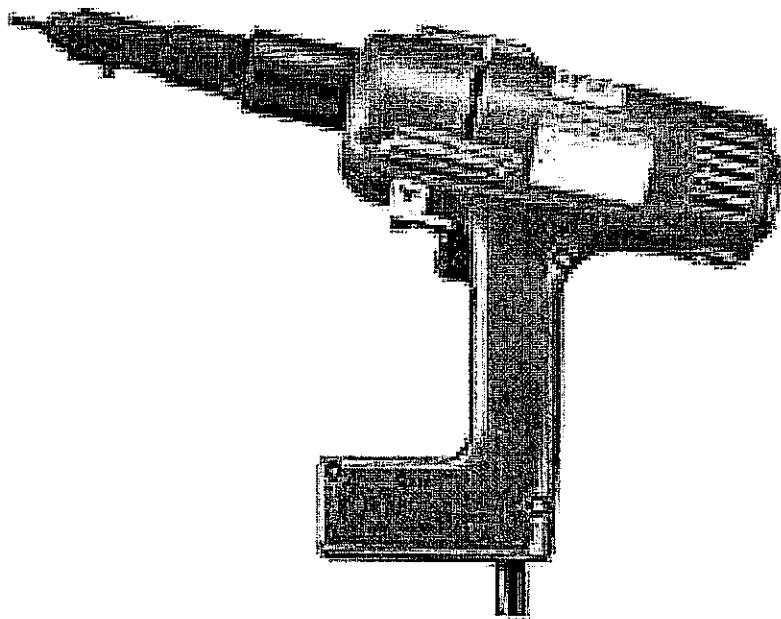




ELECTRIC NUT-RIVET TOOL

EN-410

OPERATING INSTRUCTIONS AND PARTS LIST



INTRODUCTION

This manual describes the various features and maintenance instruction of EN-410 Electric Nut-Riveting Tool.

EN-410 is portable, versatile and easy to use tool and is perfect tool for heavy duty production line.

One touch, single trigger operation performs fully automatic installation cycle once the trigger is pressed.

EN-410 tool has an emergency REVERSE SWITCH, on the Trigger Switch, for use if the Screw Mandrel does not reverse from the

fastener or if cross threading occurs. Before using this tool, it is recommended that you read this manual carefully to ensure effective and satisfactory operation. If you need further assistance, please contact your Lobster dealer or write us directly.

SAFETY PRECAUTIONS

WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, AND PERSONAL INJURY.

This tool should be grounded while in use to protect the operator from electric shock.

The electric cord must be heavy enough to carry the current the tool will draw. Do not use an undersized cord which will cause overheating.

Don't expose power tools to rain and don't use power tools in damp or wet locations. Keep work area well lit.

When not in use, tools should be stored in dry,

and high or locked-up place - out of reach of children.

When not in use, before servicing, and when changing thread size or replacing carbon brushes, must disconnect tool from the mains.

Maintain tools with care. Keep tools sharp and clean for better and safer performance.

Do not use tool if switch does not turn it on and off. Please call your dealer for technical support.

CHECKING THE EN-410 PACKAGE

The EN-410 Electric Nut-Riveting Tool comes in steel carrying case and should contain the following items:

- A. EN-410 Tool
- B. Accessories: (*Fitted on the Tool)
 - 1. Set of 4M Screw Mandrel & Nosepiece
 - 2. Set of 5M Screw Mandrel & Nosepiece
 - 3*. Set of 6M Screw Mandrel & Nosepiece
 - 4. Set of 8M Screw Mandrel & Nosepiece
 - 5. Set of 10M Screw Mandrel & Nosepiece
 - 6. Two (2) Spanners
- C. This Instruction Manual

DESCRIPTION

A. Electric Nut Rivet Tool

The EN-410 Electric Nut Riveting tool is especially designed to install:

M4 to M10 METRIC & #8 to 3/8" UNIFIED THREADS

The EN-410 tool will provide long service when kept clean and in proper adjustments according to instructions that follow.

B. Preliminary Adjustment

The tool leaves the factory fitted with metric M6 Screw Mandrel (Pull-up Stud) and Nosepiece (Anvil). Before placing rivets, ensure that the correct parts are fitted for the size of rivet being installed. Refer to "How to Change or Replace Damaged Screw Mandrel". The tool is then adjusted for the required Stroke (Pull-up). Please refer to "Adjusting for Correct Stroke".

