

ORIGINAL OPERATING INSTRUCTIONS

DX 76 PTR powder-actuated fastening tool

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It is essential that the operating instructions are read before the tool is operated for the first time.

Always keep these operating instructions together with the tool.

Ensure that the operating instructions are with the tool when it is given to other persons.

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1 These numbers refer to the corresponding illustrations. The illustrations can be found on the fold-out cover pages. Keep these pages open while studying the operating instructions.

In these operating instructions, the designation “the tool” always refers to the DX 76 PTR powder-actuated fastening tool.

Parts and operating controls **1**

DX 76 PTR tool

- ① MX 76-PTR fastener magazine
- ② Contact pins
- ③ Protective cap
- ④ Cycling grip
- ⑤ Cartridge strip guideway
- ⑥ Loading status control window
- ⑦ Power regulation wheel
- ⑧ Power regulation indicator
- ⑨ Padded end cap
- ⑩ Tool casing
- ⑪ Grip pad
- ⑫ Trigger
- ⑬ Piston guide release lever
- ⑭ Piston guide
- ⑮ Fastener magazine spall guard
- ⑯ Fastener stop piece
- ⑰ Ventilation slots
- ⑱ X-76-F-15-PTR fastener guide
- ⑲ Tool spall guard

Wearing parts

- ⑳ X-76-P-ENP-PTR piston
- ㉑ X-76-P-ENP2K-PTR piston
- ㉒ X-76-P-PB-PTR piston brake

1 Safety instructions

1.1 Basic information concerning safety

In addition to the information relevant to safety given in each of the sections of these operating instructions, the following points must be strictly observed at all times.

1.1.1 Using cartridges

Use only Hilti cartridges or cartridges of equivalent quality.

Use of cartridges of inferior quality in Hilti tools may lead to a build-up of unburned powder, which may explode and cause severe injuries to operators and bystanders. Cartridges must fulfill one of the following minimum requirements:

- a) **The applicable manufacturer must be able to verify successful testing in accordance with the EU standard EN 16264 or**
- b) **The cartridges must bear the CE conformity mark (mandatory in the EU as of July 2013).**

NOTE

All Hilti cartridges for powder-actuated tools have been tested successfully in accordance with EN 16264. The tests defined in the EN 16264 standard are system tests carried out by the certification authority using specific combinations of cartridges and tools. The tool designation, the name of the certification authority and the system test number are printed on the cartridge packaging.

Please refer to the packaging example at: www.hilti.com/dx-cartridges

1.1.2 Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a direct fastening tool. Do not use tool while tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating tools may result in serious personal injury.

- b) Avoid unfavorable body positions. Make sure you work from a safe stance and stay in balance at all times.
- c) Never point the tool toward yourself or other persons.
- d) Never press the nosepiece of the tool against your hand or against any other part of your body (or other person's hand or part of their body).
- e) Keep other persons, especially children, away from the area in which the work is being carried out.
- f) Keep the arms slightly bent while operating the tool (do not straighten the arms).

1.1.3 Use and care of powder-actuated fastening tools

- a) Use the right tool for the job. Do not use the tool for purposes for which it was not intended. Use it only as directed and when in faultless condition.
- b) Press the tool against the working surface at right angles.
- c) Never leave a loaded tool unattended.
- d) Always unload the tool (remove cartridges and fasteners) before cleaning, before maintenance, before work breaks and before storing the tool.
- e) When not in use, tools must be unloaded and stored in a dry place, locked up or out of reach of children.
- f) Check the tool and its accessories for any damage. Guards, safety devices and any slightly worn parts must be checked carefully to ensure that they function faultlessly and as intended. Check that moving parts function correctly without sticking and that no parts are damaged. All parts must be fitted correctly and fulfill all conditions necessary for correct operation of the tool. Damaged guards, safety devices and other parts must be repaired or replaced properly at a Hilti service center unless otherwise indicated in the operating instructions.
- g) Pull the trigger only when the tool is fully pressed against the working surface at right angles.
- h) Always hold the tool securely and at right angles to the working surface when driving in fasteners. This will help to prevent fasteners being deflected by the working surface.
- i) Never redrive a fastener. This may cause the fastener to break and the tool may jam.
- j) Never drive fasteners into existing holes unless this is recommended by Hilti.
- k) Always observe the application guidelines.
- l) Use the spill guard when the application permits.
- m) Never pull the magazine or fastener guide back by hand as this could, under certain circumstances, make the tool ready to fire. This could cause a fastener to be driven into a part of the body.

1.1.4 Work area safety



- a) Ensure that the workplace is well lit.
- b) Operate the tool only in well-ventilated working areas.
- c) Do not attempt to drive fasteners into unsuitable materials: Materials that are too hard, e.g. welded steel and cast iron. Materials that are too soft, e.g. wood and drywall panel (gypsum board). Materials that are too brittle, e.g. glass and ceramic tiles. Driving a fastener into these materials may cause the fastener to break, shatter or to be driven right through.
- d) Never attempt to drive fasteners into materials such as glass, marble, plastic, bronze, brass, copper, rock, insulation material, hollow brick, ceramic brick, thin sheet metal (< 2.7 mm), cast iron or cellular concrete.
- e) Before driving fasteners, check that no one is present immediately behind or below the working surface.
- f) Keep the workplace tidy. Objects which could cause injury should be removed from the working area. Untidiness at the workplace can lead to accidents.
- g) Keep the grips dry, clean and free from oil and grease.
- h) Wear non-skid shoes.
- i) Take the influences of the surrounding area into account. Do not expose the tool to rain or snow and do not use it in damp or wet conditions. Do not use the tool where there is a risk of fire or explosion.

