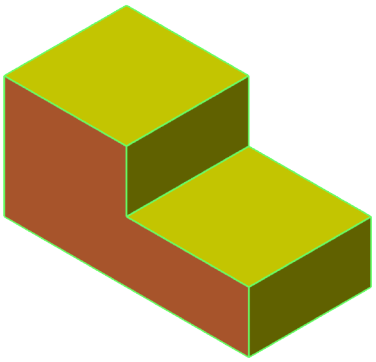
Step Block



A. Create Rectangle.

Step 1. If necessary start a new Mastercam file, click **New** on the Quick Access Toolbar QAT (**Ctrl-N**).

Step 2. Change to the Front View. **Right click** in the graphics window and click Front (**Alt-2**).
Confirm **CPLANE: FRONT** in Status bar at bottom of the graphics window, **Fig 1**.

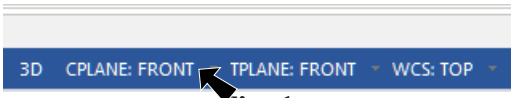


Fig. 1

Step 3. On the Wireframe tab WIREFRAME click **Rectangle** Rectangle.

Step 4. In the Rectangle function panel:
under Dimensions, **Fig. 2**
Width 4
Height 2
and press ENTER
Press **O key** on keyboard to select AutoCursor **Origin** override, **Fig 3**
Click OK .

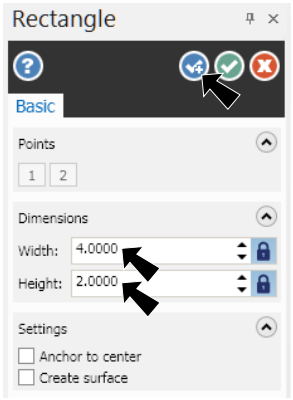


Fig. 2


Fig. 3

Step 5. **Right click** the graphics window and click **Fit** (**Alt-F1**).

B. Set Grid and Snap .2.

Step 1. On the View tab VIEW click **Show Grid** Show Grid and **Snap to Grid** Snap to Grid.

Step 2. Click the **Dialog Box Launcher** (**Alt-G**), **Fig. 4**.

Step 3. In the Grid Settings dialog box:
under Spacing, **Fig. 5**
X and Y Spacing .2
Click OK .

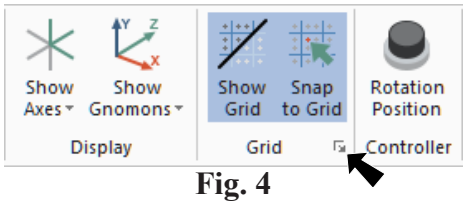


Fig. 4

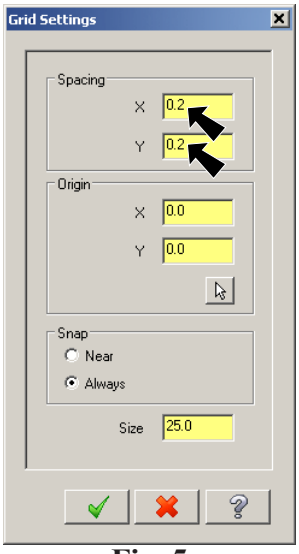


Fig. 5

3-29-16

http://www.cudacountry.net email:cudacountry@hotmail.com

C. Save As "STEP BLOCK"

Step 1. Click **Save As** (**Ctrl-Shift-S**) on the Quick Access Toolbar QAT.

Step 2. Key-in **STEP BLOCK** for the filename and press ENTER.

E. Sketch Lines.

Step 1. On the Wireframe tab WIREFRAME click **Line Endpoints** Line Endpoints.

Step 2. Sketch the two lines, **Fig. 6**. Use grid to determine location of lines. Click OK when done.