C. Technical Data

WEIGHT	2.5 KGS (5.5 LBS)
LENGTH	360 MM
POWER SOURCE	SINGLE PHASE
	VOLTAGE 100V
	CYCLE 50-60Hz
	WATTS 305W
CORD LENGTH	2.5 METERS

(*STANDARD PRODUCTION. OTHER VOLTAGES ARE AVAILABLE - PLEASE REFER TO YOUR TOOL STICKER)

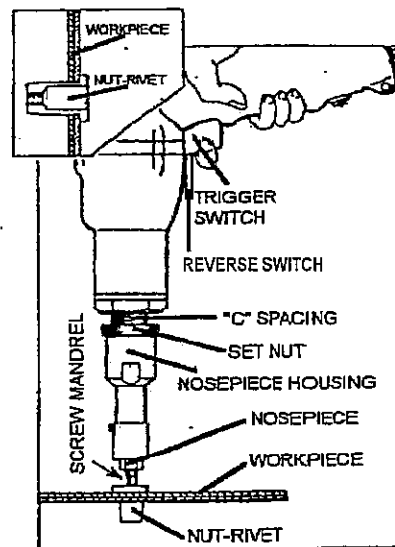
OPERATING AND ADJUSTMENTS

The operating procedures and adjustments in this section will provide trouble-free performance of the EN-410 tool. The operator should be thoroughly familiar with the tool and safety precautions before placing the tool in use.

A... OPERATING THE TOOL

EN-410 tool is operated by a single trigger and in addition has a reverse switch lever. This tool is simple to operate and requires no lengthy training period to familiarize the operator with the operating sequence. A few practice cycles using a 'Lobster' Nut-Rivet fastener are generally sufficient to master the operation.

Insert fastener in the predrilled hole for installation. Depress Trigger Switch all the way and hold until fastener is clinched securely in place. Screw Mandrel (Pull-up Stud) will automatically reverse from the fastener. Allow enough time for Screw Mandrel to reverse from the fastener.



NOTE: Tool has an emergency Reverse Switch on the Trigger Switch. Activate if Screw Mandrel did not reverse from fastener or if cross threading occurs in fastener. Caution should be taken not to trigger main switch. This will pull-up fastener second time. Damage to the fastener or tool may result.

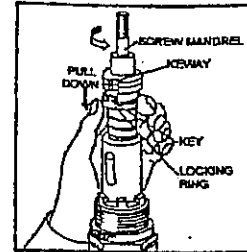
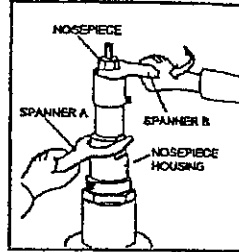
B... SCREW MANDREL, NOSEPIECE

Check that the correct Screw Mandrel (Pull-up Stud) and Nosepiece (Anvil) are installed in the tool. If incorrect or if it is

desired to change thread size, refer to the explode view drawing for the listing.

C... HOW TO CHANGE SCREW MANDRELS (PULL-UP STUDS) OR REPLACING DAMAGED SCREW MANDRELS

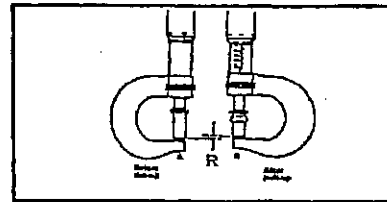
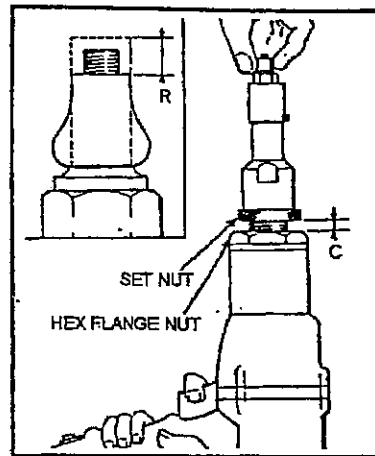
1. Hold Nosepiece Housing by Spanner A and remove Nosepiece in the clockwise direction using Spanner B, as shown.
2. Remove Nosepiece Housing in the clockwise direction using Spanner A.
3. Pull Lock Ring back and unthread Screw mandrel in the anti-clockwise.



