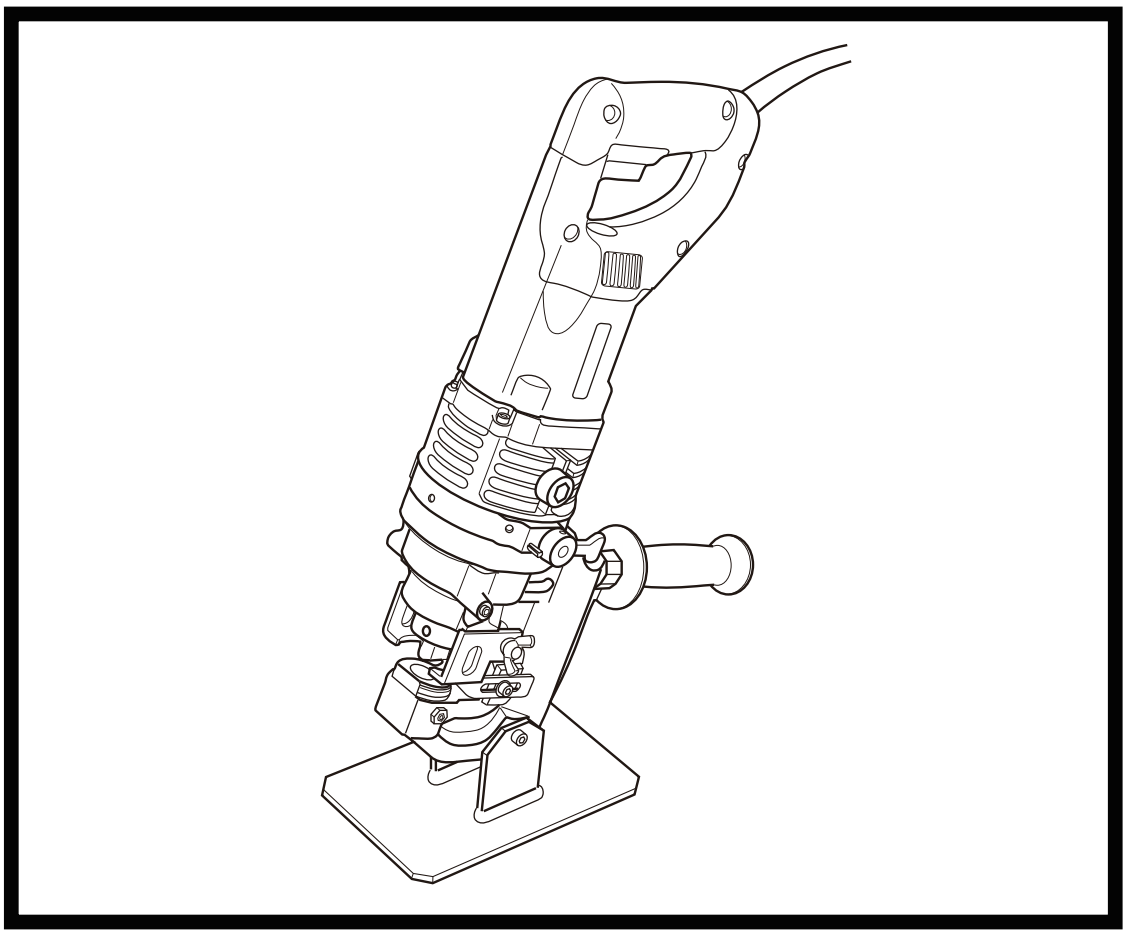
Ogura®

ELECTRO-HYDRAULIC HOLE PUNCHER

N series Model: HPC-N186W □
HPC-N208W □
HPC-N209W □

Instruction Manual



Before installing and operating this machine, read, understand and follow all instructions and operating procedures. Keep this Instruction Manual with the machine.

-Original Instruction-

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Meaning of "caution" and "warning" indications

Caution: Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. This is also used to alert against unsafe practices associated with events that could lead to personal injury.

Warning: Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.

*** **Ogura & Co., Ltd. shall not be responsible for any incidental damages or personal injuries resulting from negligence of Warnings and Safety Instructions contained in the Instruction Manual.**

⚠ WARNING

Read, understand and follow all safety instructions and operating procedures. If you do not understand the instructions, or if conditions are not correct for proper operation, DO NOT OPERATE THE MACHINE. Consult your supervisor or other responsible person.

⚠ WARNING LABELS RELATED SAFETY

Flying debris and loud noise hazards. Wear ear and eye protection.

Hazardous voltage. Disconnect all power before working on this equipment. Failure to observe this instruction will result in death or serious injury.

Moving blade. Keep hands clear while machine is operating. Turn power off before servicing.

SAVE THESE INSTRUCTIONS

⚠GENERAL POWER TOOL SAFETY WARNINGS

1. Before use, read this Instruction Manual thoroughly.

2. Keep Work Area Clean.

- Cluttered areas and benches invite injuries.

3. Keep the work area well lighted.

- Working where there is insufficient light may cause an accident.

4. Keep Children Away.

- Do not allow children or unauthorised personnel to handle tool.
- All visitors should be kept away from work area.

5. Store Idle Tools.

- When not in use, tools should be stored in a dry and secure place - out of reach of children.

6. Do Not Force Tool.

- It will do the job better and safer at the rate for which it was intended.
- Do not force tool to work beyond its ability. Excessive load will cause seizure of the motor, overheating, smoke and fire.

7. Use Right Tool.

- Do not force force small tool or attachment to do the job of a heavy-duty tool.
- Do not use tool for purpose not intended.

8. Wear Safety Glasses and Protective Clothing.

- Always wear safety glasses, safety footwear, safety gloves, and any other mandated or necessary protective clothing while using this equipment. Failure to do so may result in injury.

9. Dress Properly.

- Do not wear loose clothing or jewellery as they can be caught in moving parts.
- Rubber gloves and non-skid footwear are recommended when working outdoors.
- Wear protective hair covering to contain long hair.

10. Hold Tool Securely.

- A tool that is not held securely may injure you.
- Use clamps or a vice to hold the work. This frees both hands to properly hold, control, and operate the tool. Failure to properly secure the work may result in injury.

11. Disconnect the tools power supply, whenever one of the following situations occur.

- The tool is not in use or is being serviced.
- Any parts, such as a blade, are being replaced.
- There is a recognised hazard. Failure to do so may result in unexpected operation and damage or injury.

12. Avoid Unexpected Operation.

- Do not carry the tool by the Trigger Switch as this may cause unexpected operation and damage or injury.

13. Do Not Abuse Power Cord.

- Keep cord away from heat, oil and sharp edges.
- Place cord so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress.
- If the tool is dropped or struck check carefully that body is not damaged, cracked, or deformed.