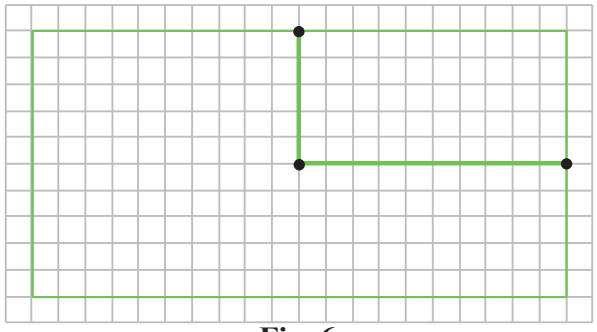


Fig. 6

E. Trim Lines.

Step 1. On the Wireframe tab WIREFRAME click **Trim Break Extend** Trim Break Extend.

Step 2. In the Trim Break Extend function panel:
under Type, **Fig. 7**
select **Trim 1 entity**
Trim lines to shape of step. To trim part of a line, **click line to trim**, **Position 1**, **Fig. 8**. **Then, click line to trim to, Position 2**. Repeat at other line - click part of line you are keeping, Position 1, then trim to Position 2.
Click OK when done.

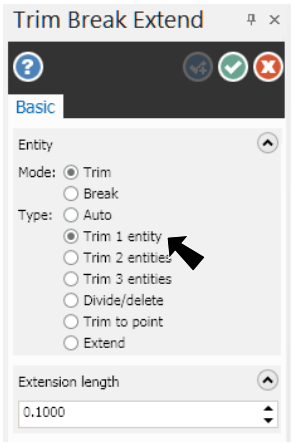


Fig. 7

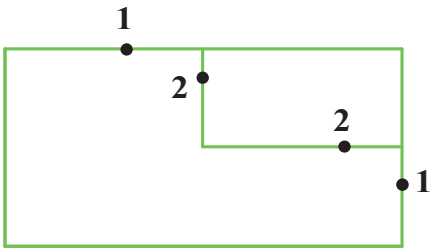


Fig. 8

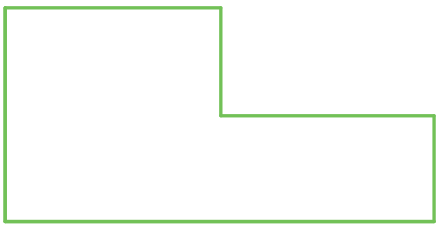


Fig. 9

F. Transform 3rd Dimension.

Step 1. Change to the Isometric View. **Right click** in the graphics window and click Isometric (WCS) (**Alt-7**).

Step 2. Confirm **CPLANE** in Status bar at bottom of the graphics window and changed to TOP, **Fig 10**.

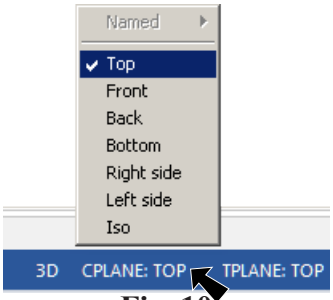


Fig. 10

Step 3. On the Transform tab TRANSFORM click **Translate** Translate.

Step 4. Use **Ctrl-A** to select all and click **End Selection** End Selection (**ENTER**).

Step 5. In the Translate dialog box:

Select **Join** , **Fig. 11**

ΔY **2**

Click OK .

Step 6. **Right click** the graphics window and click **Clear Colors** .

Step 7. **Fit** (**Alt-F1**).

Step 8. Save (**Ctrl-S**).

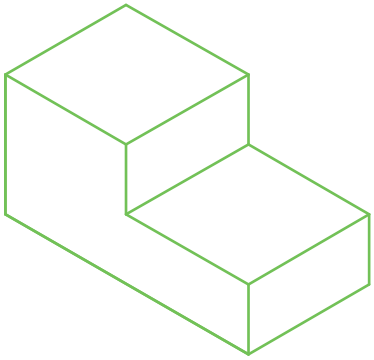


Fig. 12

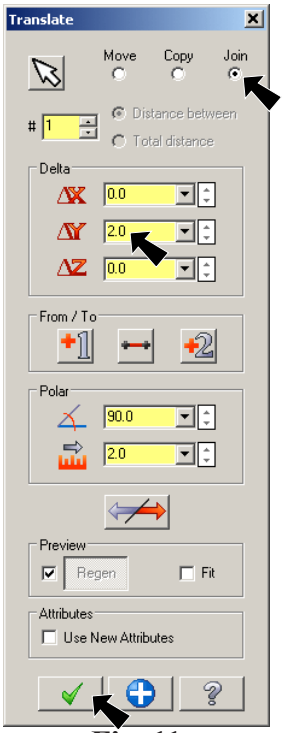


Fig. 11

G. Create Flat Boundary Surfaces.

Step 1. On the Surfaces tab SURFACES click **Flat Boundary** Flat Boundary.

