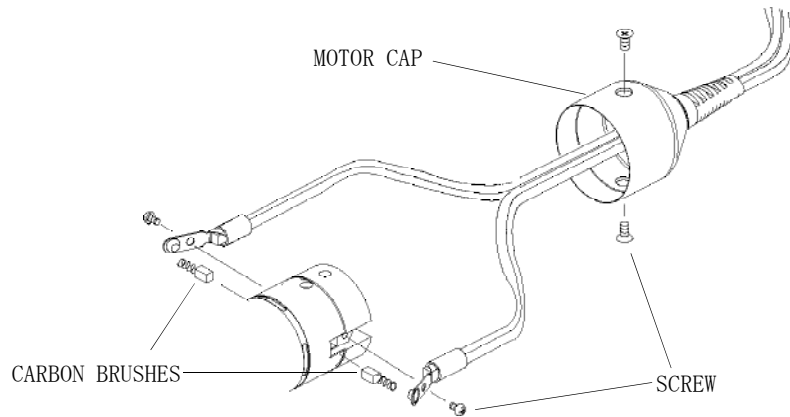


4. MAINTENANCE

4-1. CHANGING THE CARBON BRUSHES

WHEN THE CARBON BRUSHES ARE WORN OUT, THE ROTATION OF THE MOTOR BECOMES UNSTABLE OR EVEN DOES NOT RUN. IN SUCH A CASE, REPLACE THE CARBON BRUSHES WITH A PAIR.

- 1). TAKE OUT THE SCREWS ON THE MOTOR CAP.
- 2). PULL THE MOTOR CAP A LITTLE.
- 3). TAKE OUT THE SCREWS ON EACH TERMINALS.
- 4). PULL OUT THE SPRING ATTACHED TO THE CARBON BRUSHES.
- 5). INSERT THE NEW CARBON BRUSHES AND PUT THE TERMINALS BACK.
- 6). FINALLY, PUT THE MOTOR CAP BACK.



4-2. CHANGING THE FUSE

IF THE FUSE IN THE POWER PACK IS BURNED OUT REPLACE IT WITH THE NEW ONE. SEE THE INSTRUCTION MANUAL OF THE POWER PACK TO CHANGE THE FUSE.

5. TROUBLE SHOOTING

☆ THE MOTOR DOES NOT OPERATE.

- CHECK IF THE AC CABLE IS CERTAINLY PLUGGED IN.
- CHECK IF THE FUSE OF THE POWER PACK IS BURNED OUT.
- CHECK IF THE CURLED CORD IS CERTAINLY CONNECTED.
- CHECK IF THE CARBON BRUSH OF THE MOTOR IS WORN OUT.

MINITOR CO., LTD. JAPAN

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Phone 03-3633-7181 Fax 03-3633-7186

INSTRUCTION MANUAL

HOBBYTOR-A HBA

READ FOLLOWING INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING TO USE.
KEEP THIS MANUAL ALWAYS IN THE VICINITY OF USE FOR YOUR REFERENCE.
BEFORE USING THE UNIT, CHECK IF THERE ARE ANY DAMAGES ON THE UNIT DUE TO TRANSPORT CONDITIONS. IF ANY DAMAGES ARE FOUND, CONTACT OUR MINIMO DEALER.

SAFETY PRECAUTIONS

⚠ WARNING (INDICATES THAT INCORRECT OPERATION PRESENTS SIGNIFICANT DANGER OF ACCIDENT RESULTING IN DEATH OR SERIOUS INJURY TO THE USER.)

- WEAR AN APPROPRIATE EYE PROTECTION AND A DUST PROTECTING MASK WHEN USING THE HANDPIECE.
- TURN OFF THE MAIN SWITCH IMMEDIATELY AND UNPLUG THE AC CABLE WHEN ONE OR MORE OF THE FOLLOWINGS ARE RECOGNIZED. SMOKING; NASTY SMELL; STRANGE NOISE.
- DO NOT DISASSEMBLE AND REMODEL THE UNIT. ANY ACCIDENT OR MALFUNCTION CAUSED BY DISASSEMBLING AND/OR REMODELING WILL NOT BE COVERED BY OUR RESPONSIBILITY.
- NEVER PUSH THE SENTAN TOOL HARD ONTO THE WORKPIECE. EXCESSIVE FORCE ON THE TOOL WILL CAUSE DAMAGE TO THE TOOL AND ALSO REDUCE THE POWER OF THE MOTOR.
- WHEN TURNING ON THE POWER SWITCH, HOLD THE HANDPIECE FIRMLY.
- DO NOT TOUCH ANY REVOLVING BODIES SUCH AS SENTAN TOOL AND COLLET CHUCK.

