

DRAPER®

INSTRUCTIONS FOR 250mm Smoothing Plane

Stock No.45241

Part No.P4/L

IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY TO ENSURE THE SAFE AND EFFECTIVE USE OF THIS PRODUCT.



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GENERAL INFORMATION

Read all these instructions before operating this product and save these instructions.

This manual has been compiled by Draper Tools and is an integrated part of the product with which it is enclosed and should be kept with it for future references.

This manual describes the purpose for which the product has been designed and contains all the necessary information to ensure its correct and safe use. We recommend that this manual is read before any operation or, before performing any kind of adjustment to the product and prior to any maintenance tasks. By following all the general safety instructions contained in this manual, it will ensure both product and operator safety, together with longer life of the product itself.

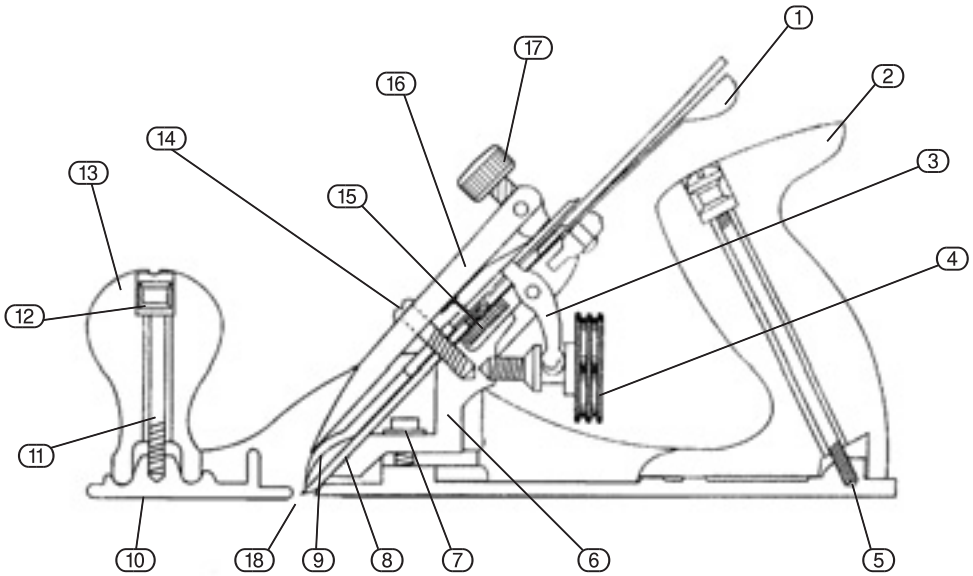
All photographs and drawings in this manual are supplied by Draper Tools to help illustrate the operation of the product. Whilst every effort has been made to ensure accuracy of information contained in this manual, the Draper Tools policy of continuous improvement determines the right to make modifications without prior warning.



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FIG. 1



- | | |
|------------------------------|------------------------|
| ① Lateral adjusting lever. | ⑩ Sole. |
| ② Handle. | ⑪ Knob screw. |
| ③ "Y" adjusting lever. | ⑫ Handle and knob nut. |
| ④ Depth adjusting nut. | ⑬ Knob. |
| ⑤ Handle screw. | ⑭ Cap screw. |
| ⑥ Frog. | ⑮ Cap iron screw. |
| ⑦ Frog clamping screws (x2). | ⑯ Screw cap. |
| ⑧ Cutting iron. | ⑰ Screw. |
| ⑨ Cap iron. | ⑱ Mouth. |

- **UNPACKING:** After removing the packing material, make sure the product is in perfect condition and that there are no visible damaged parts. If in doubt, do not use the product and contact the dealer from whom it was purchased.

The packaging materials (plastic bags, polystyrene, etc.), must be disposed of in an appropriate refuse collection container. These materials must not be left within the reach of children as they are potential sources of danger.

BENCH PLANE

APPLICATION:

For finishing, and general purpose work.

