PATTA®

PAR-03

Instruction Manual

Hydraulic Air Riveter

Industrial Standard

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Limited Warranty

PATTA installation tools carry a 12 month warranty against defects caused by faulty materials or workmanship, the warranty period commencing from the date of delivery confirmed by invoice or delivery note.
The warranty applies to the user/purchaser when sold through an authorized outlet, and only when used for the intended purpose. The warranty is invalidated if the installation tool is not serviced, maintained and operated according to the instructions contained in the Instruction and Service Manuals.
PATTA undertakes only to repair or replace faulty components.

To keep developing and improving product quality is policy of PATTA, we reserve the right to change any product specification without further notice.

Safety Instructions

This instruction manual must be read with particular attention to the following safety rules, by any person installing, operating, or servicing this tool.

- **Do not use outside the design intent.**
- **Do not use equipment with this tool/ machine other than that recommended and supplied by PATTA.**
- **Any modification undertaken by the customer to the tool/machine, nose assemblies, accessories or any equipment supplied by the PATTA, or their representatives, shall be the customer's entire responsibly. PATTA will be pleased to advise upon any proposed modification.**
- **The tool/machine must be maintained in a safe working condition at all times and examined at regular intervals for damage and function by trained competent personnel. After a million times of use or any sign of damage, breakage, or leakage has been appeared, the plastic body and the bottom cap of this tool/machine must be replaced with the new ones. Any dismantling procedure shall be undertaken only by personnel trained in PATTA procedures. Do not dismantle this tool/machine without prior reference to the maintenance instructions. Please contact PATTA with your training requirements.**
- **The tool/machine shall at all times be operated in accordance with relevant Health and Safety legislation.**
- **Any question regarding the correct operation of the tool/machine and the operator safety should be directed to PATTA.**
- **The precautions to be observed when using this tool/machine must be explained by the customer to all operators.**
- **Always disconnect the air supply from the tool/machine inlet before attempting to adjust, fit or remove a nose assembly.**
- **Do not operate a tool/machine that is directed towards any person(s) or the operator.**
- **Always adopt a firm footing or a stable position before operating the tool/machine.**
- **Ensure that vent holes do not become blocked or covered.**
- **To avoid damaging the components of the tool/machine, the operating pressure shall not exceed 7 kgf.**
- **Do not operate the tool if it is not fitted with a complete nose assembly unless specifically instructed otherwise.**
- **Care shall be taken to ensure that spent mandrels are not allowed to create a hazard.**
- **The tool is fitted with a mandrel collector bottle, the bottle must be emptied when it is half full.**
- **When using the tool, the wearing of safety glasses is required both by the operator and others in the vicinity to protect against mandrel ejection, should a blind rivet be placed 'in air'. We recommend wearing gloves if there are sharp edges or corners on the application. It is strictly forbidden to damage the plastic body or bottom cap of tool with any sharp material or by any inappropriate use. See safety instruction 4.If the tool is not fitted with rubber bottom cap, the operation must be halted.**
- **Take care to avoid entanglement of loose clothes, ties, long hair, cleaning rags etc. in the moving parts of the tool which should be kept dry and clean for best possible grip.**
- **When carrying the tool from place to place keep hands away from the trigger/lever to avoid inadvertent start up.**
- **Excessive contact with hydraulic fluid oil should be avoided. To minimize the possibility of rashes, care should be taken to wash thoroughly.**
- **Data for all hydraulic oil and lubricants is available upon request from your tool supplier.**

Specifications

Model	PAR-03	
Stroke	Maximum	26mm
Pull Force	@5.5bar/5.5kgf	12.9kn/1316kgf
Weight	kg	2.3kg
Cycle Time	Second	1.2s
Air Pressure	Minimum-maximum	5-7kgf (no exceeding 7kgf)
Air Consumption per cycle time	@5.5kgf	4.3L
Noise	Below	75 dB(A)
Vibration	Below	2.5 m/s2

Intent of Use

Range of Blind Rivets

PAR is a hydraulic air tool designed to place blind rivets at high speed making it ideal for batch or flow-line assembly in a variety of applications throughout all industries. It can place all blind rivets listed below.
The tool features a vacuum system for blind rivets retention and trouble free collection of the spent mandrels regardless of tool orientation.

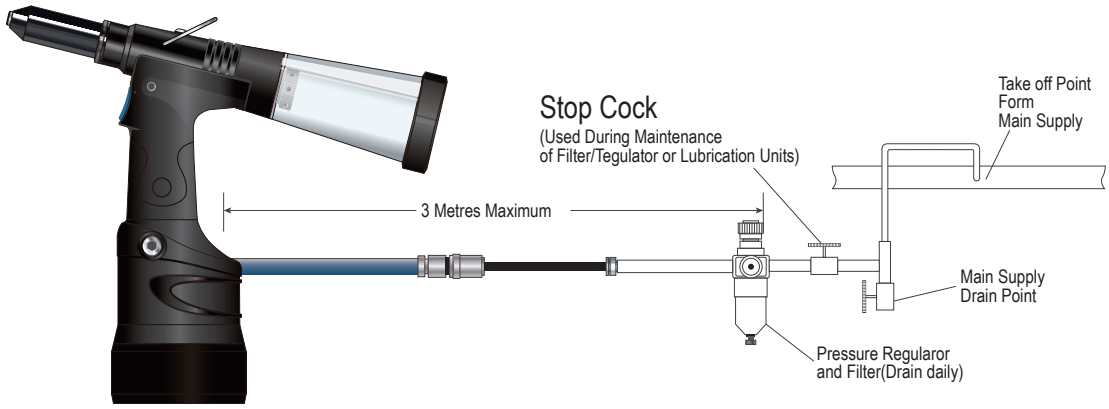
Model	PAR-03	
Material	Steel/Steel	Stainless Steel/Stainless Steel
Normal Use	Below 6.4 mm	Below 6.4 mm
Production Line Use	Below 6.4 mm	Below 4.8 mm

Putting into Service

Air Supply

All tools are operated with compressed air at an optimum pressure of 5.5 bar. We recommend the use of pressure regulators and filtering systems on the main air supply. These should be fitted within 3 meters of the tool (see diagram below) to ensure maximum tool life and minimum tool maintenance.

Air supply hoses should have a minimum effective working pressure rating of 150% of the maximum pressure produced in the system or 10 bar, whichever is the highest. Air hoses should be oil resistance, have an abrasion resistant exterior and should be armored where operating conditions may result in hoses being damaged. All air hoses MUST have a minimum bore diameter of 6.4 millimeters or 1/4 inch.



