



PT-4000H

Operating Instructions



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PT-4000H Rivet Capacity

The PT-4000H-1 pulls most all pull style blind rivets including CherryMax® and Cherry “A” Max® thru 1/4” diameter in all materials and Blind Bolts and Maxibolts® thru 1/4” diameter.

Equipment/Accessories

Wrench: SW 12 (covers nosepiece compartment)

Suspension Loop: Flips open from housing

Battery: Quick Charge/ 12 Volt DC

Technical Data

Weight: 4.85 lbs (with battery)

Stroke: 0.787”

Drive Unit: 14.4 V direct current motor

Traction Power: 5,000 lbs.

Nosepiece Table

Rivet Diameter	Rivet Body Material	*Rivets Per Charge	Nosepiece Part No.
3/32”	Aluminum	1,900	F140
1/8”	Aluminum	1,300	F159
1/8”	Steel	1,100	F159
1/8”	Stainless Steel	1,000	F159
5/32”	Aluminum	1,000	F143
5/32”	Steel	900	F143
5/32”	Stainless Steel	800	F143
3/16”	Aluminum	700	F143
3/16”	Steel	500	F143
3/16”	Stainless Steel	400	F143
1/4”	Stainless Steel	90	F142

* Rivets per battery charge based on Mil-R-24243 style blind rivets in maximum grip condition

Starting Procedure

Install fully charged battery into housing. Select proper nosepiece (see page 2) and screw into head.

Attention: Do not cover or stick anything into the vent holes.

Operating Procedure

Pushing the trigger starts the operation. When releasing the trigger, the jaw mechanism returns to the start position automatically.

Eject the spent mandrel into the mandrel container by tilting the tool backward, or through the nosepiece by tilting tool forward.

The riveting tool is equipped with overload protection. In case if an overload, the operation will be stopped and the red light goes on. If that happens, release the trigger and the mechanism will return to the start position.

The battery will deliver uniform power for tool operation until depleted to the last 2-3 rivets of charge capacity. It is designed to have the jaw mechanism return to the starting position when the trigger has been released.

Maintenance

The maintenance of the riveting tool is limited to the complete jaw mechanism and the included wearing parts.

Remove the battery (#40) from the tool housing.

Warranty

There is a 12 month warranty from the day of delivery on the PT-4000H-1. Damages caused by common wearing, overloading or improper usage or handling are excluded from the warranty. Damages caused by material or manufacturing faults will be covered by this warranty and will be repaired or replaced at no cost. Claims can only be accepted if the complete riveting tool, fully assembled, is returned to the distributor or FSI.

Battery / Charger Technical Data

Charger

Input Voltage: 110 V/60 Hz
Output Voltage: 12 VDC
Recharge Time: Approx. 1 hour
Weights: 2.6 lbs.

Battery

Rated Voltage: 12 VDC
Number of Cells: 10 Pieces
Cell Construction: Nickel-Metal with
Overcharge protection
Capacity: 3.2 amp hour
Weight: 1.4 lbs

Recharging Procedure

Take charger out of steel case and connect to power line.

Make sure the voltage is in accordance with the label!

The battery must be installed correctly (positive pole to positive pole) with minimal force into the charger. The quick recharging procedure is automatically started and indicated by red light.

After approximately 1 hour the charging procedure is finished and the charger switches to trickle charge, indicate by a green light.

Place only cool batteries into the charger in order to obtain a full battery recharge.

Battery Handling

The battery is rechargeable up to 1000 times and reaches its full power only after several recharging's. Do not discharge the battery completely. Recharge is not used for an extended period.

Substantially reduced operating time of battery after a proper recharge indicates the battery must be replaced. Keep battery in a cool and dry place, with temperature not to exceed (122 F).

Environmental Protection

If batteries have to be replaced, the following instructions should be followed:

Return used batteries to your supplier or FSI for recycling. Under no circumstances should nickel-metal batteries be discarded as normal waste which might be burned or exposed to ground water.

