OPERATION MANUAL

425-RN *Heavy Duty & Professional*
HAND RIVET NUT & ★RIVET BOLT/STUD TOOL
with Quick-Drill Unit

- This Illustrated Operation Manual includes the FEATURES, SPECIFICATIONS, PARTS LIST, OPERATION INSTRUCTIONS, MAINTENANCE and TROUBLESHOOTING.
- Before operating this TOOL, please MUST read this Illustrated OPERATION MANUAL carefully to ensure Safe, Correct and Satisfactory Operation.

★ 425-RN can be also served as the RIVET BOLT/STUD TOOL with the Optional THREADED SOCKETS on request.

- PATENTS U.S.A. 5,771,738 WORLDWIDE PATENT PENDING

marson 425-RN *Professional & Heavy Duty* HAND RIVET NUT TOOL With Quick-Drill Unit

A. FEATURES

- **425-RN** RIVET NUT TOOL is designed to fasten **RIVET NUTS** with the **THREADED MANDRELS**, from 10-24/32 up to 3/8-16 or from M5 x 0.8 up to M10 x 1.5, in all materials (Aluminum, Steel and Stainless Steel/Inox) firmly and build up enough **Female Threads** securely in the thin base metals and pipes with weldless, tapping-free and one-side work in order to fasten with **Bolts**.
- **425-RN** is also designed to set **RIVET BOLTS/STUDS** with the optional **THREADED SOCKETS**, from 10-24/32 up to 5/16-18 or from M5 x 0.8 up to M8 x 1.25, in all materials (Aluminum, Steel and Stainless Steel/Inox) firmly and build up enough **Male Threads** securely on the thin base metals and pipes with weldless and one-side work in order to fasten with **Nuts**.
- **425-RN** is equipped with a **QUICK-DRILL UNIT**, just "Push & Pull" the DRILL UNIT KNOB to drive THREADED MANDREL or THREADED SOCKET to engage with and release from RIVET NUT or RIVET BOLT/STUD quickly!
- **425-RN** is equipped with a **worldwide patented FIXING-HOLES DEVICE**, simply inserts the FIXING-HOLE PIN not only to solve the headache problem of RIVET NUT stuck on the working THREADED MANDREL or RIVET BOLT/STUD stuck in the working THREADED SOCKET that might happen when engaging with or fastening RIVET NUT or RIVET BOLT/STUD, but also to assist THREADED MANDREL or THREADED SOCKET to mount to or dismount from the TOOL easily just with a single SERVICE WRENCH.

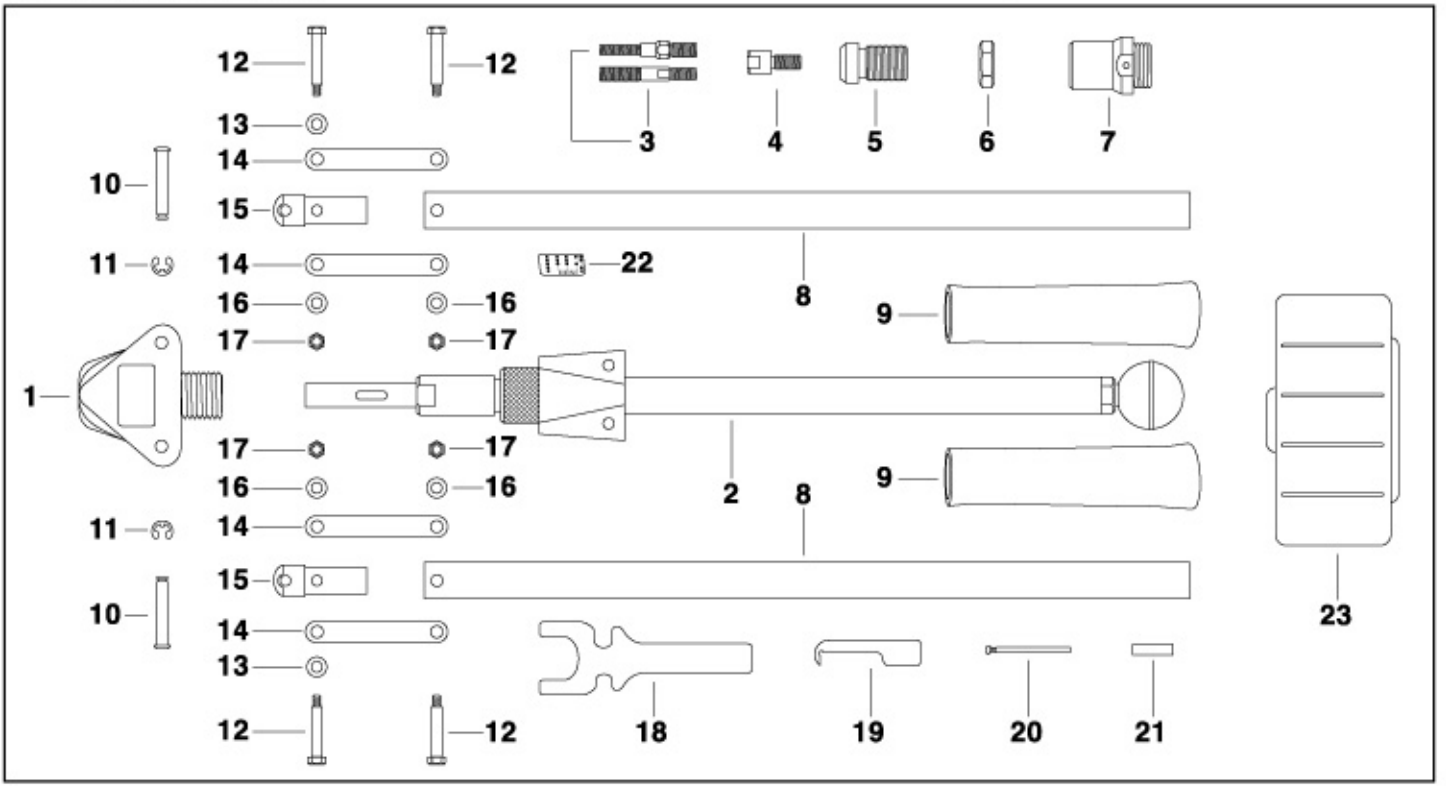
B. SPECIFICATIONS

- **425-RN Tool Dimensions and Net Weight:**
  Dimensions (Closed type): L 530 x W 130 mm. Net Weight: 2.15 kgs.
- **425-RN Working Capacity:**
  1) RIVET NUTS/THREADED INSERTS Materials: Aluminum, Steel, Stainless Steel/Inox
     UN Inch Thread Size: 8-32, 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16. **Or**
     ISO Metric Thread Size: M4x0.7, M5x0.8, M6x1.0, M8x1.25, M10x1.5.
  *2) RIVET BOLTS/STUDS Materials: Aluminum, Steel, Stainless Steel/Inox
     UN Inch Thread Size: 10-24, 10-32, 1/4-20, 5/16-18. **Or**
     ISO Metric Thread Size: M5x0.8, M6x1.0, M8x1.25.
  * 425-RN can fasten RIVET BOLTS/STUDS with the optional THREADED SOCKETS on request.
- **Standard Parts for 425-RN Single Tool:**
  1) THREADED MANDRELS:
     UN Inch Thread Size 1/4-20 1 pc. **Or** ISO Metric Thread Size M6x1.0 1 pc.
  2) NOSEPIECES: UN Inch Size 1/4 1 pc. **Or** ISO Metric Size: M6 1 pc.
  3) NOSEPIECE LOCK NUT, SERVICE WRENCH, SMALL RULE, FIXING-HOLE PIN, PIN RETAINER, PARTS PLASTIC BOX, OPERATION MANUAL: 1 pc of each.
- **Optional Parts for 425-RN Single Tool:**
  1) THREADED MANDRELS:
     UN Inch Thread Size: 8-32, 10-24, 10-32, 1/4-28, 5/16-18, 3/8-16. **Or**
     ISO Metric Thread Size: M4x0.7, M5x0.8, M8x1.25, M10x1.5.
  2) NOSEPIECES: UN Inch Size: #8, #10, 5/16, 3/8. **Or** ISO Metric Size: M4, M5, M8, M10.
  3) THREADED SOCKETS (to fasten RIVET BOLTS/STUDS):
     UN Inch Thread Size: 10-24, 10-32, 1/4-20, 5/16-18. **Or**
     ISO Metric Thread Size: M5x0.8, M6x1.0, M8x1.25.
- **Standard Parts for 425-RNK Kit:**
  1) THREADED MANDRELS:
     UN Inch Thread Size: 10-24, 10-32, 1/4-20, 5/16-18, 3/8-16: 1 pc of each. **Or**
     ISO Metric Thread Size: M5x0.8, M6x 1.0, M8x1.25, M10x1.5: 1 pc of each.
  2) NOSEPIECES: UN Inch Size: #10, 1/4, 5/16, 3/8: 1 pc of each. **Or**
     ISO Metric Size: M5, M6, M8, M10: 1 pc of each.
  3) NOSEPIECE LOCK NUT, SERVICE WRENCH, SMALL RULE, FIXING-HOLE PIN, PIN RETAINER, PARTS PLASTIC BOX, OPERATION MANUAL: 1 pc of each.
- **Optional Parts for 425-RNK Kit:**
  1) THREADED MANDRELS:
     UN Inch Thread Size: 8-32, 1/4-28. **Or** ISO Metric Thread Size: M4x0.7.
  2) NOSEPIECES: UN Inch Size: #8. **Or** ISO Metric Size: M4.
  3) THREADED SOCKETS (to fasten RIVET BOLTS/STUDS):
     UN Inch Thread Size: 10-24, 10-32, 1/4-20, 5/16-18. **Or**
     ISO Metric Thread Size: M5x0.8, M6x1.0, M8x1.25.