Step 2. Click the Chain (**C**) in the Chaining dialog box, **Fig. 13**.

Step 3. Click the **left vertical line towards top of block**, **Fig. 14**.

Step 4. Walk Chain around the front lines of block in direction of Chain arrows, **Fig. 15** and **Fig. 16**.

If Chaining direction arrow points in wrong direction - click **Reverse** in Chain dialog box, **Fig. 13**.

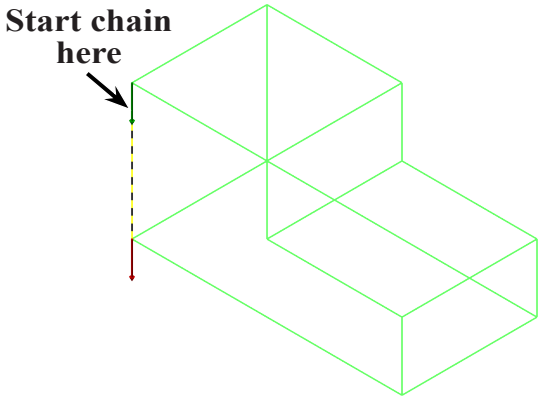


Fig. 14

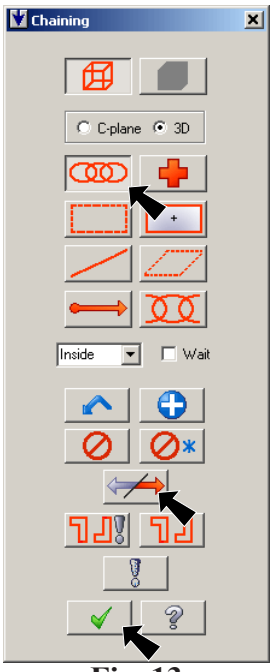


Fig. 13

Step 5. Click OK in the Chain dialog box when done chaining.

Step 6. In Flat Boundary Surface function panel click **OK and Create New Operation**, **Fig. 18**.

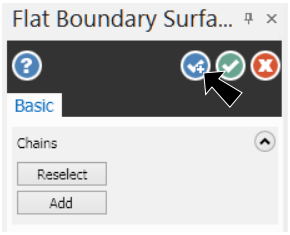


Fig. 18

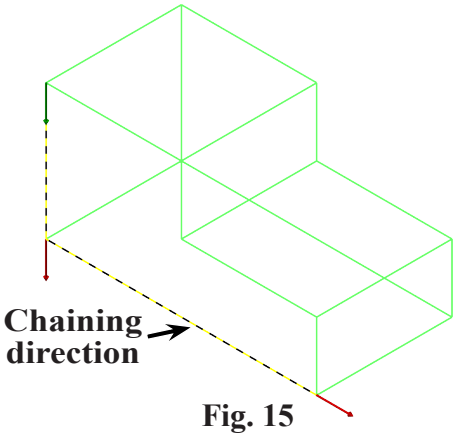


Fig. 15

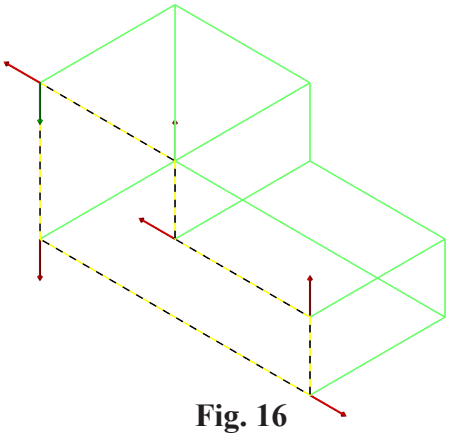


Fig. 16

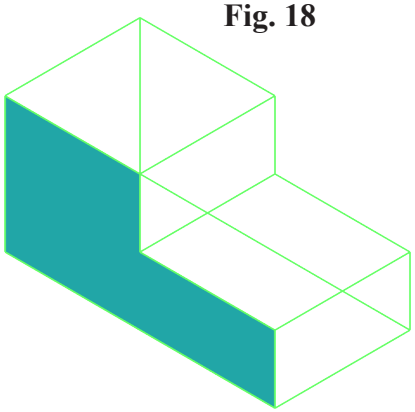


Fig. 17

Step 7. Change **CPlane to Front**. Click **CPLANE** in Status bar at bottom of the graphics window and click **Front** from the menu, **Fig 19**.