Troubleshooting

Blind Rivet Cannot be Set

Causes

Depleted battery charge
Jaws dirty or worn
Jaw pusher spring weak
When trigger is pressed, no function
(red indicator light shows)

Remedy

Recharge, if necessary replace
Clean and lubricate or replace
Tighten
Replace

No Spent Mandrel Discharge

Causes

Wrong nosepiece
Nosepiece worn
Mandrel jammed in jaws

Head Dirty inside
Spent mandrel container filled
Passage clogged

Remedy

Exchange according to page 2
Replace
Loosen the mandrel, clean and lubricate the
jaws or replace
Clean
Remove and empty
Remove clogged mandrels and check for free
ejection

Red Light Indicated Faults

A) When trigger is pressed

Causes

Overheating of electronic control

Remedy

Allow tool to cool to ambient temperature

B) While pulling the rivet

Causes

Overloading
Overheating of electronic control
Depleted battery charge

Remedy

Check working capacity
Allow tool to cool to ambient temperature
Recharge or replace

C) After releasing the trigger

Causes

Jaw mechanism is not reaching the front
position

Remedy

Tighten jaw mechanism

Maintenance Instructions

General Notes

Warranty repairs are carried out by the manufacturer only. Repairs outside the warranty period should only be carried out by trained personnel. The following instructions must be strictly adhered to, as assembly or adjustment errors may cause major damage to the PT-4000H-1.

Repair Tools & Lubricant

For repair of the PT-4000H-1, the following should be available:

Screw Driver Torx T 20
Hexagonal Wrench SW 2.5 mm
Open End Wrenches
Adjustable Wrench
Lubricating Grease

Dismantling the PT-4000H-1

Remove battery (#40) from the tool. Unscrew spent mandrel container (#39). Remove housing screw (3 pcs. #32 & 5 pcs. of #33) with screw driver Torx T 20.

Take off hand guard (#31). Take off top of tool housing (#1) and pull off the red and blue connecting wires from the electronic control (#26). Unscrew electronic control (#26) using screw driver Torx T 20.

Unscrew magnet holder (#27) using the hexagonal wrench SW 2.5mm. Take out electronic control (#26) and magnet holder (#27). Take out motor (#25).

ATTENTION: Reassembly Tip: Note how connecting wires to the motor are laid out in the tool housing!

Assembly & Stroke Adjustment

Assembly of Drive System (#42) Slip drive bearing (#3) over ball screw drive (#2) and put pinion shaft (#4) together with snap ring (#5) in bearing place.

Attention: Before screwing ball screw drive (#2) and drive bearing (#3) together, make sure the locating marking “B” of the bearing disk inside the ball screw drive (#2) is placed opposite the pinion shaft (#4). See Parts Drawing.

Assemble this entire unit together with the 4 screws (#6) using hexagonal wrench SW 2.5mm. Screw jaw housing coupler (#7) with scraper ring (#8) onto ball screw using open end wrench SW 14mm.

Put jaw pusher spring (#9) and jaw pusher (#10) onto jaw housing coupler (#7). Place the jaws (#11) in jaw housing (#12) and screw this onto jaw housing coupler (#7) using open end wrench SW 17mm.

Screw head (#13) on using open end wrench SW 27mm.

Assembly of the PT-4000H-1

The sub-assemblies and other parts should be put into tool housing half (#1) containing the nosepiece bracket as follows:

To install drive system (#42), slip the bushing (#20) onto the shorter end of the pinion shaft (#4) while ensuring that the snap ring (#5) is pressed to the gear.

To insert the tube (#22), the longer end of the tube must be inserted into the ball screw, while the collar of the tube must be inserted into the provided recess of the tool housing.

To place the motor connecting wire, the red wire should be bent downwards at the soldering tag towards the blue wire, then bent again to be parallel with the blue wire.

To install motor (#25), the two connecting wires are to be placed side by side around the first guiding stud of the tool housing and behind the middle guiding studs. The wires should then be brought up in front of the third guiding stud.

The electronic control unit (#26) should be installed by putting it on the stud inside the tool housing and then fastened with the housing screw (#32). Click magnet holder (#27) in the guiding slot of the electronic control (#26).

Fasten other end of magnet holder (#27) to ball screw drive (#2) with magnet holder screws (#28) together with two spring lock washers (#29) using the hexagonal screw driver SW 2.5. For later stroke adjustment, do not tighten the screws. Plug the two blue connecting wires of motor (#25) and electronic control unit (#26) together.