1.1.5 Mechanical safety precautions



- a) Select the correct fastener guide and fastener combination for the job on hand. Failure to use the correct combination of these items may result in injury or cause damage to the tool and/or lead to unsatisfactory fastening quality.
- b) Use only fasteners of a type approved for use with the tool.
- c) Never fill the magazine with fasteners unless it is correctly installed onto the tool. The fasteners could be ejected uncontrollably.
- d) Never use worn or damaged piston brakes and do not attempt to manipulate or modify the piston.

1.1.6 Thermal safety precautions



- a) If the tool has overheated, allow it to cool down. Do not exceed the recommended fastener driving rate.
- b) Always wear gloves if the tool has to be dismantled for cleaning or maintenance before it has been allowed to cool down.
- c) The tool must be allowed to cool down if the plastic cartridge strip begins to melt.

1.1.7 Danger of explosion



- a) Use only cartridges of a type approved for use with the tool.

- b) Remove the cartridge strip from the tool carefully.
- c) Do not attempt to forcibly remove cartridges from the magazine strip or tool.
- d) Unused cartridges must be stored in a dry, high place, locked up or out of reach of children.

1.1.8 Personal protective equipment



The user and any other persons in the vicinity must wear suitable eye protection, a hard hat and ear protection while the tool is in use or when remedying a problem with the tool.

2 General information

2.1 Safety notices and their meaning

DANGER

Draws attention to imminent danger that will lead to serious bodily injury or fatality.

WARNING

Draws attention to a potentially dangerous situation that could lead to serious personal injury or fatality.

CAUTION

Draws attention to a potentially dangerous situation that could lead to slight personal injury or damage to the equipment or other property.

NOTE

Draws attention to an instruction or other useful information.

2.2 Explanation of the pictograms and other information

Warning signs



General warning



Warning: explosive substances



Warning: hot surface

Obligation signs



Wear eye protection



Wear a hard hat



Wear ear protection



Wear protective gloves



Read the operating instructions before use.

Location of identification data on the tool

The type designation and serial number can be found on the type identification plate on the tool. Make a note of this data in your operating instructions and always refer to it when making an enquiry to your Hilti representative or service department.

Type: _____

Serial no.: _____

3 Description

3.1 Use of the product as directed

The tool is intended for use in the construction industry and associated trades for driving fasteners into steel.

The tool is for hand-held use only.

Modification of the tool is not permissible.

The tool may not be used in an explosive or flammable atmosphere unless it has been approved for use under these conditions.

To avoid the risk of injury use only genuine Hilti fasteners, cartridges, accessories and spare parts or those of equivalent quality.

Observe the information printed in the operating instructions concerning operation, care and maintenance.

The tool and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

The tool may be operated, serviced and repaired only by trained personnel. This personnel must be informed of any special hazards that may be encountered.

As with all powder-actuated fastening tools, the tool, magazine, cartridges and fasteners form a technical unit. This means that trouble-free fastening with this system can be assured only if the Hilti fasteners and cartridges specially manufactured for it, or products of equivalent quality, are used. The fastening and application recommendations given by Hilti apply only when these conditions are observed.

The tool features a 5-way safety system for the safety of the user and all bystanders.

3.2 Piston principle with piston brake

The energy from the propellant charge is transferred to a piston, the accelerated mass of which drives the fastener into the base material. Due to use of this piston principle, the tool is classified as a "low velocity tool". Approximately 95 % of kinetic energy is taken up by the piston when the tool is fired. As the piston is always stopped by the piston brake as it reaches the end of its travel, excess energy is absorbed by the tool. Accordingly, when the tool is used correctly, dangerous through-shots become virtually impossible.

3.3 Drop-firing safety device

The drop-firing safety device is the result of coupling the firing mechanism with the cocking movement. This prevents the tool from firing when dropped onto a hard surface, no matter at which angle the impact occurs.

3.4 Trigger safety device

The trigger safety device ensures that a fastener cannot be driven simply by pulling the trigger only. The tool must be pressed against a firm surface before a fastener can be released.

3.5 Contact pressure safety device

The tool can be fired only when pressed fully against a firm surface with a force of at least 50 N.

3.6 Unintentional firing safety device

The tool is also equipped with an unintentional firing safety device. This prevents the tool from firing if the trigger is first pulled and the tool then pressed against the work surface. The tool can be fired only when it is first pressed correctly against the work surface and the trigger subsequently pulled.

