

SUREBONDER®

FPC845M Air Hydraulic Rivet Tool



Operating Instructions

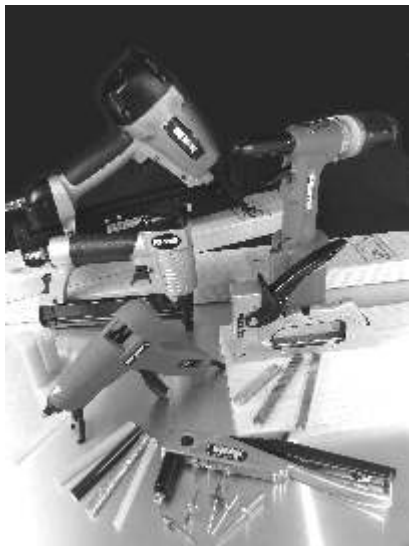
**Read All Safety Rules and Instructions Carefully
Save this manual for Future Reference**

WARRANTY

If you have any problems with this tool, please call FPC Corporation toll-free at 1-800-860-3838 before returning it to the place of purchase.

FPC Corporation warrants this product to be free from defects in material and workmanship, under normal conditions of use and when used in accordance with FPC operating instructions, for a period of 90 days from the date of purchase by the user. Within the 90 day warranty FPC at its option shall repair or replace product. The product must be returned at the distributor/user expense, either within warranty or out. Repaired or replaced products will receive a 60 day warranty.

Visit us at surebonder.com for our full line of products



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! DANGER

This manual contains important information about product safety. Read and understand this entire manual before operating this tool.

IMPORTANT SAFETY WARNINGS:

THE SAFETY WARNINGS BELOW CANNOT COVER ALL POSSIBLE SITUATIONS THAT MAY OCCUR. THESE BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO PROTECT AGAINST PERSONAL INJURY TO THE OPERATOR OR OTHER PERSONNEL IN THE AREA, AS WELL AS DAMAGE TO THE EQUIPMENT.

READ AND UNDERSTAND THESE WARNINGS BEFORE USING EQUIPMENT.

Keep tool away from children, and DO NOT allow children near work area. Do not allow children or untrained personnel to handle this tool.

DO NOT operate this tool while tired, or under the influence of drugs, alcohol, or medication that makes you drowsy.

Never point the tool at yourself or others - always assume that the tool is loaded, and proceed with caution.

Wear safety glasses and ear protection. The operator and all personnel in the work area must wear safety glasses that protect the front and side, to avoid eye injury. Ear plugs should be worn to avoid hearing damage.



ANSI Z87.1

If operator will be working in a situation where overhead work will be done (i.e. on a ladder, stairs, or scaffolding) a hard hat must be worn.

Never wear loose clothing or jewelry because it can get caught in the moving parts of this tool. Make sure long hair is covered, to avoid getting it caught in tool.

Keep the tool pointed away from yourself and others at all times. Keep hands and all body parts away from rear area of tool (near air hose) to guard against injury.

Keep proper balance and footing at all times - do not over-reach.

Never use oxygen, bottled gas or any type of combustible fuel as a power source - it can cause an explosion and serious injury.

Use an air hose that will withstand at least 150 psi, OR 150% of the maximum pressure of the compressor.

Never connect this tool to compressed air if the pressure could exceed 150psi, as the nailer could burst. Use only clean, dry, regulated compressed air, with pressure not exceeding 120 psi.

Do not use an air hose that is too long - operator can trip over it. Make sure all connections are tight.

(WARNINGS continued next page)

845M-400 SEAL KIT
Parts not sold separately

Dia.No.	Part No.	Description	Required No.
2	845M-2	"O" Ring	1
8	845M-8	"O" Ring	1
11	845M-11	"O" Ring	2
12	845M-12	Teflon Ring	1
14	845M-14	"O" Ring	2
15	845M-15	Teflon Ring	1
18	845M-18	"O" Ring	1
20	845M-20	"O" Ring	2
21	845M-21	"O" Ring	1
23	845M-23	"O" Ring	2
28	845M-28	"O" Ring	1
36	845M-36	"O" Ring	4
43	845M-43	"O" Ring	2
46	845M-46	"O" Ring	2
48	845M-48	"O" Ring	1
54	845M-54	"O" Ring	1
58	845M-58	Lip Seal	1
60	845M-60	"O" Ring	1
65	845M-65	"O" Ring	1
66	845M-66	Lip Seal	1
70	845M-70	"O" Ring	1