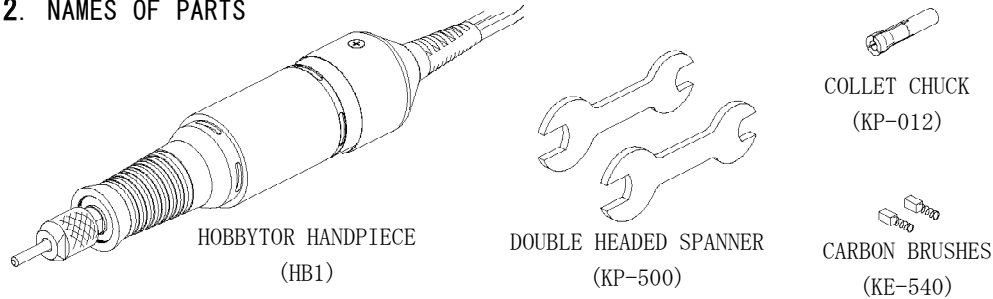
⚠ CAUTION (INDICATES THAT INCORRECT OPERATION PRESENTS POSSIBILITY OF INJURY TO THE USER OR DAMAGE TO THE UNIT.)

- DO NOT USE THE UNIT IN EXCESSIVELY HUMID PLACE. THE CONDENSATION OF VAPOR ON AND/OR INSIDE OF THE UNIT CAUSES A MALFUNCTION OF THE UNIT, A SHORT CIRCUIT, FIRE OR AN ELECTRIC SHOCK
- DO NOT USE THE UNIT WHERE CORROSIVE GASES AND CHEMICALS POSSIBLY EXIST.
- THE AMBIENT TEMPERATURE SHOULD BE IN THE RANGE OF 0° ~ 40° C
- KEEP THE UNIT AWAY FROM CHILDREN.
- AVOID ANY HEAVY IMPACT TO THE UNIT. DO NOT DROP!
- KEEP ALL LIQUIDS SUCH AS OIL, WATER, AND ETC. OFF THE UNIT. THIS MAY CAUSE A MALFUNCTION OF THE UNIT, CATCH FIRE AND/OR GET AN ELECTRIC SHOCK.
- READ THE INSTRUCTION MANUAL OF THE MOTOR AND THE POWER PACK AS WELL.

1. PACKING LIST

- ◇ HOBBYTOR HANDPIECE (HB1) WITH THE COLLET CHUCK ϕ 2.34 1PC.
- ◇ DOUBLE HEADED SPANNER (KP-500) 2PC.
- ◇ COLLET CHUCK ϕ 3.0mm (KP-012) 1PC.
- ◇ CARBON BRUSH (KE-540) 1SET.
- ◇ POWER PACK 1PC.
- ◇ FUSE 3A (FUSE-3A-S) 0.5A (FUSE-0.5A) ONE OF EACH

2. NAMES OF PARTS



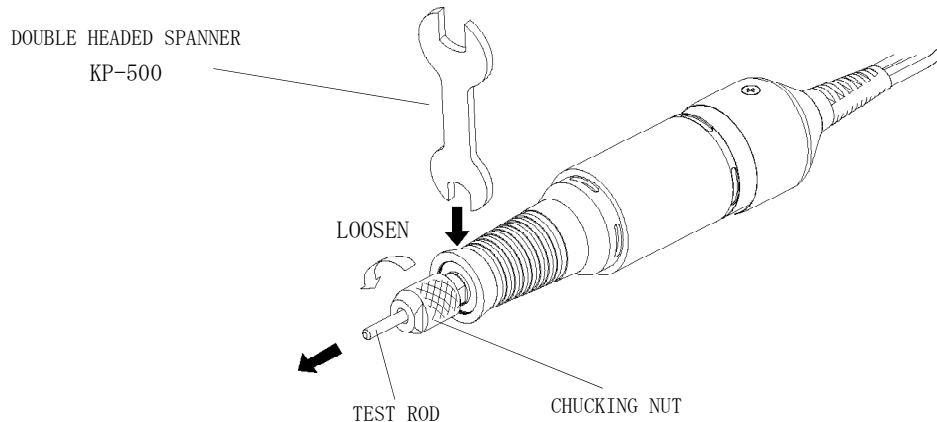
3. INSTALLATION

3-1. CHANGING THE SENTAN TOOLS

⚠ ALWAYS KEEP THE POWER OFF WHEN CHANGING THE TOOLS.

