FULLY UNDERSTAND THIS MANUAL.

Read and understand the entire contents of this manual with special emphasis on the safety material throughout. Persons trained and experienced in the safe operation of cutting equipment and this equipment are for use only by persons trained and experienced in the safe operation of cutting equipment and this equipment. Do not allow untrained persons to install, operate or maintain this equipment or the manual. Before installing, operating, or maintaining this equipment, be sure read and understand the entire contents of this manual.

DO NOT DESTROY

MODEL: CTL-0151 H1040

PLASMA CUTTING TORCH

FOR

OWNERS MANUAL

DAIHEN CORPORATION

MANUAL NO: H1040-7
Any other country which has signed the EEA accord, please ask us before attempting to relocate or resell this product to or in any EU member country or outside the EEA accord.

The same restriction is also applied to any country which has signed the EEA accord. An allowed to bring into the EU after January 1, 1995. As it is.

Please make sure that this product is not used in accordance with EC Directives which are the EU safety regulations.
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9.  }
### 1. SAFETY INFORMATION

- **WARNING**: The following safety alert symbols and signal words are used throughout this manual to identify various hazards and special instructions.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Symbol" /></td>
<td>CAUTION</td>
</tr>
<tr>
<td><img src="image" alt="Symbol" /></td>
<td>WARNING</td>
</tr>
</tbody>
</table>
5. Use approved earplugs or earmuffs if noise level is high.

4. Wear protective clothing made from durable, flame-resistant material (wool and leather) and long pants.

3. Use protective screens or barriers to protect others from flash and glare; warn others not to look at the arc.

2. STANDARDIZED TO PROTECT YOUR FACE AND EYES WHEN CUTTING OR WATCHING A CUTTER WORK.

1. Wear face shield with a proper shade of filter (see ANSI Z 4.1). A liberal use of Principle Safety Glasses can damage hearing.

Noise from some plasma arc cutting applications can damage hearing.

Eyes and skin.

ARC RAYS can burn eyes and skin: FLYING SPARKS AND HOT METAL can cause injury. NOISE can damage hearing.

12. Remove dust by blowing moisture-free compressed air on each part periodically.

11. Keep away from torch tip and pilot arc when torch is pressed.

10. Turn off POWER switch when not in use.

9. Do not wrap cables around your body.

8. Do not touch electrode or any metal part of POWER switch when it is ON.

7. Do not leave power cord or any electrically live parts of this equipment near food, water, or other items.

6. Keep all panels and covers of this equipment securely in place.

5. Properly install and ground this equipment according to its Owner’s Manual and national, state, and local codes.

4. Be sure to turn off the line disconnect switch before installing, changing torch parts or uninsulated equipment.

3. Wear dry insulating gloves and other body protection that are free of holes.

2. Do not touch the electrical parts.

1. Electric shock can kill.

2. PLASMA ARC CUTTING SAFETY PRECAUTIONS (continued)
18. Remove dust by blowing moisture-free compressed air on each part periodically.

17. Do not use containers which contain combustible material. Do not place the cutting machine on combustible material.

16. Do not cut any container which is likely to contain high pressure materials like gas cylinders.

15. Do not cut any container which is likely to contain high pressure or smoke-filled room.

14. Wear flame-resistant garments or garments to prevent sparks from entering ears.

13. Wear approved face shield or safety goggles with side shields.

12. Tighten all cable connections.

11. A loose cable connection can cause sparks and excessive heating.

10. Do not wear protective garments such as leather gloves, a heavy shirt, or leather trousers.

9. Hazards cutting current from live parts, such as high voltages, a heavy shirt, or leather trousers.

8. Connect power cable to base metal as close to the cutting area as possible to prevent the cutting current from live parts, such as high voltages, a heavy shirt, or leather trousers.

7. Be aware that cutting zone can ignite a hidden fire.

6. Watch for fire and keep a fire extinguisher nearby.

5. Openings in the measurable area.

4. Be sure that cutting sparks and hot materials from cutting can easily pass through cracks and openings in the measurable area.

3. Remove all flammables within 3 m of the cutting arc. If this is not possible, rigidity, electrical shock and fire.

2. Do not cut where cutting sparks can strike flammable materials.

1. Protect yourself and others from cutting sparks and hot materials.

The heat and rays of the arc can reach with vapors to form highly toxic and irritating gases.

5. Be aware of the heat and rays of the arc.

4. Read the Material Data Sheet (MDS) and the manufacturer's instructions on ventilation is poor, use an approved air-supplied respiration.

3. Ventilate the area and/or use exhausts at the arc to remove cutting fumes and gas.

2. Keep your head off the fumes. Do not breathe the fumes.

1. You will be exposed to your health.

CUTTING can cause fire and explosion.

FUMES AND GASES can be hazardous to your health.