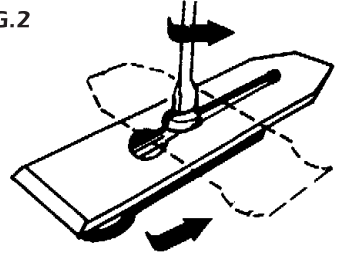
PREPARING THE IRON FOR HONING

Undo screw (17) (Fig.1) and remove screw cap (16) (Fig.1). Remove the cap iron and cutting iron (8/9) (Fig.1) and place on bench. Slacken cap iron screw (15) (Fig.1).

Slide back cap, (Fig.2) turn and remove. Iron is now ready for honing.

IMPORTANT: IRON MUST BE HONED BEFORE USE.

FIG.2

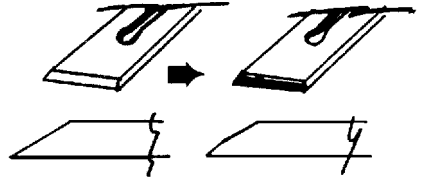


HONING THE IRON

– **HONING THE IRON**

The iron is supplied at a ground angle of 25°. Hone on a good quality, flat oil stone (Draper Stock No.31696) lubricated with light machine oil.

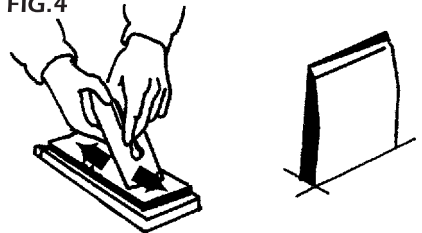
FIG.3



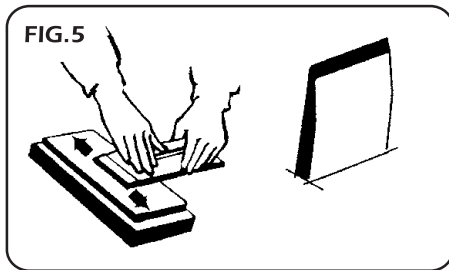
- Place ground 25° bevel flat on oil stone and raise 5° to honing angle of 30° (Fig.4).
- Hone the bevel along the stone, until a burr is formed on the back of the iron.

For easy honing of plane irons use Draper honing guide Stock No.12400

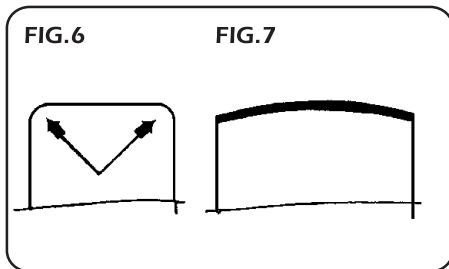
FIG.4



- Lay iron flat on the oil stone with bevel upwards (Fig.5). A few light strokes along the stone will remove the burr.



The shape of the honed edge depends on the final use to which the plane is to be put. Straight with round corners for finishing work (Fig.6) and curved for coarse stock removal (Fig.7).



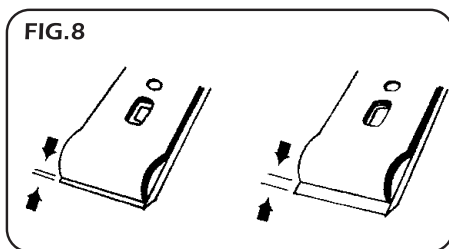
- GRINDING THE IRON

Re-grinding will become necessary if the edge is damaged, the bevel rounded or the angle changed. Wet stone grinding is recommended to prevent overheating.



SETTING THE CAP IRON

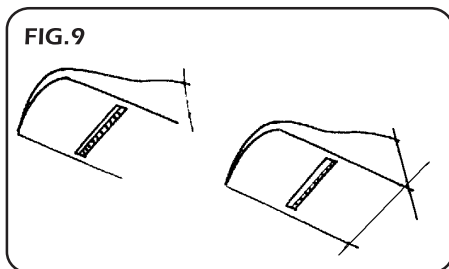
Follow procedure described in the 'preparing the iron for honing' section in reverse order. For general purpose work, the cap iron (9) (Fig.1) can be positioned approximately 1 mm from the cutting edge on the flat side of the iron. For very hard or very soft timber, the cap may be set respectively nearer or further away from the cutting edge as required (see Fig.8).