- 1) HOOK THE SPANNER (KP-500) AT THE KEY GROOVE ON THE SPINDLE AS SHOWN IN THE FIGURE BELOW.
- 2) LOOSEN THE CHUCKING NUT.
- 3) TAKE OUT THE TEST ROD OR THE SENTAN TOOL AND INSERT THE NEW TOOL.
- 4) TIGHTEN THE CHUCKING NUT BY HAND.
- 5) CHECK IF THE TOOL IS SET FIRMLY BEFORE STARTING THE MOTOR.

* WHEN THE CHUCKING NUT IS TOO HARD TO TURN, USE ANOTHER SPANNER (KP-500) HOOKING THE CHUCKING NUT TO TURN.

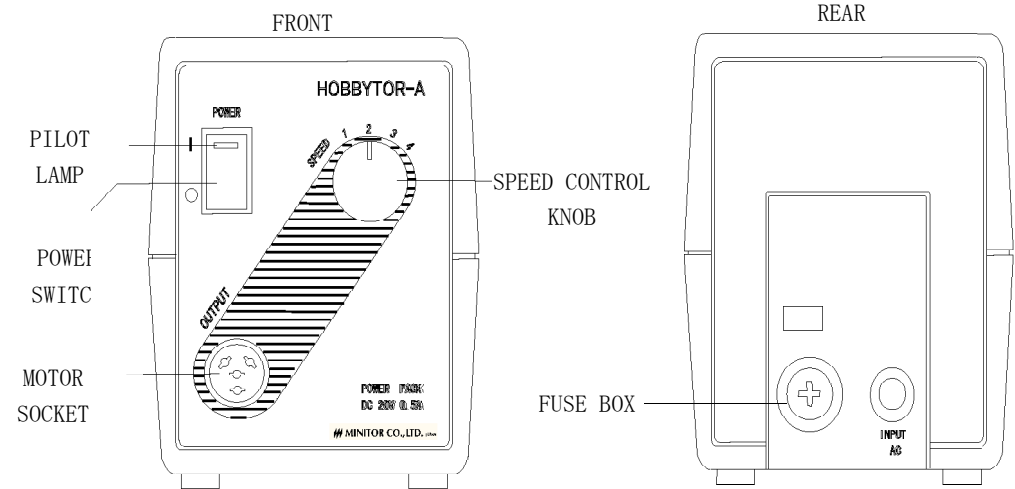


3-2. CONNECTING TO THE POWER PACK

PLUG IN THE HOBBYTOR HANDPIECE AT THE MOTOR SOCKET ON THE FRONT PANEL OF THE POWER PACK (C271/272/273).

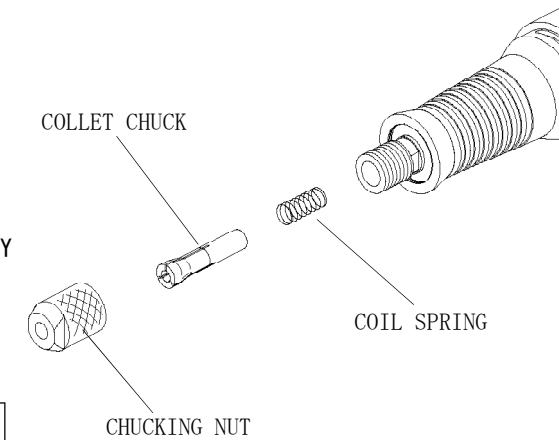
※ ALWAYS HOLD THE HANDPIECE FIRMLY WHEN TURNING ON THE POWER.

WHEN TURNING ON THE POWER SWITCH THE PILOT LAMP WILL LIGHT ON AND THE MOTOR WILL START TO RUN.



3-3. CHANGING THE COLLET CHUCK

- 1) TAKE OUT THE CHUCKING NUT BY UNSCREWING IT.
- 2) THEN, EXCHANGE THE COLLET CHUCK WITH NEW ONE.
- 3) SCREW IN THE CHUCKING NUT.
- 4) INSERT THE SENTAN TOOL AND TIGHTEN THE LOCK NUT BY HAND.
- 5) MAKE SURE THE TOOL IS SET FIRMLY BEFORE STARTING THE MOTOR.



3-4. THE COLLET CHUCK OPTIONS

DIAMETER	ϕ 2.34	ϕ 3.0	ϕ 3.175
CODE NO.	KP-011	KP-012	KP-013