Operating Procedure

- **Ensure that the correct nose assembly suitable for the blind rivets is fitted as the instructions listed on page 8.**
- **Connect the tool to the air supply.**
- **Insert the mandrel into the nose of the tool.**
- **Bring the tool with the fastener to the application so that the protruding fastener enters squarely into the hole of the application.**
- **Fully actuate the trigger. The tool cycle will tighten the blind rivet.**
- **Check broken mandrel is projected to the rear of the tool. If not, adjust the vacuum air rotary valve.**

Adjusting the Vacuum Air Supply

- **Use screw driver to rotate the rotary valve until the air flow stops at the rear of the tool.**
- **Use the tool with the nose pointing downwards. Insert the blind rivet into the nose and keep it fixed on that spot.**
- **Turn the rotary valve either way until there is sufficient suction to retain the blind rivet.**

Nose Assembly

IMPORTANT;The air supply must be disconnected when fitting or removing nose assemblies.

Fitting instructions

- **Lightly coat Jaws 83 with grease lubricant.**
- **Drop Jaws 83 into Jaw Housing 82.**
- **Insert Jaw Spreader 84 into Jaw Housing 82.**
- **Locating Buffer 85 on Jaw Spreader 84.**
- **Hold the tool with head pointing down. Fasten the assembled Jaw Housing 82 onto Jaw Spreader and screw it tightly with spanner.**
- **Screw the nose piece 87 into Nose Casing 86 and tighten with spanner.***
- **Place Nose Casing 86 over Jaw Housing 82 and screw onto the tool, tightening with a spanner*.**

Servicing Instructions

Nose assembly should be serviced at weekly intervals. You should hold some stock of all internal components of the nose assembly and nose piece as they will need regular replacement.

- **Remove the nose equipment using the reverse procedure to the 'Fitting Instructions'.**
- **Any worn or damaged part should be replaced.**
- **Clean and check wear on jaws.**
- **Check Spring 85 is not distorted.**
- **Assemble according to fitting instructions above.**

Item umbers in bold reer to the general assembly drawing and parts list.

Servicing the Tool

IMPORTANT

Read Safety Instructions on page 4.

The employer is responsible for ensuring that tool maintenance instructions are given to the appropriate personnel.

The operator should not be involved in maintenance or repair of the tool unless properly trained.

The tool shall be examined regularly for damage and malfunction.

Daily

- Daily, before use or when first putting the tool into service, pour a few drops of clean, light lubricating oil into the air inlet of the tool if no lubricator is fitted on air supply. If the tool is in continuous use, the air hose should be disconnected from the main air supply and the tool lubricated every two to three hours.
- Check for air leaks. If damaged, hoses and couplings should be replaced.
- If there is no filter on the pressure regulator, bleed the air line to clear it of accumulated dirt or water before connecting the air hose to the tool. If there is a filter, drain it.
- Check that the nose assembly is correct for the blind rivet to be placed.
- Check the stroke of the tool meets the minimum specification (page 5).
- The mandrel collector must be fitted to the tool.
- Check the base cover is fully tightened onto the body. Check the mandrel are projected to the rear of the tool. If not, please refer to the 'Adjusting Vacuum Air Supply' on page 7.
- Use the tool with the nose pointing downwards. Insert the blind rivet into the nose and keep it fixed on that spot. Use any means to rotate the rotary valve until there is enough air maintained the blind rivet.

Weekly

- Dismantle and clean the nose assembly with special attention to the jaws. Lubricate with grease lubricant before assembling.
- Check for oil leaks and air leaks in the air supply hose and fittings.

Mounthly

- If any sign of damage, breakage, or leakage has appeared, the plastic body and the bottom cap of this tool/machine must be replaced with the new ones.

Annually

(Annually or every 1,000,000 cycles whichever is the soonest)

Annually or every 1,000,000 cycles the tool should be completely dismantled and new components should be used where worn, damaged or recommended. All 'O'rings and seals should be renewed and lubricated with grease.

After a million times of use or any sign of damage, breakage, or leakage has been appeared, the plastic body and the bottom cap of this tool/machine must be replaced with the new ones.

Servicing the Tool

Industrial Multi-Purpose Lubricants

The Suggestion List of Industrial Multi-Purpose Lubricants (ISO VG 46)

Viscosity Grade Cst(40℃)	AGIP	BP	BLOSSOM	CASTROL	FINA	MOBIL	SHELL	TOTAL
ISO VG 46	Agip Radula 46	Energol THB 46	※Blossom Plus R&O 46	Magna 46	Fina Hydran 46	Mobil DTE 846 Series	Shell Turbo T46	Total Cortis 46

※ : This indicates the specific lubricant recommended.
※ : The list is digested from INTERNATIONAL LUBE DATA BOOK(ASIA).

Maintenance

IMPORTANT:Read Safety Instruction on page 4.

The employer is responsible for ensuring that tool maintenance instructions are given to the appropriate personnel.

The operator should not be involved in maintenance or repair of the tool unless properly trained.

- The air supply must be disconnected before any servicing or dismantling is attempted unless specifically instructed otherwise.
- It is recommended that any dismantling operation be carried out in the clean conditions.
- Before proceeding with dismantling, empty the oil from the tool. Dismantle screw **9** and seal **10** from the top of the operation component and leak the oil into the appropriate container.
- Prior to dismantling the tool it is necessary to remove the nose equipment. For instructions see the nose assemblies section on page 8.
- For a complete service of the tool, we advise that you proceed with dismantling of sub-assemblies in the order shown.
- After any dismantling REMEMBER to prime the tool and fit an appropriate nose assembly.

Head Assembly

- Twist and pull off the mandrel collector bottle assembly.
- Pull off bottle adapter.
- Remove the end cap using the ‘T’spanner together with seal housing, ‘O’ring and lip seal.
- Remove spring.
- Loose the locknut with spanner and twist off Nose casing and ‘O’ring.
- Remove locknut.
- Push head piston to the rear and out of the head assembly taking care not to damage the cylinder bore.
- Using cir clip pliers remove seal retainer. Push lip seal to the rear and out of head assembly.
- Remove the seal housing and lip seal.

Item numbers in bold refer to the general assembly drawing and parts list.

Servicing the Tool

Head Assembly

Assemble in reverse order noting the following points:

- Place lip seal onto the insertion rod ensuring correct orientation. Locate the guide tube into the head of the tool and push the insertion rod with seal in place through the guide tube.
- The chamfered edge of seal retainer must face forward with the gap at the bottom.
- After fitting lip seals onto the head piston, ensuring the correct orientation. Lubricate the cylinder bore and place the piston sleeve into the back of head assembly. Slide the bullet onto the threaded part of head piston and push the piston with the seals through the piston sleeve as far as it will go. Slide the bullet off the piston and remove piston sleeve.
- The front of jaw housing must be fully tightened onto head piston before tightening locknut against it.