14. Do Not Overreach.

- Keep proper footing and balance at all times.

15. Maintain Tools Carefully.

- Keep tools sharp and clean for better and safer performance
- Follow instructions for lubricating and changing accessories.
- Inspect battery charger power cord periodically and, if damaged, have them reparired by authorized service facility.
- Keep handles dry, clean, and free from oil and grease.

16. Remove Keys and Wrenches.

- Form habit of checking to see that keys and wrenches are removed from tool before starting operation.

17. Stay Alert When Using Electric Tools.

- Consider safety of others.
- Operate tool with care.
- Watch what you are doing.
- Use common sense.
- Do not operate tool when you are tired.

18. Check For Damaged Parts.

- Before using the tool, carefully check all parts for damage, including guards, to ensure that they will operate properly and perform their intended function.
- Check for any misalignment or binding of moving parts; damaged or broken parts and mountings; and any other conditions that may affect its operation.
- A guard or other part that is damaged should be properly repaired or replaced by an authorized service centre unless otherwise indicated in this instruction manual.
- Do not use tool if switch does not turn it on and off. Have damaged or defective switch replaces by an authorised service centre.

19. Service at Factory Authorized Repair Centre Only.

- Service this electric appliance in accordance with the relevant safety regulations.
- Repairs to electric appliances should only be done by a qualified person. Repairs by others may endanger the user.
- Contact your dealer to arrange servicing.

20. Only Use the Specified Accessories or Attachment.

- Use only the accessories or attachment described in this Instruction Manual and the Ogura catalog. Use of any other accessories or attachments may result in an accident or injury.

⚠ELECTRO-HYDRAULIC HOLE PUNCHER SAFETY WARNINGS

- Proper selection of the Punch and the Die is essential. Select the correct Punch and Die according to the hole shape, size of hole, material thickness and material type.
- When using oblong punch, ensure that any Punch with stepped edge to prevent free rotation is installed correctly in the Punch Piston before tightening the Punch Retaining Nut.
- Ensure the Punch and the Die are firmly fixed in position with the Nut or the Bolt. Failure to do so may cause serious damage to your tool and serious personal injyury. Regularly check and tighten the Punch and Die.
- The Punch and the Die that become worn, deformed, nicked, broken or damaged in any way may cause a tool breakdown and a serious accident. Replace them immediately with new ones supplied from Ogura.
- When punching stainless steel, the Punch and Die may wear earlier than would be the case with softer materials. Ensure that the Punch and Die are in good condition, free from wear and are not deformed, nicked, broken or damaged in any way. Check with your dealer before punching any material not listed in the specifications.
- Punching slug may fly off during punching. Confirm the safety of surroundings before punching.
- Keep fingers and face away from the punching area.
- Tool should be connected only to a power supply of the same voltage as indicated on the product label, and can only be operated on single-phase AC supply.
- If extension cord is used, the wire size should be equal to or greater than that specified below. (Use only 3-wire extension cord that has a 3-pin earthed plug, and 3-pin earthed socket that matches the plug on the tool.)

Cord size (Nominal cross sectional area of conductor)	Maximum cord length
1.25 mm^2	15 m
2.00 mm^2	30 m

- Unplug power before maintenance and replacement of the parts.
- Confirm all bolts are tightened properly before operation.

⚠CAUTION

Avoid Electric Shock

- Power source with a breaker is recommended to avoid the electric shock.

Follow Local Noise Level Regulations

- Operate tools within a soundproofed enclosure if necessary.

Check Before Operation

- The tool is manufactured for the purpose of punching. Do not use the tool for a purpose it was not intended for. Only use Ogura genuine Punch and Die. Replace parts when and as directed in this instruction manual.
- Confirm that all bolts and screws are tightened properly before operation begins.

Operate Tool With Proper Voltage

- The tool should be connected only to a power supply of the same voltage as indicated on the product label. If connected to a higher voltage the motor will over speed and eventually burn out. If connected to a lower voltage the motor will be damaged and eventually break up.

Pay Attention When Operating

- Keep proper footing and balance at all times.
- Stop operation immediately when the tool is out of order or makes abnormal sound during use.
- Carbon brushes should be replaced every 200 hours or when the length of the brush is reduced to 6 mm.

Protect Tool

- Handle tool carefully. If it is dropped or struck it could be damaged.
- The motor air vents should be open and unobstructed as they provide cooling for the motor. Keep the air vents clear of dust, dirt and debris or the motor will over heat and be damaged.

Maintain Tool

- Keep tool clean to stay in best condition. Always wipe off dirt and oil from the motor, switch, and handles.
- Use only Ogura genuine parts for replacement.
- Check the tool regularly so that it can be used safely and effectively.
- Stop operation immediately and contact your dealer if the tool is making abnormal sounds or is out of order in any way. Do not disassemble the tool as the internal components are sensitive to damage from dust, dirt, contamination of the hydraulic fluid or improper handling.
- This is a hydraulic tool powered by electricity. When the temperature is low, the oil will thicken and tool may not work properly. Idle tool for a few minutes before use.

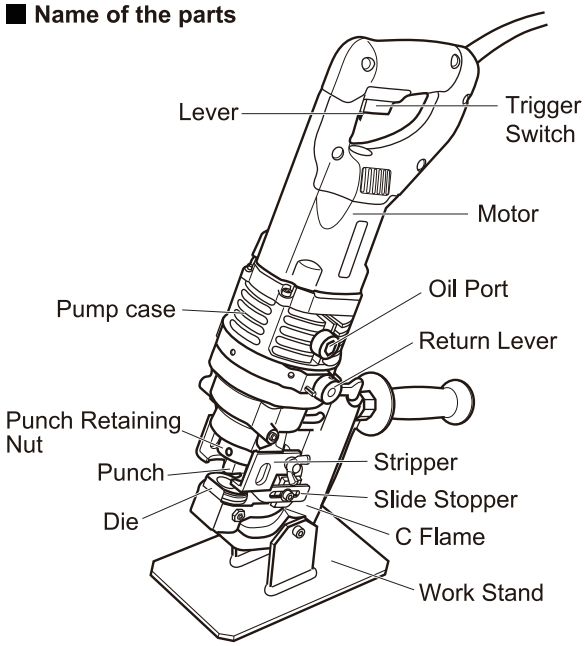
Ear protection

- Typical A-weighted sound pressure level: 96 dB(A)
  Typical A-weighted sound power level: 75 dB(A)
  CAUTION -Wear ear protection.-
  The typical weighted root mean square acceleration Value is not more than 2.5m/S^2

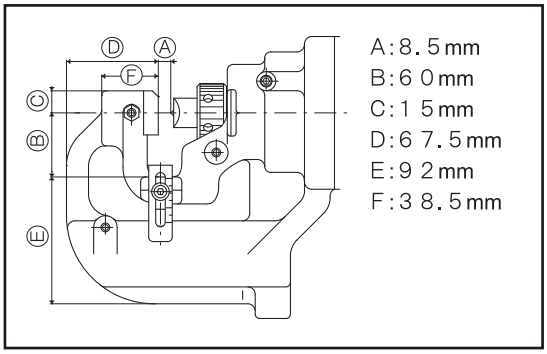
Contact your dealer for service and check-up.