1. PLASMAARC CUTTING SAFETY PRECAUTIONS (continued)
7. Use only torch(s) specified in the owner's manual.

8. Do not disassemble or repair the gas regulator except if you are authorized by the manufacturer.

9. Turn fuse away from valve outlet when opening cylinder valve.

10. Keep cylinder upright and securely chained to a stationary support or a rack to prevent falling or tipping.

11. Use only correct shielding gas cylinders, gas regulator, hoses, and fittings designed for the shielding gas cylinder contains high-pressure gas. If damaged, a cylinder can explode.

2. PLASMA ARC can cause injury.

3. The pilot arc can cause burns, keep away from tip when trigger is pressed.

4. Wear proper flame-resistant clothing covering all exposed body areas.

5. Do not grip material near the cutting path.

6. Keep torch away from the torch tip.

7. Turn off the line disconnected switch and POWER switch on the front panel before.

8. Point torch away from your body and lower work when pressing the torch trigger.

9. Do not grip material near the cutting path.

10. Keep away from the torch tip.
### Plasma Arc Cutting Precautions

#### HIGH-FREQUENCY
- This equipment uses high frequency for arc starting.

#### SAFE AREA
- Operation of the plasma cutter must not come near this equipment during operation, until the trouble is corrected.

<table>
<thead>
<tr>
<th>No.</th>
<th>Precaution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Use both gloves &amp; protective eyeglasses to lift the cutting power source.</td>
</tr>
<tr>
<td>2.</td>
<td>Do not put the equipment close to a floor, etc. around the cutting machine. To keep parts may cause injuries.</td>
</tr>
<tr>
<td>3.</td>
<td>Do not put hands, fingers, hair or clothes near the rotating fans.</td>
</tr>
<tr>
<td>4.</td>
<td>When the case is removed, if the case and the cover are removed, if hands, fingers, hair or clothes are put near the fans, rotating parts, injuries may occur.</td>
</tr>
<tr>
<td>5.</td>
<td>Tighten the ground nut at the outlet of the ground as close as possible.</td>
</tr>
<tr>
<td>6.</td>
<td>Do not press the torch switch when ready to start the arc.</td>
</tr>
<tr>
<td>7.</td>
<td>When electromagnetic trouble occurs, take the measures shown in this instruction manual.</td>
</tr>
<tr>
<td>8.</td>
<td>Plasma cutter never turn off without consulting your doctor.</td>
</tr>
</tbody>
</table>

**Electromagnetic Trouble:**
- When electromagnetic trouble occurs, take the measures shown in this instruction manual.

**High-Frequency Equipment Uses:**
- This equipment uses high frequency for arc starting.
- Plasma cutters, plasma arc cutting, etc.
- Industrial control, radio, etc.
- Industrial control, radio, etc.
- Industrial control, radio, etc.
- Industrial control, radio, etc.
NOTE: The codes listed above may be improved or eliminated. Always refer to the updated codes.

- American National Standards Institute.
- Safe Handling of Compressed Gas in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association.
- Government Printing Office.
- Safety and Health Standards, OSHA 29 CFR 1910, from Superintendent of Documents, U.S.
- IEC 60207-1, from International Electrotechnical Commission.
4. TORCH DRAWING

<table>
<thead>
<tr>
<th>Description</th>
<th>Accessories</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wrench</td>
</tr>
<tr>
<td>3</td>
<td>Electrode</td>
</tr>
<tr>
<td>3</td>
<td>Tip</td>
</tr>
<tr>
<td>1</td>
<td>Shield Cup</td>
</tr>
<tr>
<td>1</td>
<td>G.Y.</td>
</tr>
</tbody>
</table>

(Take this off when used.)

(3) Yiny cup

Check thequantity at open.
If exceeding the rated duty cycle, temperature rise of cutting power source and torch may be unstable, place or turn torch switch on carelessly. If you pull torch downward during operation, do not pull torch switch downward, pull torch at once. Do not point torch in direction of personnel. If you touch plasma arc or pilot arc, you will be burned.

**CAUTION**
When cut down:

At cutting terminus, keep lip away from base metal for 1mm.

Eccentrics, and a hole of lip can be deformed.
Do not cut down with touching lip to base metal. Stop at .

If it is too fast, upwash occurs forward of cutting direction.
So dress can be easily taken off from base metal.
Plasma arc flows slightly backward with correct cutting speed.

Keep the correct torch angle to prevent splatter.

If it is too slow, upwash occurs forward of cutting direction.
If torch remains to the right, left.

If torch remains to the left, right, reverse cutting direction, spatters to

The proper torch angle to base metal should be within +5°.

Touching lip to base metal slightly.

For cutting down, move torch in cutting direction with

Arc generates inside of lip, and lip might be burned.
Do not start with touching lip to base metal vertically.

Deformed outline.
Strong arc generates and the hole of lip might be
Start with.
Do not touch the side of lip to the edge of base metal when

Observe followings when you use torch:

\[ \text{\textbf{CAUTION}} \]

P. 10/17
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branch office or nearest agent.

Refer to the left drawing and
insulating sleeve is needed,
drawing In such a case,
can not be used. Clamp the
torch body shown in left

If clamping recommended zone

Caution

Angle type torch. Clamping recommended zone

Clamping enable range

Folows.