Air Piston Assembly

- Remove 'ON/OFF' valve assembly and 'O'rings.
- Clamp the body of the inverted tool across the air inlet bosses in a vice fitted with soft jaws.
- Twist bottom cap with spanner and push out the valve pad.
- Dismantle Air Piston Assembly from body, together with 'O'ring, Lip Seal and Guide Ring.
- Twist and push seal extractor into seal assembly. Push enhanced tube out of head assembly.

Assemble in reverse order to dismantling instructions

Rotary Valve Assembly

- Remove Pneumatic Piston Assembly and Seal Assembly as described above.
- Using T Spanner and T spanner spigot, unscrew Clamp Nut and remove together with Clamp Plate together with Transfer Pipe Assembly and separate Body from Handle Assembly.
- Release the tool from the vice. Separate body and 'O'ring from handle assembly.
- Remove 'O'ring from enhanced tube. Take off head assembly from operation assembly.
- Pull off Valve Seat together with two 'O'rings.
- Take off all the components of valve spool assembly.
- Last, remove 'O'ring from the handle counterbore.

Assemble in reverse order to dismantling instructions noting the following:
Ensure the center port in Valve Seat is facing upwards.

Trigger

- Using a 2mm pin punch to drive trigger pin and remove trigger assembly.
- Unscrew the trigger valve using trigger valve extractor.

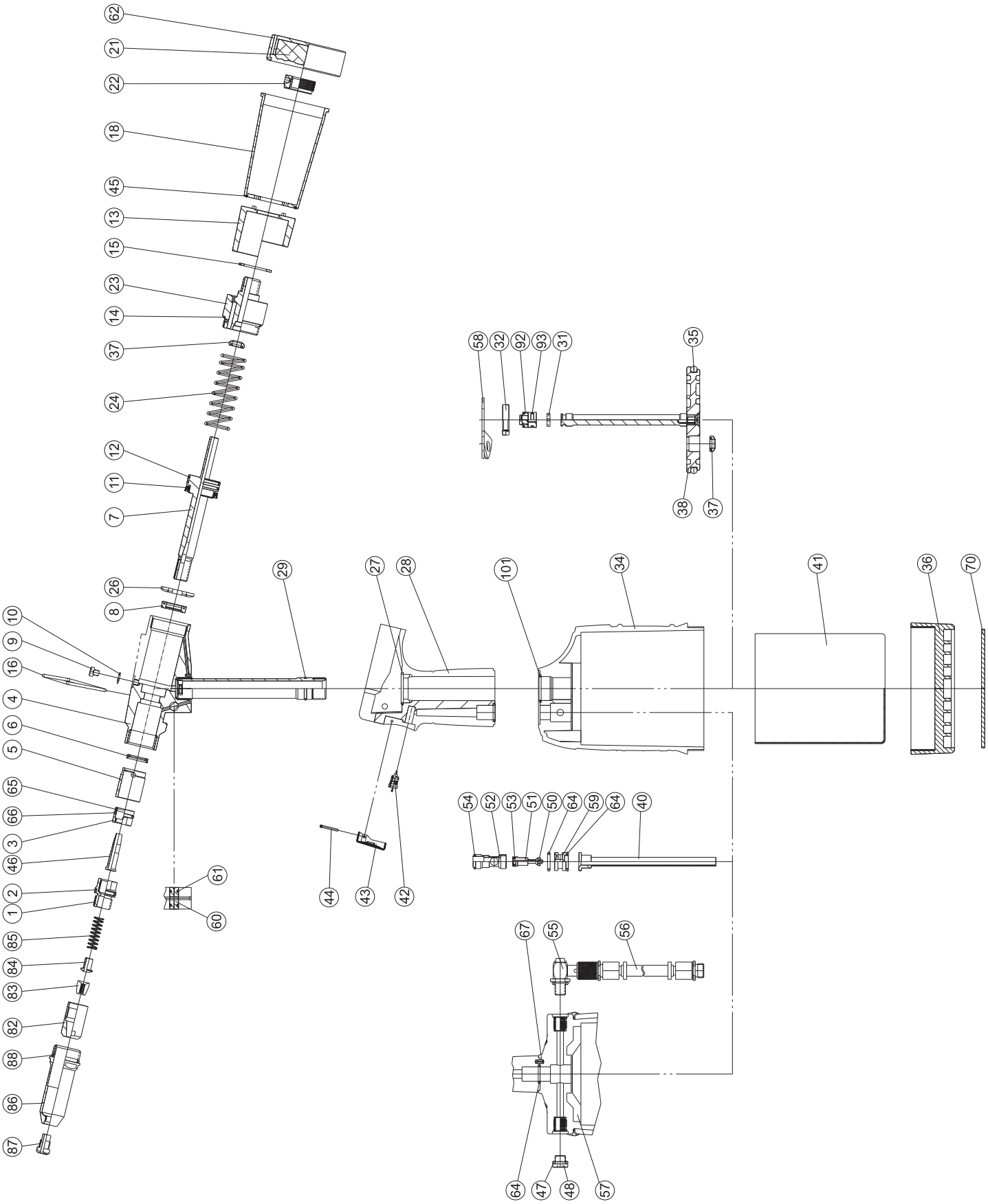
Assemble in reverse order to dismantling instructions.

IMPORTANT

Check the tool against daily and weekly servicing.

Priming is always necessary after the tool has been dismantled and prior to operating.

PAR-03 General Assembly



PAR-03 Parts List

Item	Description	QTY
01	Rear Connecting sleeve	1
02	'O'ring	1
03	Locknut	1
04	Oil Hydraulic Cylinder	1
05	Seal Housing	1
06	Lip Seal	1
07	Oil Pressure Arbor	1
08	Lip Seal	1
09	Oil Hole Screw	1
10	Oil Seal Retainer	1
11	Lip Seal	1
12	'O'Ring	1
13	Adapter	1
14	'O'Ring	1
15	Oil Seal Retainer	1
16	Suspension Ring	1
18	Mandrel Collector Bottle	1
21	Silencing Cotton	1
22	Fixing Nut	1
23	Mandrel collecting bottel Connector	1
24	Spring	1
26	Seal Retainer	1
27	'O'Ring	1
28	Handle Assembly	1
29	'O'Ring	1
31	Guide Ring	1
32	Clamp Nut	1
34	Body	1
35	'O'Ring	1
36	Base Cover	2
37	Lip Seal	1
38	Air Cylinder Piston	1
40	Transfer Pipe	1
41	Pneumatic Cylinder	1