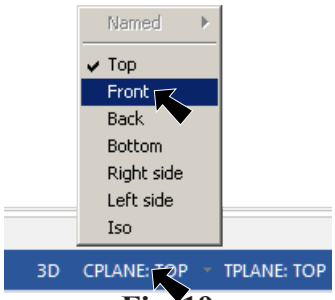


Fig. 19

Step 8. Select **Cplane** in the Chaining dialog box, **Fig. 20**.

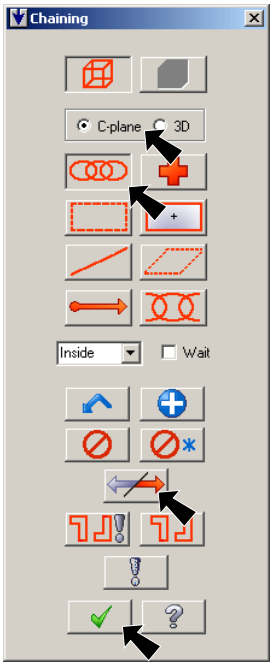


Fig. 20

Step 9. Chain a **rear line** of the block, **Fig. 21**.

Step 10. Click OK  in the Chain dialog box when done chaining.

Step 11. In Flat Boundary Surface function panel click OK  . **Fig. 23**.

Step 12. Save  (**Ctrl-S**).

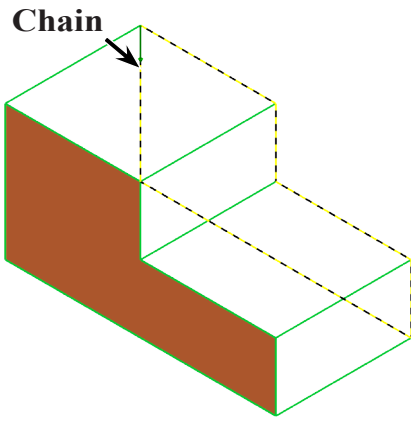


Fig. 21

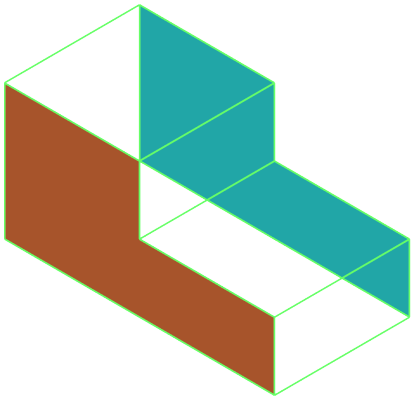


Fig. 22

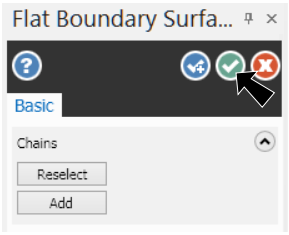


Fig. 23

H. Change Surface Color.

Step 1. Create the next surfaces **yellow**. **Right click** in the graphics window and on the Mini Toolbar click **Surface Color**  drop down arrow, then click **yellow**, **Fig. 24**.

Fig. 24

I. Create Ruled/Lofted Surfaces.

Step 1. On the Surfaces tab SURFACES click **Loft** Loft.

Step 2. Click **Single** (**S**) in Chaining dialog box, **Fig. 25**.

Step 3. Click **Chain 1** and **Chain 2** on top of block, **Fig. 26**. If the chaining directions arrows are not pointing in the same direction - click **Reverse**.

Step 4. Click OK in the Chain dialog box, **Fig. 25**.

Step 5. In Loft function panel:
under Entity
select **Lofted**, **Fig. 27**
Click **OK and Create New Operation**, **Fig. 27**.