DO NOT CONNECT RED WIRE YET!!

Stroke Adjustment

Turn gear of pinion shaft until distance “A” measures 0.118” -See Parts Drawing. Then insert battery (#40) correctly in tool housing.

ATTENTION: Positive pole of battery (#40) must be at top to avoid damage of electronic control unit (#26).

While trigger is pressed, magnet holder (#27) must be adjusted in slot of electronic control until red indicator light goes on. After releasing trigger, the two magnet holder screws (#28) must be tightened. NOW connect red wire to electronic control (#26).

ATTENTION: Both connecting wires must be placed around guiding stud on electronic control (#26) in such a way to keep slot free for movement of magnet holder (#27).

Preliminary Motor Test: Motor (#25) is be carefully held down at both ends. Make sure to allow room for magnet holder to move back and forth. Pull trigger to move jaw mechanism about .200 to .400 inches, and release trigger.

Check distance “A” (See Parts Drawing). It must be 0.039” - 0.051”

If distance “A” gap is below 0.039”, magnet holder (#27) should be moved carefully to the right after loosening the two screws (#28) in order to obtain .039 to .051 gap.

If distance “A” gap is larger than 0.051”, magnet holder must be moved to the left accordingly. After tightening the screws (#28), repeat test and recheck distance “A”. Take battery (#40) out of tool housing.

Finishing

Lubricate gear teeth with lubricating grease. Insert suspension loop (#30). Insert hand guard (#31). Replace second half of tool housing.

Tighten both halves of tool housing (#1) together with the five housing screws (#33) and the three housing screws (#32) using screw driver Torx T 20.

Safety Notes

The PT-4000H-1 has been designed and manufactured in accordance with the applicable safety regulations. If the PT-4000H-1 is being used for the intended purpose in accordance with instructions and normal safety measures, there is no danger involved during operation.

WARNING!

**Never operate the PT-4000H-1 without placing the blind rivet in proper hole of the work piece or material.
The rivet could be propelled from the tool.
Avoid pointing the tool at anyone during operation.**

The spent mandrel container (#39) must always be firmly screwed into place on the tool during operation. Do not plug or cover vent holes in tool housing at any time.

Repairs should be carried out by trained personnel only. Otherwise, return PT-4000H-1 to supplier or to FSI.

Do not operate the PT-4000H-1 and the Battery Charger in an environment allowing exposure to moisture, combustible fluids or gases.

Avoid damage to cord and plug of charger. Inspect regularly for any damage. Ensure that the battery is properly secured in the tool housing.

Take the charger out of steel case when recharging the battery. Place the battery in the correct position (+pole to +pole) and do not force it into the charger.

Always remove the battery before servicing / repairing the PT-4000H-1.

Do not discard batteries into water or fire as danger of explosion exists. Any used battery be disposed of in accordance with environmental regulations.

Do not use the PT-4000H-1 for any function other than riveting, especially not as a hammer.

Item	Part No.	Description	Item	Part No.	Description
1	F3014	Tool Housing, complete	36	F3091	Nosepiece Holder
2	F3189	Ball screw drive, assembled	37	F3834	Nosepiece Wrench
3	F3185	Drive bearing, complete	39	F3282	Spent Mandrel Canister
4	F3193	Power transfer gear	40	F-3001A	12v Battery Pack
5	F3753	Snap ring	45	F-4000A	Battery Charger, 110v
6	F3982	Screw	45A	F-4000A/220	Battery Charger, 220v
7	F127672	Draw Bolt	63	F3286	Spent Mandrel Tube
8	F127673	Nose Adapter	64	F3308	Brace
9	F111795	Jam Nut	65	F3316	Pin Tail Guide
20	F3893	Bushing			
23	F3737	Guide			
25	F3103	Motor, Complete			
26	F3850-1	E-Control			
27	F3266	Magnet Holder			
28	F3990	Magnet Holder Screws			
30	F3559-1	Suspension Loop			
31	F3540	Handle Guard			
32	F3032	Housing Screw			
33	F3024	Housing Screw, Short			
35	F3030	Nosepiece Bracket			