Item	Description	QTY
42	Trigger Valve	1
43	Trigger	1
44	Trigger Pin	1
45	'O'ring	1
46	Vacuum Sleeve	1
47	'O'ring	2
48	Bolt	1
50	'O'ring	1
51	Valve Spool	1
52	Valve Body	1
53	'O'ring	1
54	'O'ring	1
55	ON/OFF Valve Assembly	1
56	Air Hose	1
57	Silencing Cotton	2
58	Clamp Plate	1
59	Air Valve Seat	1
60	Rotary Valve	1
61	'O'ring	2
62	Back Cap of Mandrel collecting bottel	1
64	'O'ring	3
65	'O'ring	1
66	'O'ring	1
67	Spring Pin	2
70	Rubber Base	1
82	Jaw Housing	1
83	3-piece Jaws	1
84	Jaw Spreader	1
85	Spring	1
86	Nose Casing	1
87	Nose Piece(4.0)(4.8)(6.4)	1
88	'O'Ring	1
92	Lip Seal	1
93	'O'Ring	1
101	'O'Ring	1

Priming

Priming is ALWAYS necessary after the tool has been dismantled and prior to operating. It may also be necessary to restore the full stroke after considerable use, when the stroke maybe reduced and blind rivets are not fully placed by one operation of the trigger.

Priming Procedure

IMPORTANT
Disconnect the tool from the air supply or switch off at valve spool.
Remove nose assembly from the tool.
All operations should be carried out on a clean bench, with clean hands in a clean area.
Ensure that the new oil is perfectly clean and free from air bubbles.
Care Must be taken at all times, to ensure that no foreign matter enters the tool, or serious damage may result.

- Remove bleed screw and bonded seal.
- Connect the air supply to the tool and switch on air supply at ON/OFF valve assembly.
- Invert tool over suitable container and actuate trigger. Residual oil will be emptied through bleed screw hole.

CARE SHOULD BE TAKEN TO ENSURE THAT THE BLEED HOLE IS NOT DIRECTED TOWARDS THE OPERATOR OR OTHER PERSONNEL.

- Screw locknut onto jaw spreader housing.
- Cut off the air supply to the tool and switch off air supply at ON/OFF valve assembly.
- Fill up the oil into the priming pump.
- Screw priming pump into bleed screw hole with seal retainer.
- Actuate priming pump by pressing down and releasing several times until resistant is evident.
- Remove priming pump and locknut.
- Replace bleed screw and seal retainer.
- Connect the air supply to the tool and switch on air supply at ON/OFF valve assembly.
- **Check that the stroke of the tool meets the specification in millimeter. In order to check the stroke, prior to the trigger is pressed or fully actuated, one should check the distance between the front face of jaw spreader housing and front face of the head. A stroke is measured by the difference between the two calculations. If the stroke does not reach the specification, repeat the above procedures.**

Fault Diagnosis

Symptom	Possible Cause	Solution	Page Ref
More than one operation of the trigger needed to place blind rivet	Air leak	Tighten joints or replace components	
	Insufficient air pressure	Adjust air pressure to within specification	5
	Insufficient Lubricant	Lubricate tool at the tip of air intake	6
	Worn or broken jaws	Fit new jaws	6
	Low oil level or air in oil	Prime tool	12
	Build up dirt inside the nose assembly	Service nose assembly	6
Tool will not grip mandrel of blind rivet	Worn or broken jaws	Fit new jaws	6-7
	Build up dirt inside the nose assembly	Service nose assembly	6-7
	Loose jaw housing	Tighten against locking ring	6-7
	Weak or broken spring in nose assembly	Fit new spring	6-7
	Incorrect component in nose assembly	Identify and replace	6-7
	Rotary valve is misadjusted	Adjust in accordance with the 'adjusting program'	6
Jaws will not release broken mandrel of blind rivet	Build up dirt inside the nose assembly	Service nose assembly	6-7
	Jaw housing, nose piece or nose casing not properly seated	Tighten nose assembly	6-7
	Weak or broken spring in nose assembly	Fit new spring	6-7
	Air or oil leak	Tighten joints or replace components	12
	Low oil level or air in oil	Prime tool	
Cannot feed next blind rivet	Broken mandrel jammed inside tool	Empty mandrel collector	4
		Check jaw spreader is correct	6-7
		Adjust air pressure to within specification	5
	Rotary valve is misadjusted	Adjust in accordance with the 'adjusting program'	6
Slow cycle	Insufficient lubrication	Lubricate tool at the tip of air intake.	7
	Low air pressure	Adjust air pressure to within specification	5
	Build up dirt inside the nose assembly	Service nose assembly	6-7
Tool fails to operate	No air pressure	Connect and adjust to within specification	5
	Damaged trigger valve	Replace	10-11
	Unfastened base cover	Tighten	10-11
	Unfastened mandrel collector	Tighten locknut	10-11
Blind rivet fails to break	Insufficient air pressure	Adjust air pressure to within specification	5
	Blind rivet outside tool capacity	Use more powerful tool. Contact PATTA.	
	Low oil level or air present in oil	Prime tool	12

Other symptoms or failures should be reported to your local PATTA authorized distributor or repair center.

校正

該工具被拆除後，在運行前，有必要進行啟校正。當大量使用後，衝程可能被減少，且緊固件沒有被扳機的一次性操作拉斷時，有必要恢復至全衝程。

校正程序

重要:斷開該工具的氣源或關閉閥門。從工具中移除槍頭組件。所有的操作應在潔淨臺上進行，手保持乾淨且在清潔區。確保新的油完全潔淨且無氣泡。必須一直保持警惕，以確保無異物進入該工具，否則，可能導致嚴重損害。

- 移除帶孔螺絲和密封
- 將氣源連接至該工具並將開/關閥旋扭至“開”的位置
- 在合適的容器上翻轉該工具並驅動扳機，廢油將通過放氣螺紋孔被放出。

應注意確保放氣孔未對準操作者或其他人員。

- 將防鬆螺母擰在爪片前端外套上。
- 切斷工具的氣源或將開/關閥旋扭至“關”的位置。
- 將啟動幫浦充滿油
- 使用密封將啟動幫浦擰進放氣螺絲孔中的適當位置。
- 通過數次按壓和釋放驅動啟動幫浦，直到感到阻力。
- 移除啟動幫浦和防鬆螺母
- 更換帶孔螺絲和密封
- 連接氣源至工具並將開/關閥擰至“開”的位置

- 檢查該工具的衝程是否符合以毫米計算的最小規定。為了檢查衝程，在按壓扳機之前且當扳機被充分驅動時，測量爪片前端外套正面和頭部的正面之間的距離。衝程是兩次測量之間的差值。如果衝程不符合最小值規定，重複啟動程式。

