

NAVIGATORIM

RIGID REFERENCE KIT

Build 20 | DICT_5X5_100 | Nine distinct physical carriers

01 Make the rigid body

The final opposing printed planes must be 60.00 mm apart.

The supplied 59.60 mm core allows 0.20 mm label thickness per face.

02 Print without scaling

Choose Actual size / 100%. Turn off Fit, Shrink and Borderless expansion.

Verify the 100 mm ruler and the outer BLACK 40 mm marker square.

03 Assemble one page per carrier

Each page is a different rigid body. Keep all five labels together.

Vertical-face UP is +Y. Top-face UP is -Z. The unmarked bottom is -Y.

04 Mount and calibrate

Use a rigid, non-flexing mount. Measure the real tip from the cube centre.

A printed selector preset is not a physical calibration of your tool.

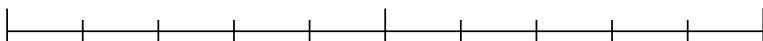
05 Prove performance on the bench

Show two well-resolved faces on both reference and tool simultaneously.

Record known distances and angles before relying on any measurements.

IMPORTANT: Never put duplicate copies of the same marker IDs in the camera scene.

This is an experimental fabrication/training aid, not certified metrology or machine safety.



100 mm - measure after printing

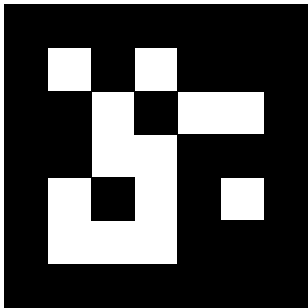
Use the bundled assembly guide. Measure finished geometry; do not infer scale from a screen.

Workpiece reference 26

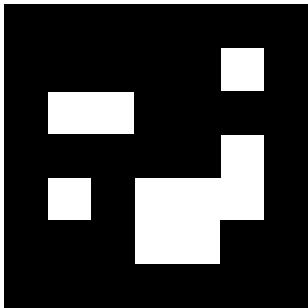
Binding: reference26 | IDs: 0, 1, 2, 3, 4

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.

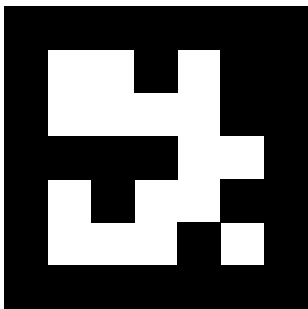
FRONT +Z | ID 0 | UP +Y



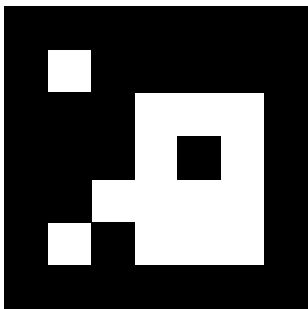
RIGHT +X | ID 1 | UP +Y



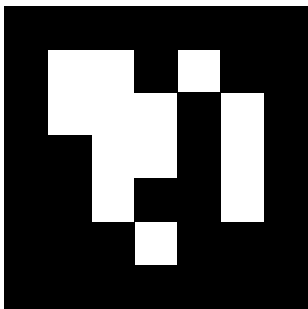
BACK -Z | ID 2 | UP +Y



LEFT -X | ID 3 | UP +Y



TOP +Y | ID 4 | UP -Z



BOTTOM -Y: NO MARKER

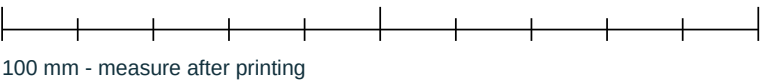
Mounting face / centre bore.

Write the binding name here.

Do not mix labels between pages.

Do not rotate a face independently.

Thin, matte, opaque white labels; no glossy laminate. Re-measure after assembly.

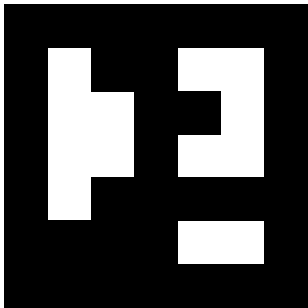


Selector 7 - Build19 preset

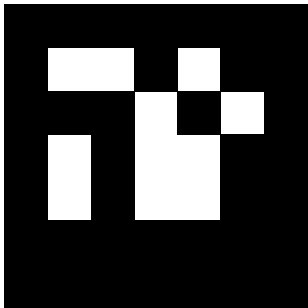
Binding: selector7 | IDs: 10, 11, 12, 13, 14

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.