HPC-N186W ▣ (N series)

■ Name of the parts



■ Punching throat



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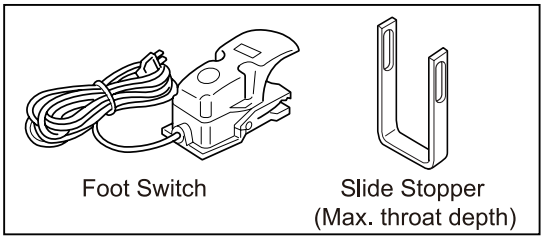


■ Specifications

Motor .....710W Single Phase, 115V/230V, 50-60 Hz AC
Weight .....11.3 kg
Dimensions .....492(L) x 127(W) x 335(H) mm with grip
Max. throat depth .....60 mm
Max. hole size ..... ϕ18 / t6 (mild steel)
ϕ18 / t4 (stainless steel)

■ Standard accessories

Punch ϕ12 mm 1
Die SB 12 1
Grip 1
Carrying Case 1
Hydraulic oil #46 1
Work Stand 1
Spanner (8 mm / 10 mm) 1
Hex Wrenches (3, 4, 5, 8 mm) ..... 1 each
Tommy Bar 1
Strap 1

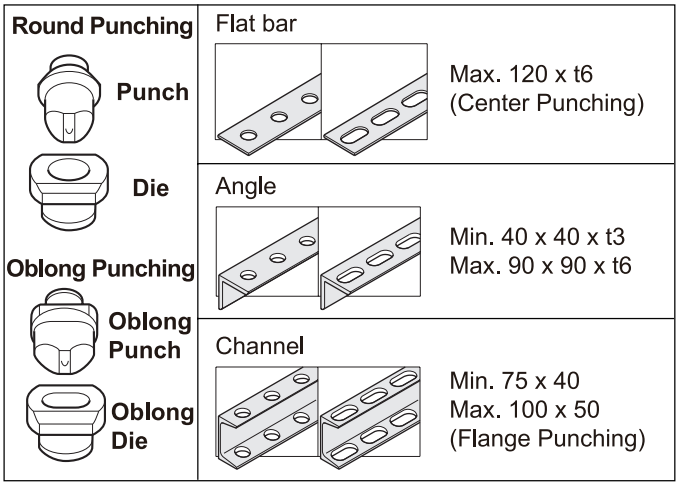
■ **Round Punch** [Unit: mm]

Round Punch	Round Die	Tensile Mild Steel (65,000 psi)	Channel	Tensile Stainless Steel (89,000 psi)
6	SB6	t2～t4		t3～t4
6. 5	SB6. 5	t2～t6		t3～t4
8	SB8	t2～t6		t3～t4
8. 5	SB8. 5	t2～t6		t3～t4
10	SB10	t2～t6	t7. 5	t3～t4
11	SB11	t2～t6	t7. 5	t3～t5
12	SB12	t2～t6	t7. 5	t3～t5
13	SB13	t2～t6	t7. 5	t3～t5
14	SB14	t2～t6	t7. 5	t3～t5
15	SB15	t2～t6	t7. 5	t3～t4
16	SB16	t2～t6		t3～t4
18	SB18	t2～t6		t3～t4

■ **Oblong Punch** [Unit: mm]

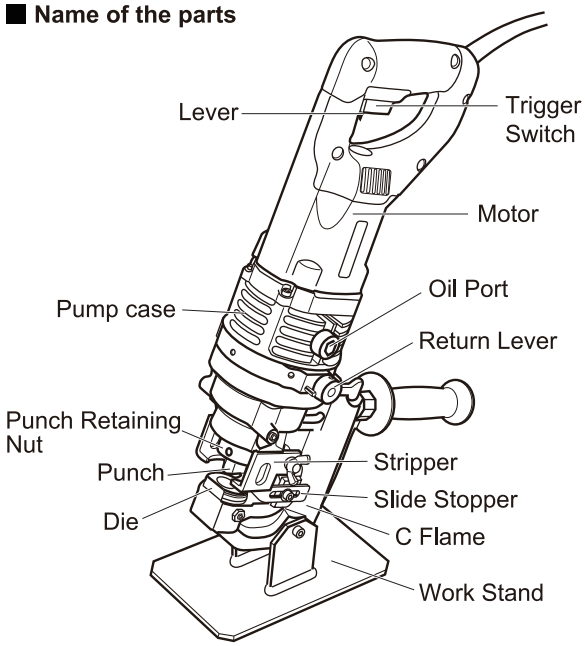
Oblong Punch	Oblong Die	Tensile Mild Steel (65,000 psi)	Channel	Tensile Stainless Steel (89,000 psi)
6. 5×10	6. 5×10B	t2～t6		t3～t4
6. 5×13	6. 5×13B	t2～t6		t3～t4
8. 5×13	8. 5×13B	t2～t6		t3～t4
8. 5×17	8. 5×17B	t2～t6		t3～t4
9×13. 5	9×13. 5B	t2～t6		t3～t4
9×18	9×18B	t2～t6		t3～t4
10×15	10×15B	t2～t6	t7. 5	t3～t5
10×20	10×20B	t2～t6	t7. 5	t3～t4
11×16. 5	11×16. 5B	t2～t6	t7. 5	t3～t5
12×18	12×18B	t2～t6	t7. 5	t3～t4
13×19. 5	13×19. 5B	t2～t6		
14×21	14×21B	t2～t6		

■**HPC-N186W** [Unit: mm]

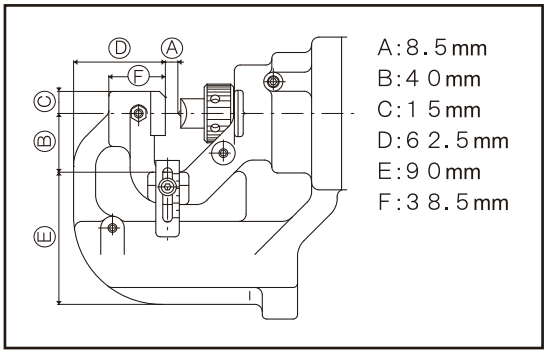


HPC-N208W □ (N series)