845M-410 NAIL CONTAINER ASSEMBLY KIT
Parts not sold separately

Dia. No.	Part No.	Description	Required No.
24	845M-24	PARTITION	1
25	845M-25	SILENCER	1
26	845M-26	NAIL CONTAINER	1
27	845M-27	COVER	1
28	845M-28	"O" Ring	1
29	845M-29	WASHER	1
30	845M-30	BOLT	1

845M-420 AIR VALVE ASSEMBLY KIT
Parts not sold separately

Dia.No.	Part No.	Description	RequiredNo.
36	845M-36	"O" Ring	2
37	845M-37	AIR INTERFACE	2
41	845M-41	AIR VALVE BODY	1
42	845M-42	AIR VALVE RING	1
43	845M-43	"O" Ring	2
44	845M-44	AIR VALVE BASE	1
45	845M-45	SUBORDINATE TUBE	1
46	845M-46	"O" Ring	2
47	845M-47	CONNECTING BASE	1
50	845M-50	AIR VALVE ROD	1
51	845M-51	SCREW PLUG	1
62	845M-62	TRANSFER TUBE	1

PARTS SOLD SEPERATELY

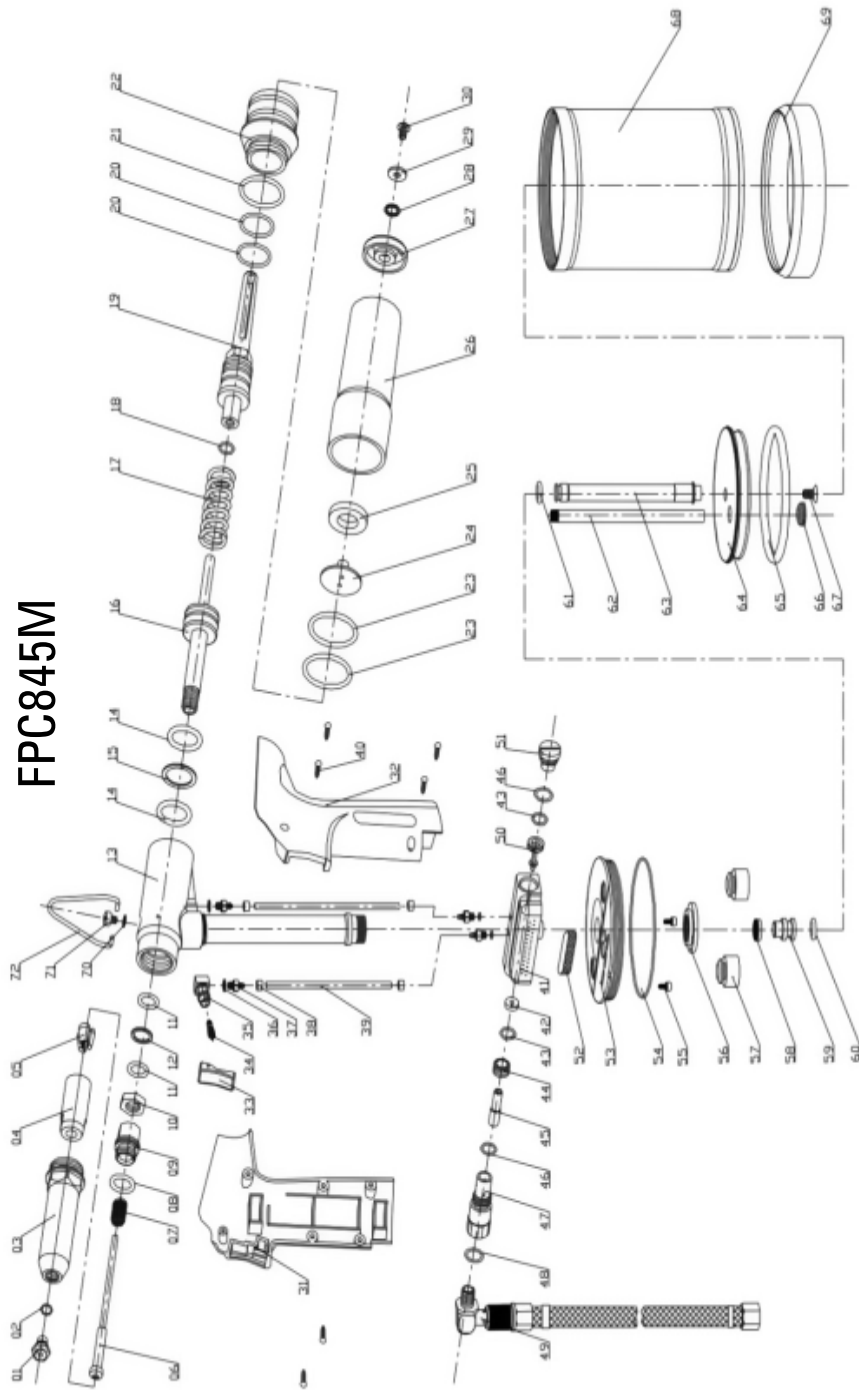
Dia. No.	Part No.	Description	Required No.
1	845M-614	NOSEPIECE	1
1	845M-814	NOSEPIECE	1
3	845M-3	OUTER CYLINDER	1
4	845M-4	JAW HOUSING	1
5	845M-5	JAW	1
6	845M-6	PUSHER	1
7	845M-7	SPRING	1
9	845M-9	UPPER HOUSING	1
10	845M-10	SET NUT	1
16	845M-16	PRIME AXIS	1
17	845M-17	RESTORE SPRING	1
19	845M-19	VACUUM SWITCH	1
22	845M-22	AIR PROOF LID	1
31	845M-31	HANDLE(RIGHT)	1
32	845M-32	HANDLE(LEFT)	1
33	845M-33	TRIGGER	1
34	845M-34	TRIGGER VALVE	1
35	845M-35	ON/OFF BASE	1
38	845M-38	RESTRAIN RING	4
39	845M-39	AIR TUBE	2
40	845M-40	TAPPING SCREW	6
49	845M-49	SWITCH ASSEM.	1
52	845M-52	SILENCER	1
53	845M-53	CYLINDER COVER	1
55	845M-55	BOLT	2
56	845M-56	LOCK NUT	1
57	845M-57	BUFFER	2
59	845M-59	AIR TUBE PISTON	1
61	845M-61	PISTON RING	1
63	845M-63	PISTON ROD	1
64	845M-64	CYLINDER PISTON	1
67	845M-67	BOLT	1
68	845M-68	CYLINDER	1
69	845M-69	BASE COVER	1
63	845M-63	PISTON ROD	1
64	845M-64	CYLINDER PISTON	1
67	845M-67	BOLT	1
68	845M-68	CYLINDER	1
69	845M-69	BASE COVER	1
70	835M-70	"O" Ring	1
71	835M-71	OIL FILL SCREW	1
72	835M-72	HOOK	1

