DESIGN GUIDE

CABINETS INTERIOR - JOINING METHOD

BG-7700-01-04-07

Rev. F

BT0317-01 MW 2014-01

BOMBARDIER
the evolution of mobili

Revision History

REVISION	DATE:	PREPARED BY:	CHECKED BY:	APPROVED BY:	REMARKS:
--	2015-05-07	A. Lemaitre			
A	2015-07-02	A. Lemaitre			
B	2015-09-17	A. Lemaitre			
C	2015.12.15	A. Lemaitre			
D	2016.04.15	A. Lemaitre			
E	2016.10.24	S. Morissette			
F	2017.02.22	S. Morissette			

Table of Contents

List of Tables

List of Figures

1. CABINETRY

1.1 JOINING METHOD

1.1.1 Tongue & Groove

The tongue & groove joint is the preferred process to bond panels together. Use the Tongue & Groove (T&G) tools per BM10099.08.03.16 for 3D definition.

Before using tongue & groove, the designer shall take into consideration several rules:

- The width of the panel cannot be less than 3". Use pins under 3" width.
- Only perpendicular joints can use T&G process. Angled joints must use pins.
- Finish materials such as veneer, laminate, etc. shall not be included in T&G joints.

Refer to BAPS 732-001 for manufacturing process regarding Tongue & Groove.

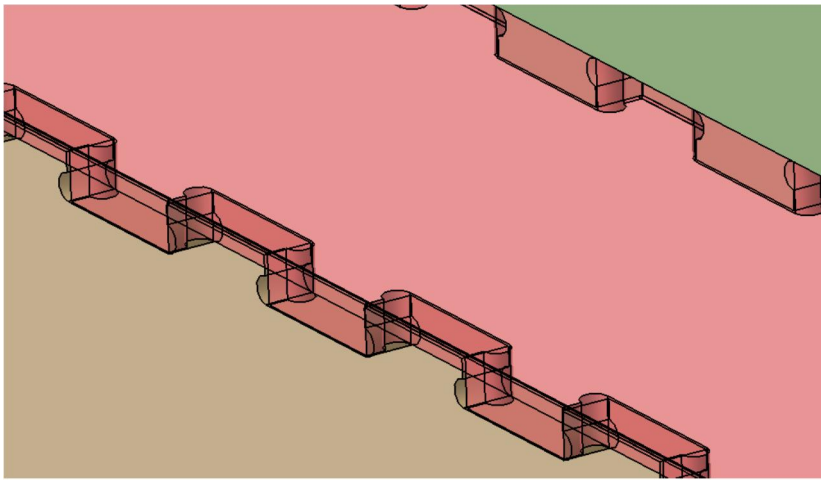

FIGURE 1 – EXAMPLE OF TONGUE & GROOVE

1.1.2 Pins

Pins are used to join panels together when Tongue & Groove is not appropriate, such as for angled joints and narrow panels (width ≤ 3in). When using pins to attach panels, the 3D model of the pins shall be represented in the digital mockup.

The pin shall always be selected according to panel thickness, refer to Table 1. More information can be found in BAPS 730-005.

Pin type	Part number	Panel Thk
Blue	ATR-150-1875F	0.250, 0.375
Gold	ATR-200-3125F	0.500, 0.625
Pin-Insert	ATR-200-3125	
Red	ATR-250-4375F	0.750, 1.000

TABLE 1 – PIN SELECTION

Pins ATR-200-3125 are used to add threads to the edges of panels. The tolerance on the threads is not very good, so if tight tolerances are required then a PEI block with helical coil should be used. Refer to Design Guidelines BG-7700-01-04-10 regarding block insert in panel.

Design should be done in such way that the use of cut pins is not required or kept to a strict minimum.

The following rules should be respected for composite panel's pin installation:

- A pilot hole of 0.098" (#40) must be represented in 3D
- For panel's lengths greater than 6", the edge distance should be 1" for blue and gold pin and 1.25" for red pin.
- The pitch between centers of two consecutive pins is 4" to 5".
- For panel's lengths between 2.5" and 6" only two pins should be installed with a minimum edge distance of 0.75".
- The minimum distance between the center of pin and the center of insert shall be 1.25" (C in Table 2) when pin and insert are on the same plane.
- The minimum distance between the center of pin and the center of insert shall be 1" (D & E in Table 2) when pin and insert are perpendicular plane.
- The pin shall always be parallel to the inner panel skin.

