

INSTRUCTION MANUAL

for JCP Cartridge Tool PA97

Cartridge Calibre 6.8/11mm



The Specialist Fixing Supplier

Exclusively to the Distributor



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The safe use of the JCP PA97 is the responsibility of the operator. The tool must not be used until the instruction manual has been read and understood and the operator has received training and certification from a suitably qualified authorised instructor.

To operate this tool you must be:

- 1) Over 18 years of age
- 2) Be able to distinguish the different colour cartridges
- 3) Have read and understood the instruction manual
- 4) Be properly trained in its use

TRAINING

Training and certification must be obtained from the supplier of the tool whether it is purchased or hired.

Should proper training not be available at the point where you obtain the tool, contact JCP Construction Products before attempting to use the tool.

Obtaining the necessary training is the responsibility of the operator.

LIMITATIONS

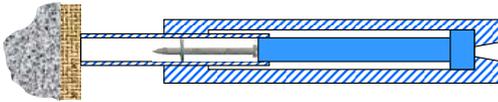
Just as no manual or instructions can forewarn the operator of all possible situations that may occur neither can this instructional manual or any training that is given.

Recognising any potential risk and reacting to them in a safe way is the responsibility of the operator.

GENERAL DESCRIPTION



The JCP PA97 Cartridge Tool is a low velocity, indirect acting tool using the expanding gases of a blank cartridge to drive a piston which in turn punches the fastener through the fixture into the base material. The tool works on the co-acting principle where the fastener is always in contact with the piston to give optimum performance.



The PA97 is suitable for fasteners up to 97mm long but fasteners above 72mm need to be pre-driven into the timber or material being fixed.

DRIVE PINS AND CARTRIDGES

The PA97 is designed to take a 12mm metal washered Drive Pin suitable for use in cartridge tools, together with a C.I.P approved 6.8/11mm Blank Strip Cartridge designed for use in these tools.

To use of any other fastener or cartridge may cause damage to the tool and could lead to serious injury or death.

SUITABLE BASE MATERIAL

Not all materials are suitable for fixing into using cartridge tools. They must not be too hard, too soft or too brittle and care must be taken to ensure the base material is suitable for the application.

Suitable Base Materials

Concrete between 20 & 50 N/mm² Mild Steel Grade 40 to 50 and common bricks.

Unsuitable Base Materials

Tempered Steel, Cast Iron, Aluminium, Natural Hard Stone, Engineering Brick, Lightweight Blocks, Plasterboard, Wood.

APPLICATIONS

The applications for fixings made with JCP PA97 are many and varied.

They include fixing timber, steel sheet, brick ties and drywall track to concrete and steel.

They can also be used for attaching plumbing and electrical fittings. These applications are only meant as a guide and there are many others.

WARNING



Do not attempt to use Cartridge Tools without first reading and understanding the Instruction Manual and receiving training.

NEVER:

- Attempt to bypass or modify any of the safety features on the tool
- Attempt to fasten into soft, thin, brittle or very hard materials
- Attempt to fasten to a spalled, cracked or uneven surface
- Place a hand over the muzzle end of the tool
- Use the tool for other than its intended purpose

ALWAYS:

- Receive training before attempting to use the tool
- Follow the safety precautions as they appear in this manual
- Wear impact protection goggles to EN166-B or BS2092 grade 1, ear protection for levels up to 149dB, safety helmets to EN397 or BS5249, safety boots to EN345 or BS1870/4972, together with any other safety equipment as determined by the location and application.

- Ensure the base material is suitable for the application.
- Follow proper edge and spacing guidelines.

TESTING BASE MATERIAL

Before fastening into any material always check it is suitable for shot firing into.

Using the fastener as a punch, strike it a firm blow with a hammer with the point in contact with the base material.

If the point is blunted the material is too hard and unsuitable, if the material shatters is too brittle and unsuitable, if the fastener sinks into the material it is too soft and unsuitable. The fastener should leave a clear indent on the base material without penetrating it to any depth.