3.7 DX 76 PTR tool: applications and suitable fasteners

Fastening profile metal sheet to steel, steel thickness 6 mm – solid steel

Items required	Ordering designation	Comments
Fasteners	X-ENP-19 L15 MX	10 fasteners per magazine strip
Fastener magazine	MX 76-PTR	
Piston set	X-76-P-ENP-PTR	

Items required	Ordering designation	Comments
Fasteners	X-ENP-19 L15	Single fastener
Single fastener guide	X-76-F-15-PTR	

Fastening profile metal sheet to steel, steel thickness 3-6 mm

Items required	Ordering designation	Comments
Fasteners	X-ENP2K-20 L15 MX	10 fasteners per magazine strip
Fastener magazine	MX 76-PTR	
Piston set	X-76-P-ENP2K-PTR	

Items required	Ordering designation	Comments
Fasteners	ENP2K-20 L15	Single fastener
Single fastener guide	X-76-F-15-PTR	

Fastening shear connectors

Items required	Ordering designation	Comments
Fasteners	X-ENP-21 HVB	2 fasteners per shear connector
Shear connector	X-HVB 50/ 80/ 95/ 110/ 125/ 140	
Fastener guide	X-76-F-HVB-PTR	
Piston	X-76-P-HVB-PTR	

Fastening profile metal sheeting to concrete (DX-Kwik)

Items required	Ordering designation	Comments
Fasteners	NPH2-42 L15	
Fastener guide	X-76-F-Kwik-PTR	
Piston	X-76-P-Kwik-PTR	
Stop drill bit	TX-C 5/23	Stop drill bit for predrilling

Grating fasteners (8mm diameter)

Items required	Ordering designation	Comments
Fasteners	X-EM8H/ X-CR M8	For installing the X-FCM-M, X-FCM-R, X-FCP-F, X-FCP-R
Fasteners	X-GR/ X-GR-RU	Grating fastening system
Fastener guide	X-76-F-8-GR-PTR	
Piston	X-76-P-8-GR-PTR	

Fasteners for use on steel and concrete

Items required	Ordering designation	Comments
Fasteners	DS 27-37	Nails for general-purpose heavy-duty fastenings on concrete and steel
Fasteners	EDS 19-22	Nails for fastening steel
Fasteners	X-EM10H	10 mm studs on steel base material
Fastener guide	X-76-F-10-PTR	
Piston	X-76-P-10-PTR	

4 Accessories, consumables

Designation	Item number, description
Hilti toolbox	DX 76 PTR KFD, large, with lockable cartridge compartment
Toolbox for magazine tool	DX 76 PTR
Cleaning set	DX 76 / 860-ENP, Flat brush, 25 mm dia. round brush, 8 mm dia. round brush, pusher rod, cleaning cloth
Hilti spray	
Piston and piston brake set	X-76-P-ENP-PTR and X-76-P-ENP2K-PTR
Spall guard for magazine and single fastener guides	
DX 76 PTR test gauge	
Additional piston	
Slider repair set	

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Cartridge type	Ordering designation
Extra heavy	6.8/18 M black
Very heavy	6.8/18 M red
Heavy	6.8/18 M blue
Light	6.8/18 M green

5 Technical data

Right of technical changes reserved.

NOTE

*for trouble-free operation.

Tool	DX 76 PTR
Weight with magazine	4.37 kg
Dimensions (L × W × H)	464 mm × 104 mm × 352 mm
Magazine capacity	10 fasteners
Contact movement	32 mm
Contact pressure	90... 130 N
Ambient operating temperature range	-15... +50°C
Maximum average fastener driving frequency*	600/h

6 Before use



NOTE

Read the operating instructions before the tool is operated for the first time.

6.1 Check the tool

Check that no cartridge strip is loaded in the tool. If a cartridge strip is present in the tool, use the cycling grip to cycle the tool several times until the cartridge strip projects from the tool at the cartridge strip exit and it can be pulled out and removed from the tool.

Check all external parts of the tool for damage and check that all controls operate faultlessly. Do not operate the tool when parts are damaged or when the controls do not

function correctly. If necessary, have the tool repaired at an authorized Hilti service center.

Check the piston and piston brake for wear and ensure that the parts have been fitted correctly.

7 Operation

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NOTE

When you grip the tool with your other hand, care must be taken to ensure that this hand does not cover any ventilation slots or openings.

WARNING

The material may splinter or fragments of the magazine strip may fly off when the fastener is driven. **The user of the tool and other persons in the immediate vicinity must wear protective glasses and a hard hat.** Splintering material presents a risk of injury to the eyes and body.

CAUTION

The fastener driving action is initiated by ignition of a propellant charge. **The user of the tool and other persons in the immediate vicinity must wear ear protectors.** Exposure to noise can cause hearing loss.

WARNING

Never make the tool ready to fire by pressing it against a part of the body (e.g. the hand). This could cause a nail or the piston to be driven into a part of the body. **Never press the tool against a part of the body.**

CAUTION

Never redrive a fastener. This may cause the fastener to break and the tool may jam.

CAUTION

Never drive fasteners into existing holes unless this is recommended by Hilti.

CAUTION

If the tool has overheated, allow it to cool down. Do not exceed the recommended fastener driving rate.

7.1 Operation

Fastening guidelines: These guidelines must be observed at all times.

NOTE

For detailed information, please ask your local Hilti representative for a copy of the applicable technical guidelines or national technical regulations.

7.2 Procedure if a cartridge fails to fire

If a cartridge fails to fire or misfires, always proceed as follows:

Keep the nose of the tool pressed at right angles against the working surface for 30 seconds.