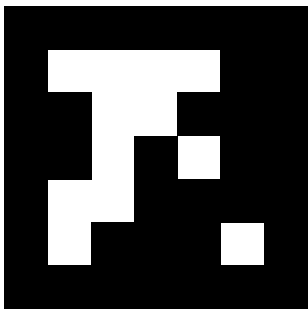
FRONT +Z | ID 10 | UP +Y



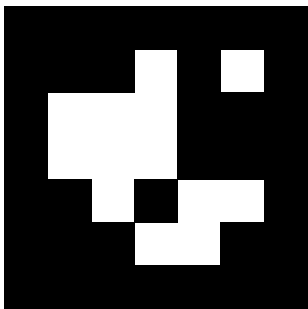
RIGHT +X | ID 11 | UP +Y



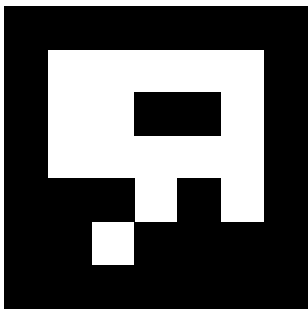
BACK -Z | ID 12 | UP +Y



LEFT -X | ID 13 | UP +Y



TOP +Y | ID 14 | UP -Z



BOTTOM -Y: NO MARKER

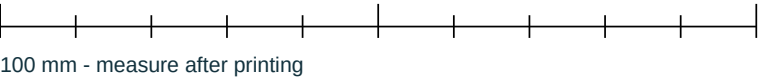
Mounting face / centre bore.

Write the binding name here.

Do not mix labels between pages.

Do not rotate a face independently.

Thin, matte, opaque white labels; no glossy laminate. Re-measure after assembly.

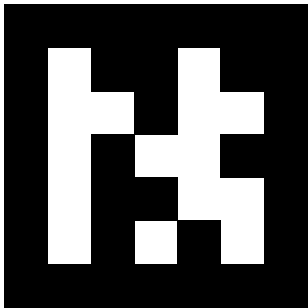


Navigation tool 8

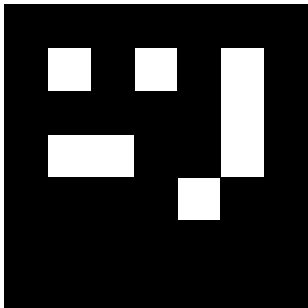
Binding: tool8 | IDs: 20, 21, 22, 23, 24

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.

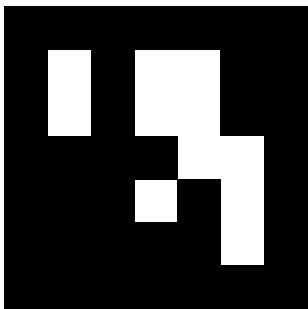
FRONT +Z | ID 20 | UP +Y



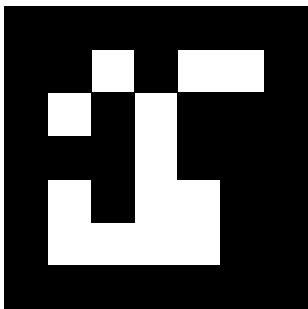
RIGHT +X | ID 21 | UP +Y



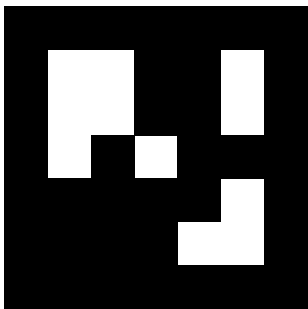
BACK -Z | ID 22 | UP +Y



LEFT -X | ID 23 | UP +Y



TOP +Y | ID 24 | UP -Z



BOTTOM -Y: NO MARKER

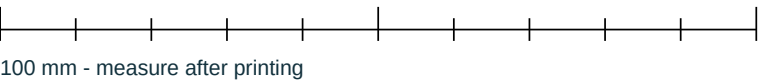
Mounting face / centre bore.

Write the binding name here.

Do not mix labels between pages.

Do not rotate a face independently.

Thin, matte, opaque white labels; no glossy laminate. Re-measure after assembly.