845M-430 "T" SHAPE BODY ASSEMBLY KIT
Parts not sold separately

Dia. No.	Part No.	Description	Required No.
13	845M-13	OIL CYLINDER	1
36	845M-36	"O" Ring	1
37	845M-37	AIR INTERFACE	1
70	845M-70	"O" Ring	1
71	845M-71	OIL FILL SCREW	1
11	845M-11	"O" Ring	1
12	845M-12	TEFLON RING	2

CALL 847-487-4583 TO ORDER PARTS OR KITS

FPC845M



IMPORTANT SAFETY WARNINGS: continued

Disconnect air hose from tool:

- before performing maintenance.
- when clearing a jam.
- when tool is not in use.
- when moving it to another location.
- When handing tool to another person.

DO NOT place finger on trigger when disconnecting air hose - the tool could fire when reconnected to the air supply.

Carry tool by the handle only, not by the air hose.

Inspect the tool before each use to insure all parts are operating properly. Lock the tool in a clean, dry storage area between uses.

Only use parts and accessories supplied or recommended by FPC Corporation. Unauthorized parts or fasteners can lead to malfunction and serious injury. Only personnel trained by FPC Corporation or the distributor shall repair the tool. Do not modify this tool in any way.

Do not store the tool in a cold weather environment. Keep the tool in a warm area until the start of work. If it is in a cold area, bring it in a warm area and allow it to warm up before use.

Manufacturer assumes no responsibility for consequential or indirect damages from the use of this product.

Save this manual and have it available for tool operators reference!

California Proposition 65

You can create dust when you cut, sand, drill or grind materials such as: wood, paint, metal, concrete, cement, or other masonry. This dust often contains chemicals known to cause cancer, birth defects or other reproductive harm. Wear protective gear.

APPLICATIONS

Installing 3/16" & 1/4" blind rivets in various materials in production/commercial applications.

FEATURES

- Lightweight
- Air hydraulic operating system
- Can be used with or without mandrel collector
- Carrying case, extra jaws and maintenance tools included

AIR SUPPLY



NEVER use oxygen or other bottled gases. Explosion may occur.

