**User manual**

**Hand Hydraulic Punch Driver & Knockout Punches**

**www.icotek.com**

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**Appropriate Use**

The hand hydraulic punch driver used with icotek punches is intended for punching of stainless steel (V2A punches, max. 2 mm sheet thickness), mild steel, aluminum and plastics of up to 3 mm sheet thickness only. Please pay attention to the following instructions and read the user manual carefully before operating with the knockout tools.

**For Your Own Safety:**

- Only use punches, dies, and draw studs recommended in this manual.
- Assembly should be done only in the stated order.
- Please pay attention to the valid accident prevention regulations and adopt protective measures.
- Ensure the knockout tools and punches before are in proper condition before using them. Defective parts need to be replaced before use.
- Do not operate in an area where electric shock could be possible.
- Ensure an voltage free environment before use. Please clean any dirt from the areas of the punch driver.
- The punch driver needs to be used without damage.
- Maintenance should be performed by qualified technicians.

**Caution:**

- Open your hands while using.
- Do not place your hands between punch and die while operating.
- After operating, sharp edges can be formed at the cut-out and at the material slug. There is a risk of cut injuries.

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**Punching of Rectangular & Square-cut outs**

**Prepare Punching Material:**

Drill pilot hole depending on cut-out:

<table>
<thead>
<tr>
<th>Cut-out</th>
<th>Drill pilot hole</th>
<th>Draw stud Ø</th>
<th>Dmax (max. sheet thickness)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 x 45 mm</td>
<td>12,45 mm</td>
<td>9.5 mm (3/8&quot;)</td>
<td>2 mm</td>
</tr>
<tr>
<td>14 x 45 mm</td>
<td>14,45 mm</td>
<td>9.5 mm (3/8&quot;)</td>
<td>2 mm</td>
</tr>
<tr>
<td>16 x 80 mm</td>
<td>16,80 mm</td>
<td>9.5 mm (3/8&quot;)</td>
<td>2 mm</td>
</tr>
<tr>
<td>16 x 11 mm</td>
<td>16,11 mm</td>
<td>9.5 mm (3/8&quot;)</td>
<td>2 mm</td>
</tr>
<tr>
<td>46 x 46 mm</td>
<td>46,46 mm</td>
<td>3 mm (1/8&quot;)</td>
<td>3 mm</td>
</tr>
<tr>
<td>56 x 65 mm</td>
<td>56,65 mm</td>
<td>3 mm (1/8&quot;)</td>
<td>3 mm</td>
</tr>
<tr>
<td>56 x 86 mm</td>
<td>56,86 mm</td>
<td>3 mm (1/8&quot;)</td>
<td>3 mm</td>
</tr>
<tr>
<td>66 x 11 mm</td>
<td>66,11 mm</td>
<td>3 mm (1/8&quot;)</td>
<td>3 mm</td>
</tr>
</tbody>
</table>

**Useful Tips:**

- The draw stud, cutting edges and faces should be lubricated or greased regularly. This allows the punching operation to be done more easily and cutting edges to be smoother if the punch creates a blunt edge it needs to be sharpened.
- To release the slug on the rectangular punch use a long.
- If possible, insert the hand hydraulic punch driver from the outside. The marks for the mounting holes can be screwed much easier.
- Prepare Hand Hydraulic Punch Driver and Punching:
  - Set the release valve knob to “On”.
  - Screw the draw stud into the hydraulic cylinder.
  - Place the die on the draw stud.
  - Put the draw stud through the pilot hole of the punching material.
  - Check the counter nut towards the punch.
  - Align the punch using a try square.
  - Please note that marking the mounting holes is not necessary for all icotek cable entry components. Through marking the mounting holes, the center punches can deform the punching material if center punches jut out. The sealing rates of pluggable cable entry components could be decreased.

**Structure for Punching Round Cut-outs:**

- Die
- Counter nut
- Sheet material
- Punch
- Punch hole
- Knockout punch
- Hydraulic cylinder
- Hand hydraulic punch driver
- Release valve knob

**Structure for Punching Rectangular & Square Cut-outs:**

- Die
- Punch
- Punch hole
- Knockout punch
- Hydraulic cylinder
- Hand hydraulic punch driver
- Release valve knob

**Punch the Cut-out:**

- Set the release valve knob to “On”.
- Screw the corresponding draw stud into the hydraulic cylinder.
- Bump with the hand hydraulic punch driver until the punch is through the punching material.
- The die must be punched completely through the material. The punch driver has to be released easily.

**Release the Punch Driver After Punching:**

- Unscrew the punch.
- For releasing the punch driver, set the release valve knob to “OFF”.
- Remove the die.
- Material slug is split into three parts and can be removed easily.

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**Punching of Round-cut outs**

**Prepare Punching Material:**

Drill pilot hole depending on cut-out:

<table>
<thead>
<tr>
<th>Cut-out</th>
<th>Pilot hole</th>
<th>Drill stud Ø</th>
<th>Dmax (max. sheet thickness)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 x 86 mm</td>
<td>24,86 mm</td>
<td>2 mm (3/32&quot;)</td>
<td>2 mm</td>
</tr>
<tr>
<td>24 x 14 mm</td>
<td>24,14 mm</td>
<td>2 mm (3/32&quot;)</td>
<td>2 mm</td>
</tr>
<tr>
<td>46 x 46 mm</td>
<td>46,46 mm</td>
<td>2 mm (3/32&quot;)</td>
<td>2 mm</td>
</tr>
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</table>

**Useful Tips:**

- The draw stud, cutting edges and faces should be lubricated or greased regularly. This allows the punching operation to be done more easily and cutting edges to be smoother if the punch creates a blunt edge it needs to be sharpened.
- To release the slug on the rectangular punch use a long.
- If possible, insert the hand hydraulic punch driver from the outside. The marks for the mounting holes can be screwed much easier.

**Structure for Punching Round Cut-outs:**

- Die
- Counter nut
- Sheet material
- Punch
- Punch hole
- Knockout punch
- Hydraulic cylinder
- Hand hydraulic punch driver
- Release valve knob

**Punch the Cut-out:**

- Set the release valve knob to “On”.
- Screw the draw stud into the hydraulic cylinder.
- Place the die on the draw stud.
- Screw the counter nut towards the punch.
- Align the punch using a try square.
- Please note that marking the mounting holes is not necessary for all icotek cable entry components. Through marking the mounting holes, the center punches can deform the punching material if center punches jut out. The sealing rates of pluggable cable entry components could be decreased.

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