marson 425-RN *Professional & Heavy Duty* HAND RIVET NUT TOOL With Quick-Drill Unit

C. PARTS LIST

PATENTS U.S.A. 5,771,738 WORLDWIDE PATENT PENDING



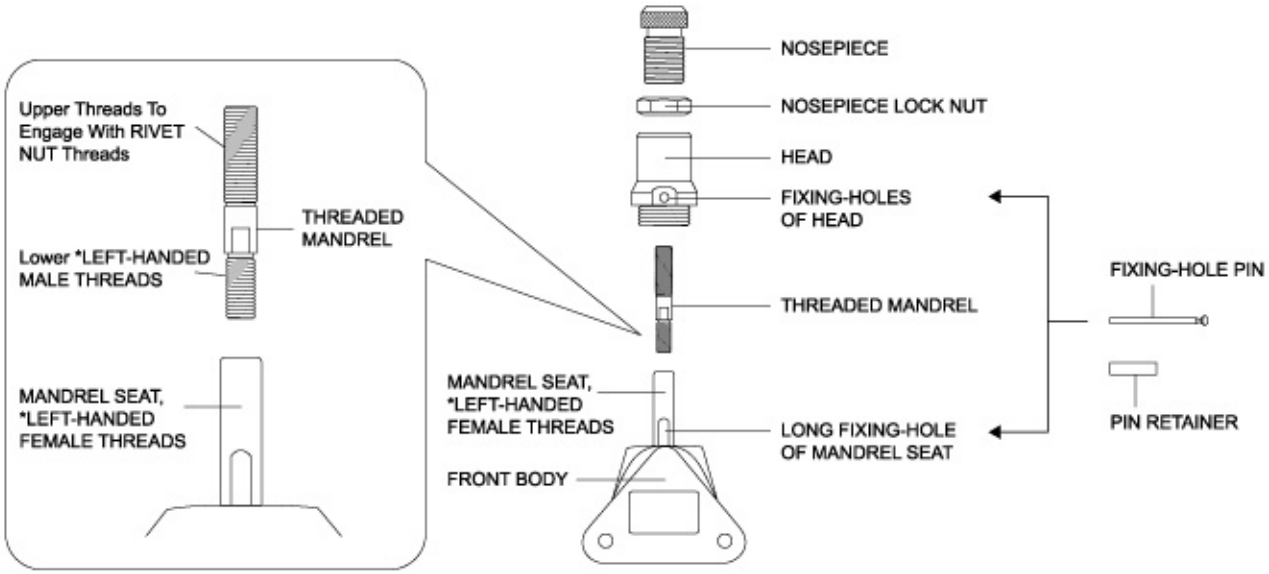
No.	Part No.	Part Name
1	M95601	Front Body
2	M95659	Quick-Drill Unit, Complete Set
3-M4	M95629	Threaded Mandrel, M4x0.7
3-M5	M95630	Threaded Mandrel, M5x0.8
3-M6	M95631	Threaded Mandrel, M6x1.0
3-M8	M95632	Threaded Mandrel, M8x1.25
3-M10	M95633	Threaded Mandrel, M10x1.5
3-832	M95634	Threaded Mandrel, 8-32
3-1024	M95635	Threaded Mandrel, 10-24
3-1032	M95636	Threaded Mandrel, 10-32
3-1420	M95637	Threaded Mandrel, 1/4-20
3-1428	M95652	Threaded Mandrel, 1/4-28
3-51618	M95638	Threaded Mandrel, 5/16-18
3-3816	M95639	Threaded Mandrel, 3/8-16
4-M5	M34645	Threaded Socket, M5x0.8
4-M6	M34647	Threaded Socket, M6x1.0
4-M8	M34648	Threaded Socket, M8x1.25
4-1024	M34635	Threaded Socket, 10-24
4-1032	M34636	Threaded Socket, 10-32
4-1420	M34637	Threaded Socket, 1/4-20
4-51618	M34638	Threaded Socket, 5/16-18
5-M4	M95646	Nosepiece, for M4
5-M5	M95640	Nosepiece, for M5
5-M6	M95641	Nosepiece, for M6
5-M8	M95642	Nosepiece, for M8
5-M10	M95643	Nosepiece, for M10
5-8	M95644	Nosepiece, for #8
5-10	M95645	Nosepiece, for #10
5-14	M95647	Nosepiece, for 1/4"
5-516	M95648	Nosepiece, for 5/16"
5-38	M95649	Nosepiece, for 3/8"
6	M95606	Nosepiece Lock Nut
7	M95607	Head
8	M95608	Handle
9	M95609	Grip
10	M95612	Long Pin

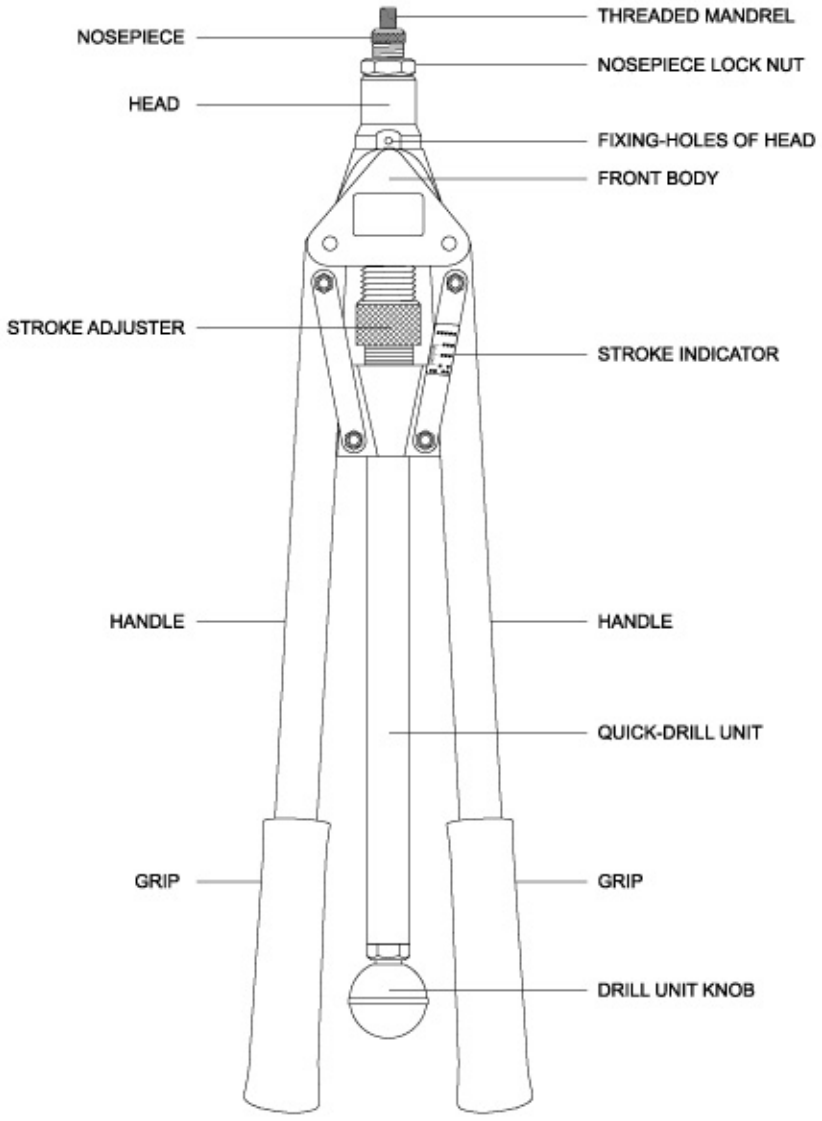
No.	Part No.	Part Name
11	M95613	Retaining Ring
12	M95614	Short Bolt Pin
13	M95615	Washer, 12x6
14	M95611	Connecting Bar
15	M95610	Joint
16	M95617	Washer, 10x5
17	M95616	Nylon Nut, M5
18	M95618	Service Wrench
19	M95623	Small Rule
20	M95619	Fixing-Hole Pin
21	M95620	Pin Retainer
22-A	M95624	Stroke Indicator, Inch Size
23	M95622	Mandrel/Nosepiece Plastic Container