■ Name of the parts



■ Punching throat



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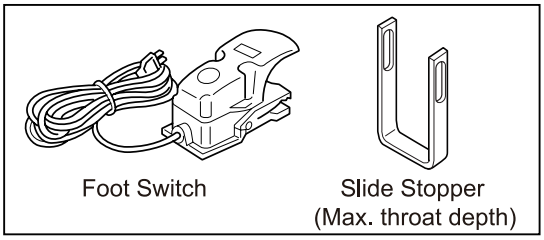


■ Specifications

Motor .....710W Single Phase, 115V/230V, 50-60 Hz AC
Weight .....10.3 kg
Dimensions .....487(L) x 127(W) x 315(H) mm with grip
Max. throat depth .....40 mm
Max. hole size ..... ϕ20 / t8 (mild steel)
ϕ20 / t6 (stainless steel)

Sound Noise
Sound Pressure Level .....74.5dB(A) with no load
Sound Power Level .....83.1dB(A) with no load

■ Standard accessories

Punch ϕ12 mm 1
Die SB 12 1
Grip 1
Carrying Case 1
Hydraulic oil #46 1
Work Stand 1
Spanner (8 mm / 10 mm) 1
Hex Wrenches (3, 4, 5, 8 mm) ..... 1 each
Tommy Bar 1
Strap 1

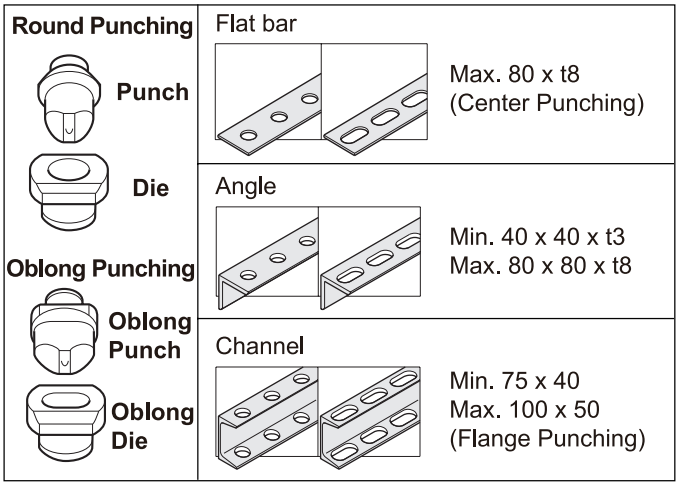
■ **Round Punch** **[Unit: mm]**

Round Punch	Round Die	Tensile Mild Steel (65,000 psi)	Channel	Tensile Stainless Steel (89,000 psi)
6	SB6	t2～t4		t3～t4
6. 5	SB6. 5	t2～t6		t3～t4
8	SB8	t2～t6		t3～t4
8. 5	SB8. 5	t2～t6		t3～t4
10	SB10	t2～t6	t7. 5	t3～t4
11	SB11	t2～t8	t7. 5	t3～t6
12	SB12	t2～t8	t7. 5	t3～t6
13	SB13	t2～t8	t7. 5	t3～t6
14	SB14	t2～t8	t7. 5	t3～t6
15	SB15	t2～t8	t7. 5	t3～t6
16	SB16	t2～t8	t7. 5	t3～t6
18	SB18	t2～t8	t7. 5	t3～t6
20	SB20	t2～t8	t7. 5	t3～t6

■ **Oblong Punch** **[Unit: mm]**

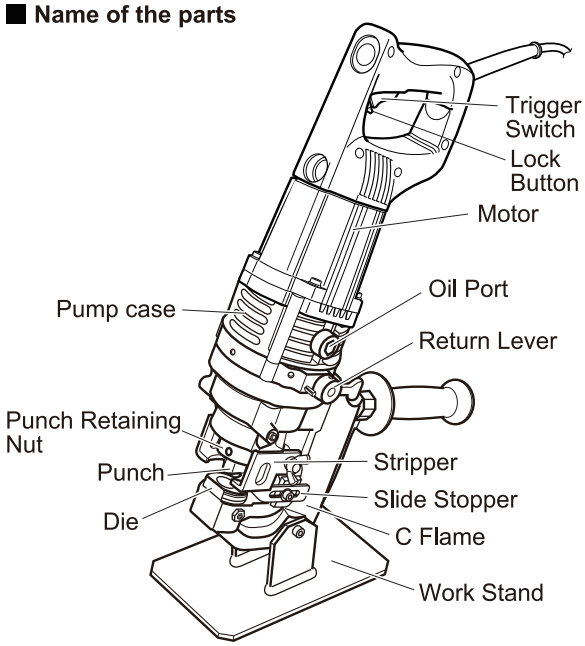
Oblong Punch	Oblong Die	Tensile Mild Steel (65,000 psi)	Channel	Tensile Stainless Steel (89,000 psi)
6. 5×10	6. 5×10B	t2～t6		t3～t4
6. 5×13	6. 5×13B	t2～t6		t3～t4
8. 5×13	8. 5×13B	t2～t6		t3～t4
8. 5×17	8. 5×17B	t2～t6		t3～t4
9×13. 5	9×13. 5B	t2～t6		t3～t4
9×18	9×18B	t2～t6		t3～t4
10×15	10×15B	t2～t8	t7. 5	t3～t6
10×20	10×20B	t2～t8	t7. 5	t3～t6
11×16. 5	11×16. 5B	t2～t8	t7. 5	t3～t6
12×18	12×18B	t2～t8	t7. 5	t3～t6
13×19. 5	13×19. 5B	t2～t8	t7. 5	t3～t6
14×21	14×21B	t2～t8	t7. 5	t3～t6

■**HPC-N208W** **[Unit: mm]**

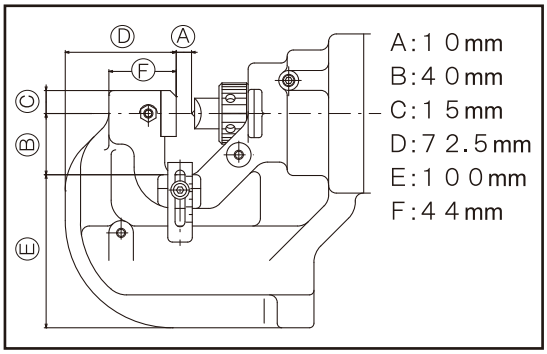


HPC-N209W□ (N series)

■ Name of the parts



■ Punching throat



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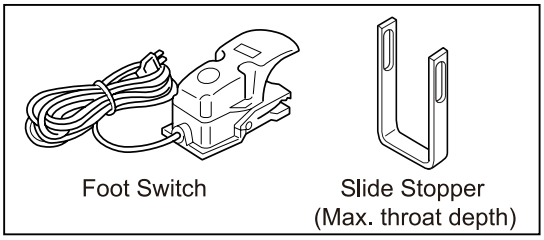