If the cartridge still fails to fire, lift the tool away from the working surface, taking care to avoid pointing it at yourself or other persons.

Load the next cartridge on the strip by cycling the tool. Use up the remaining cartridges on the strip and remove the used cartridge strip from the tool. The (partly) used cartridge strip must then be disposed of suitably in order to prevent further use or misuse of any unfired cartridges.

7.2.1 Loading fastener strips in the magazine 2

Push the fastener strip into the magazine from above until the washer of the final fastener engages in the magazine.

7.2.2 Selecting the cartridge 3

1. Determine the thickness of the material to be fastened and the grade of the supporting steel.
2. Select a suitable cartridge and power setting according to the cartridge recommendations.

NOTE For details of recommended cartridges, please refer to the applicable approvals or the Hilti Fastening Technology Manual.

7.2.3 Inserting the cartridge strip 4

Push the cartridge strip, as far as it will go, into the cartridge strip guideway on the side of the tool.

7.2.4 Driving fasteners with the magazine tool 5

1. Press the tool against the working surface at right angles.
2. Drive the fastener by pulling the trigger.
3. Prepare the tool for driving the next fastener by pushing the cycling grip back toward the rear of the tool and then forward to its original position.

7.2.5 Checking and adjusting fastener driving depth 3 6

NOTE

Fastener driving depth can be adjusted by turning the power regulation wheel on the tool (setting 1 = minimum; setting 4 = maximum).

1. Use the test gauge to check nail stand-off.

- If a fastener is not driven deeply enough, driving power must be increased. Adjust the power regulation wheel to the next higher setting. If a fastener is driven too deeply, check to ensure that a supporting member (e.g. a beam) is present at this point. Do not drive fasteners into unsupported sheet metal. Check to ensure that the metal sheets lie snugly against the supporting structure or, respectively, that any gaps beneath the sheets are kept to an absolute minimum.
- Drive a fastener.
- Use the test gauge to check nail stand-off.
- If the fastener is still not driven deeply enough or, respectively, is driven too deeply, steps 2 to 4 must be repeated until the correct depth is achieved. If necessary, use a cartridge with a higher or lower power rating.

7.3 Unloading the tool

7.3.1 Removing cartridges from the tool 7

WARNING

Do not attempt to forcibly remove cartridges from the magazine strip or tool.

- Advance the cartridge strip through the tool by moving the cycling grip until the strip is visible at the exit aperture.
- Pull the cartridge strip out of the tool at the cartridge strip exit aperture.

7.3.2 Removing fastener strips from the tool 8

WARNING

Check that no cartridge strip is loaded in the tool. If a cartridge strip is still present in the tool, operate the cycling grip until the strip projects from the tool and then pull the strip out of the cartridge strip exit by hand and remove it from the tool.

CAUTION

The fastener strip will be ejected by spring pressure.

- Push the fastener strip 5 mm further into the magazine and hold it securely in this position.
- Push the catch forward with the thumb and hold it in this position.
- Remove the fastener strip from the magazine.

7.4 Changing the nail magazine or fastener guide (accessory)

7.4.1 Disassembly 9

WARNING

All cartridges must be removed from the tool. All nails must be removed from the nail magazine or the fastener guide.

CAUTION

After the tool has been in use, the parts to be handled may be very hot. **It is essential that gloves are worn if the following maintenance operations have to be**

carried out before the tool has been allowed to cool down.

- Check that the tool cycling grip is in its starting position.
- Unscrew and remove the fastener guide (or fastener magazine).
- Remove the piston brake from the fastener guide.

7.4.2 Assembly 10

- Insert the piston brake, the right way round, in the piston guide (or fastener magazine) that is to be fitted to the tool.
Exception: With the HVB base plate, the piston stopper must be inserted the right way round (rubber part toward the front).
- Check that the tool cycling grip is in its starting position.
- Insert the correct piston in the piston guide in the tool.
- Screw the fastener guide (or fastener magazine) onto the piston guide as far as it will go and then turn it back until it engages.
- Cycle the tool once with the cycling grip.

7.5 Driving fasteners using the single fastener guide (accessory)

WARNING

Check that the spall guard is fitted to the tool.

7.5.1 Inserting the fastener in the single-fastener tool 11

- Turn the tool so that the fastener guide is pointing upwards.
- Insert the fastener in the tool from above.

7.5.2 Selecting the cartridge 8

- Determine the thickness of the material to be fastened and the grade of the supporting steel.
- Select a suitable cartridge and power setting according to the cartridge recommendations.

NOTE For details of recommended cartridges, please refer to the applicable approvals or the Hilti Fastening Technology Manual.

7.5.3 Inserting the cartridge strip 4

Push the cartridge strip, as far as it will go, into the cartridge strip guideway on the side of the tool.

7.5.4 Driving fasteners with the single-fastener tool

- Press the tool against the working surface at right angles.
- Drive the fastener by pulling the trigger.
- Prepare the tool for driving the next fastener by pushing the cycling grip back toward the rear of the tool and then forward to its original position.

7.5.5 Checking and adjusting fastener driving depth **3 6**

NOTE

Fastener driving depth can be adjusted by turning the power regulation wheel on the tool. (setting 1 = minimum; setting 4 = maximum)

Check the nail stand-off and power setting in accordance with section 7.2.5 “Checking and adjusting fastener driving depth”.