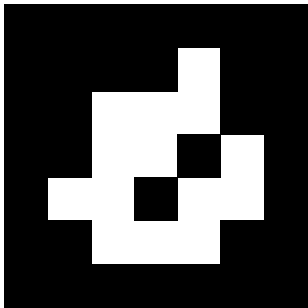


Selector 22 - optional legacy preset

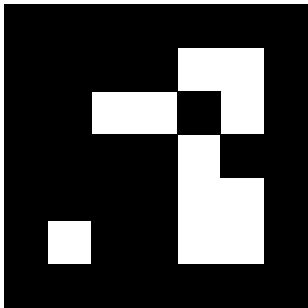
Binding: selector22 | IDs: 30, 31, 32, 33, 34

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.

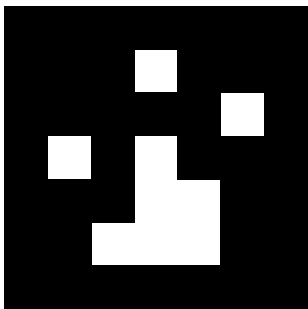
FRONT +Z | ID 30 | UP +Y



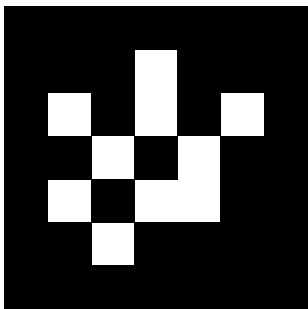
RIGHT +X | ID 31 | UP +Y



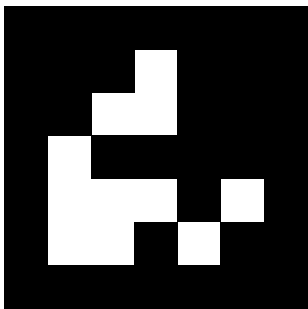
BACK -Z | ID 32 | UP +Y



LEFT -X | ID 33 | UP +Y



TOP +Y | ID 34 | UP -Z



BOTTOM -Y: NO MARKER

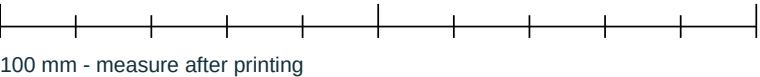
Mounting face / centre bore.

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Do not rotate a face independently.

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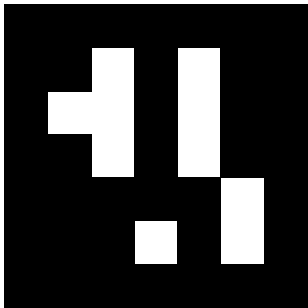


Auxiliary tool 6

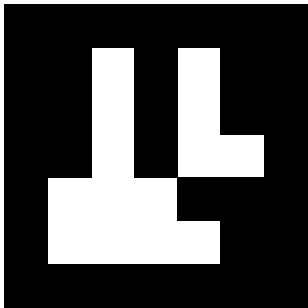
Binding: aux6 | IDs: 40, 41, 42, 43, 44

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.

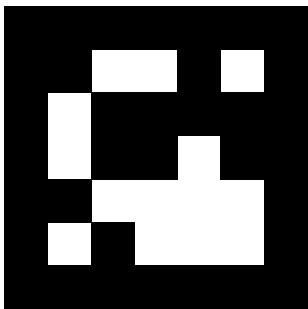
FRONT +Z | ID 40 | UP +Y



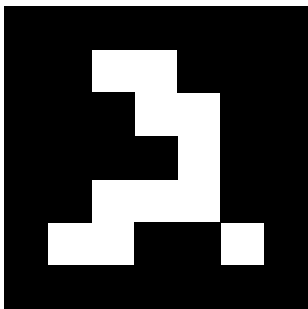
RIGHT +X | ID 41 | UP +Y



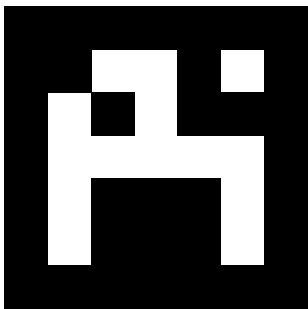
BACK -Z | ID 42 | UP +Y



LEFT -X | ID 43 | UP +Y



TOP +Y | ID 44 | UP -Z



BOTTOM -Y: NO MARKER

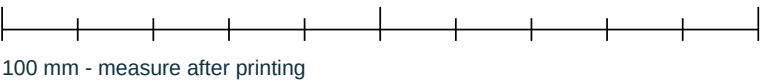
Mounting face / centre bore.

Write the binding name here.

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Do not rotate a face independently.

Thin, matte, opaque white labels; no glossy laminate. Re-measure after assembly.