■ Specifications

Motor .....1050W Single Phase, 115V/230V, 50-60 Hz AC
Weight .....11.3 kg
Dimensions .....529(L) x 127(W) x 315(H) mm with grip
Max. throat depth .....40 mm
Max. hole size ..... ϕ20 / t9 (mild steel)
ϕ20 / t6 (stainless steel)

Sound Noise
Sound Pressure Level .....82.0dB(A) with no load
Sound Power Level .....91.7dB(A) with no load

■ Standard accessories

Punch ϕ14 mm 1
Die SB 14 1
Grip 1
Carrying Case 1
Hydraulic oil #46 1
Work Stand 1
Spanner (8 mm / 10 mm) 1
Hex Wrenches (3, 4, 5, 8 mm) ..... 1 each
Tommy Bar 1

■ **Round Punch** [Unit: mm]

Round Punch	Round Die	Tensile Mild Steel (65,000 psi)	Channel	Tensile Stainless Steel (89,000 psi)
6	SB6	t2～t4		t3～t4
6. 5	SB6. 5	t2～t6		t3～t4
8	SB8	t2～t6		t3～t4
8. 5	SB8. 5	t2～t6		t3～t4
10	SB10	t2～t6	t8	t3～t4
11	SB11	t2～t9	t8	t3～t6
12	SB12	t2～t9	t8	t3～t6
13	SB13	t2～t9	t8	t3～t6
14	SB14	t2～t9	t8	t3～t6
15	SB15	t2～t9	t8	t3～t6
16	SB16	t2～t9	t8	t3～t6
18	SB18	t2～t9	t8	t3～t6
20	SB20	t2～t9	t8	t3～t6

■ **Oblong Punch** [Unit: mm]

Oblong Punch	Oblong Die	Tensile Mild Steel (65,000 psi)	Channel	Tensile Stainless Steel (89,000 psi)
6. 5×10	6. 5×10B	t2～t6		t3～t4
6. 5×13	6. 5×13B	t2～t6		t3～t4
8. 5×13	8. 5×13B	t2～t6		t3～t4
8. 5×17	8. 5×17B	t2～t6		t3～t4
9×13. 5	9×13. 5B	t2～t6		t3～t4
9×18	9×18B	t2～t6		t3～t4
10×15	10×15B	t2～t8	t8	t3～t6
10×20	10×20B	t2～t8	t8	t3～t6
11×16. 5	11×16. 5B	t2～t9	t8	t3～t6
12×18	12×18B	t2～t9	t8	t3～t6
13×19. 5	13×19. 5B	t2～t9	t8	t3～t6
14×21	14×21B	t2～t9	t8	t3～t6

■**HPC-N209W** [Unit: mm]

Round Punching

Punch

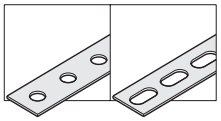
Die

Oblong Punching

Oblong Punch

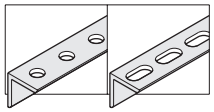
Oblong Die

Flat bar



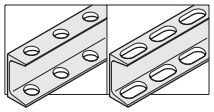
Max. 80 x t9
(Center Punching)

Angle



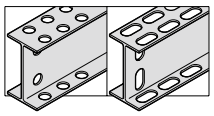
Min. 40 x 40 x t3
Max. 80 x 80 x t9

Channel



Min. 75 x 40
Max. 125 x 65
(Flange Punching)

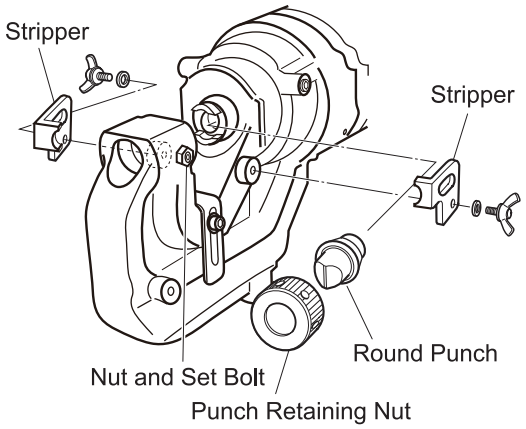
H-Steel



Min. 100 x 100
Max. 300 x 150

PUNCH AND DIE REPLACEMENT PROCEDURE

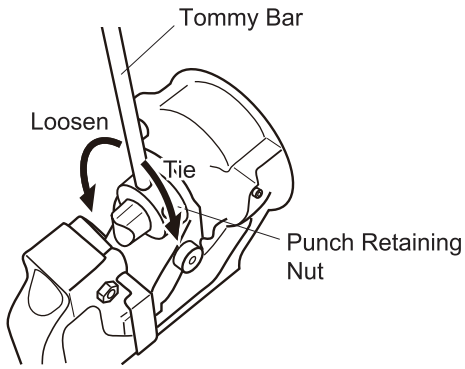
For Round Punch



⚠ CAUTION

Before replacing the Punch and Die, ensure that the machine is disconnected from its power source to prevent accidental operation and personal injury.

1. Be sure that the Punch Piston is fully retracted and remove the Strippers to make access to the parts easier.
2. The Punch must be removed first and then the Die. Unscrew the Punch Retaining Nut to remove the Punch and remove the Set Bolt and the Nut to remove the Die.
   Note: When replacing the Punch and the Die, make sure that the correct size, thickness and hole shape is selected. Shaped Punches and Dies must be properly aligned with each other.
3. Place the Punch in the Punch Retaining Nut, then insert the Punch with the Nut into the Punch Piston and hand tighten the Nut.
   Note: When installing a Punch with a stepped edge (anti rotation), make sure the orientation is correct and that the stepped edge is correctly positioned in the Punch Piston.
4. Make sure the Punch is correctly positioned in the Punch Rod and tighten the Punch Retaining Nut firmly with the Tommy Bar supplied.
5. Place the Die in the C-frame in the proper orientation. Secure firmly with the Set Bolt and tighten the Nut.
6. Replace the Strippers.