故障診斷排除

症狀	可能成因	補救	參考頁碼
放置緊固件需要操作超過一次扳機	漏氣	繃緊接頭或更換零件	
	氣壓不足	調節氣壓至規定範圍內	5
	缺少潤滑	在進風口尖端潤滑該工具	6
	爪片被磨損或毀壞	安裝新的爪片	7
	油位低或油中含有空氣	校正	12
	組件內部污垢增加	維修槍頭組件	7
工具不能夾緊拉釘的釘子	爪片被磨損或毀壞	安裝新的爪片	7
	槍頭組件內部污垢增加	維修槍頭組件	7
	爪片外套不牢固	再次繃緊扣環	7
	槍頭組件中彈簧無力或被毀壞	安裝新的彈簧	7
	槍頭元件中部件不正確	確定並更換	7
	旋轉閥被錯誤調節	按照‘調節程式’調節	6
爪片不釋放被夾壞的緊固件	槍頭組件內部污垢增加	維修槍頭組件	7
	爪片外套、導嘴或槍頭組件沒有被正確固定	繃緊槍頭組件	7
	槍頭組件中彈簧無力或被毀壞	安裝新的彈簧	7
	漏氣或漏油	繃緊接頭或更換部件	
	油位低或油中含有空氣	校正工具	12
不能放入下一支拉釘	被毀壞的廢釘卡在了工具內	清空集釘器	4
		檢查爪片推桿是否正確	7
		調節氣壓至規定範圍內	5
	旋轉閥被錯誤調節	按照‘操作程式’進行調節	6
慢速循環	缺乏潤滑	在進氣口尖端潤滑該工具	7
	低氣壓	調節氣壓至規定範圍內	5
	槍頭組件內部污垢增加	維修槍頭組件	7
工具不能運行	無氣壓	連接並調節至規定範圍內	5
	扳機閥受到毀壞	更換	10-11
	底蓋不牢固	繃緊	10-11
	集釘器不牢固	繃緊鎖緊螺母	10-11
拉釘無法夾斷	氣壓不足	調節氣壓至規定範圍內	5
	拉釘規格超出工具性能	使用功率更強的拉槍。聯絡PATTA	
	油位低或油中含有空氣	校正工具	12

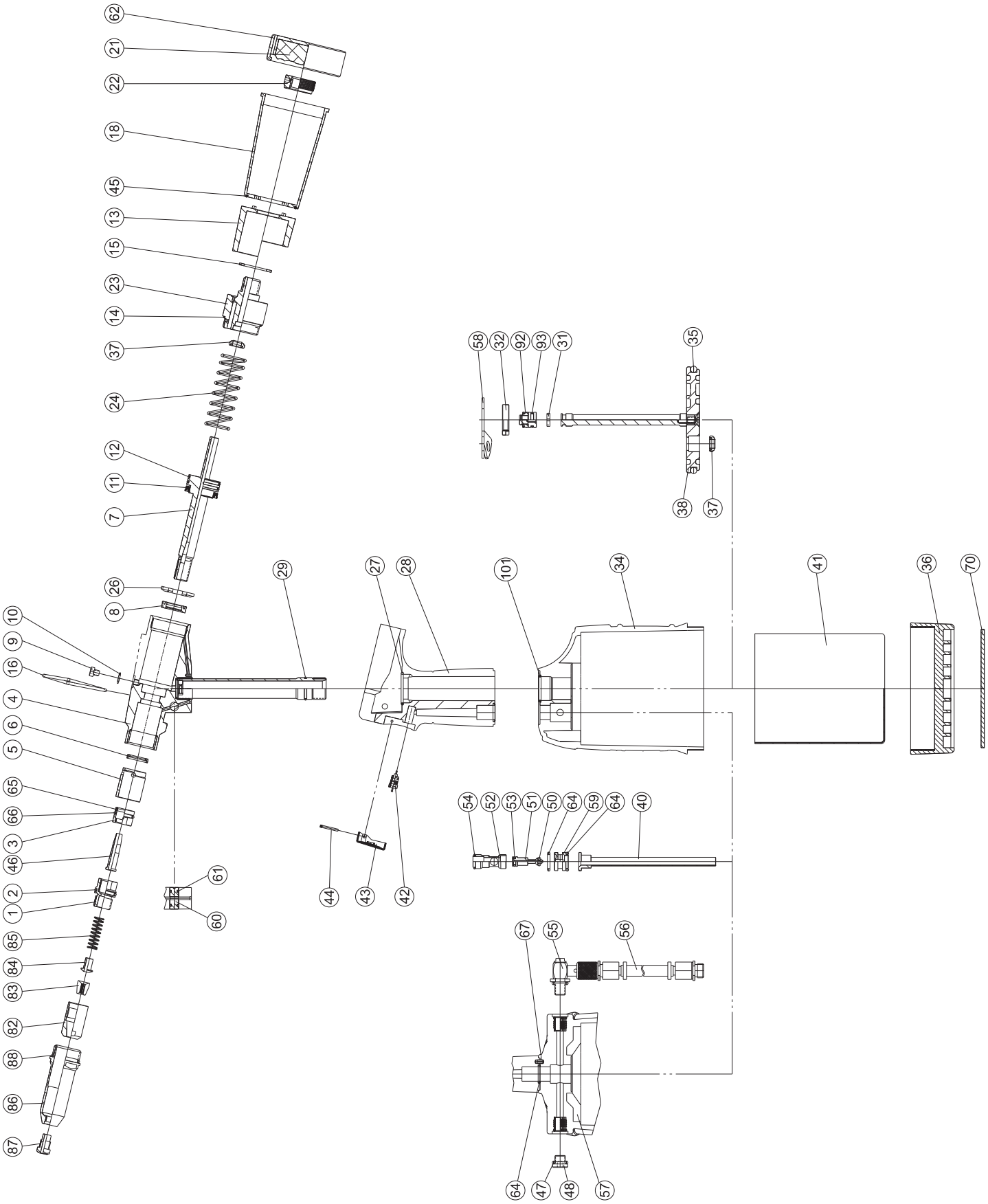
應將其他症狀或故障，報告至你當地的PATTA授權經銷商或維修中心。

PAR-03零件目錄表

項目	描述	數量
01	連結後套	1
02	‘O’型環	1
03	後套緊固螺母	1
04	油壓缸	1
05	密封套件	1
06	唇形密封件	1
07	油壓心軸	1
08	唇型密封件	1
09	注油孔螺絲	1
10	油封	1
11	唇形密封件	1
12	‘O’型環	2
13	轉接器	1
14	‘O’型環	1
15	油封	1
16	懸吊環	1
18	集釘瓶	1
21	消音綿	1
22	固定螺母	1
23	集釘瓶連結器	1
24	彈簧	1
26	密封護圈	1
27	‘O’型環	1
28	手柄套	1
29	‘O’型環	1
31	導向環	1
32	緊固螺母	1
34	氣壓缸外體	1
35	‘O’型環	1
36	氣壓缸底蓋	1
37	唇型密封件	2
38	氣缸活塞	1
40	傳輸管	1
41	氣壓缸	1