7.6 Fastening shear connectors (accessories required) **9 12**

WARNING

Check that the spall guard is fitted to the tool.

7.6.1 Inserting the fastener in the HVB fastener guide

NOTE

These instructions apply to driving the first fastener in the shear connector.

NOTE

Please note that the HVB fastener guide is equipped with a piston stopper (X-76-PS) but no piston brake (X-76-PB-PTR).

NOTE

The HVB base plate thus does not prevent punching through (no PTR function).

1. Fit the HVB fastener guide in accordance with the instructions in section 7.4 “Changing the nail magazine or fastener guide (accessory)”.
2. Push the slider over until it engages and the number “1” is visible.
3. Turn the tool so that the fastener guide is pointing upwards.
4. Insert the fastener into the tool from above at the marked opening.

7.6.2 Inserting the cartridge strip

NOTE

For best results when fastening HVB shear connectors, use black cartridges or, in some cases, red cartridges. For details of recommended cartridges, please refer to the applicable approvals or the Hilti Fastening Technology Manual.

Push the cartridge strip, as far as it will go, into the cartridge strip guideway on the side of the tool.

7.6.3 Driving fasteners using the HVB fastener guide **16**

1. Fit the shear connector onto the base plate. It is held in place by a magnet.
2. Press the tool against the working surface at right angles.
3. Drive the fastener by pulling the trigger.

4. Prepare the tool for driving the next fastener by pushing the cycling grip back toward the rear of the tool and then forward to its original position.

7.6.4 Checking and adjusting fastener driving depth **3 6**

NOTE

Fastener driving depth can be adjusted by turning the power regulation wheel on the tool. (setting 1 = minimum; setting 4 = maximum)

Check the nail stand-off and power setting in accordance with section 7.2.5 “Checking and adjusting fastener driving depth”.

7.6.5 Inserting the second fastener in the HVB fastener guide **14**

NOTE

These instructions apply to driving the second fastener in the shear connector.

1. Push the slider over until it engages and the number “2” is visible.
2. Turn the tool so that the fastener guide is pointing upwards.
3. Insert the fastener into the tool from above at the marked opening.

7.6.6 Driving fasteners using the HVB fastener guide **15**

1. Insert the nose of the tool into the shear connector and press the tool at right angles against the working surface.
2. Drive the fastener by pulling the trigger.
3. Prepare the tool for driving the next fastener by pushing the cycling grip back toward the rear of the tool and then forward to its original position.

7.7 Fastening gratings (accessories required) **9 16**

WARNING

Check that the spall guard is fitted to the tool.

7.7.1 Inserting the fastener in the grating fastener guide (F8)

1. Fit the grating fastener guide in accordance with the instructions in section 7.4 “Changing the nail magazine or fastener guide (accessory)”.
2. Turn the tool so that the fastener guide is pointing upwards.
3. Insert the fastener in the tool from above.

7.7.2 Inserting the cartridge strip **4**

Push the cartridge strip, as far as it will go, into the cartridge strip guideway on the side of the tool.

7.7.3 Driving fasteners using the grating fastener guide

1. Press the tool against the working surface at right angles.
2. Drive the fastener by pulling the trigger.
3. If possible, check the depth of penetration by checking fastener stand-off.
4. If using a flange, screw the retaining flange on with torque of 5 to 8 Nm.
5. Prepare the tool for driving the next fastener by pushing the cycling grip back toward the rear of the tool and then forward to its original position.

7.7.4 Checking and adjusting fastener driving depth 3 6

NOTE

Fastener driving depth can be adjusted by turning the power regulation wheel on the tool. (setting 1 = minimum; setting 4 = maximum)

Check the nail stand-off and power setting in accordance with section 7.2.5 "Checking and adjusting fastener driving depth".

7.8 Using the F10 fastener guide

WARNING

Check that the spall guard is fitted to the tool.

Use the F10 fastener guide in the same way as for fastening gratings (section 7.7.).

7.9 Fastening profile metal sheets to concrete (DX-Kwik accessories required)

WARNING

Check that the spall guard is fitted to the tool.

7.9.1 Inserting the fastener in the DX-Kwik fastener guide 9 17

1. Fit the DX-Kwik fastener guide in accordance with the instructions in section 7.4 "Changing the nail magazine or fastener guide (accessory)".
2. Turn the tool so that the fastener guide is pointing upwards.
3. Insert the fastener in the tool from above.

7.9.2 Inserting the cartridge strip

NOTE

Use blue cartridges for best results when fastening profile metal sheets to concrete. For details of recommended cartridges, please refer to the applicable approvals or the Hilti Fastening Technology Manual.

Push the cartridge strip, as far as it will go, into the cartridge strip guideway on the side of the tool.

7.9.3 Driving fasteners using the DX-Kwik fastener guide 18

1. Drill through the profile metal sheet and into the concrete with the step drill bit.
2. Guide the tip of the fastener projecting from the fastener guide into the previously drilled hole and press the tool at right angles against the working surface.
3. Drive the fastener by pulling the trigger.
4. Prepare the tool for driving the next fastener by pushing the cycling grip back toward the rear of the tool and then forward to its original position.