With automatic cutting operation with mounting the torch on a carriage, clamp as

5.4 Clamping the torch for an automatic cutting

The insulating cover is damaged, replace it.

Insulating cover. If the insulating cover is damaged in the torch body, may cause damage from the detector pin, and may

The insulating cover. If the insulating cover is damaged in the torch body, may cause damage to the detector pin. Careless handling of the

Do not use metal material. Sheet end joint if the backing

High frequency can

P.11/17
No.H1040
If the shield cup gets stuck to the torch body, remove it as soon as possible.

Turn cup until light, wipe clean, then reinstall cup to torch body, wipe dust off by a piece of dry cloth. 

Installation of shield cup: 

1. Remove the shield cup, tip electrode part and electrode.

2. Use a genuine OTC's wrench part for replacement.

3. Only use the damaged parts to replace with new ones. 

4. If parts are damaged, replace with new ones for safety and quality assurance.

CAUTION

- Exchanging torch parts must be done after cooling down.
- Use protective gear (leather gloves, etc.) when operating.
- When operating, do not touch high temperature parts (tip, shield cup, and base metal) just after the work.
- Observe the following to prevent burning.

CAUTION

- Do not touch face when power source is on.
- Do not touch live electrical parts.
- Operate the maintenance check periodically, and be sure to troubleshoot and repair immediately.
- Before connecting the torch, check the electrode and exchange parts.

WARNING

6. MAINTENANCE AND TROUBLESHOOTING
<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tip</td>
<td>Tip sticks to the base metal.</td>
</tr>
<tr>
<td>Tip</td>
<td>The cut is excessive.</td>
</tr>
<tr>
<td>Electrode</td>
<td>Electrode</td>
</tr>
<tr>
<td>Electrode</td>
<td>Electrode</td>
</tr>
<tr>
<td>Hole</td>
<td>Electrode</td>
</tr>
<tr>
<td>Holes</td>
<td>Electrode</td>
</tr>
</tbody>
</table>

When the following conditions exist, replace the electrode and/or lip may be necessary.

When the following conditions exist, replace the electrode and/or lip may be necessary.

(2) Replacement of electrode and lip
6.2 How to exchange torch body

(1) Unscrew four attaching screws from torch body and open handle.
(2) Fix torch body and move hose backward, after you see connection terminal of lead wire in about 30mm.
(3) Cut lead wire at backward of connection terminal.
(4) For disassembling of power cable, turn null of a hole for spanner and moveuke backward. Fix spanner power cable to anti-clockwise.
1. Since high voltage with high frequency is applied on this torch, be sure to insulate each.

2. Be sure to connect power cable properly.

Assembly is in reverse order of disassembly.

Notes for assembling:

(6) Adjust wires to prevent from squeezing into handle; then close and screw handle.

(5) Move hose sheath back in position per drawing and tie with cable tie and pull it into handle. Do not let power cable and lead wire together.

(4) Insert black detection lead wire into black bulk connector or in torch body and crimp.

(3) Tape lead wire together with tape to prevent from pulling into handle.

(2) Move tape backward to the edge of torch body.

(1) Connect power cable to torch body.
<table>
<thead>
<tr>
<th>Remarks</th>
<th>Description</th>
<th>P/N No.</th>
<th>Part No.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>I</th>
<th>Wrench</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Plane socket</td>
<td>697-00-69</td>
<td>1-6</td>
</tr>
<tr>
<td></td>
<td>Control wire assembly</td>
<td>000200</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Power cable assembly</td>
<td>000000</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Hose sheath</td>
<td>00996</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Torch switch</td>
<td>000000</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Lens</td>
<td>8360-83</td>
<td>2-5</td>
</tr>
<tr>
<td></td>
<td>Screw</td>
<td>8360-83</td>
<td>1-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remarks</th>
<th>Description</th>
<th>P/N No.</th>
<th>Part No.</th>
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</table>

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<tr>
<th>I</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Handle</td>
<td>000400</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Body cover kit</td>
<td>000400</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Torch body</td>
<td>000400</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Electrode</td>
<td>007403</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Tip</td>
<td>000000</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Shield cup</td>
<td>007403</td>
<td>1</td>
</tr>
</tbody>
</table>

Standard accessories.

Optional accessories.

2. PARTS LIST
8.3 Combustible cutting power source

EXTERNAL VIEW

<table>
<thead>
<tr>
<th>Mass (without cable)</th>
<th>Use of gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>170G (0.37lbs)</td>
<td></td>
</tr>
<tr>
<td>Air</td>
<td></td>
</tr>
<tr>
<td>10m (33ft)</td>
<td>Cable length</td>
</tr>
<tr>
<td>Air-cooled</td>
<td>Cooling method</td>
</tr>
<tr>
<td>50% (40%)</td>
<td>Heat duty cycle</td>
</tr>
<tr>
<td>15A (17A)</td>
<td>Rated amperage</td>
</tr>
<tr>
<td>CTL-0151</td>
<td>Model</td>
</tr>
</tbody>
</table>

8.1 Specifications
Upon contact, advise Model and Manual No.

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