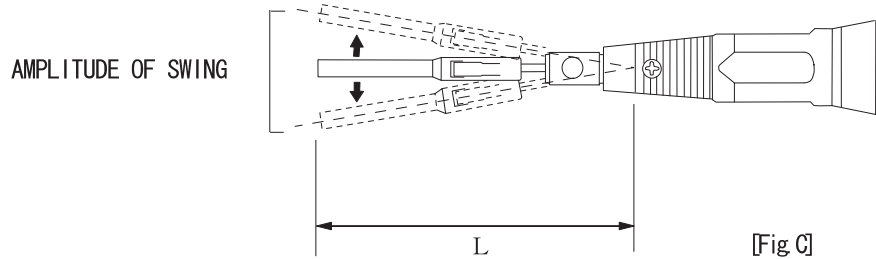


## 5. CALCULATION FOR THE SWING

$$\text{AMPLITUDE OF SWING} = \frac{V \times L}{23} \quad (\text{mm}) \quad (\text{SEE Fig. C})$$

V:THE SCALE READING ON THE MAIN SHAFT

L:LENGTH FROM THE SWING AXIS LINE TO THE TOP OF THE SENTAN TOOL(mm)



## 6. MAINTENANCE

- THE CHIPS AND DUST MAY COLLECT IN THE V-SHAPE CHUCK.  
CLEAN IT BY BLOWING AIR OR VACUUM OUT WITH REMOVING THE TOOL FROM THE CHUCK AFTER USE.
- WHEN THE HANDPIECE GETS DIRT, WIPE OUT WITH THE CLOTH MOISTENED WITH LUKE WARM WATER OR DETERGENT.

## 7. 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.

☆ THE REMOTE SWITCH DOES NOT OPERATE.

- CHECK IF THE FOOT SWITCH IS CONNECTED TO THE POWER PACK.
- CHECK IF THE POWER PACK IS EITHER MINIMO 1 SERIES OR 7 SERIES.

# MINITOR CO., LTD. JAPAN

21-1 Ryogoku 3-chome, Sumida-ku, Tokyo 130-0026 JAPAN  
Phone +81 3 (6630) 5800 FAX +81 3 (6630) 5795

ONE

Minimo 1 SERIES

# INSTRUCTION MANUAL

H 3 1 1 RUBRON HEAD

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.)

- Do not start to run the handpiece while its collect chuck opens. Failure to do so could cause the motor to be overheated, resulting in fire or failure.
- Make sure whether or not the handpiece runs after switching on. If the handpiece does not run after switching on, stop using it. Failure to do so could cause the motor to be overheated, resulting in fire or failure.
- 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 MOVING BODIES SUCH AS SENTAN TOOL AND SWINGING HEAD.

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

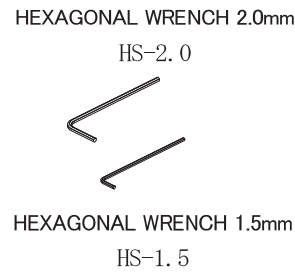
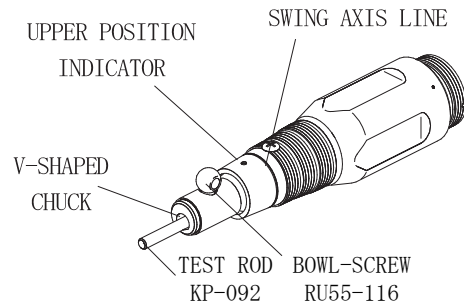
- DO NOT USE THE UNIT IN EXCESSIVELY HUMID PLACE. THE CONDENSATION OF VAPOR ON AND/OR INSIDE OF THE UNIT CAUSES A MALFUNCTION OF THE UNIT, A SHORT CIRCUIT, FIRE OR AN ELECTRIC SHOCK
- DO NOT USE THE UNIT WHERE CORROSIVE GASES AND CHEMICALS POSSIBLY EXIST.
- THE AMBIENT TEMPERATURE SHOULD BE IN THE RANGE 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. SPECIFICATION • PACKING LIST

(The accessory tools are subject to change without any notice.)

- |  |                                   |            |
|--|-----------------------------------|------------|
| ◇ RATED SPEED : 8,000min <sup>-1</sup> | ◇ LOCK-SCREW M4x5 (AKM4x5)        | • • • 1pc. |
| ◇ RATED ELECTRODE EXTENSION : 60mm     | ◇ HEXAGONAL WRENCH 2.0mm (HS-2.0) | • • • 1pc. |
| ◇ APLICABLE MOTORS : KM212L, KM112G    | ◇ HEXAGONAL WRENCH 1.5mm (HS-4.5) | • • • 1pc. |