Replace in reverse manner with appropriate Screw Mandrel (Pull-up Stud). See Parts List and select the correct Screw Mandrel (pull-up Stud and Nosepiece (Anvil), if needed.

D... DETERMINING TOOL STROKE

1. Measure the "C" spacing between the Set Nut and Hex Flange Nut.
2. Measure and record the overall length of the Nut-Rivet fastener. Hold the fastener tightly and cycle the tool. This will pull-up the fastener.
3. Measure overall length of the pulled-up fastener and record the difference between measurements. This is the amount of stroke the tool is adjusted.



Thus, "C" spacing = R = Tool Stroke

Where R = Difference between OAL measurements before and after Pull-up
(OAL = Overall length of the fastener)

E... DETERMINING TOOL STROKE ERROR FACTOR

Every tool has an mechanical Stroke error of 0.5 to 1.5mm. When setting the tool for a desired stroke, it is important to consider the tool stroke error factor. To find out your tool stroke error factor, follow the procedure described in the 'D... DETERMINING TOOL STROKE'.

Tool Stroke Error Factor $\pm e = C - R$

C = "C" Spacing on the tool

R = Difference between OAL measurements

Thus "C" spacing = Stroke required - ($\pm e$)

F... DETERMINING THE AMOUNT OF STROKE REQUIRED

Each fastener will accomodate thickness of material between the minimum and maximum grip limits. Please contact your fastener manufacturer to obtain the stroke factor required for the proper installation of the nut rivet.

WARNING:

Excessive stroke may break Screw Mandrel, strip fastener threads or both. Inadequate stroke may result in loose installation.

G... ADJUSTING TOOL FOR CORRECT STROKE

As described above find out the 'Tool Stroke Error Factor $\pm e$ ' and 'Amount of Stroke Required' from your fastener manufacturer.

Now all you need is to set the 'C' spacing, which is:

"C" spacing = Stroke Required - ($\pm e$)

PROCEDURE:

1. Hold knurl of Set Nut by hand. Loosen the Nosepiece Housing using Spanner A in the anti-clockwise..

2. Adjust Set Nut until the "C" spacing is achieved. Hold the Set Nut firmly in place and tighten the Nosepiece Housing against the Set Nut.

3. Install several fasteners in sample material for checking.

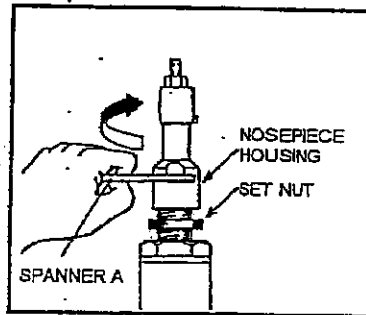
NOTE: If stroke is inadequate or too great, adjust the "C" spacing accordingly.

H... OPERATING CAUTIONS

This tool has been subjected to a strict inspection before shipping to be free of electric shock, but it is necessary to ensure tool is grounded for protection against such trouble.

If you should release main trigger switch before complete removal from fastener DO NOT cycle the tool a second time. Use Reverse Switch located on the lower part of the handle there removing tool from fastener.

NOTE: Always unplug tool before any repairs are attempted.



MAINTENANCE

A... GENERAL

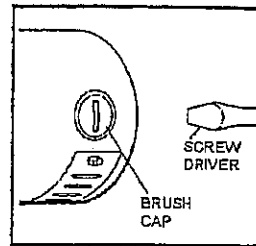
Any service other than as outlined in this manual should be performed by an authorized service representative.

B... ROUTINE MAINTENANCE

1. Replace all damaged Screw Mandrels (Pull-up Studs).
2. Always lubricate all the threads of Screw Mandrel before use.
3. Apply spanner to flats of Nosepiece Housing and completely remove housing. Apply molybdenum grease on all threads of Main Jackscrew after each 10,000 cycles.
4. This tool should be stored in a place free of dust and dry.

5. REPLACEMENT OF CARBON BRUSHES
Check carbon Brushes once a month. If brushes have worn to the extent of 5mm (.200") thickness, sparking will become heavy, causing failure.

Remove Brush Cap, and carbon brushes. Replace with extreme care.



TROUBLE SHOOTING

NO PULL-UP

Improper Stroke Adjustment
Inadequate Lubrication

Adjust tool for correct stroke.
Follow routine maintenance 3.