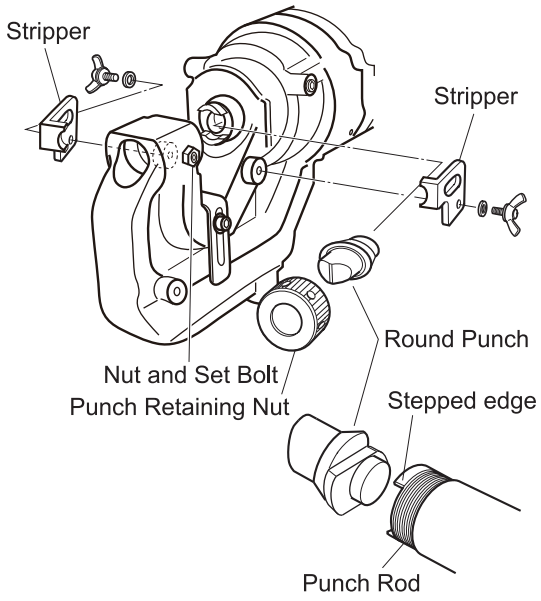
⚠ CAUTION

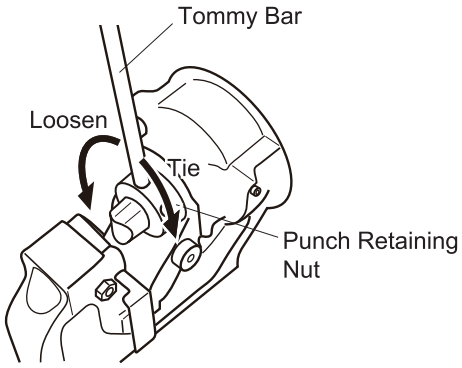
Check the Butterfly Bolts, holding the stripper, regularly to ensure that they are tight. Loose bolts may cause the Stripper to detach and damage the tool.

⚠ WARNING

If the Punch and Die are not the same size of the Punch and the Die are not positioned properly, the Punch may strike the Die causing both parts to break. In such a case, pieces flying off from the broken parts may cause personal injury.

For Oblong Punch





⚠ CAUTION

Before replacing the Punch and Die, ensure that the machine is disconnected from its power source to prevent accidental operation and personal injury.

1. Be sure that the Punch Piston is fully retracted and remove the Strippers to make access to the parts easier.
2. The Punch must be removed first and then the Die. Unscrew the Punch Retaining Nut to remove the Punch and remove the Set Bolt and the Nut to remove the Die.
   Note: When replacing the Punch and the Die, make sure that the correct size, thickness and hole shape is selected. Shaped Punches and Dies must be properly aligned with each other.
3. Place the Oblong Punch into the Punch Retaining Nut. Position the stepped edge of the Oblong Punch properly in the Punch Piston and hand tighten the Punch Retaining Nut.
   Note: If the stepped edge of the Oblong Punch is not properly inserted into the Punch Piston, the Punch Retaining Nut cannot be fastened. Make sure the Oblong Punch is positioned correctly in the Punch Rod.
4. Push the Oblong Punch against the Punch Rod and tighten the Punch Retaining Nut firmly with the Nut firmly with the Tommy Bar supplied.
5. Secure the Oblong Die firmly with the Set Bolt and tighten the Nut.
6. Replace the Strippers.

⚠ CAUTION

Check the Butterfly Bolts, holding the Stripper, regularly to ensure that they are tight. Loose bolts may cause the Stripper to detach and damage the tool.

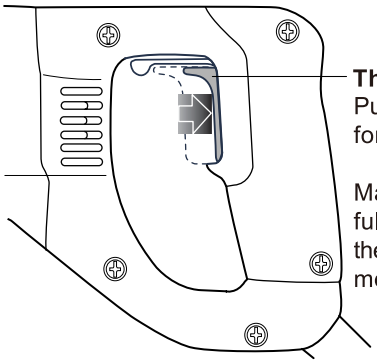
⚠ CAUTION

Make sure the stepped edge of the Oblong Punch is positioned correctly in the Punch Rod and that the Punch Retaining Nut is properly fastened.

⚠ WARNING

If the Punch and Die are not the same size or the Punch and the Die are not positioned properly, the Punch may strike the Die causing both parts to break. In such a case, pieces flying off the broken parts may cause personal injury.

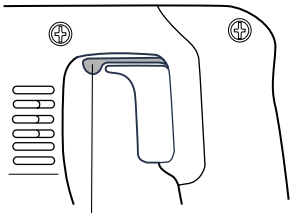
How to use the Trigger Switch



The motor Trigger Switch
Pull the Trigger Switch for punching operation.

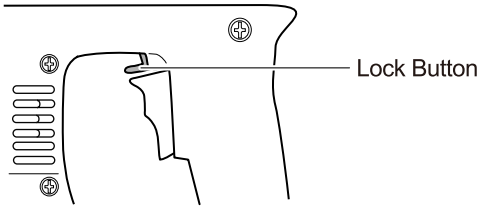
Make sure that the switch is fully depressed. Do not ride the switch as this will harm the motor.

HPC-N186W / N208W



Lever
This Lever is not used on HPC-N186W and N208W.

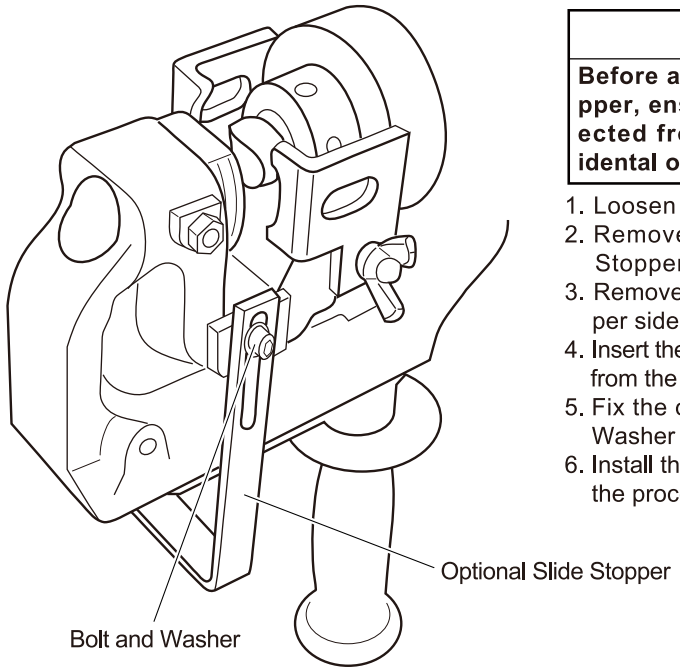
HPC-N209W



Lock Button is used to lock the Trigger Switch on when using the Foot Switch. Pull the Trigger Switch and push in the Lock Button. To unlock, push in the Lock Button again.

How to use optional Slide Stopper for maximum depth

Punching up to 40 mm depth, from the edge of the material, can be done using the optional Slide Stopper.