7.9.4 Checking and adjusting fastener driving depth 3 6

NOTE

Fastener driving depth can be adjusted by turning the power regulation wheel on the tool. (setting 1 = minimum; setting 4 = maximum)

Check the nail stand-off and power setting in accordance with section 7.2.5 "Checking and adjusting fastener driving depth".

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8 Care and maintenance



CAUTION

When this type of tool is used under normal operating conditions, dirt and residues build up inside the tool and functionally relevant parts are also subject to wear. **Regular inspections and maintenance are thus essential in order to ensure reliable operation. We recommend that the piston and piston brake are checked and inspected at least daily when the tool is subjected to intensive use, and at the latest after driving 3,000 fasteners.**

WARNING

All cartridges must be removed from the tool. All nails must be removed from the nail magazine or the fastener guide.

CAUTION

The tool may get hot during use. You could burn your hands. **Wear protective gloves when carrying out care and maintenance. Allow the tool to cool down.**

8.1 Care of the tool

Clean the outside of the tool at regular intervals with a slightly damp cloth.

NOTE

Do not use a spray or steam/water jet system for cleaning! Never operate the tool when the ventilation slots are blocked. Do not permit foreign objects to enter the interior of the tool.

8.2 Maintenance

Check all external parts of the tool for damage at regular intervals and check that all controls operate faultlessly. Do not operate the tool if parts are damaged or when the controls do not function faultlessly. If necessary, the tool should be repaired by Hilti Service.

Use the tool only with the recommended cartridges and power settings. Use of the wrong cartridges or use of excessively high power settings may lead to premature failure of parts of the tool.

CAUTION

Dirt and residues in DX tools contain substances that may be hazardous to your health. **Do not inhale dust / or dirt from cleaning. Keep the dust or dirt away from foodstuffs. Wash your hands after cleaning the tool. Never use grease for the maintenance/lubrication of parts of the tool. This may lead to malfunctions. Use only Hilti lubricant spray or a product of equivalent quality.**

8.2.1 Checking and replacing the piston and piston brake**WARNING**

All cartridges must be removed from the tool. All nails must be removed from the nail magazine or the fastener guide.

CAUTION

After the tool has been in use, the parts to be handled may be very hot. **It is essential that gloves are worn if the following maintenance operations have to be carried out before the tool has been allowed to cool down.**

NOTE

Firing the tool repeatedly without driving a fastener stresses the piston and piston brake and causes these parts to wear. If the piston shows signs of chipping and / or the synthetic rubber part of the piston brake is badly worn, then these parts have reached the end of their life.

NOTE

The condition of the piston and piston brake must be checked at regular intervals and at least daily.

NOTE

To replace the piston and the piston brake it is necessary only to unscrew the fastener magazine or the fastener guide. It is not necessary to remove the piston guide.

1. Unscrew and remove the fastener guide (or fastener magazine).
2. Pull the piston out of the piston guide.
3. Check the piston for damage. If signs of damage are found, the piston AND the piston brake must be replaced. Check the piston brake for signs of wear of the synthetic rubber part.

NOTE Check the piston for straightness by rolling it on a smooth surface. Never use worn or damaged pistons and do not attempt to manipulate or modify the piston.

NOTE If the upper ring of the piston brake can be turned easily toward the lower ring, the piston brake is worn out and must be replaced.

4. If the piston has to be replaced, remove the piston brake from the fastener guide.
5. Insert the new piston brake, the right way round, in the fastener guide (or fastener magazine) that is to be fitted to the tool.

NOTE Spray the opening in the piston brake with Hilti lubricant spray.

NOTE The HVB fastener guide is equipped with a piston stopper instead of a piston brake.
6. Insert the piston into the piston guide in the tool.
7. Screw the fastener guide (or fastener magazine) onto the piston guide as far as it will go and then turn it back until it engages.
8. Cycle the tool once with the cycling grip.

8.2.2 Cleaning the piston guide [9](#) [19](#) [20](#) [21](#) [22](#)**WARNING**

All cartridges must be removed from the tool. All nails must be removed from the nail magazine or the fastener guide.

CAUTION

After the tool has been in use, the parts to be handled may be very hot. **It is essential that gloves are worn if the following maintenance operations have to be carried out before the tool has been allowed to cool down.**

1. Check that the tool cycling grip is in its starting position.
2. Unscrew and remove the nail magazine (or the fastener guide).
3. Remove the piston from the piston guide and remove the piston brake from the nail magazine (or fastener guide).
4. **CAUTION It is essential that the tool is held with the piston guide facing upwards. The piston guide may otherwise fall out.**

Open the piston guide release lever.