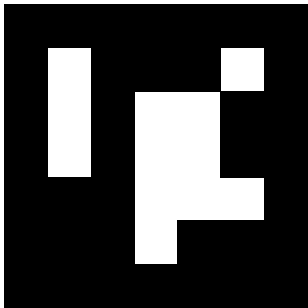


Auxiliary reference 9

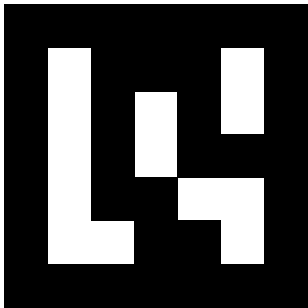
Binding: aux9 | IDs: 50, 51, 52, 53, 54

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.

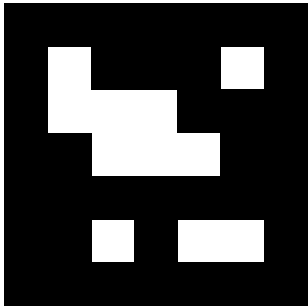
FRONT +Z | ID 50 | UP +Y



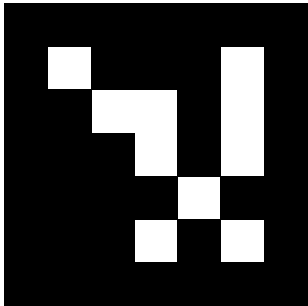
RIGHT +X | ID 51 | UP +Y



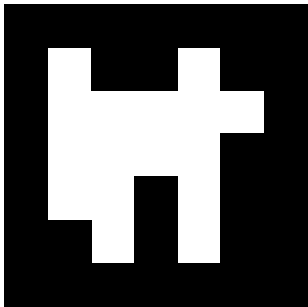
BACK -Z | ID 52 | UP +Y



LEFT -X | ID 53 | UP +Y



TOP +Y | ID 54 | UP -Z



BOTTOM -Y: NO MARKER

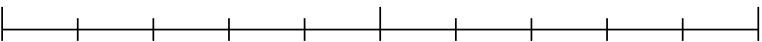
Mounting face / centre bore.

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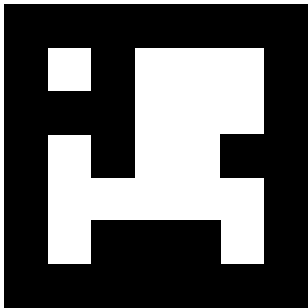
100 mm - measure after printing

Cube fixture 1001

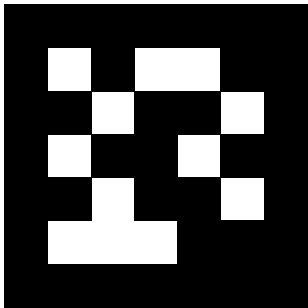
Binding: fixture1001 | IDs: 60, 61, 62, 63, 64

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.

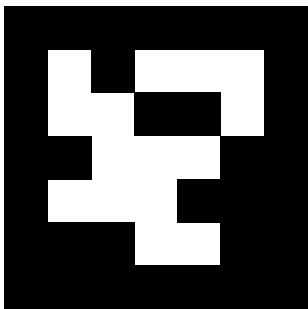
FRONT +Z | ID 60 | UP +Y



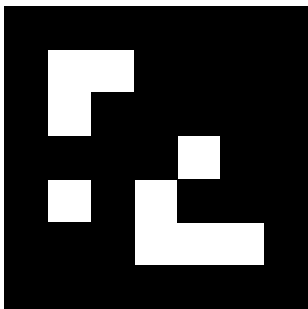
RIGHT +X | ID 61 | UP +Y



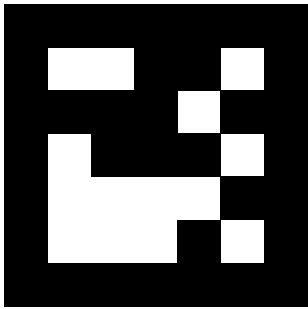
BACK -Z | ID 62 | UP +Y



LEFT -X | ID 63 | UP +Y



TOP +Y | ID 64 | UP -Z



BOTTOM -Y: NO MARKER

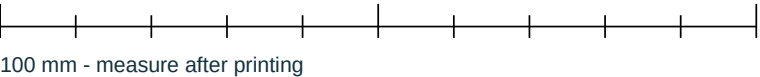
Mounting face / centre bore.

Write the binding name here.

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Do not rotate a face independently.