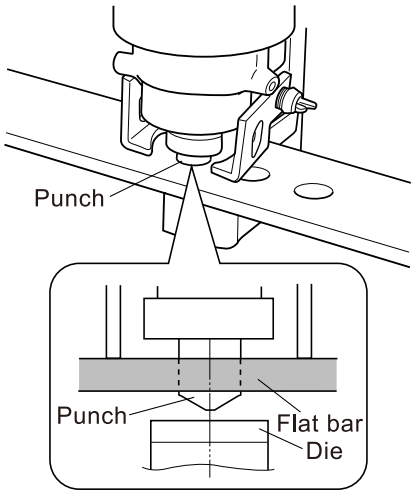
⚠ CAUTION

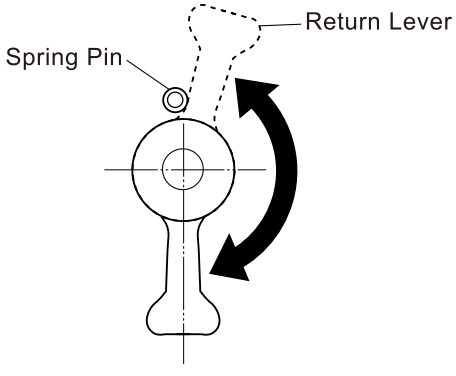
Before attaching or removing the Slide Stopper, ensure that the machine is disconnected from its power source to prevent accidental operation and personal injury.

1. Loosen the set bolt and nut to remove the Die.
2. Remove the bolt and washer fixing the Slide Stopper.
3. Remove the Slide Stopper by pulling it to the upper side of the C Frame.
4. Insert the optional Slide Stopper for maximum depth from the bottom side of the C Flame.
5. Fix the optional Slide Stopper with the Bolt and Washer removed in the procedure 2 above.
6. Install the Die with the set bolt and nut removed in the procedure 1 above.

OPERATING PROCEDURE

1. Before making any adjustment, turn off the power supply and unplug the power cord.
2. Check the position for punching and adjust the Slide Stopper to the required distance. The Slide Stopper, which is set to hold the Hole Puncher at a constant distance from the edge of the work piece, is held in place by one or two socket head caps screws. Loosen the cap screw(s) and tap the Slide Stopper into the desired position. Retighten the cap screw(s).
3. Plug the power cord into a power outlet, ensuring that the voltage of the tool is the same as the supply.
4. Check that the Return Lever is fully closed in the clockwise direction.
5. Make sure that the Punch Piston is fully retracted.
6. Make sure that the proper Punch and Die are selected and that they are installed correctly.
7. Place the Puncher in the required position on the work piece, using the Slide Stopper as a guide and lining up the point of the Punch with the center mark of the hole to be punched.
8. Pull the Trigger Switch. The Punch Rod will extend and push the Punch through the material. Keep the Switch on until the Punch has reached the end of its stroke and returns to its starting position. If the Punch doesn't return after punching finishes, release the Switch to turn the motor off. Pull the Switch again to run the motor and to return the Punch. (See further explanation below for procedure when Punch becomes stuck in the material.)
   To aid accurate and easy positioning of the Punch, the Switch can be operated on and off to jog the Punch down to the work piece. If the position is not satisfactory, open the manual Return Lever to retract the Punch for another attempt. If the Punch doesn't return to its starting position with manual Return Lever open, pull the Trigger Switch to return the Punch.





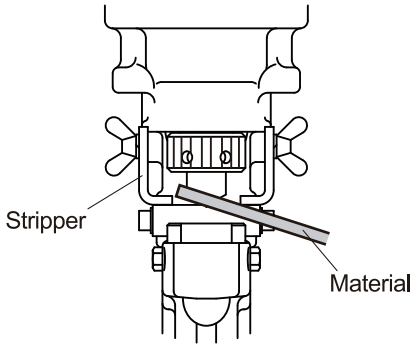
<u>When the Punch fails to come out of the material after the punching:</u>

1. Pull the trigger switch to run the motor and to return the Punch to its starting position by hydraulic power.
2. Release the Switch, when the Punch is fully returned to its starting position.
3. Proceed with the next punching operation according to the normal operating procedure.

<u>When the Punch fails to come out of the material after punching or when it is necessary to stop the operation before punching is finished.</u>

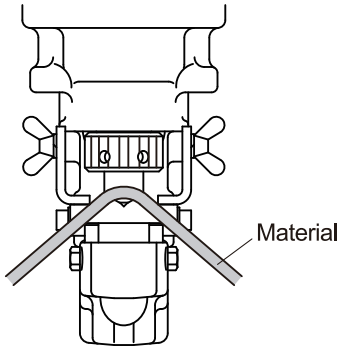
1. Turn the Return Lever counterclockwise until it hits The Spring Pin and then immediately back to its starting to release the internal pressure.
   Note: If at this stage the Punch retracts from the material under its own power, allow the Punch to completely return and then turn the Return Lever back to its starting position. In this case it is not necessary to complete the stages 2 and 3.
2. Pull the trigger Switch to run the motor and to return the Punch to its starting position by hydraulic power.
3. Release the Switch when the Punch is fully returned to its starting position.
4. Proceed with the next punching operation according to the normal operating procedure.

Caution when using the Stripper



Do not position the material with one end or both ends unsupported by the Stripper.
If the material is not properly supported, it will move when the Punch tries to return causing the Punch to jam and damaging the tool.

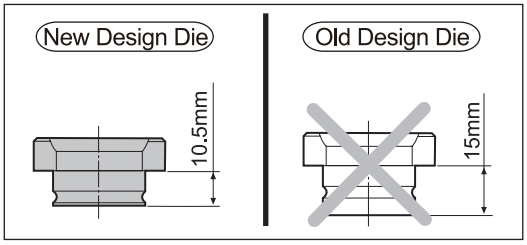
Caution when selecting the Die



It is important that the Die selected is correct for the thickness of the material to be punched.
Punching material of thickness 4 mm to 8 mm using a Die for thinner material can cause the Punch to jam in the material. This is due to the smaller clearance between the Die and Punch. In such a case the material will be pulled up by the retracting Punch as shown in the drawing on the left. Special care should be taken when punching flat bar of mild steel, aluminum and copper.

The difference between the old and new Die

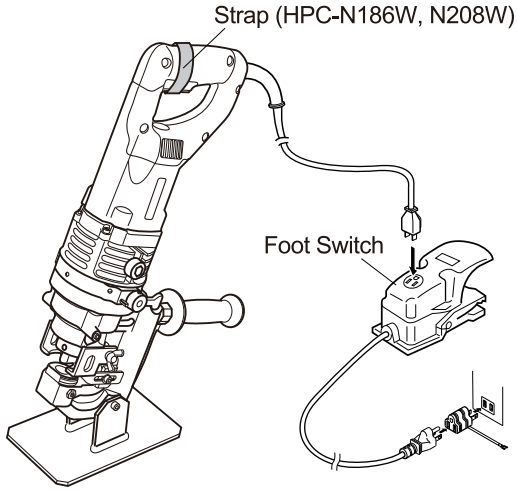
The dies used with the N series are a new design and are not interchangeable with the older style dies.