項目	描述	數量
42	觸發閥門	1
43	板機	1
44	板機梢	1
45	‘O’型環	1
46	真空套管	1
47	‘O’型環	2
48	螺栓	1
50	‘O’型環	1
51	氣閥內芯	1
52	氣閥外套	1
53	‘O’型環	1
54	‘O’型環	1
55	開/關閥總成	1
56	氣壓軟管	1
57	消音綿	2
58	夾板	1
59	氣閥座	1
60	旋轉閥	1
61	‘O’型環	2
62	集釘瓶後蓋	1
64	‘O’型環	3
65	‘O’型環	1
66	‘O’型環	1
67	彈簧梢	2
70	橡膠底座	1
82	爪片外套	1
83	三爪片	1
84	爪片推桿	1
85	彈簧	1
86	前釘管外套	1
87	導嘴(4.0)(4.8)(6.4)	1
88	‘O’型環	1
92	唇型密封件	1
93	‘O’型環	1
101	‘O’型環	1

PAR-03 爆炸圖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工具維修

頭部組件

按照與拆卸相反的順序進行組裝，注意以下幾點：

- 將唇形密封放置在插入杆上，確保方向正確。將導管推入工具的頭部並穿過該導管*，使用該密封插入杆推進至指定位置。然後，將插入杆推出該導管。
- 護圈的倒角邊緣必須面朝前面，缺口在底部。
- 將密封和安裝在活塞上後，確保方向正確，潤滑氣壓缸口徑並將活塞套放進頭部組件的後面。滑動彈狀物至活塞的螺紋部分上並穿過活塞套，使用密封將活塞盡可能推遠。滑動彈狀物並移除活塞套。
- 在將防鬆螺母固定在其對面前，爪片前端外套必須被充分固定在活塞頭上。

啟動活塞組件

- 移動‘開/關’氣門組件和‘O’形環。
- 用裝配有軟爪片的老虎鉗夾緊倒轉的工具機身穿過進氣孔軸轂。
- 使用釘扳手擰下底蓋並推出氣壓缸襯墊
- 從槍身拆除氣動活塞組件，連同‘O’形環、唇形密封和導環。
- 將密封提取器擰進密封組件，並將其推出頭部組件的增強劑管。

以與拆除相反的順序進行組裝

滑閥組件

- 按照緊接上文所述，移除氣動活塞元件和密封元件。
- 使用‘T’形扳手*和‘T’形扳手插口*鬆開緊固螺母並連同夾板、傳輸管和閥杆一併移除。
- 從老虎鉗中解除該工具，並將機身和‘O’形環與操作元件分離。
- 從增強劑管處移除‘O’形環，並從操作組件中拿掉頭部組件。
- 連同兩個‘O’形環，拉出閥座。
- 拿掉滑閥元件的所有元件
- 最後，從操作擴孔中移除‘O’形環

按照相反的順序進行組裝，注意以下事項:

- 確保閥座的中心口朝上。

扳機

- 使用2毫米直徑的尖沖頭，驅動扳機栓並拿掉扳機。
- 使用扳機活門提取器旋開扳機閥

以與拆除相反的順序進行組裝

重要: 每天和每週維修、檢查該工具。該工具被拆除後和在運行前，有必要進行啟動。

工具維修

抗磨耗型多用途潤滑油

抗磨耗型多用途潤滑油建議相對品牌推薦表〔ISO VG 46〕

Viscosity Grade Cst(40℃)	AGIP	BP	BLOSSOM	CASTROL	FINA	MOBIL	SHELL	TOTAL
ISO VG 46	Agip Radula 46	Energol THB 46	※Blossom Plus R&O 46	Magna 46	Fina Hydran 46	Mobil DTE 846 Series	Shell Turbo T46	Total Cortis 46

※：此記號本產品指定推薦使用油。
※：上列相對品牌推薦表，摘自INTERNATIONAL LUBE DATA BOOK(ASIA)。

維修說明

重要:閱讀第4頁上的安全說明。雇主負責確保將工具維護說明書發放給相應的人員。操作員不應參與該工具的維護或維修，除非接受過適當培訓。

- 除非另有明確指示，在實施任何維修或拆除之前，請務必將通風管斷開。
- 建議在清潔的條件下，進行任何拆卸操作。
- 在開始任何拆除之前，排空工具中的油，從操作組件的頂部卸下**螺絲9**和**密封圈10**並將油排出至適當的容器中。
- 在拆除該工具之前，有必要移除槍頭組件。參見第8頁上的槍頭組件部分以查閱說明
- 對於完整的工具維修，我們建議您按照所示順序自子元件的拆除開始。
- 任何拆除後，記住整備好該工具並安裝槍頭組件。

頭部組件

- 擰下鎖緊的螺母並拿掉集釘器組件。
- 拿掉集釘器接合器。
- 使用‘T’形扳手*移除後蓋，連同密封裝置，‘O’環和唇形密封。
- 移除緩衝器。
- 使用扳手鬆開防鬆螺母，然後擰下爪片前端外套和‘O’形環。
- 移除防鬆螺母
- 推動活塞頭至後部並推出頭部組件，小心不要損壞油壓缸口徑。
- 使用卡簧鉗移除密封護圈。將唇形密封推至後部並推出頭部組件，再次小心不要損壞油壓缸口徑。
- 移除密封套和唇形密封。

以上**黑體**標示的編號請參考零件圖面及零件表。

槍頭組件

安裝說明

重要: 在安裝或拆除導嘴時，務必斷開空壓機

- 爪片83，帶潤滑脂*
- 將爪片83放進爪片套筒82中。
- 將爪片推桿84爪片套筒82中
- 將彈簧85放置在爪片推桿84上。
- 握住該工具，尖頭朝下，將組裝好的爪片套筒82拴在爪片推桿上，用扳手拴緊。
- 將導嘴87拴緊在前端外套86中並用扳手繃緊*
- 將前端外套86放置在爪片套筒82上並拴在工具上，用扳手繃緊

維修說明

應每隔一周對槍頭組件設備進行檢修。需準備槍頭組件及導嘴及所有內部零件的備用物，因為這些元件需要進行定期更換。

- 使用與“安裝說明”相反步驟拆除導嘴。
- 任何磨損或損壞的部分應予以更換。
- 特別檢查爪片上的磨損。
- 檢查彈簧85是否被扭曲。
- 根據安裝說明進行裝配。