5. Pull the piston guide out of the tool.
NOTE Further disassembly of the piston guide is not necessary.
6. Clean the seat of the piston guide in the tool.
7. Use the large brushes to clean the inside and outside surfaces of the piston guide.
8. Use the small round brush to clean the bore for the regulating pin and use the tapered brush to clean the cartridge chamber.
9. Spray the slider and the collar of the piston guide with Hilti lubricant spray.
10. Spray the steel parts inside the tool with Hilti lubricant spray.
NOTE Use of lubricants other than Hilti spray may cause damage to rubber parts.
11. Check that the tool cycling grip is in its starting position.
12. Insert the piston guide into the tool.
13. Apply light pressure to the piston guide.
NOTE The lever can be closed only when the piston guide is pressed (several mm) into the tool. If the lever still cannot be closed, please refer to the information in section 9 "Troubleshooting".
14. Close the piston release lever with light pressure applied to the piston guide.
15. Insert the piston into the piston guide.
16. Fit the piston brake.
17. Screw the fastener guide (or fastener magazine) onto the piston guide as far as it will go and then turn it back until it engages.
18. Lubricate the cartridge transport mechanism by applying Hilti lubricant spray in the gap in the housing behind the cycling grip.
19. Cycle the tool once with the cycling grip.

8.3 Checking the tool after care and maintenance



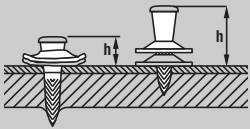

After carrying out care and maintenance and before loading the cartridges, check that all safety devices have been fitted and that they function faultlessly.

9 Troubleshooting

WARNING

The tool must be unloaded before taking any steps to remedy faults.

Fault	Possible cause	Remedy
Cartridges are not transported.	The cartridge strip is damaged.	Change the cartridge strip. See section: 7.3.1 Removing cartridges from the tool 7
	The tool is damaged.	Contact Hilti.
Cartridge strip can't be removed.	The tool is damaged or has overheated as a result of an excessively high fastener driving rate.	Allow the tool to cool and then carefully try again to remove the cartridge strip. Remove the piston guide from the tool. If a cartridge sleeve remains jammed in the cartridge chamber, use the round rod from the cleaning set to remove it. If this is still not possible, contact Hilti. NOTE Do not attempt to forcibly remove cartridges from the magazine strip or tool.
Cartridge doesn't fire.	The tool is not pressed fully against the working surface.	Press the tool fully against the working surface and pull the trigger.
	The cartridge strip is used up.	Remove the used cartridge strip. Load a new strip.
	The magazine or fastener guide is not screwed on far enough.	Screw the magazine farther onto the tool.
	One of the cartridges is faulty.	Cycle the tool and use up the remaining cartridges.
	The tool is defective or the cartridges are faulty.	Contact Hilti.
	The tool is not cycled.	Cycle the tool.

Fault	Possible cause	Remedy
Fastener penetrates too deeply (inadequate fastener stand-off).	The fastener missed the steel beam.	Mark the position of the beam. Drive another fastener into the beam.
	There is space between the sheet and the supporting material.	Check to ensure that the sheet rests tightly against the supporting material.
	The wrong piston has been fitted.	Check that the right combination of piston and fastener is used. Use the X-76-P-ENP-PTR piston for X-ENP fasteners. Use the X-76-P-ENP2K-PTR piston for ENP2K fasteners.
Fastener doesn't penetrate deeply enough (excessive fastener stand-off).	Fastener driven into the rib of the beam.	Drive a second fastener.
	Supporting material is too thick, or the thickness has changed.	Increase fastener driving power in accordance with recommendations or, respectively, use a more powerful cartridge. See section: 7.2.2
	Fastener driving power is too low.	Increase fastener driving power in accordance with recommendations or, respectively, use a more powerful cartridge. See section: 7.2.2
Fastener stand-off (head projection) varies considerably.	The tool was pressed against the working surface with a jolt.	Press the tool against the working surface smoothly and avoid jolting.
	The tool is cycled unevenly, sometimes not fully.	Cycle the tool fully.
	Irregular driving power.	Clean the tool. Replace wearing parts with new parts. Contact Hilti if irregular driving power is still experienced.
Shear breakage.	The face of the piston is worn or chipped.	Change the piston and piston brake.
	Fastener driven into the rib of the beam.	Drive a second fastener beside the first one.
	The tool is pressed against the working surface at an angle.	Press the tool against the working surface at right angles.
	Supporting material is too thick, or the thickness has changed.	Check that the recommended type of fastener is used. If the right type of fastener is used, increase driving power in accordance with cartridge recommendations or use a more powerful cartridge.