⚠ WARNING

The old design Dies cannnot be used with the N series. Using the old style Dies with the N series may result in serious injury. Use only the correct Dies installed according to the instructions in this manual.

How to use the optional Foot Switch



⚠ CAUTION

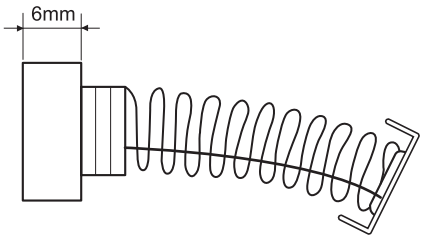
Connect the Foot Switch correctly as in the drawing on the left.

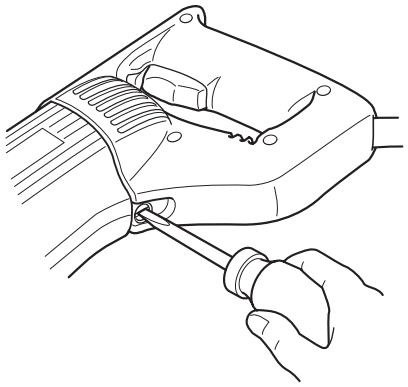
1. Plug the Foot Switch power cord into the mains power outlet and the power cord of the tool into the socket on the Foot Switch.
2. Pull the Trigger Switch so it is fully closed and hold in position with the strap supplied. If the switch is not fully in when held by the strap, the motor will over heat (HPC-N186W, N208W).
   Pull the Trigger Switch and push in the Lock Button (HPC-N209W).
3. Step on the Foot Switch to operate the tool.

CARBON BRUSHES REPLACEMENT PROCEDURE

When the carbon brushes become less than 6mm the motor force deteriorates because of low rectification. Carbon brushes need to be replaced.

1. Remove the carbon brush cap of the motor outer frame using the standard screwdriver.
2. Replace the carbon brushes with new ones.
3. Put back the caps.

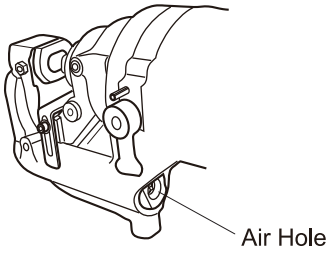




Carbon Brush Size

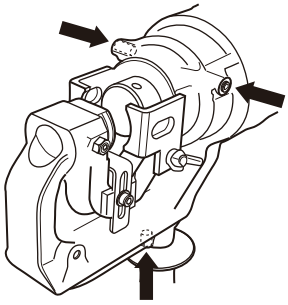
Model	Part Number	Size
HPC-N186W, N208W	6402170	11 (Width) X 5 (Thickness) X 17 (Length) mm
HPC-N209W	6400580	11 (Width) X 7 (Thickness) X 18 (Length) mm

MAINTENANCE



CAUTION

Keep the air hole at the end of the C Frame clear of dirt and obstructions. The air hole has to be open in order to control the hydraulic pressure.



CAUTION

Do not undo or remove the three screws in the drawing on the left. Doing so will cause oil to leak from the tool.

ADDING OIL

This Hole Puncher is electro-hydraulic. When shipped from the factory, it was filled with the oil. Do not attempt to add oil as long as the tool performs well. When the oil-pressure is not enough for proper operation add oil as follows. Make sure that the work area and all equipment is clean so that no dirt, dust or other foreign material can get into the hydraulic oil or pump area.

1. Locate the socket head cap screw that plugs the oil port. It is just above the manual return lever on the right hand side of the Hole Puncher.
2. Lay the Hole Puncher on its left side so that the oil port is facing up.
3. Operate the tool to move the punch position almost to the bottom of its stroke. If necessary, cycle the punch several times to determine where the bottom of stroke is, and to correctly position the punch piston. In this position, the maximum amount of oil has been drawn from the pump and the correct fill can be obtained. Disconnect the tool from its power source.
4. Carefully open the oil port by removing the socket head cap screw.
5. Using the small squeeze bottle supplied with the Hole Puncher, carefully add hydraulic oil to completely fill the reservoir. Rock the Hole Puncher back and forth slightly several times to free any trapped air bubbles, then add additional oil as necessary.
6. Replace the cap screw and wipe up any excess oil.
7. Cycle the Hole Puncher several times with the Manual Return Valve open, and again with the valve closed, to work any trapped air out of the system, then repeat the above procedure, making sure that the punch piston is almost at the bottom of its stroke before removing the cap screw from the oil port.
8. Add additional oil as necessary. If the unit was extremely low on oil, it may be necessary to repeat the procedure several times.

⚠ CAUTION

Only pure hydraulic oil as recommended by Ogura & Company Ltd., should be used in this tool. Recommended oils include the Ogura supplied hydraulic oil, Super Hyrando #46 (JX Nippon Oil & Energy Corp.); Shell Tellus Plus #46 (U.S. Shell); or equivalent spec anti-wear hydraulic oil, ISO Viscosity Grade 46. Do not use other oils as these may cause damage to the seals and other internal machine parts.

MEMO

MEMO

PUNCH & DIE INTERCHANGEABILITY

	Punch	Long Punch (LP)	Die		Long Die (LD)	Stainless Die		Stainless Long Die (LD)	Die for Channel		Die for Duct Line
			new	old		new	old		new	old	
HPC-11											
HPC-615 HPC-615DF	◎										
HPC-6150 HPC-86150	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
HPC-18N HPC-20	◎		◎	◎		◎	◎		◎	◎	
HPC-206W HPC-206WDF	◎		◎			◎			◎		
HPC-618 HPC-8618	◎		◎	◎		◎	◎		◎	◎	
HPC-620N HPC-8620	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎
HPC-920DI HPC-8920 HPC-8920W	△		△			△			△		
HPC-22											
HPC-1322 HPC-1322DA			●								
HPC-N186W HPC-N208W HPC-N209W HPC-N208WDF HPC-N209WDF			◎			◎			◎		

※ Marks ◎, ●, △ shows the punch and die that can be used commonly.
※ Blanks show exclusive punch and die.
※ HPC-615, 615DF, 6150 and 86150 have only round die for channel steel.
※ Combination of punch and die for HPC-8150, 86150, 620N and 8620 is as follows;
1. Standard punch with Long die (LD)
2. Long punch (LP) with standard die
※ Exclusive die for duct-line punching is long die (LD) only.

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