USING THE TOOL



BEFORE USE:

- Make sure you have been trained in the use of the tool
- Ensure tool is in safe condition
- Check the tool is not loaded
- Ensure the area is safe and warn other trades working nearby
- Carry out a suitability test of the base material

DURING USE:

- Always wear suitable eye, ear and head protection as well as suitable footwear, plus any other safety or protective equipment as may designated for the site or application.
- Adopt a well balanced stance
- Always point the tool away from yourself and bystanders
- Never place your hand over the front of the tool
- Hold the tool perpendicular to the work surface
- Never fix close to an edge, another fixing or where a fixing has failed
(See page 8 for edge and spacing distances)

Maximum repetition rate: 12 fixings/minute

Noise Level: (EN15895-1)

A weighted sound level, L_{WA} in decibels 88

Uncertainty, K_{WA} in decibels 3

A weighted sound level at work station, L_{PA} in decibels 75

Uncertainty, K_{PA} in decibels 3

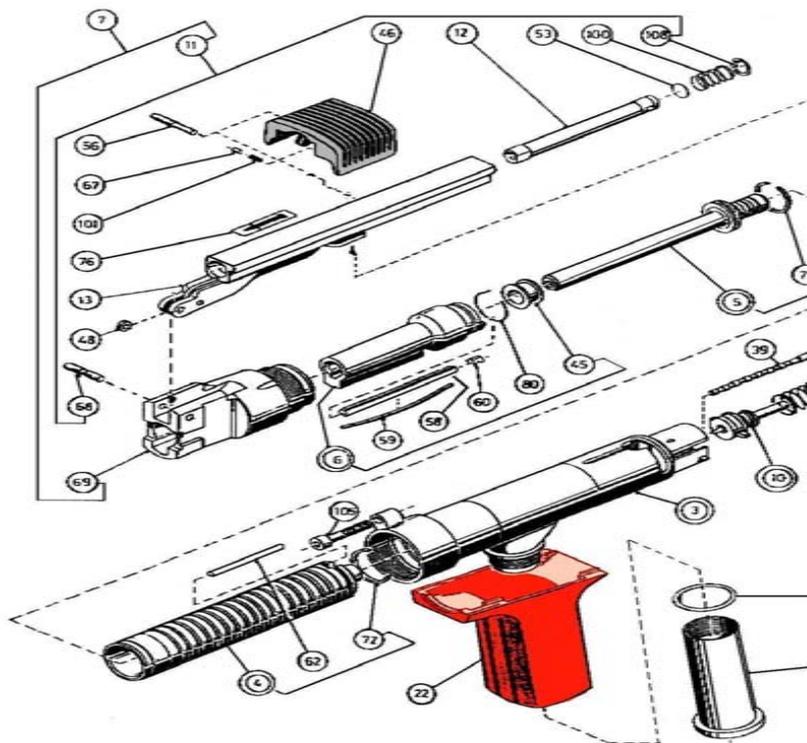
Vibration Level Does not exceed 2.5m/s^2

Misfire Procedure

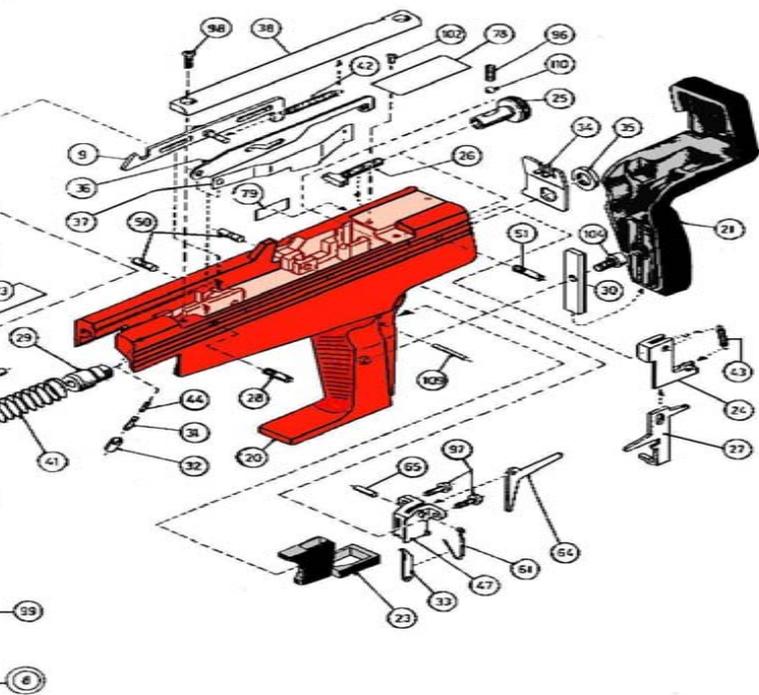
In the event of a misfire do not remove the tool from the work surface at least 20 seconds. Re-apply the tool and try again. In event of another misfire and after waiting a further 30 seconds remove the cartridge strip from the tool and remove the fastener. Mark the tool with a DO NOT USE label and place the tool in a secure box. Contact your supplier to have the tool inspected.