以上黑體標示的編號請參考零件圖面及零件表。

工具維修

重要: 閱讀第4頁上的安全說明。雇主負責確保將工具維護說明書發放給相應的人員。操作員不應參與該工具的維護或維修，除非接受過適當培訓。應定期對該工具進行損壞和故障檢查。

每天

- 每天，在使用前或當該工具首次投入使用時，如果在氣源處未安裝潤滑器，在工具的進氣口倒入幾滴清潔、輕質潤滑油。如果該工具處於持續使用中，供氣軟管應與主要氣源分離且每隔2到3個小時潤滑一次該工具。
- 檢查是否存在漏氣。如果受到損壞，應更換供氣軟管和離合器。
- 如果在調壓器上沒有過濾器，在將供氣軟管連接至該工具之前，從該軟管中排氣，以清除累積的灰塵或水。如果有過濾器，排掉過濾器中的水。
- 檢查槍頭組件是否適合放置緊固件。
- 檢查該工具的行程是否符合最小規格（第5頁）。
- 必須安裝集釘器裝置。
- 檢查底蓋是否被充分地固定在機身上。檢查廢釘是否正在被抽取至該工具的後部。如否，參考第7頁上的”**調整真空吸出**”
- 使用螺絲起子轉動旋轉閥，直到工具後部的氣流停止。槍頭組件朝下，將緊固件插入該導嘴並固定在該固定的地方。以任何方式轉動旋轉閥，直到有足夠的吸力吸住緊固件。

每週

- 拆除及清潔槍頭組件時，特別需要注意爪片，並使用潤滑脂進行潤滑。
- 檢查空氣供應軟管和裝置中是否存在漏油和漏氣。

每月

- 每當有跡象顯示衝擊造成的損壞、破碎或裂縫時，檢查並更換塑膠機身和底蓋。

每年（或每100萬次循環，取最快者）

- 每年或每100萬次循環，該工具應完全被拆除並將新的元件用於被磨損、損壞或建議更換的地方。應更新所有油環與密封物，並用潤滑劑潤滑。

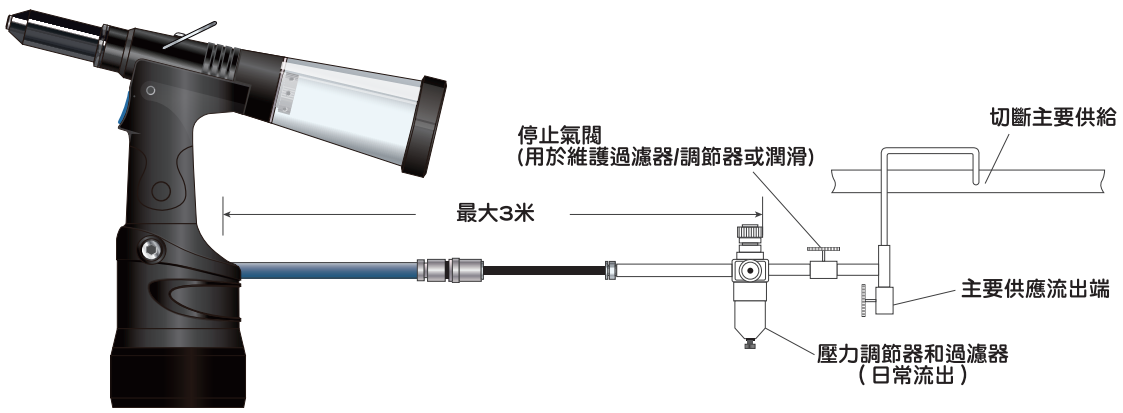
*在大約100萬循環後或每當有跡象顯示衝擊造成的損壞、破碎或裂縫時必須更換塑膠機身和基蓋。

使用投入

氣壓供給

所有的工具都是由在5.5 bar的最佳壓力下的壓縮空氣運行。我們建議在主要的空氣供應上使用壓力調節器和過濾系統。這些應被安裝在距離工具3米以內（見下圖），以確保最大的工具壽命和最低的工具維護。

供氣軟管應有一個最小工作有效壓力級，為系統內產生的最大壓力的150%或10 bar，取最高者。供氣軟管應耐油，具有一個耐磨表面，並在操作環境可能導致軟管受損的地方的裝上保護層。所有供氣軟管必須有一個6.4毫米或1/4英寸的最小孔徑。



操作步驟

- 確保適合於該緊固件的導嘴是按照第8頁上的指示進行安裝的。
- 連接該工具至氣源。
- 將緊固件釘子插入該工具的導嘴。
- 將緊固件正對著並且插入締結物上已準備好的鑽孔中。
- 充分啟動扳機，該工具轉動將鑽孔拴緊緊固件。
- 檢查截斷的釘子是否被吸取至該工具的後部，如否，調整真空吸出旋轉閥。

調整真空吸出

- 使用螺絲起子轉動旋轉閥，直到該工具後部的氣流停止。
- 使用工具朝向下的導嘴，將緊固件插入導嘴中並將其固定在該位置中。
- 轉動旋轉閥至任一方向，直到有足夠的吸氣保持該緊固件。

規格

型號	PAR-03	
行程	最長	26mm
拉力	@氣壓 5.5bar/5.5kgf	12.9kn1316kgf
重量	公斤	2.3kg
一次行程	秒	1.2s
使用氣壓	最小-最大	5-7kgf (不可超過7kgf)
一次行程 消耗氣量	@氣壓 5.5kgf	4.3L
噪音	低於	75 dB(A)
震動	低於	2.5 m/s2

使用意圖

緊固件適用範圍

PAR系列是液壓氣動啟動工具，被設計用來以高速度使用拉釘，使其成為在工業中或生產線裝配的理想選擇。各PAR系列工具可適用於以下所列出的所有緊固件。
此工具的特徵在於，無論工具方位為何，可調節真空系統及無障礙收集廢釘的功能皆不受影響。
參見第7頁上的“操作程式”，查閱調整說明。

型號	PAR-03	
材質	鐵/鐵	不銹鋼/不銹鋼
一般性使用	6.4mm以下	6.4mm以下
生產線使用	6.4mm以下	4.8mm以下

安全規章

任何安裝、操作或維修本工具的人員在閱讀本操作手冊時必須特別注意閱讀以下安全規章

1不得用於設計意圖之外的目的。

2不得使用除PATTA建議和提供的設備以外的設備搭配本工具/機器。

3客戶對本工具/機器、槍頭組件、配件或PATTA或其代理人提供的任何設備進行的任何修改由客戶承擔全部責任。PATTA將樂意對任何擬議的修改提供建議。

4 工具/機器必須一直保存在安全的工作環境中，且由經過培訓的資格人員定期檢查損壞和功能。在大約使用1百萬次後或每當有跡象顯示毀壞、破碎或裂縫時必須更換塑膠機身和底蓋。任何拆除步驟應僅由接受過PATTA規章培訓的人員實施。在未事先參考維護說明書的情況下，不得拆除本工具/機器。請就您的培訓要求聯繫PATTA。