Fault	Possible cause	Remedy
The tool remains compressed (doesn't extend when pressure is released).	The piston is sticking in the piston brake.	Change the piston and piston brake. See section: 7.4.1 Disassembly 9 See section: 7.4.2 Assembly 10
	The tool needs to be cleaned.	See section: 8.2.2 Cleaning the piston guide 9 19 20 21 22
	The cartridge strip has jammed, the tool has overheated.	Please refer to the fault: "Cartridge strip can't be removed". Do not exceed the maximum recommended fastener driving rate.
The tool can't be fired.	The tool wasn't cycled correctly, the cycling grip is not in the starting position.	Cycle the tool completely and return the cycling grip to the starting position.
	The trigger is pulled before the tool is pressed fully against the working surface.	Press the tool fully against the working surface and then pull the trigger.
	Fastener transport malfunctions	See section: 7.2.1 Loading fastener strips in the magazine 2 See section: 7.3.2 Removing fastener strips from the tool 8
	The magazine or fastener guide is not screwed on far enough.	Screw the magazine farther onto the tool.
	The tool is damaged.	Contact Hilti.
No fastener is driven.	The tool wasn't cycled correctly, the cycling grip is not in the starting position.	Cycle the tool completely and return the cycling grip to the starting position.
	No fasteners in the tool.	Load fastener(s) into the tool.
	The magazine fastener transport mechanism is faulty.	Contact Hilti.
	No piston in the tool.	Fit the piston.
	The piston is broken.	Change the piston and piston brake.
	The piston doesn't return to its starting position.	Contact Hilti.
	The fastener guide needs to be cleaned.	Use the brushes provided to clean the fastener guide and associated parts. Lubricate with Hilti spray.
	Fasteners are jammed in the fastener guide.	Remove the jammed fasteners. Remove magazine strip plastic scraps from the tool magazine. Avoid shear breakage (see above). Avoid missing the beam (driving the fastener into unsupported sheet metal); mark the position of the beams accurately if necessary.
	The fastener guide can't be screwed on to the tool fully.	The piston guide needs to be cleaned at the end of the threaded section.
The piston can't be fitted.	The tool, especially the piston guide, needs to be cleaned.	Clean the fastener guide and the tool and refit the piston.
	Pins are visible in the piston guide.	Pull the pins forward until they can engage.
The piston guide can't be fitted.	The lever is in the closed position.	See section: 8.2.2 Cleaning the piston guide 9 19 20 21 22
	The piston guide is incorrectly positioned.	See section: 8.2.2 Cleaning the piston guide 9 19 20 21 22
Stiff cycling action.	The tool needs to be cleaned.	Clean the tool. See section: 8.2.2 Cleaning the piston guide 9 19 20 21 22

Fault	Possible cause	Remedy
Stiff cycling action.	The piston and piston brake have almost reached the end of their service life.	Change the piston and piston brake.
	The tool is damaged.	Contact Hilti.

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10 Disposal



Most of the materials from which Hilti tools or appliances are manufactured can be recycled. The materials must be correctly separated before they can be recycled. In many countries, Hilti has already made arrangements for taking back old tools and appliances for recycling. Ask Hilti customer service or your Hilti representative for further information. If you wish to bring the tool to a recycling facility yourself: Follow regional and international directives and regulations.

Separate the individual parts as follows:

Part / assembly	Main material	Recycling
Hilti toolbox	Plastic	Plastics recycling
Outer casing	Plastic/Synthetic rubber	Plastics recycling
Piston	Steel	Scrap metal
Piston brake	Steel/Plastic	Scrap metal
Screws, small parts	Steel	Scrap metal
Used/partly-used cartridge strips	Steel/Plastic	In accordance with local regulations

11 Manufacturer's warranty - tools

Please contact your local Hilti representative if you have questions about the warranty conditions.

12 EC declaration of conformity (original)

Designation:	Powder-actuated fastening tool
Type:	DX 76 PTR
Year of design:	2005

We declare, on our sole responsibility, that this product complies with the following directives and standards: 2006/42/EC, 2011/65/EU.

**Hilti Corporation, Feldkircherstrasse 100,
FL-9494 Schaan**



Norbert Wohlwend
Head of Quality & Processes Management
BU Direct Fastening
04/2013



Tassilo Deinzer
Head of BU Direct Fastening
BU Direct Fastening
04/2013

Technical documentation filed at:

Hilti Entwicklungsgesellschaft mbH
Zulassung Elektrowerkzeuge
Hiltistrasse 6
86916 Kaufering
Deutschland

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13 Confirmation of CIP testing

The Hilti DX 76 PTR has been system and type tested. As a result, the tool bears the rectangular PTB approval mark showing approval number S 816. Hilti thus guarantees compliance with the approved type. Unacceptable

defects or deficiencies, etc. determined during use of the tool must be reported to the person responsible at the approval authority (PTB) and to the Office of the Permanent International Commission (C.I.P.).

14 Health and safety of the operator

14.1 Noise information

Powder-actuated fastening tool

Type	DX 76 PTR
Model	Series
Caliber	6.8/18 blue
Power regulation	4
Application	Fastening to 8 mm steel (400 MPa) with X-ENP 19 L15MX

Declared measured values of noise characteristics according to 2006/42/EC Machinery Directive in conjunction with DIN EN 15895

Noise (power) level, L_{WA} , $1s$ ¹	114 dB (A)
Emission noise-pressure level in the work station, L_{pA} , $1s$ ²	109 dB (A)
Peak sound pressure emission level, L_{pC} , peak ³	139 dB (C)

¹ ± 2 dB (A)

² ± 2 dB (A)

³ ± 2 dB (C)

Operation and set-up conditions: Set-up and operation of the pin driver in accordance with E DIN EN 15895-1 in the semi-anechoic test room of Müller-BBM GmbH. The ambient conditions in the test room conform to DIN EN ISO 3745.

Testing procedure: Enveloping surface method in anechoic room on reflective surface area in accordance with E DIN EN 15895, DIN EN ISO 3745 and DIN EN ISO 11201.

NOTE The noise emissions measured and the associated measurement uncertainty represent the upper limit for the noise values to be expected during the measurements.

Variations in operating conditions may cause deviations from these emission values.

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14.2 Vibration

Total vibration in accordance with 2006/42/EC does not exceed 2.5 m/s².

Further information about user health and safety can be found at www.hilti.com/hse.