Not Shown

	M34610	Complete set UN Inch Mandrels & Nosepieces
	M34613	Complete set Metric Mandrels & Nosepieces
	M34615	10-24 Mandrel and Nosepiece
	M34616	10-32 Mandrel and Nosepiece
	M34617	1/4-20 Mandrel and Nosepiece
	M34621	1/4-28 Mandrel and Nosepiece
	M34618	5/16-18 Mandrel and Nosepiece
	M34619	3/8-16 Mandrel and Nosepiece
	M34625	5mm Mandrel and Nosepiece
	M34626	6mm Mandrel and Nosepiece
	M34627	8mm Mandrel and Nosepiece
	M34628	10mm Mandrel and Nosepiece
	M95621	Steel Carrying Case
	M95625	Plastic Carrying Case

D. MAIN PARTS NAME



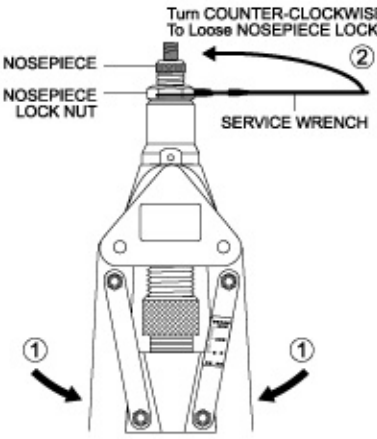


E. HOW TO CHANGE THREADED MANDREL AND NOSEPIECE

PRECAUTION :

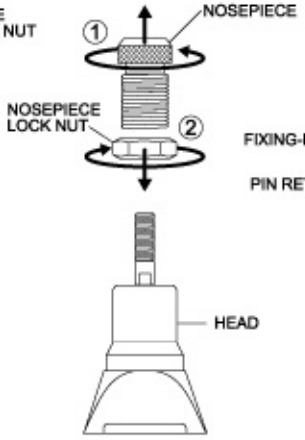
Check the Thread Size of Fastening BOLT and WORKPIECE Thickness to determine the Thread Size, Grip Range, Material and Type of RIVET NUT, then drill or punch the correct size of Hole in the WORKPIECE to fasten RIVET NUT. The Working Size of THREADED MANDREL and NOSEPIECE should be same as the Thread Size of RIVET NUT.

1



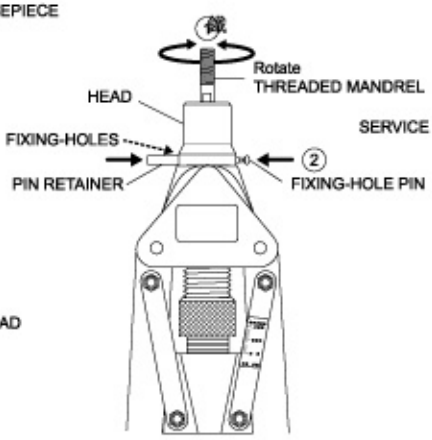
Close 2 HANDLES completely①, use SERVICE WRENCH to loose NOSEPIECE LOCK NUT by turning Counter-Clockwise②.

2



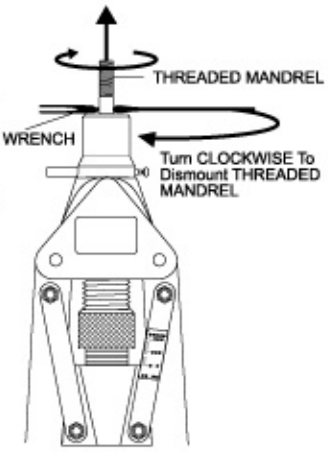
Use Hand to unscrew NOSEPIECE and NOSEPIECE LOCK NUT from HEAD①, then dismount NOSEPIECE LOCK NUT from NOSEPIECE②.

3



Use Hand to rotate THREADED MANDREL to align 2 FIXING-HOLES of HEAD with inside LONG FIXING-HOLE of MANDREL SEAT①, then insert FIXING-HOLE PIN through the FIXING-HOLES and put PIN RETAINER onto FIXING-HOLE PIN End②. The free rotation of MANDREL SEAT is locked.

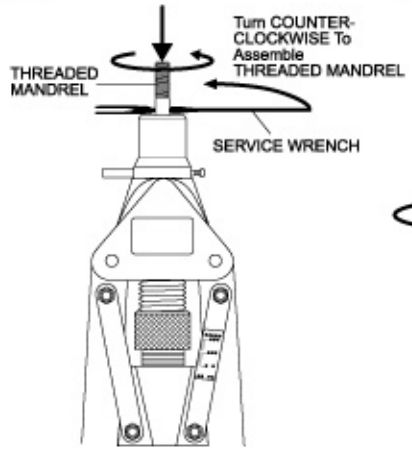
4



Use SERVICE WRENCH and Hand to loose and dismount THREADED MANDREL from MANDREL SEAT by turning Clockwise.
(NOTE: MANDREL SEAT has Left-Handed Female Threads.)

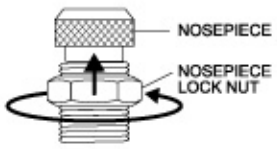
Now the TOOL is ready for changing another size of THERADED MANDREL and NOSEPIECE.

5



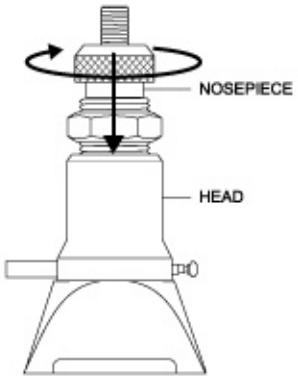
Use Hand and SERVICE WRENCH to assemble the working size of THREADED MANDREL into MANDREL SEAT firmly by turning Counter-Clockwise.
(NOTE: MANDREL SEAT has Left-Handed Female Threads.)

6



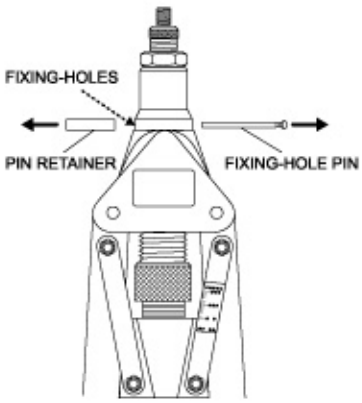
Use Hand to assemble NOSEPIECE LOCK NUT onto the working size of NOSEPIECE.

7



Use Hand to screw NOSEPIECE into HEAD by turning Clockwise.

8



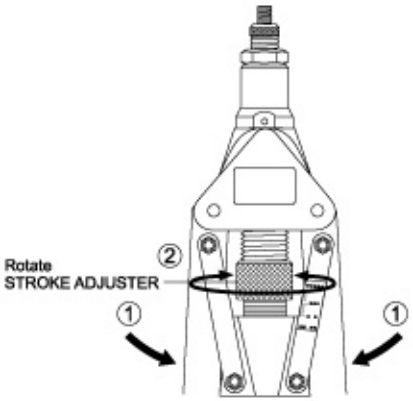
Finally, take off PIN RETAINER and pull FIXING-HOLE PIN from the FIXING-HOLES.