5在任何時候，應根據相關的健康和安全規定操作該工具/機器。任何有關本工具/機器的正確操作和操作員安全的問題應由PATTA指導。

6 客戶必須對所有的操作員解釋，在使用本工具/機器時應遵守的防範。

7在試圖調節、安裝或拆除某槍頭組件之前，請務必斷開連接至工具/機器入口的通風管。

8 操作該工具/機器時，請勿將其指向任何人員或操作者。

9 操作該工具/機器之前，務必選定一個牢固的立足處或穩定的位置。

10確保通風口未被堵塞或覆蓋。

11操作壓力不得超過7kgf，會造成零件損壞。

12除非另有明確規定，若該工具未安裝有完整的槍頭組件，請勿操作該工具。

13應小心確保廢棄釘子不會造成危險。

14如果該工具安裝有集釘器，當該集釘器半分滿的時候必須對其進行清空。

15如果無使用集釘器，廢釘置於空氣中，使用該工具時，操作員和其他在附近工作的人員都需佩戴安全防護眼鏡以預防廢釘噴出。我們建議佩戴手套，避免如果使用中存在鋒利的邊緣或棱角。絕不能容許任何銳器或以其他方式損壞該工具的塑膠機身或底蓋，見安全規章4。如果該工具未安裝橡膠底蓋，不得進行操作。

16在移動該工具的部件中，注意避免寬鬆衣服、領帶、長髮、抹布等的牽連，應保持該工具乾燥、清潔，以獲得最合適的握力。

17在搬動該工具時，手請勿接觸到扳機/控制杆以避免意外啟動。

18應避免過多接觸液壓液態油。為了儘量減少皮疹的可能性，應注意徹底清洗。

19你可以向你的工具供應商索取所有液壓油和潤滑油的資料。

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保證

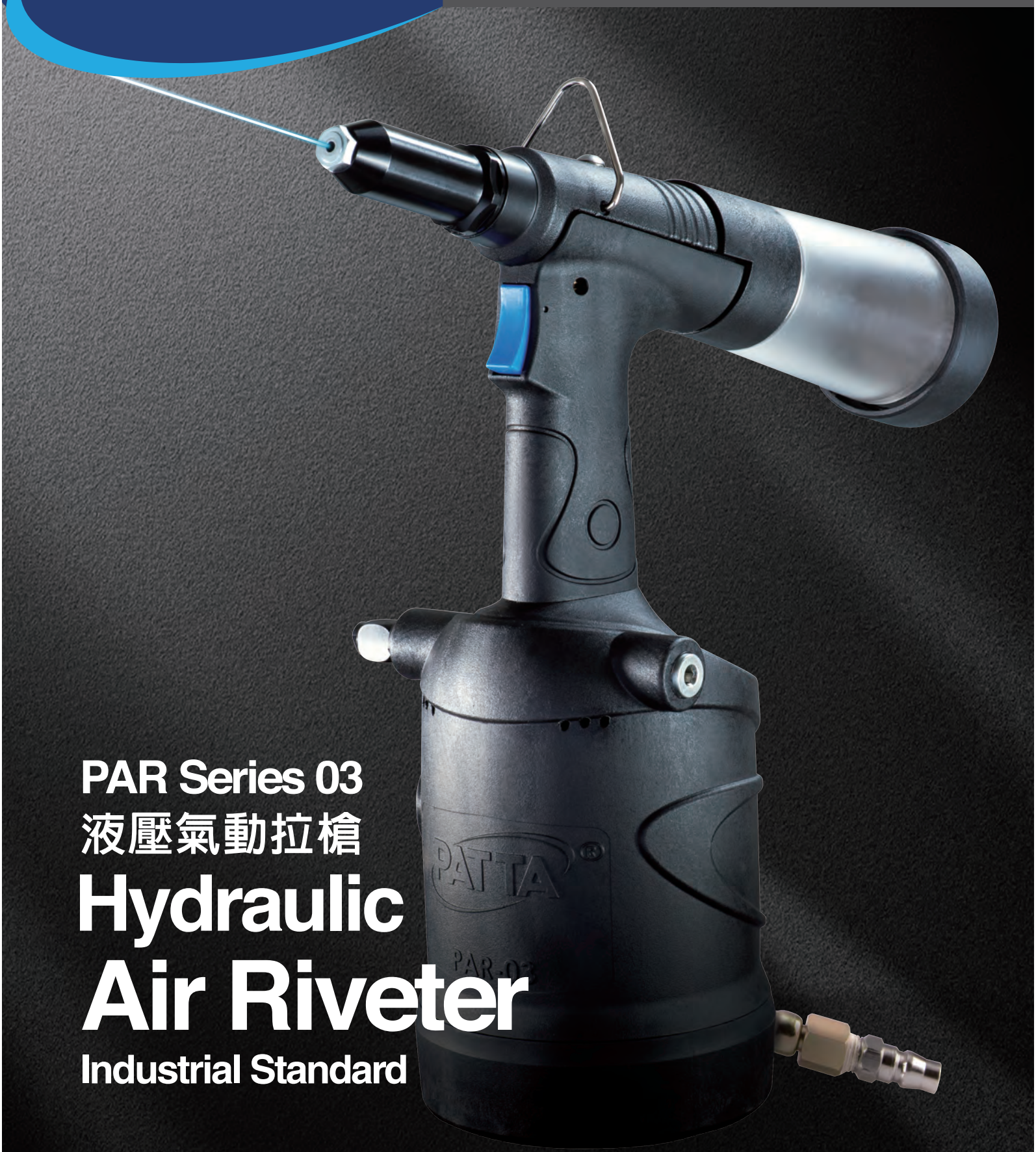
PATTA安裝工具對劣質材料或不良技術導致的缺陷提供12個月的保固期，保固期自發票或提貨單確認的交貨日期起算。
當由授權批發商店出售且僅當被用於預期目的時，本保固條款將適用於用戶/買方。如果未按照包含在操作和維修手冊中的說明維修、維護和操作該安裝工具，本保固條款將失效。
如果出現缺陷或故障，且根據其自行決定權，PATTA只保證維修或更換故障元件

不斷發展與提升產品品質是PATTA的一項政策，我們保留更改任何產品的規格，恕不另行通知。

PATTA®

PAR-03

操作手冊



PAR Series 03
液壓氣動拉槍

Hydraulic Air Riveter

Industrial Standard