After Use

- Remove the cartridge strip from the tool
- Inspect the tool for damage
- Clean and lubricate tool
- Return the tool to its box and secure in a safe place
- Store the tool in a dry environment



ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
3	SP701	Steel Liner	26	SP718	Regulating Pin
4	SP702	Piston Guide Assembly	27	SP719	Sear
5	SP703	Piston	28	SP720	Special Screw
6	SP704	Fastener Guide	29	SP721	Spring Guide
7	SP705	Base Plate Assembly	30	SP722	Support Strip
8	SP706	Silencer Assembly	31	SP723	Special Pin
9	SP707	Connector Assembly	32	SP724	Special Pin Sleeve
10	SP708	Firing Pin Assembly	33	SP725	Magazine Detent
11	SP709	Cocking Lever Assembly	34	SP726	Retention Plate
12	SP710	Ram Assembly	35	SP727	Nut
13	SP711	Cocking Lever Parts Set	36	SP728	Transport Lever
20	SP712	Housing	37	SP729	Leaf Spring
21	SP713	Rubber Grip	38	SP730	Cover Plate
22	SP714	Jacket	41	SP731	Firing Pin Spring
23	SP715	Trigger	42	SP732	Tension Spring
24	SP716	Sear Guide	43	SP733	Tension Spring
25	SP717	Thumbwheel	44	SP734	Compression Spring

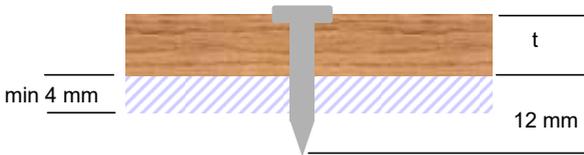


ITEM	PART NO.	DESCRIPTION	ITEM	PART NO.	DESCRIPTION
45	SP735	Stop Ring	69	SP752	Base Plate
46	SP736	Cocking Grip	72	SP753	Piston Ring
47	SP737	Holder	73	SP754	Retaining Ring
48	SP738	Circlip	76	SP755	Fastener Symbol
50	SP739	Swivel Pin	79	SP756	Data Plate
51	SP740	Special Screw	80	SP757	Retaining Ring
53	SP741	Disc	96	SP758	Compression Spring
56	SP742	Threaded Pin	97	SP759	Self Tapping Screw
58	SP743	Fastener Detent	98	SP760	Self Tapping Screw
59	SP744	Spring	99	SP761	O-Ring
60	SP745	Pivot Pin	100	SP762	Compression Spring
61	SP746	Detent Spring	101	SP763	Compression Spring
62	SP747	Pressure Pin	104	SP764	Allen Cap Screw
64	SP748	Release lever	105	SP765	Allen Cap Screw
65	SP749	Dowel Pin	108	SP766	Circlip
67	SP750	Friction Pin	109	SP767	Dowel Pin
68	SP751	Base Plate	110	SP768	Steel Pin

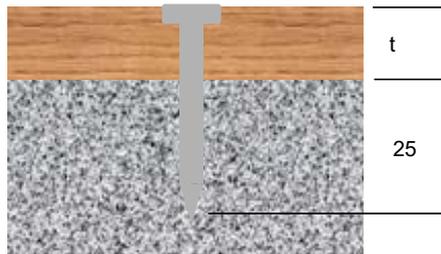
FASTENER SELECTION



STEEL: When fixing steel of a suitable type and strength the base material must be at least 4mm thick to ensure a positive fix. The length of the fastener must be the thickness of the fixture (t) plus 12mm.



CONCRETE: For fixing into concrete the fastener should be the thickness of the fixture (t) plus 25mm.



BRICKWORK: Fixings can be made to solid brickwork but due to the variable nature of bricks extra care must be taken. A penetration depth of between 25 & 32mm is usually required. If in doubt contact your supplier or JCP Construction Products.

EDGE AND SPACING DISTANCES

	Spacing	Edge Distance	Thickness
Steel	20	25	4-7mm
	15	20	>7mm
Concrete	100	75	80

A fixing to brickwork should be at least 3 courses down from the top of a wall and 1 full brick in from an edge. Only 1 fixing per brick should be made and do not fix into mortar joints.