## 2. NAMES OF PARTS



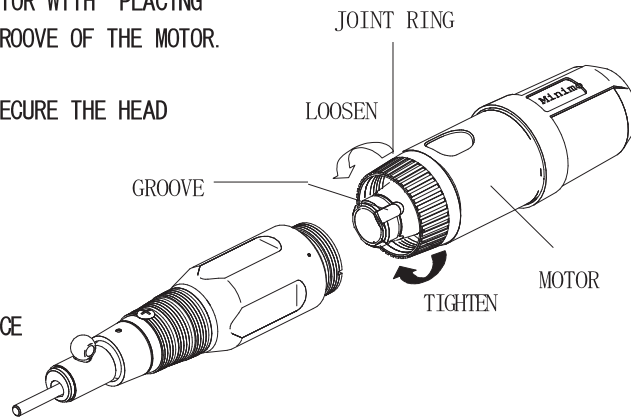
## 3. INSTALLATION

### 3-1. ATTACHING TO THE MOTOR

**⚠ NOTE: FOR YOUR SAFETY, DO NOT CONNECT THE MOTOR TO THE POWER PACK WHEN ATTACHING OR DETACHING THE HEAD TO THE MOTOR.**

- 1) INSERT THE HEAD ONTO THE MOTOR WITH PLACING THE CLAW OF THE HEAD IN A GROOVE OF THE MOTOR.
- 2) TIGHTEN THE JOINT RING TO SECURE THE HEAD IN POSITION.

\* 4 GROOVES ARE PROVIDED ON THE MOTOR SO THAT YOU CAN CHOOSE A SUITABLE REMOTE SWITCH POSITION IN ACCORDANCE WITH YOUR OPERATION CONDITIONS.



CAUTION

WHEN TURNING ON THE POWER SWITCH, HOLD THE HANDPIECE FIRMLY.

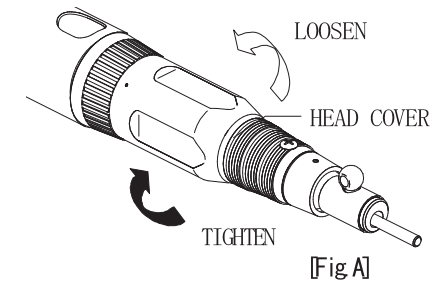
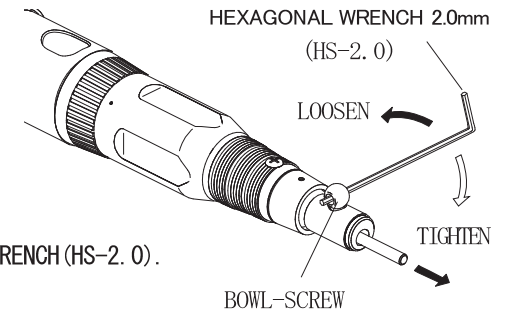
## 3-2. CHANGING THE SENTAN TOOLS

**⚠ ALWAYS KEEPS THE MAIN SWITCH OFF ON THE POWER PACK WHEN CHANDING THE TOOLS.**

\*THE SHANK DIAMETER OF SENTAN TOOL TO BE ABLE TO CHUCK IS  $\phi 1.5 \sim 4.7\text{mm}$

- 1) LOOSEN THE BOWL-SCREW WITH A HEXAGONAL WRENCH (HS-2.0). REMOVE THE TEST ROD OR SENTAN TOOL.
- 2) INSERT A DESIRED SENTAN TOOL IN THE V-SHAPED CHUCK.
- 3) TIGHTEN THE BOWL-SCREW SECURELY.

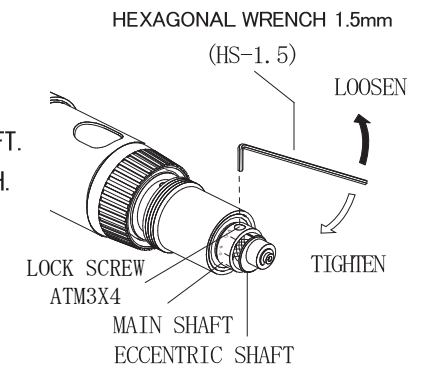
\*MAKE SURE THE TOOL IS SET FIRMLY.  
\*IF THE BOWL-SCREW IS INCONVENIENT FOR YOUR WORK, SUBSTITUE WITH THE LOCK-SCREW M4X5 PROVIDED FOR AN ACCESSORY. THE HEXAGONAL WRENCH (HS-1.5) IS TO USE TIGHTENING AND LOOSENING THE LOCK-SCREW.



## 4. ADJUSTING THE SWING

- 1) REMOVE THE HEAD HOUSING BY TURNING COUNTERCLOCKWISE. (SEE Fig. A)
- 2) LOOSEN THE LOCK-SCREW WITH THE HEXAGONAL WRENCH (HS-1.5). (SEE Fig. B)
- 3) ADJUST THE RED LINE ON THE ECCENTRIC SHAFT (THE KNURLED KNOB) TO THE SCALE ON THE MAIN SHAFT.
- 4) TIGHTEN THE LOCK-SCREW WITH THE HEXAGONAL WRENCH.
- 5) SET THE HEAD HOUSING BACK BY TURNING CLOCKWISE.

\*MAKE SURE THE HEAD HOUSING IS SET FIRMLY.



[Fig B]