F. HOW TO ADJUST STROKE DISTANCE

[WARNING]

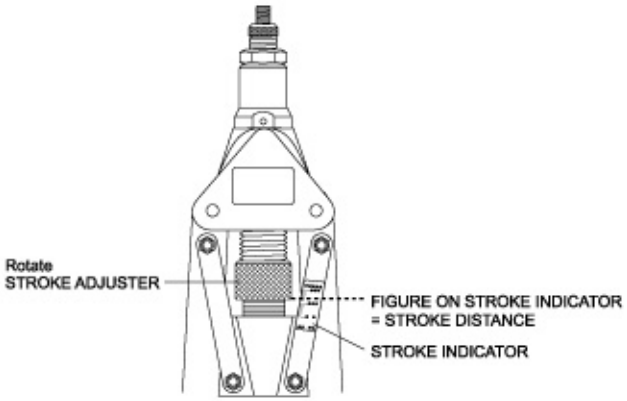
- **The proper Stroke Distance is decided as per the WORKPIECE Thickness and the Grip Range of RIVET NUT. Each RIVET NUT has its own Grip Range, the Maximum Grip and Minimum Grip.**
- **The WORKPIECE Thickness must be WITHIN the Grip Range of RIVET NUT or BETWEEN the Maximum Grip and Minimum Grip of RIVET NUT for safe and firm fastening.**
- **If the Maximum Grip of RIVET NUT is SMALLER than the WORKPIECE Thickness, this TOOL and RIVET NUT Threads might be damaged.**
- **If the Minimum Grip of RIVET NUT is LARGER than the WORKPIECE Thickness, this RIVET NUT can not be gripped firmly in the WORKPIECE.**
- **Adjusting TOO LONG Stroke Distance might damage this TOOL and RIVET NUT Threads, while TOO SHORT Stroke Distance can not fasten RIVET NUT firmly in the WORKPIECE.**

1



Close 2 HANDLES completely ①, rotate STROKE ADJUSTER ② to adjust the proper Stroke Distance in 2 popular ways.

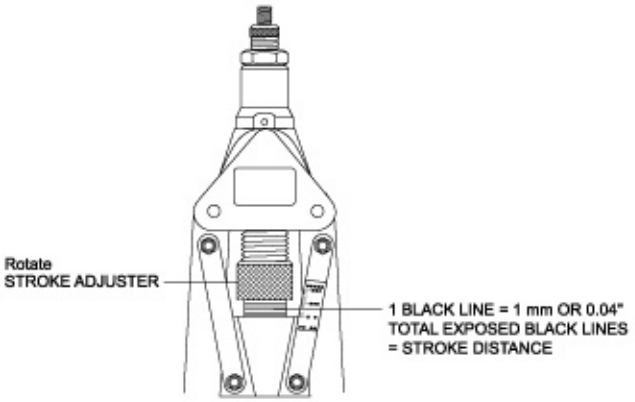
2



First Way: Rotate STROKE ADJUSTER to find out the Figure on the STROKE INDICATOR parallel with the Bottom Edge of the STROKE ADJUSTER:

Figure on STROKE INDICATOR = Stroke Distance

3

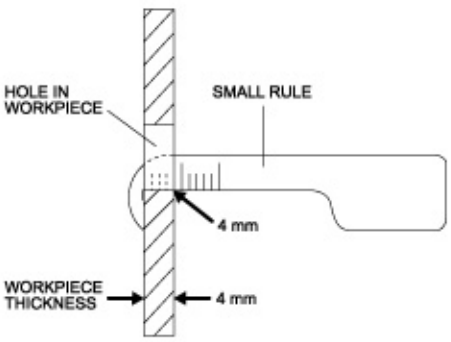


Second Way: Rotate STROKE ADJUSTER to find out the Total Exposed Black Lines of the STROKE INDUCATING LINES:

1 Black Line = 1 mm or 0.04¨ Stroke Distance

Total Exposed Black Lines = Stroke Distance

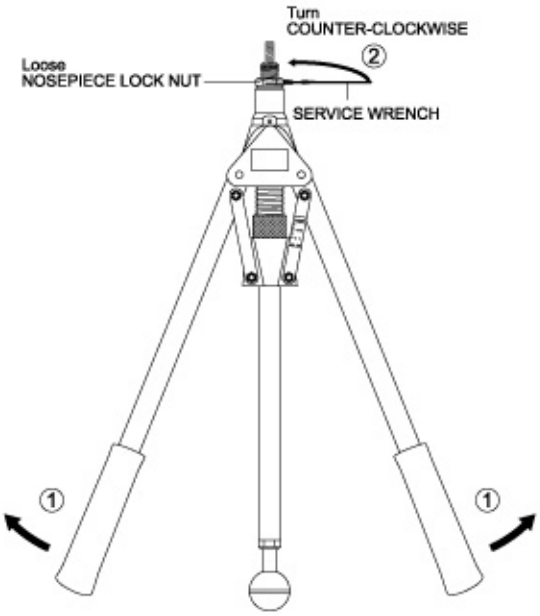
NOTE



NOTE: The SMALL RULE is specially designed to measure the WORKPIECE Thickness.

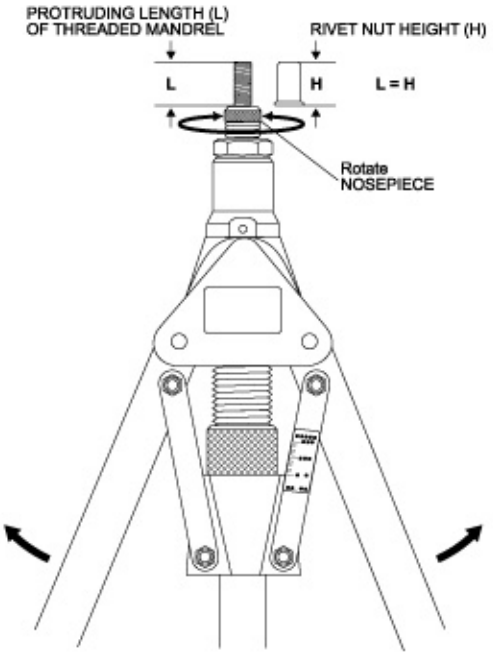
G. HOW TO ADJUST THE PROTRUDING LENGTH (L) OF THREADED MANDREL

1



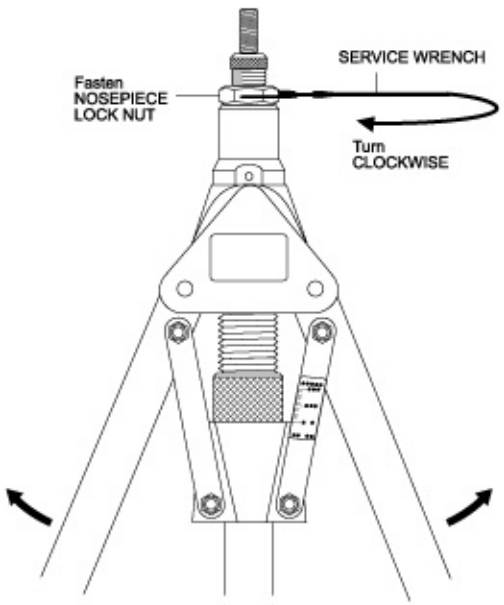
Open 2 HANDLES fully ①, use SERVICE WRENCH to loose NOSEPIECE LOCK NUT by turning Counter-Clockwise②.

2



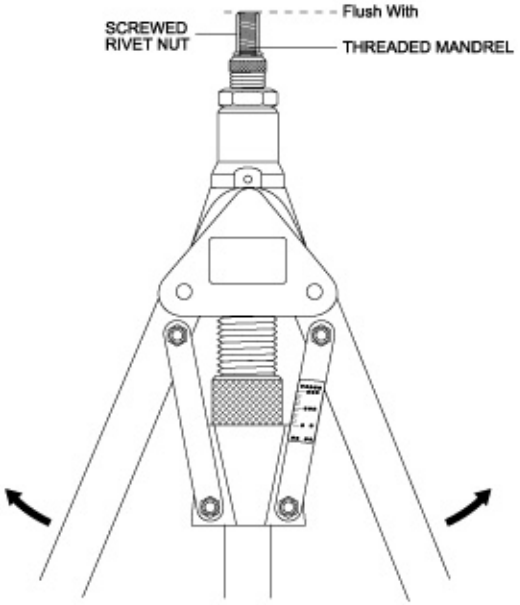
Use Hand to rotate NOSEPIECE to adjust the **Protruding Length (L) of THREADED MANDREL** to be same as the **RIVET NUT Height (H), L = H** .