PREPARING THE PLANE

The size of the mouth opening (Fig.9) depends on the use to which the plane will be put. Fine cabinet work requires a small mouth; general purpose work requires a larger mouth, (as factory setting).

- Remove lever and double iron.
- Slacken frog clamping screws.
- Replace double iron and lever.
- Adjust iron to correct depth (see 'adjusting the plane' section).
- Apply hand pressure to move the frog.
- Hold the desired frog position, while removing the lever cap and double iron, then re-tighten frog clamping screws (7) (Fig.1).



ADJUSTING THE PLANE

– DEPTH CUT

Hold the plane as in Fig. 10. Adjust the depth or iron protruding through the mouth, by turning the depth adjusting nut ④ (Fig. 1), so that the amount showing is approximately the thickness of a hair.

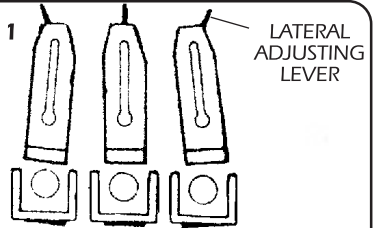
FIG. 10



– ALIGNMENT

Sight down the base and move lateral adjusting lever ① (Fig. 1), (See Fig. 11).

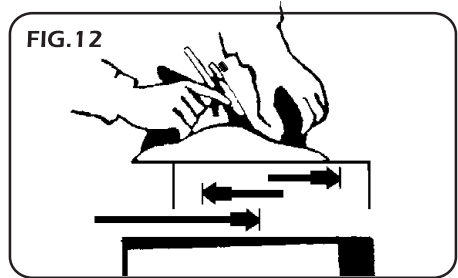
FIG. 11



TIPS AND MAINTENANCE

- To improve iron performance, it is recommended that the procedure described in the 'honing the iron' section is used to "back-off" or polish the flat surface of the iron prior to honing.
- After removing the burr (see Fig.5) strop the edge with a piece of leather, or draw the edge through a piece of softwood.
- Keep iron very sharp.
- Keep plane base in line with workpiece.
- Set to minimum shaving thickness.
- Plane in same direction as the grain.
- Work from edge to middle when planing end-grain.
- Keep bright parts oiled when not in use.
- Do not clear shavings from mouth with a metallic object.
- To protect iron, always lay plane on side when not in use.
- Do not drop.

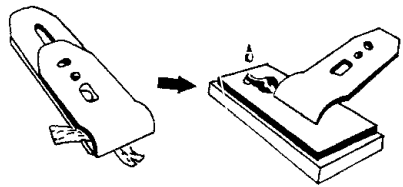
FIG. 12



- **PROBLEM:**
Mouth jams with shaving.

REMEDY:
Too coarse a cut, reset depth of cut. Poorly fitted cap results in shavings passing between cap and iron, re-grind cap edge on oil stone (Fig.13).

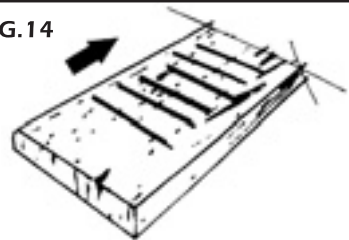
FIG. 13



- **PROBLEM:**
"Chatter" marks on work surface (Fig.14).

REMEDY:
Check frog clamping screws. Check lever cap pressure on iron. Check seating of iron on frog face.

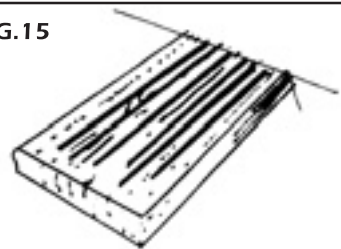
FIG. 14



- **PROBLEM:**
"Tram" lines or scoring marks on work surface (Fig.15).

REMEDY:
Corners of iron too sharp. Should be honed to a radius. Iron may be hollow on edge. Iron may be damaged, re-hone or re-grind. Lateral adjustment poorly set.

FIG. 15



- **PROBLEM:**
Plane skids over surface.

REMEDY:
Iron may be dull and require sharpening. Clean base with solvent. Check depth of cut.

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