Step 6. Click Single (**S**) in the Chaining dialog box to **start each new chain**.

Step 7. Use **Chain 1** and **Chain 2** for next surface, **Fig. 28**.

Step 8. Continue and create surfaces to cover block with surfaces, **Fig. 29**. Click Single (**S**), select the **two chains**, press **ENTER** and click **OK and Create New Operation**.

Rotate view to view **back** as shown in **Fig. 30**. To rotate, hold down middle mouse button (wheel) and drag.

Step 9. Save (**Ctrl-S**).

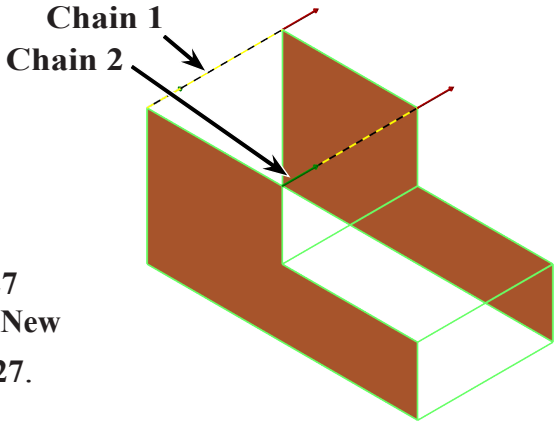


Fig. 26

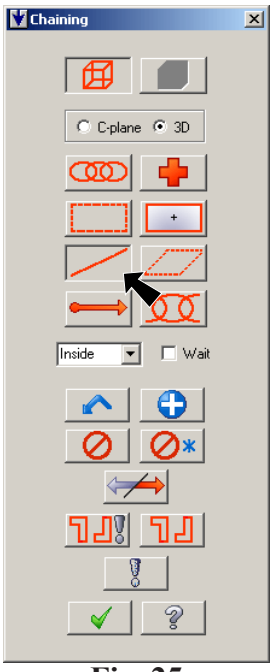


Fig. 25

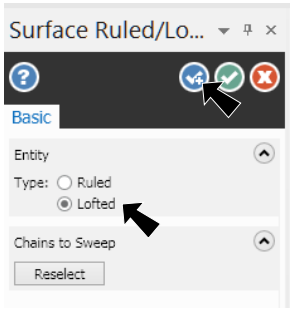


Fig. 27

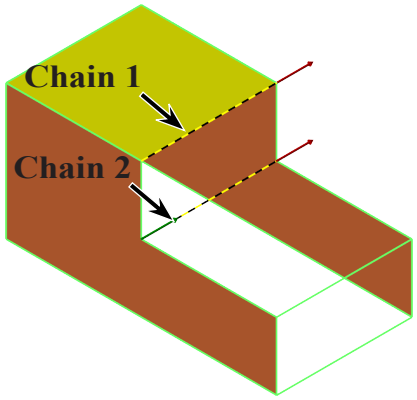


Fig. 28

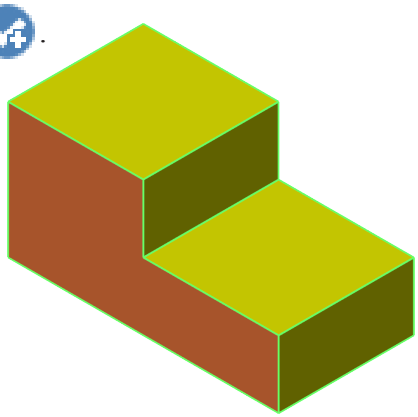


Fig. 29

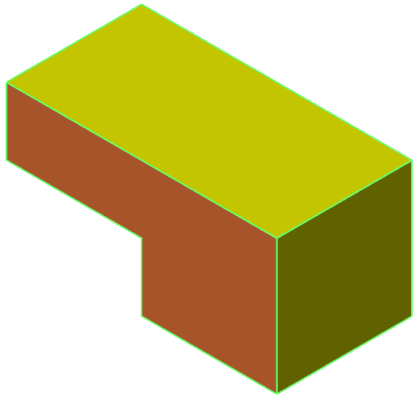


Fig. 30