3



Finally use SERVICE WRENCH to fasten NOSEPIECE LOCK NUT by turning Clockwise.

NOTE



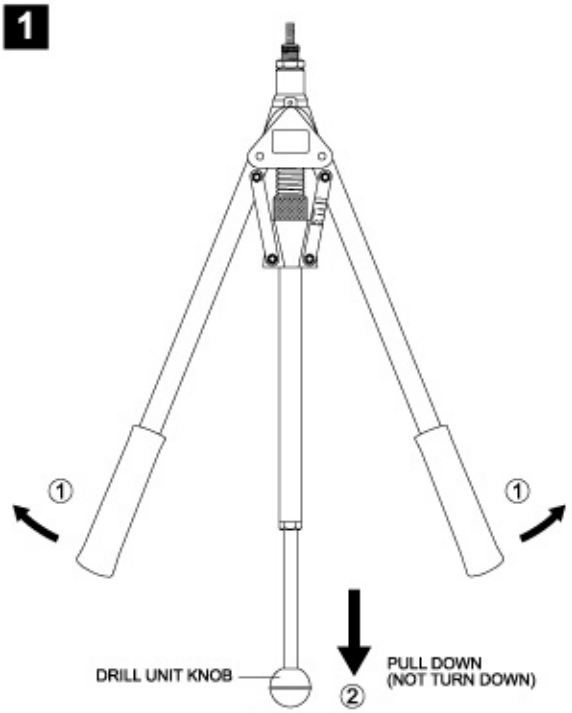
NOTE: After adjusting the Protruding Length(L) of THREADED MANDREL, the Screwed RIVET NUT should be flush with the THREADED MANDREL.

H. HOW TO OPERATE THIS TOOL TO SET RIVET NUT

PRECAUSION:

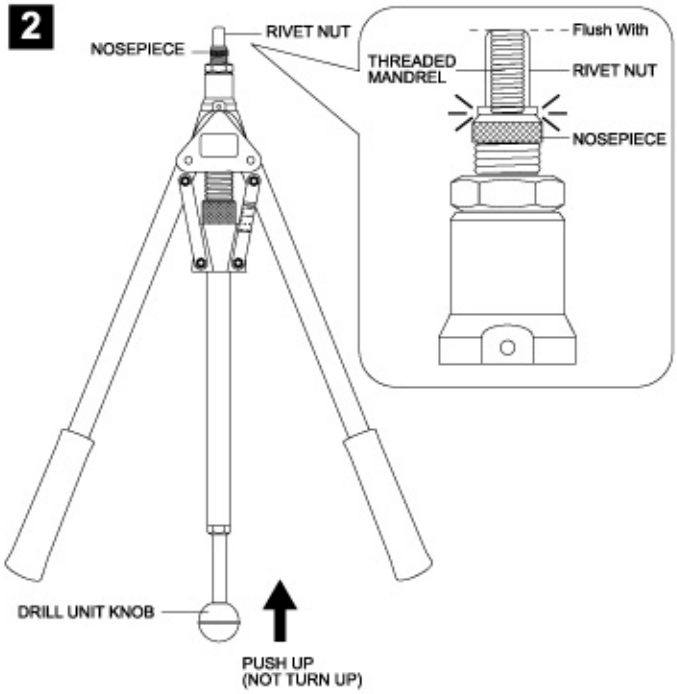
Before operating this TOOL, it is strongly requested to follow the above "E" to install the correct size of THREADED MANDREL and NOSEPIECE, the above "F" to adjust the proper Stroke Distance, and the above "G" to adjust the suitable Protruding Length (L) of THREADED MANDREL for engaging with RIVET NUT.

1



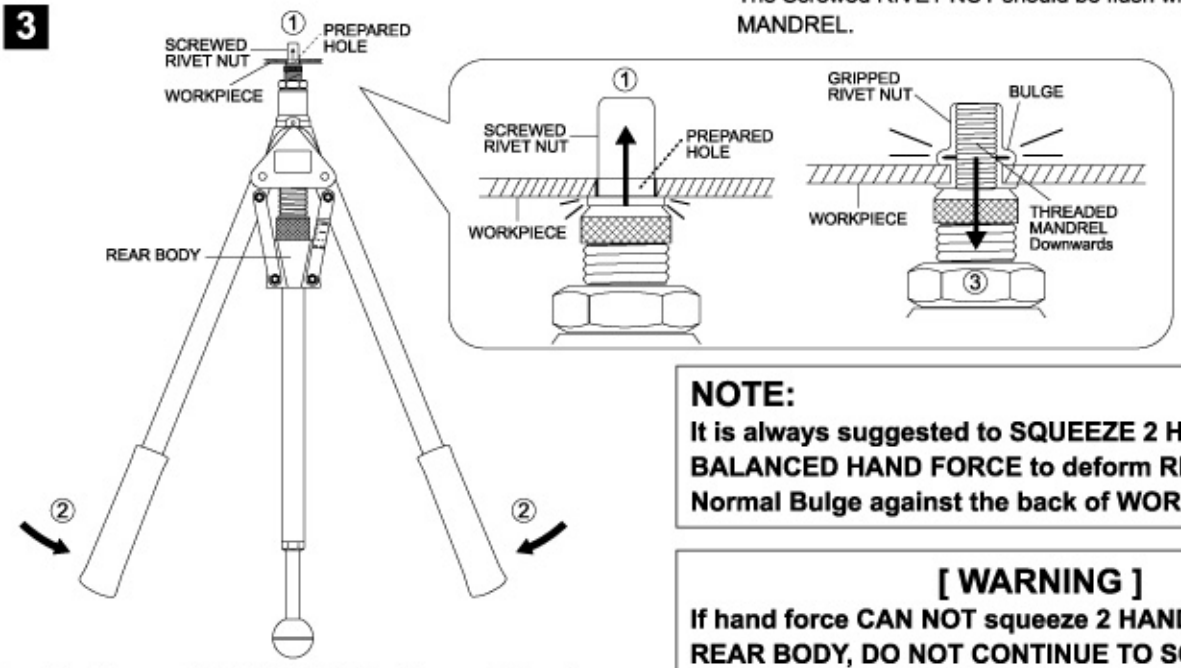
Open 2 HANDLES fully①, Pull Down (NOTE: Not Turn Down) DRILL UNIT KNOB completely②.

2



Screw RIVET NUT onto THREADED MANDREL by Pushing Up (NOTE: Not by Turning Up) DRILL UNIT KNOB Slowly until RIVET NUT touches NOSEPIECE. It is strongly suggested the RIVET NUT to touch the NOSEPIECE Slightly, NOT HEAVILY! The Screwed RIVET NUT should be flush with the THREADED MANDREL.

3



Insert the Screwed RIVET NUT into the Prepared Hole of WORKPIECE to touch WORKPIECE①. Squeeze 2 HANDLES to touch REAR BODY②, that drives THREADED MANDREL downwards to deform RIVET NUT a Bulge against the back of WORKPIECE to fasten RIVET NUT in the WORKPIECE③.