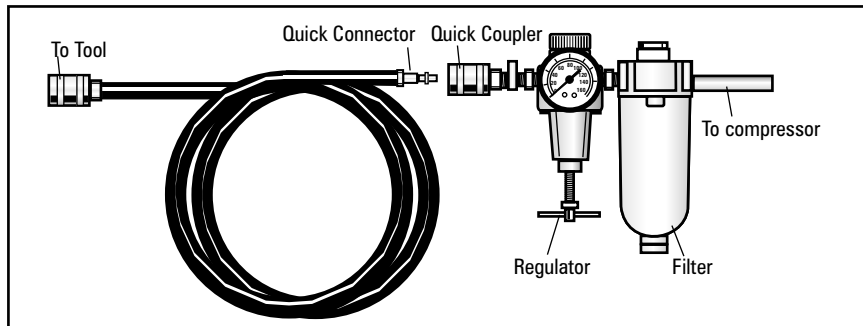
This tool is designed to operate on clean, dry, regulated compressed air, between 75 and 100 psi. It is preferable to include an air filter and a pressure regulator within 15 feet of the tool, if possible.

An air filter is needed to remove contaminants and moisture that are contained in compressed air; filtering will significantly prolong the life of the tool. Do not install a quick coupler directly into the tool. Higher pressure drastically reduces tool life.

This tool must always be connected to the air supply with a coupling that removes all pressure when it is disconnected. The tool does not include a male quick connector. Purchase a 1/4" NPT quick connector for best results.

NOTE: all components used with this tool (air hose, connectors, regulators, filters, etc) must be rated at 120 psi, OR 120% of the maximum compressor potential, whichever is higher. Do not connect this tool to a system with maximum potential air pressure greater than 120 psi.

AIR CONNECTION SET UP



MAINTENANCE (continued)

Servicing and Cleaning Jaws (continued)

Clean and assemble pusher and spring into pulling mechanism. Tighten jaw case onto pulling mechanism. Replace nosepiece to tool and tighten securely.



Remove nosepiece



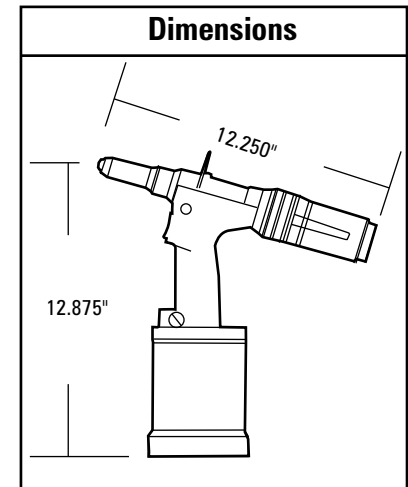
Remove jaw guide

SPECIFICATIONS

Overall Dimensions	12.875" x 12.250"
Stroke	1"
Air Pressure	75 - 100 PSI
Pull Force	3,414 lbs
Weight of Tool:	4 lbs.

Sets: 3/16" and 1/4" Rivets

Dimensions



OPERATION

Part Identification



OPERATION

TOOL PREPARATION

Determine the size rivet that you are going to use. If setting 3/16" rivets no changes to the tool are necessary the 3/16" nosepiece is factory installed. To change nosepiece remove it from rivet tool using wrench included. Select nosepiece that corresponds to the size rivet you are using and screw nosepiece clockwise onto rivet tool head.

Attach air line to air supply. Turn on the air ON / OFF valve by pushing the deflector ring on the air connection down. (Fig. 1.)

Insert a rivet mandrel into the nose piece. The rivet will be held in place by the vacuum. If rivet falls out of the nosepiece, vacuum is not strong enough. To increase amount of suction turn vacuum adjuster nut located on the back of the tool. (Fig. 3.) If mandrel collector free operation is desired use the vacuum adjuster nut with mandrel deflector (included). (Fig. 4)

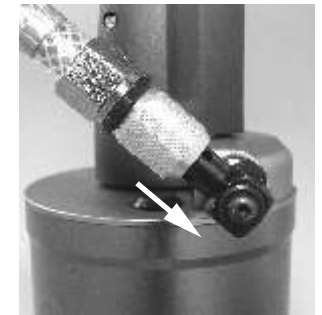
Place the rivet into the hole until contact is made between the face of the rivet head and the outer surface to be riveted. (See chart below for correct hole sizes to drill.)

Squeeze the trigger to set the rivet. Release the trigger once the rivet is set. The spent mandrel will be ejected into the mandrel collection bottle. Never allow mandrel collection bottle to fill more than 1/3 full damage to the hydraulic plunger may occur. To empty mandrel collection bottle pull from tool and shake mandrels out of opening. Firmly push bottle back onto tool.