CARTRIDGE SELECTION



The PA97 Cartridge Tool is designed to be used with 6.8/11mm calibre blank cartridges of 3 different strength, which have been C.I.P approved.

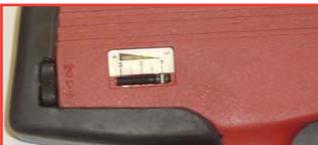
Colour	Strength	Power Level	Part No
Yellow	Medium	4	V4LVS7Y
Red	High	6	V6REDLVS27
Black	Extra High	7	V7LKLVS27

Although most fixings will be carried out using the red cartridge, it is recommended to start with the lowest cartridge strength and lowest power setting, gradually increasing the power and cartridge strength until the correct fastener penetration is achieved.

Do not overpower the tool as this may cause the fastener to break and ricochet or pass completely through the material. It will also cause excessive wear and possible damage to the tool.

ADJUSTING THE POWER LEVEL

All trial fixings should be made with the Power Level set to minimum and gradually increase the power until the correct level is achieved.



Minimum Power

Rotate wheel to increase and decrease power
Always adjust power level before cocking tool



Maximum Power

LOADING AND FIRING THE TOOL



Hold the tool with the muzzle pointing upwards and insert fastener POINT FIRST into the cocking lever. The fastener will slide down the cocking lever until it is held in place by the magnet.



Release the cocking grip and pivot the cooking lever through 180° to the forward position.



Pull back the cocking grip as far as it will go then return it to its original position. Return the cocking lever to the start position and lock the cocking grip into place.



Insert the cartridge strip, leading with the end with the arrow, into the tool grip until the bottom end of the strip is flush with the tool.



Place the tool perpendicular to the work surface and adopt a well balanced stance. Push against the tool to fully depress the fastener guide then pull the trigger.

Operators must be aware of the inevitable recoil when the tool is fired.

For subsequent fixings repeat the above. The cartridge strip will advance each time the tool is cocked. Continue the operation until the cartridge strip is used up then remove the strip from the top of the tool.

If there are insufficient fixings required for a complete strip of 10 cartridges remove the strip at the end of the fixing operation.

DO NOT LEAVE LOADED TOOLS UNATTENDED.

CLEANING AND MAINTENANCE



Before any maintenance ensure the cartridge strip has been removed.

Tool should be cleaned at least once per week or after a maximum of 2500 fixings.



Release cocking grip, disconnect cocking assembly from connector assembly and unscrew baseplate.



Remove fastener guide from baseplate



Remove piston and piston guide from main body of the tool

1. Clean the tool with the brushes provided in the kit to remove all dirt and carbon deposits.
2. Check all parts for wear and damage. Pay particular attention to the stop ring on the back of the fastener guide and to the front of the piston. Excessive wear on either of these parts can lead to serious damage to the tool.
3. Lightly lubricate the parts with the oil provided. (Part no LS100). Do not lubricate with a carbon based oil.
4. Reassemble the tool, reversing the above procedure. Do not force any parts or apply excessive pressure.
5. Dry fire the tool without a cartridge or fastener to ensure correct operation.

If in doubt do not guess but contact your supplier or JCP Construction Products.

IF IN DOUBT DO NOT GUESS BUT CONTACT YOUR SUPPLIER OR JCP CONSTRUCTION PRODUCTS.

FAULT FINDING



FAULT	CAUSE	REMEDY
Tool will not fire	Cartridge strip not loaded All cartridges in strip used Tool not fully depressed on work surface Firing pin not hitting cartridge	Load cartridge strip Load new cartridge strip Push down more on tool Remove cartridge strip Dry fire tool and listen for click of firing pin moving. If not heard return tool for repair.
<i>Always follow misfire procedure (Page 7)</i>		
Lack of power	Power setting too low Cartridge too weak Tool Dirty Tool not properly cocked Piston bent	Increase power setting on power adjuster Use stronger cartridge Strip tool, clean and lubricate Ensure piston is pushed fully to the rear when cocking Examine piston and replace
Fastener will not penetrate base material	Power setting too low Fastener too short Base material too hard	See above Check fastener length (page 10) Carry out base material test (page 6)
Fastener bends	Fastener too long Base material too hard	Check fastener length (page 10) Carry out base material test (page 6)
Head breaks off fastener	Power setting too high	Turn down power setting Reduce cartridge strength
Fastener will not hold	Fastener too short Base material too soft	Check fastener length (page 10) Carry out base material (page 6)





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