EXCESSIVE SCREW MANDREL BREAKAGE OR STRIPPED FASTENER THREADS

Excessive Stroke
Incorrect Material Thickness

Failure to hold tool at right angle
with work

Re-adjust the "C" spacing.
Use Material of correct and
uniform thickness.
Use greater care in handling this
tool.

LOOSE FASTENERS

Inadequate Stroke
Incorrect material Thickness

Re-adjust the "C" spacing.
Use Material of correct and
uniform thickness.

LOSS OF POWER

Worn Brushes
Dirty Motor

Replace Carbon Brushes.
Return tool to Lobster Dealer for
complete maintenance.

PARTS LIST - EN410

Index No.	Code	Description	Index No.	Code	Description
1-A	12588	Nosepiece M4	17	12912	Thrust Ball Bearing
1-B	12589	Nosepiece M5	18	12913	Rolling Nut
1-C	12590	Nosepiece M6	19	12914	Roll Pin 4x14
1-D	12591	Nosepiece M8	20	12915	Rolling Piece
1-E	12592	Nosepiece M10	21	12916	Ball Spring
2-A	12893	Screw Mandrel M4	22	12917	Steel Ball
2-B	12894	Screw Mandrel M5	23	12918	Clutch Sleeve
2-C	12895	Screw Mandrel M6	24	12919	Limit Pin
2-D	12896	Screw Mandrel M8	25	12920	Spindle
2-E	12897	Screw Mandrel M10	26	12921	Key
3	12898	Nose	27	12922	Retaining Ring, C-Type
4	12899	Safety Cover	28	12923	Gear Spacer
5	15409	Spring Washer M4	29	12924	Machine Screw (M4x40)
6	12901	Hex Indent Screw M4x5	30	15409	Spring Washer M4
7	12902	Spacer	31	12925	Gear Box
8	12903	Nosepiece Housing	32	12926	Gear No.4
9	12904	Set Nut	33	12864	Ball Bearing
10	12905	Main Jackscrew	34	12927	Gear No.2 and Gear No.3
11	12906	Pin	35	12933	Flat Washer
12	10787	Spring Pin 3x10	36	12928	Switch Cover
13	12908	Coupling Lock	37	12852	Machine Screw (M2x14)
14	12909	Coupling Spring	38	12929	Nuts M2
15	12910	Clutch	39	12930	Micro Switch
16	12911	Hex Flange Nut	40	12867	P-Screw with S/W (+) M4x10

PARTS LIST - EN410

Index No.	Code	Description	Index No.	Code	Description
41	12931	Micro Switch Case	65	12879	Brush Holder Cap
42	12932	Insulating Tube	66	28188	Grip Cover
43	16994	Wire Guard	67	12952	Pan Head Screw (M4x20)
44	12945	Pan Head Screw W/Washer (M4x8)	68	28486	Relay
45	17023	Gear Box Cover	69	12954	Pan Head Screw, Copper (M4x6)
46	12935	Bearing	70	15409	Spring Washer M4
47	12936	Pan Head Screw (M4x65)	71	12867	P-Screw with S/W(+) M4x10
48	15409	Spring Washer M4	72	12956	Cord Anchor
49	12937	Armature	73	17028	Insulated Butt Connector
50	12955	Bearing	74	12846	Insulated Connector
51	17014	Socket	75	12959	Strain Relief
52	17018	Insulating Tape	76	17032	Tie Straps
53	12940	Stator	77	12961	Power Supply Cord
54	17305	Ring	78	17040	Anchor
55	28192	Faceplate	79	12867	P-Screw with S/W(+) M4x10
56	28189	Trigger Switch	80	12938	Pan Head Screw W/Washer (M4x10)
57	17011	Vent Cover	81	12939	Pipe
58	12945	Pan Head Screw W/Washer (M4x8)	82	12962	Spanner 'A'
59	12946	Set Screws (M4x6)	83	10218	Spanner 'B'
60	28187	Frame	84	12843	Radio Noise Suppressor
61	12881	Brush Holder	85	29130	Holding Fixture of Relay
62	12442	Spring Washer M3	Option	12567	Nosepiece M3
63	12882	Pan Head Screw (+) M3x4	Option	14078	Screw Mandrel M3
64	12949	Carbon Brush	Option	28054	Nosepiece Spacer

EXPLODED VIEW EN-410