NOTE:

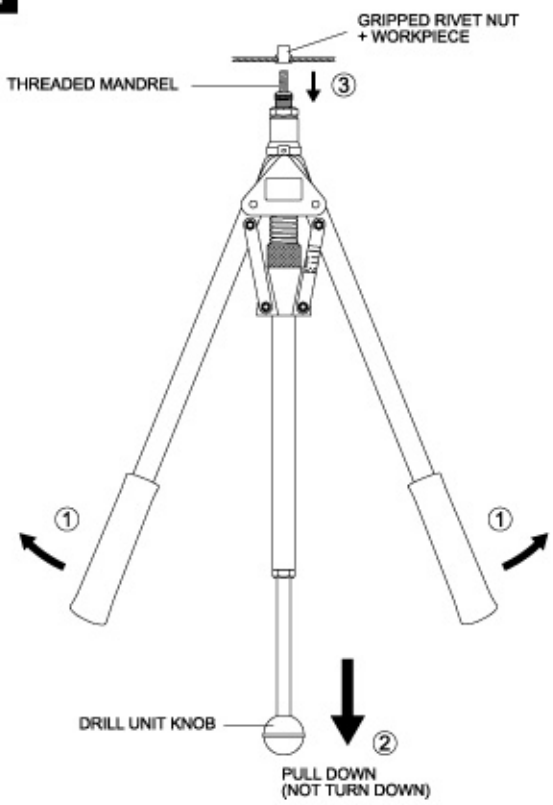
It is always suggested to SQUEEZE 2 HANDLES WITH BALANCED HAND FORCE to deform RIVET NUT a Normal Bulge against the back of WORKPIECE.

[WARNING]

If hand force CAN NOT squeeze 2 HANDLES to touch REAR BODY, DO NOT CONTINUE TO SQUEEZE 2 HANDLES, it may be caused by TOO LONG Stroke Distance. REDUCE The Stroke Distance immediately to protect this precious TOOL and RIVET NUT Threads from damage. See TROUBLESHOOTING K-2).

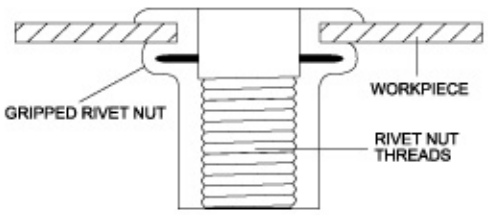
H. HOW TO OPERATE THIS TOOL TO SET RIVET NUT

4



Open 2 HANDLES fully①, Pull Down (NOTE: Not Turn Down) DRILL UNIT KNOB② to unscrew THREADED MANDREL from the Gripped RIVET NUT completely③.

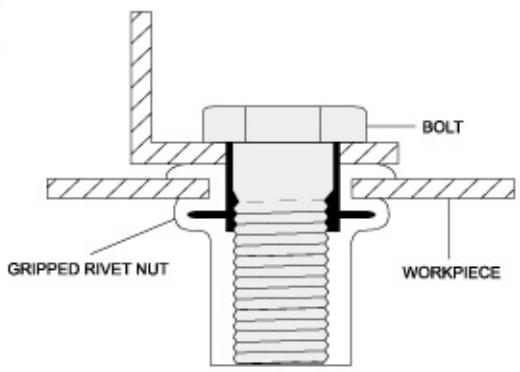
5



The RIVET NUT is therefore gripped in the WORKPIECE firmly and the RIVET NUT Threads are built up securely.

NOTES:
IF THE RIVET NUT IS NOT FASTENED FIRMLY, please refer to the TROUBLESHOOTING K-1).
IF 2 HANDLES CAN NOT BE SQUEEZED TO TOUCH REAR BODY, please refer to the TROUBLESHOOTING K-2).

6



Complete the fastening work with a Bolt to the Gripped RIVET NUT.

I. HOW TO FASTEN THE SAME SIZE OF RIVET NUT

If the next gripping RIVET NUT is same size as previous one, just repeat the above "H" steps.
Don't Need Any Adjustment!

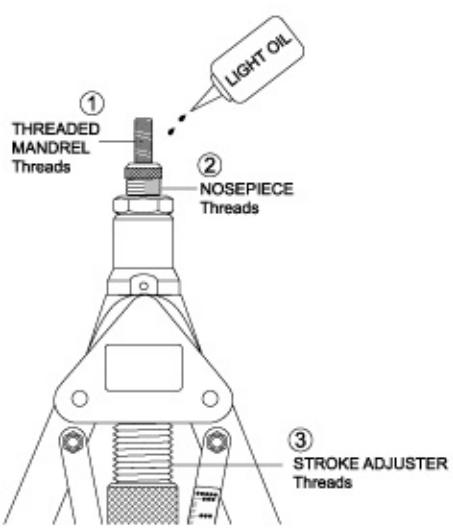
NOTE:
The PILOT TEST is always recommended before setting different sizes of RIVET NUT for proper fastening and protecting this precious TOOL and RIVET NUT Threads from damage.

J. MAINTENANCE

This TOOL is a very sturdy and reliable tool, it only requires occasional Light Oil applied to the Threads of the THREADED MANDREL①, NOSEPIECE② and STROKE ADJUSTER③.

WARNING

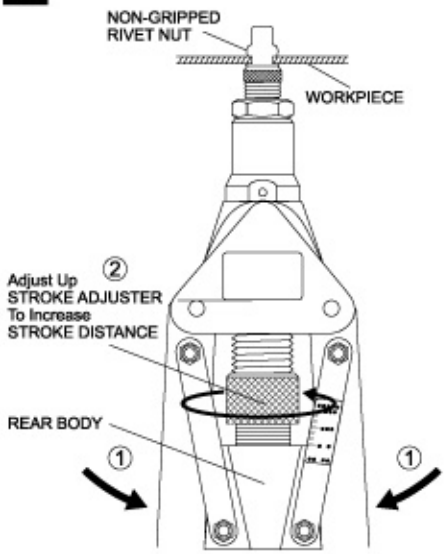
FOR SAFETY WORK, ALWAYS WEAR SAFETY GOGGLES.



K. TROUBLESHOOTING

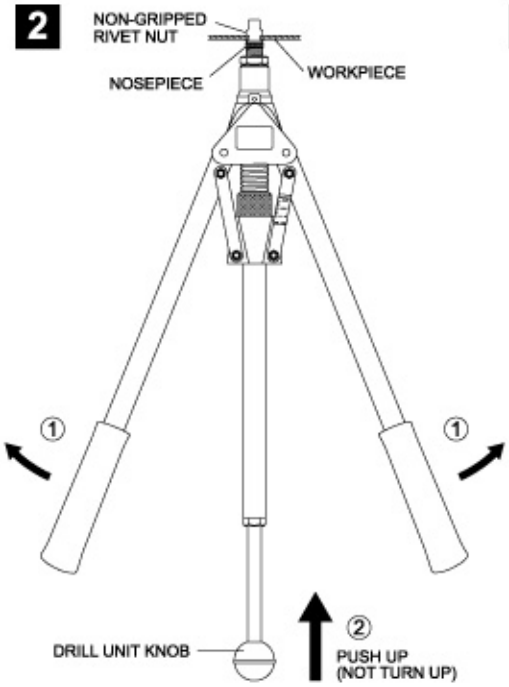
K-1) IF THE RIVET NUT IS NOT SET FIRMLY AT THE FIRST FASTENING OPERATION, HOW TO RE-SET THE RIVET NUT FIRMLY:

1



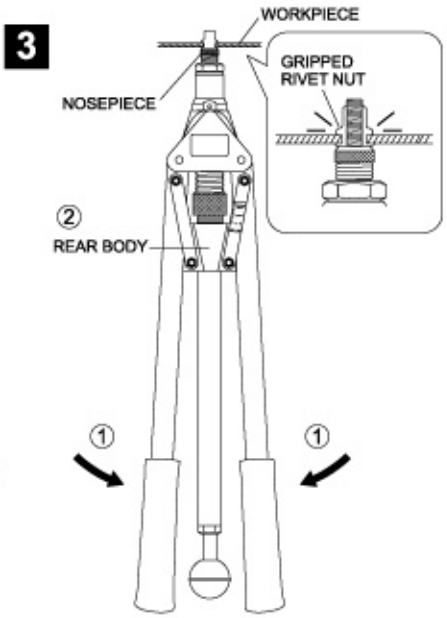
Still hold to squeeze 2 HANDLES to touch REAR BODY①, adjust the STROKE ADJUSTER upward to increase the Stroke Distance 1.0mm or 0.04" step by step to try②.