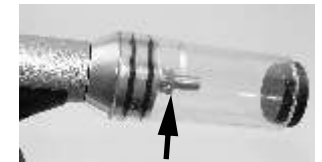
Rivet Size	Hole Size to Drill	Drill Bit Number
3/16"	.192" - .196"	#11
1/4"	.251" - .261"	1/4



(Fig. 1) Mandrel Changing



(Fig. 2) ON /OFF Valve



(Fig. 3) Vacuum adjuster nut for use with mandrel collector



(Fig. 4) Vacuum adjuster nut with deflector for mandrel collector-free use



Adjustable Exhaust

MAINTENANCE

Lubrication

It is important that the tool be properly lubricated. Every 10,000 cycles the tool should be oiled with lubricating oil. There may be insufficient oil if the stroke of the tool is too small for proper installation. Without proper lubrication the tool will not work properly and parts will wear prematurely.

- 1) Keep the tool upright during all operations. **Disconnect the tool from the air supply.**
- 2) Unscrew the oil seal screw from the body using the allen wrench included. (Fig. 5.)
- 3) Fill the syringe (included) with hydraulic oil - use ISO 68 Anti-foaming high pressure hydraulic fluid (not included).
- 4) Screw the filled syringe in the oil seal screw hole. (Fig. 6.) Then slowly inject the oil into the tool (Make sure no air is injected). Adequate oil has been added as soon as resistance is sensed. The excess oil will flow back when the syringe is release if more oil is added than necessary.
- 5) Unscrew and remove the syringe from the body.
- 6) Screw the oil seal screw into the hole using the allen wrench.
- 7) Wipe off any excess oil.

To test oil level, reconnect rivet tool to air supply and depress trigger 2-3 times. insert rivet into nosepiece (use the largest diameter rivet that tool accepts). Check to see if rivet mandrel can be inserted completely into nosepiece - head of rivet must touch nosepiece. If rivet cannot be completely inserted into tool, too much oil has been added and some must be removed. To remove excess oil unscrew oil fill screw approximately 1/4 turn. Depress and release the trigger to cycle air through the rivet tool - oil will leak from the top of the tool at the oil fill screw hole as trigger is depressed. **Caution: Do not unscrew oil seal screw more than 1/4 turn as this will cause the screw to be forced out under great pressure.** Wipe excess oil off of tool as you continue to depress and release the trigger as needed until the head of the rivet touches the nosepiece. Once the tool is properly adjusted tighten the oil seal screw firmly with allen wrench.



(Fig. 5.)



(Fig. 6.)

Servicing and Cleaning Jaws

To access jaws, remove nose housing to expose pulling mechanism and jaw case. To remove jaw case from pulling mechanism, use 2 wrenches (included). Jaws will be under slight spring pressure from the jaw pusher. Separate jaw case from pusher. Jaws will be loose. Clean jaws with a wire brush. Place a small dab of multi-purpose Lithium grease or Lubriplate™ on outside of jaws (not serrated side). Return jaws into jaw case ensuring proper placement of jaws. All serrated faces should be touching each other.

Air Supply Requirements

Use a dry, filtered air supply regulated to 75 - 100 psi (5-6 bar) . A minimum of 3.0 scfm is recommended. If the recommended operating pressure is exceeded the tool may not function because of built up line pressure.

For optimum performance connect the tool air line to an air supply of at least 1/4". The 6" lightweight hose included with the tool is designed to reduce operator fatigue by reducing weight.

If problems should occur with the setting of the pressure, disconnect the tool from the compressed air supply, to release the pressure from the tool.

Testing the air pressure

Check the pressure setting in a field test is recommended. A number of blind riveting nuts or bolts are installed into the original material or a test plate for its purpose. This test plate must have the same thickness and hole diameter: also ensure that the test plate and the work piece are made of the same material.

Mode of Operation

When the tool is connected to an air supply and the trigger is pulled, pressurized air pushes the air piston which acts on the hydraulic ram assembly. The hydraulic ram assembly forces hydraulic fluid from the reservoir in the handle into the main hydraulic bore where it moves the hydraulic piston together with the attached pulling mechanism rearward. As the pulling jaws move rearward they close on and grip the rivet mandrel and set the rivet. When the trigger is released air at line pressure forces the hydraulic piston forward to the starting position. As the hydraulic piston moves forward the hydraulic fluid is also forced back returning the hydraulic fluid and the ram assembly and air piston to the starting position. The compressed air used to set the rivet is exhausted through the base of the intensifier chamber. When the hydraulic piston is fully returned the broken rivet mandrel is released as the jaws are forced open again by the nosepiece.