Panel length	Pin	A	B	C	D	E
L ≥ 6"	Blue	Min 1"	4 to 5"	1.25"	1"	1"
	Gold					
	Red	Min 1.25"				
2.5" ≤ L ≤ 6"	Blue	Min 0.75"	Max 2 pins			
	Gold					
	Red					

TABLE 2 – PIN INSTALLATION

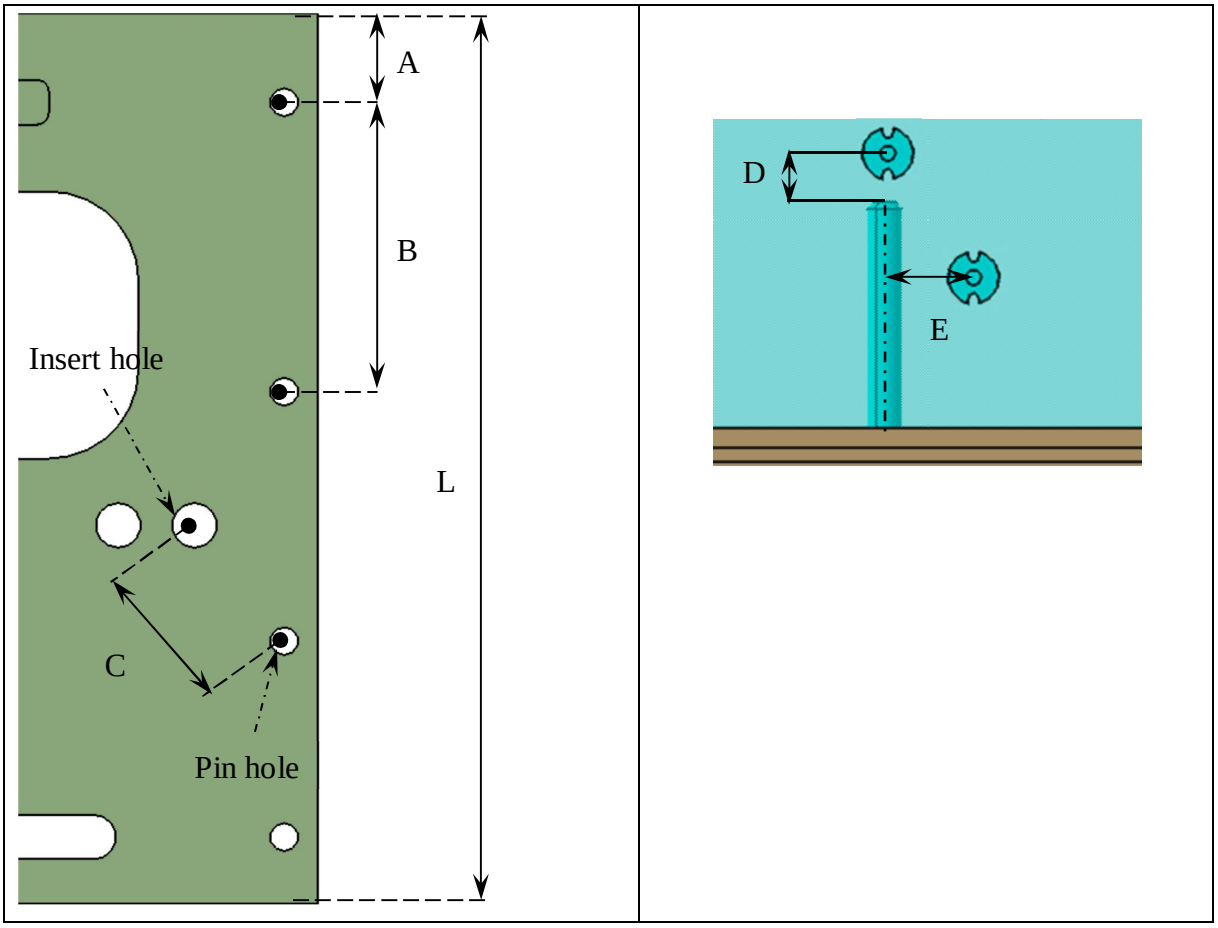

FIGURE 2 – PIN INSTALLATION

The pilot holes (diameter 0.098”) should be represented in 3D definition. These pilot holes are located on the outer panel. Refer to BAPS 730-005 for manufacturing process regarding pin installation.

1.1.3 Biscuit Joining

The biscuits are used to join hardwood together, typically for the table bullnose. Biscuits are standard parts part of the S9061 family. Different sizes of biscuits are available (FF, 0, 10, 20, etc), however we typically use size FF biscuits because they are the smallest. Depending on the use, a different biscuit may be used.

Biscuit slot geometry MUST be defined in 3D on the detail part, and biscuit MUST be part of the assembly structure and be captured in drawing parts list.

Standard flag note MUST be applied on the slotted detail part as well as on the assembly drawing. For applicable notes, refer to the CATIA standard notes catalog.

FIGURE 3 – EXAMPLE OF BISCUIT JOINT