2



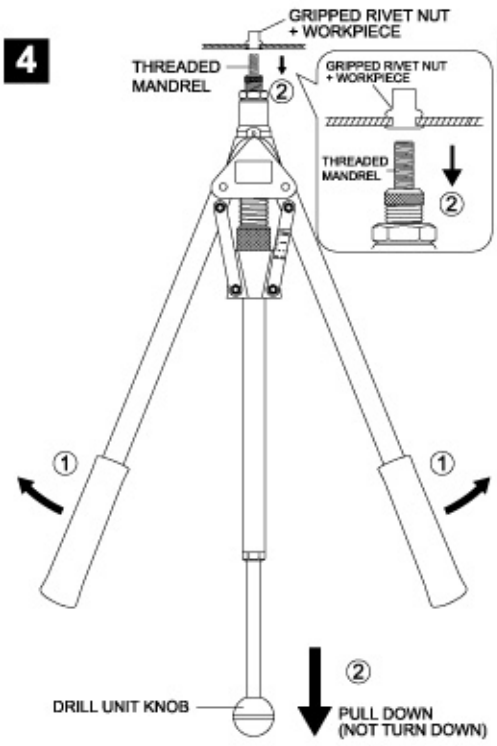
Open 2 HANDLES fully① and Push Up (NOTE: Not Turn Up) DRILL UNIT KNOB until RIVET NUT touches NOSEPIECE Slightly②.

3



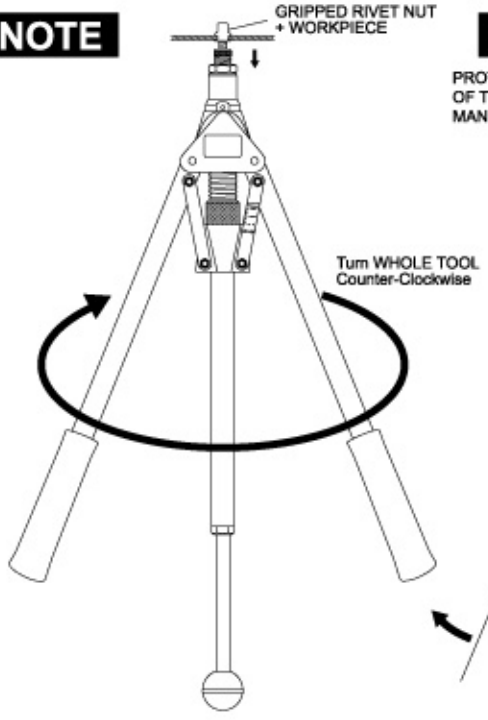
Squeeze 2 HANDLES① to grip again RIVET NUT until 2 HANDLES touch REAR BODY②. If RIVET NUT is still not fastened firmly, repeat the above steps until RIVET NUT is fastened firmly.

4



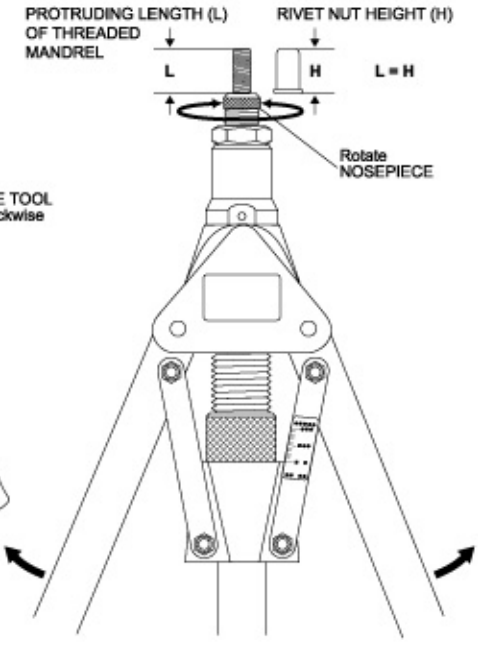
Open 2 HANDLES fully① and Pull Down (NOTE: Not Turn Down) DRILL UNIT KNOB to unscrew THREADED MANDREL from the Gripped RIVET NUT and WORKPIECE②.

NOTE



NOTE: If the THREADED MANDREL still can not unscrew from the Gripped RIVET NUT and WORKPIECE, turn whole TOOL Counter-Clockwise to unscrew THREADED MANDRELcompletely.

5

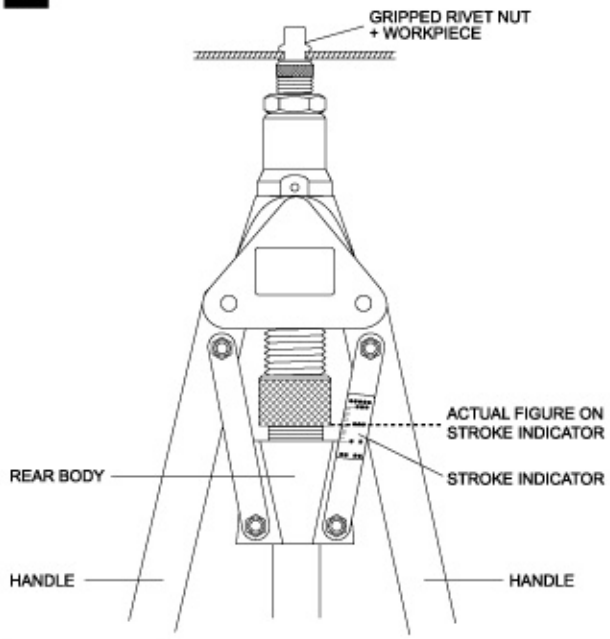


As the Stroke Distance has been re-adjusted, the Protruding Length (L) of THREADED MANDREL needs to be adjusted again to be same as RIVET NUT Height (H), L = H, as per the above "G" instruction.

K. TROUBLESHOOTING

K-2) IF HAND FORCE CAN NOT SQUEEZE 2 HANDLES TO TOUCH REAR BODY, HOW TO RE-ADJUST THE CORRECT STROKE DISTANCE TO PROTECT THIS TOOL AND RIVET NUT THREADS FROM DAMAGE:

1

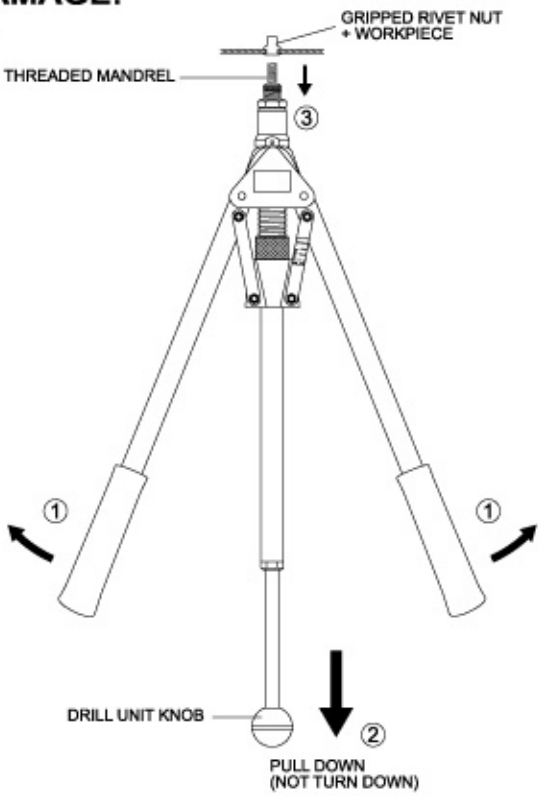


WARNING

DO NOT CONTINUE TO SQUEEZE 2 HANDLES!

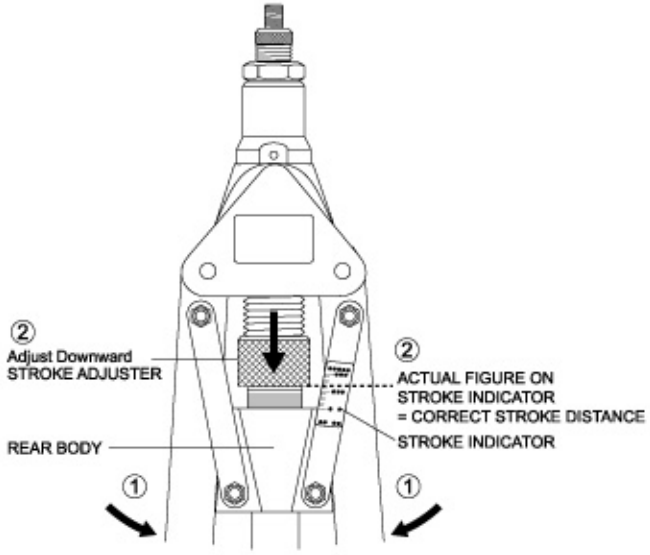
DO NOT CONTINUE TO SQUEEZE 2 HANDLES, still hold 2 HANDLES and find out the Actual Figure on STROKE INDICATOR and remember that.