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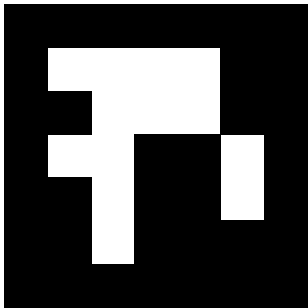


Tool-holder fixture 1003

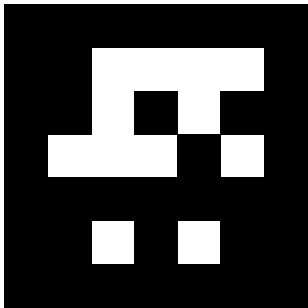
Binding: fixture1003 | IDs: 70, 71, 72, 73, 74

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.

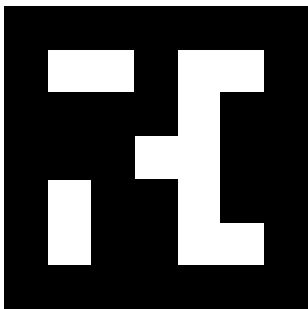
FRONT +Z | ID 70 | UP +Y



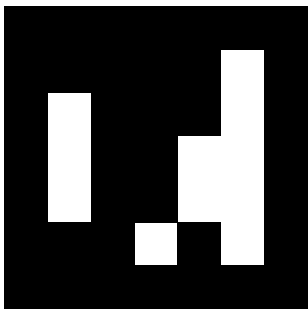
RIGHT +X | ID 71 | UP +Y



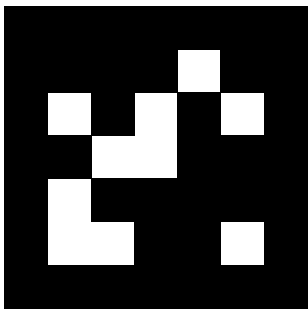
BACK -Z | ID 72 | UP +Y



LEFT -X | ID 73 | UP +Y



TOP +Y | ID 74 | UP -Z



BOTTOM -Y: NO MARKER

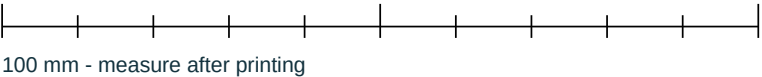
Mounting face / centre bore.

Write the binding name here.

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Do not rotate a face independently.

Thin, matte, opaque white labels; no glossy laminate. Re-measure after assembly.

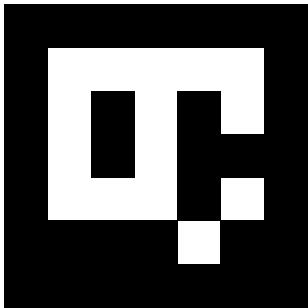


Rounded fixture 1004

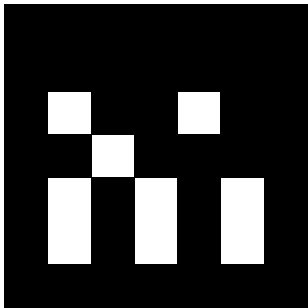
Binding: fixture1004 | IDs: 80, 81, 82, 83, 84

BLACK square = 40.00 mm. Full label = 60.00 mm. Print Actual size / 100%.

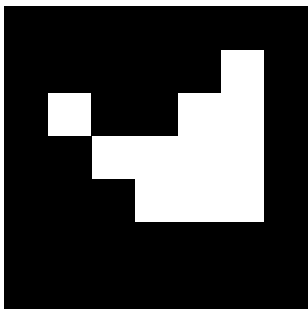
FRONT +Z | ID 80 | UP +Y



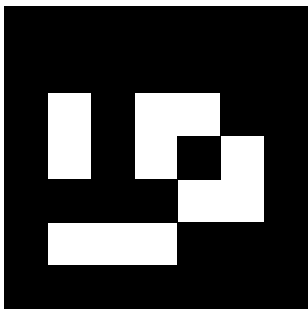
RIGHT +X | ID 81 | UP +Y



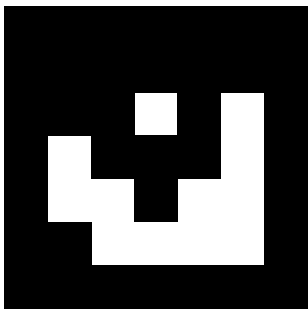
BACK -Z | ID 82 | UP +Y



LEFT -X | ID 83 | UP +Y



TOP +Y | ID 84 | UP -Z



BOTTOM -Y: NO MARKER

Mounting face / centre bore.

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