLESHOOTING

TROUBLE	CAUSES	CORRECTION
Motor does not run when power switch is turned ON.	1. Switch is burned out. 2. Connection wire is loose or damaged.	1. Replace the switch. 2. Tighten or replace the wire.
Motor does not run at full speed.	1. Power voltage is too low. 2. Motor is damaged.	1. Test voltage. 2. Check and repair motor.
Motor does not reach full power.	1. Incorrect power wiring. 2. Overload.	1. Replace with the correct size power wiring. 2. Reduce sanding load.
Motor overheating	1. Motor is dirty. 2. Motor is damaged.	1. Clean motor. 2. Check and repair motor.
Excessive machine vibration	Machine is incorrectly leveled.	Adjust machine leveling
Mark on workpiece	1. Sanding drum is damaged. 2. Sanding cloth on drum is worn in some areas.	1. Replace the sanding drum. 2. Replace sanding cloth
Sanding spindle turns in wrong direction	Wrong phase or voltage	Make sure the phase and voltage comply with machine requirement.
Burns on workpiece	Wrong abrasive grit on sanding cloth	Use coarser grit to remove more material from workpiece.

ASSEMBLY DIAGRAM

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PARTS LIST FOR 16150

PART NO.	REF. NO.	DESCRIPTION	QTY
MI16150-07	L0000000	POWER CORD	1
MI16150-11	S0400525	KEY	1
MI16150-18	30101011	OIL INDICATOR	1
MI16150-20	30101014	OIL SEAL	1
MI16150-21	C1206206	BALL BEARING	1
MI16150-22	S0530025	C SNAP RING	2
MI16150-26	30103014	SLEEVE	1
MI16150-27	30103015	GUIDE RAIL SHAFT	1
MI16150-28	C1206205	BALL BEARING	2
MI16150-29	30103016	LOCKING NUT	1
MI16150-30	30103017	WORM	1
MI16150-31	S0310530	SPRING PIN	1
MI16150-32	30103018	MAIN SHAFT	1
MI16150-33	S0400550	KEY	1
MI16150-34	S0010210	SET SCREW	1
MI16150-35	30103019	SPUR GEAR	1
MI16150-36	30103020	BRASS BUSHING	2
MI16150-37	S0010501	HEX SOCKET CAP SCREW	4
MI16150-38	30103021	TRANSMISSION ROD SHAFT	2
MI16150-39	30103022	TRANSMISSION ROD	2
MI16150-40	S0110600	LOCKING NUT	4
MI16150-47	L0000000	SWITCH CORD	1
MI16150-52	S0110503	LOCKING NUT	1
MI16150-55	30101029	REAR TRUNNION BRACKET	2
MI16150-56	S0010510	HEX SCREW	6
MI16150-64	30101035	OIL LID	1
MI16150-66	S0010610	HEX SOCKET CAP SCREW	4
MI16150-67	S0210600	WASHER	4
MI16150-86	40301032	WIDTH POINTER	1
MI16150-87	S0030304	SCREW	1
MI16150-88	30101049	CAP	1
MI16150-89	30101050	NUT	2
MI16150-93	30105054A	WRENCH	2
MI16150-94	30105055	ARBOR	6
MI16150-95	30105056	HEX NUT	6
MI16150-96	S0313525	SPRING PIN	10
MI16150-97	30105057	P.V.C 4"	1
MI16150-98	30105058	WASHER	2
MI16150-99	30105059	NUT	6
MI16150-100	30105060	SANDING CLOTH	1
MI16150-101	30105061	P.V.C 3"	1
MI16150-102	30105062	SANDING CLOTH	1
MI16150-103	30105063	WASHER	2
MI16150-104	301 05064	P.V.C 2"	1
MI16150-105	301 05065	SANDING CLOTH	1
MI16150-106	30105066	WASHER	2
MI16150-107	30105067	P.V.C 1-1/2"	1
MI16150-108	30105068	SANDING CLOTH	1

PARTS LIST FOR 16150

PART NO.	REF. NO.	DESCRIPTION	QTY
MI16150-109	30105069	WASHER	2
MI16150-110	30105070	P.V.C 1"	1
MI16150-111	30105071	SANDING CLOTH	1
MI16150-112	30105072	WASHER	2
MI16150-113	30105073	SANDING CLOTH	1
MI16150-114	30105074	ARBOR	1
MI16150-118	30105076	SANDING CLOTH	1
MI16150-119	30105077	ARBOR	1
MI16150-122	30105079	SANDING CLOTH	1
MI16150-124	30105080	ARBOR	1
MI16150-127	30105082	SANDING CLOTH	1
MI16150-128	S0050305	SET SCREW	4
MI16150-130	30105084	SANDING CLOTH	1
MI16150-133	30105085	ARBOR	1
MI16150-134	30101004	OIL PLUG	1
MI16150-135	30105087	BRASS BUSHING BRACKET	1
MI16150-136	30105088	SHAFT BRASS BUSHING	4
MI16150-137	30101005	KNOB	1
MI16150-138	S0010510	SCREW	4
MI16150-139	30101030a	BRACKET BASE	2
MI16150-140	S0210600c	WASHER	4
MI16150-142	10105052n	SWITCH BOX	1
MI16150-143	S0030324	SCREW	7
MI16150-143A	S0110300	NUT	3
MI16150-144	30101002j-1	VENT HOOD	1
MI16150-145	30101002JM	COLUMN	1
MI16150-146	30101003a	MOTOR BRACKET	1
MI16150-147	M3131211E	MOTOR	1
MI16150-148	S1006P1	STRAIN RELIEF BUSHING	1
MI16150-149	S0230506	SPRING WASHER	8
MI16150-150	S00t0501	HEX SCREW	12
MI16150-151	30102008a	COUPLING HEAD	1
MI16150-152	30101009a	TANK	1
MI16150-153	S0050404	SET SCREW	2
MI16150-154	30101013a	TANK LID	1
MI16150-155	WO000001	SWITCH	1
MI16150-157	S0210600	WASHER	4
MI16150-158	30101033a	REAR TRUNNION	2
MI16150-159	30101031j	LOCKING KNOB	2
MI16150-160	30101034a	DUST COVER	1
MI16150-161	S0020501	HEX SCREW	2
MI16150-162	S0110500	NUT	2
MI16150-163	30101036a	WORKING TABLE	1
MI16150-164	30101047a	SCALE	1
MI16150-165	30105051a	TABLE INSERT (MEDIUM)	1
MI16150-166	30105052a	TABLE INSERT (SMALL)	1
MI16150-167	30105053a	TABLE INSERT (LARGE)	1
MI16150-169	30101027a	FIXED ROD	1

PARTS LIST FOR 16150

PART NO.	REF. NO.	DESCRIPTION	QTY
MI16150-170	S0110600	NUT	1
MI16150-171	10401029	RUBBER FEET	4
MI16150-172	S0030512	SINKING HEAD SCREW	4
MI16150-173	S0110500	NUT	4
MI16150-175	S0050505A	SET SCREW	1
MI16150-176	30101002G-1	INDICATOR COVER	1
MI16150-177	S0720302	RIVET	1
MI16150-178	30101025Z	TOOL HOOK	2
MI16150-180		ALLEN WRENCH	1
MI16150-181		RED STOP COVER	1