2



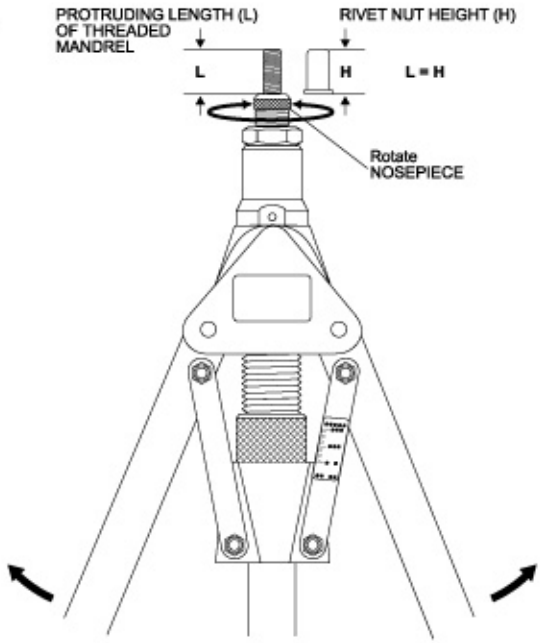
Open 2 HANDLES fully ① and Pull Down (NOTE: Not Turn Down) DRILL UNIT KNOB ② to unscrew THREADED MANDREL from the Gripped RIVET NUT and WORKPIECE ③.

3



Close 2 HANDLES completely ① to touch REAR BODY, and adjust the STROKE ADJUSTER downward to let Bottom Edge of STROKE ADJUSTER parallel with the **Actual Figure on STROKE INDICATOR** ②. Now the correct Stroke Distance has been re-adjusted.

4

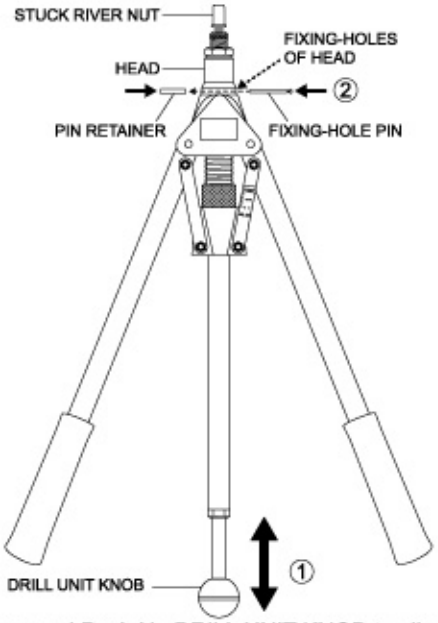


As the Stroke Distance has been re-adjusted, the Protruding Length (L) of THREADED MANDREL needs to be adjusted again to be same as RIVET NUT Height (H), L = H, as per the above "G" instruction.

K. TROUBLESHOOTING

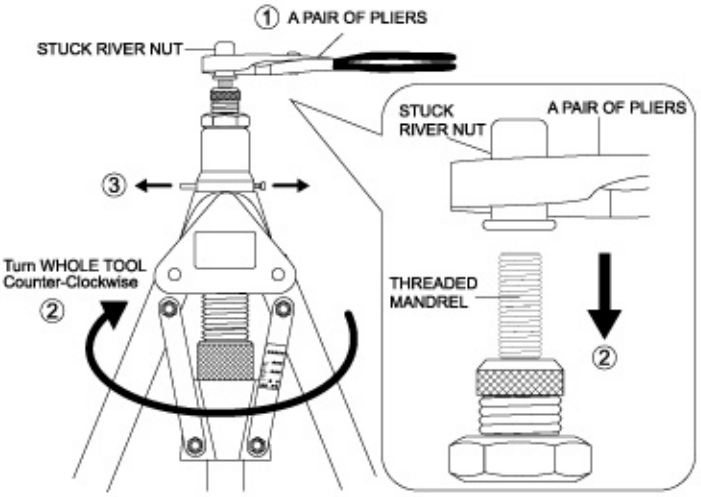
K-3) HOW TO SOLVE THE PROBLEM OF RIVET NUT STUCK ON THE THREADED MANDREL WHEN RIVET NUT SCREWS ONTO THREADED MANDREL'S THREADS BY PUSHING UP THE DRILL UNIT KNOB:

1



Pull Down and Push Up DRILL UNIT KNOB to align the FIXING-HOLES of HEAD with the inside LONG FIXING-HOLE of MANDREL SEAT①, then plug the FIXING-HOLE PIN into these FIXING-HOLES and put the PIN RETAINER onto FIXING-HOLE PIN End②, the free rotation of THREADED MANDREL is therefore stopped.

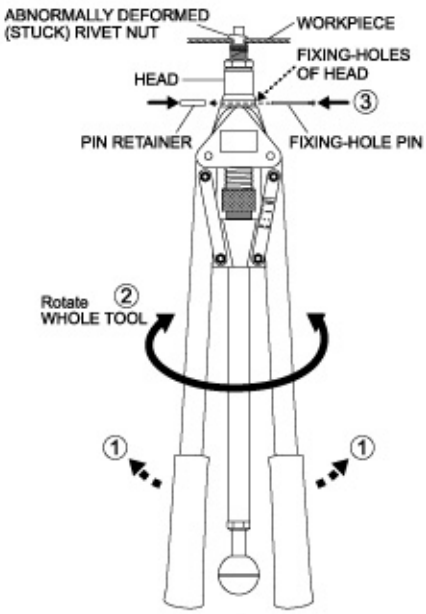
2



One person uses A Pair of Pliers to clamp the Stuck RIVET NUT①, and another person turns whole TOOL Counter-Clockwise to unscrew the THREADED MANDREL from the Stuck RIVET NUT②.
Finally, take off PIN RETAINER and pull FIXING-HOLE PIN from the FIXING-HOLES③.

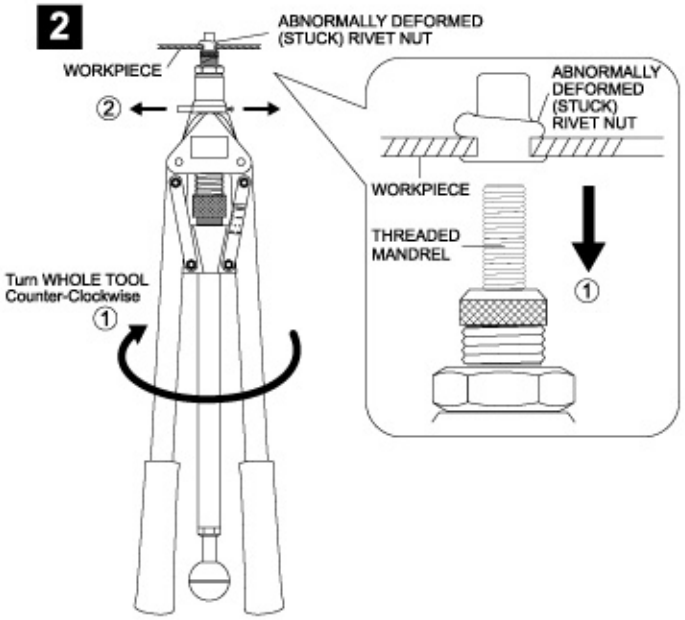
K-4) HOW TO SOLVE THE PROBLEM OF RIVET NUT STUCK ON THE THREADED MANDREL WHEN SQUEEZES 2 HANDLES AND DEFORMS RIVET NUT IN THE WORKPIECE ABNORMALLY:

1



Open 2 HANDLES a little bit①, rotate whole TOOL to align the FIXING-HOLES of HEAD with the inside LONG FIXING-HOLE of MANDREL SEAT②, then plug the FIXING-HOLE PIN into these FIXING-HOLES and put the PIN RETAINER onto FIXING-HOLE PIN End③, the free rotation of THREADED MANDREL is therefore stopped.

2



Turn whole TOOL Counter-Clockwise to unscrew THREADED MANDREL from the Stuck RIVET NUT①.
Finally, take off PIN RETAINER and pull FIXING-HOLE PIN from the FIXING-HOLES②.