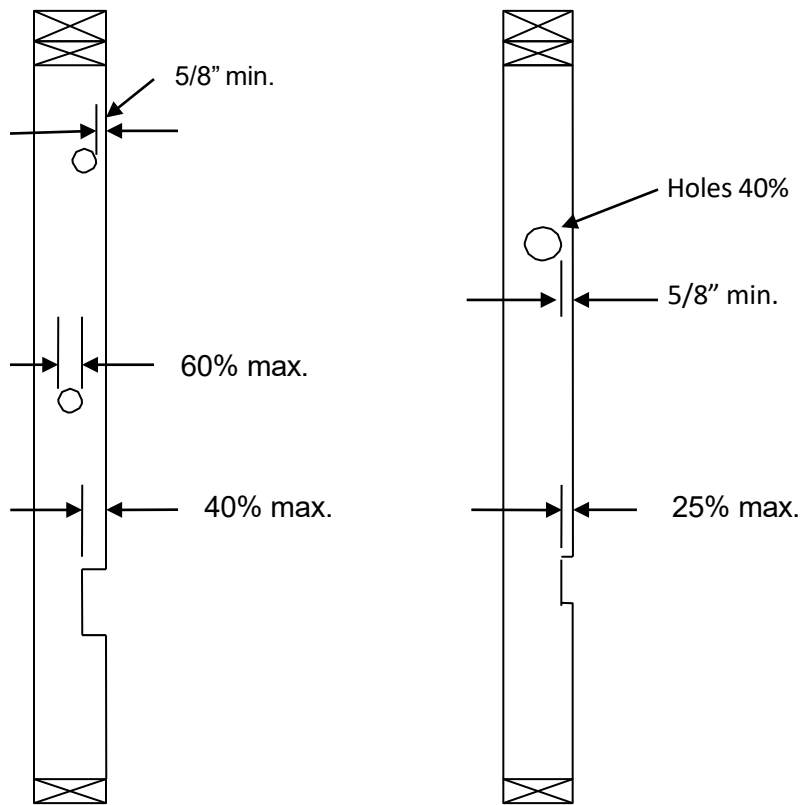


NOTCHING AND BORING GUIDELINES

REFERENCE: 2021 International Residential Code

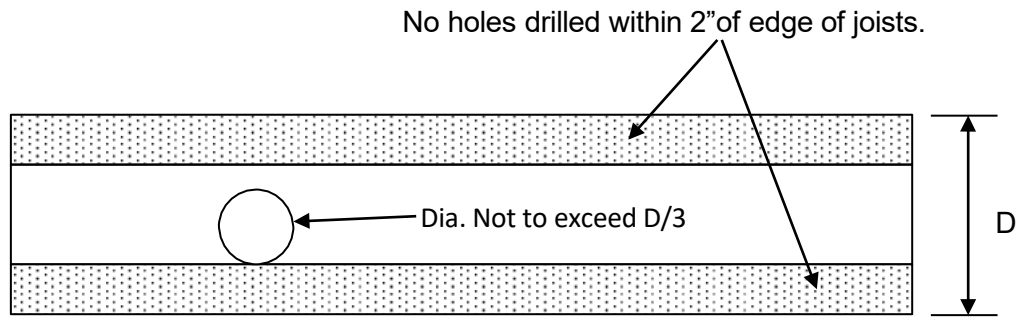
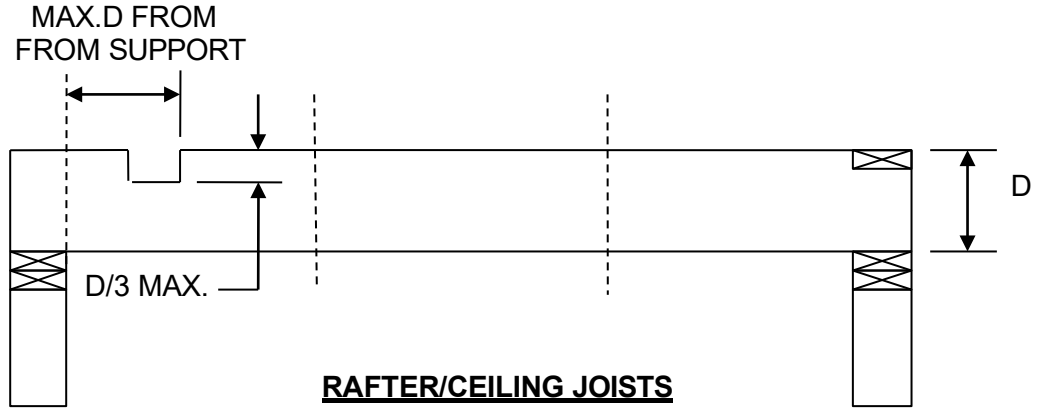
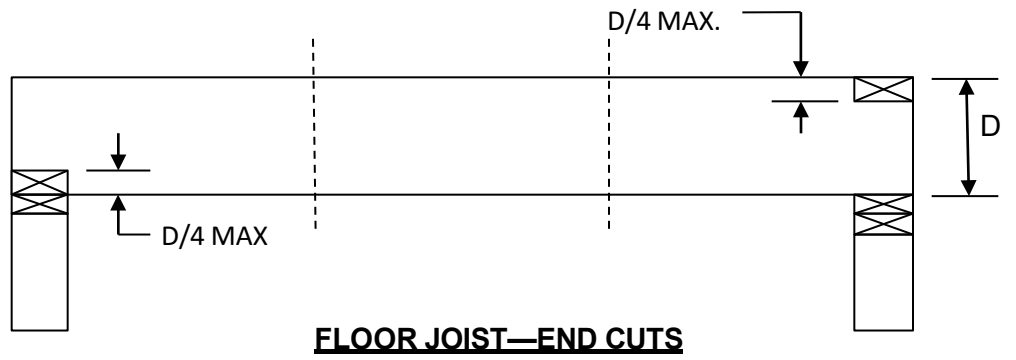
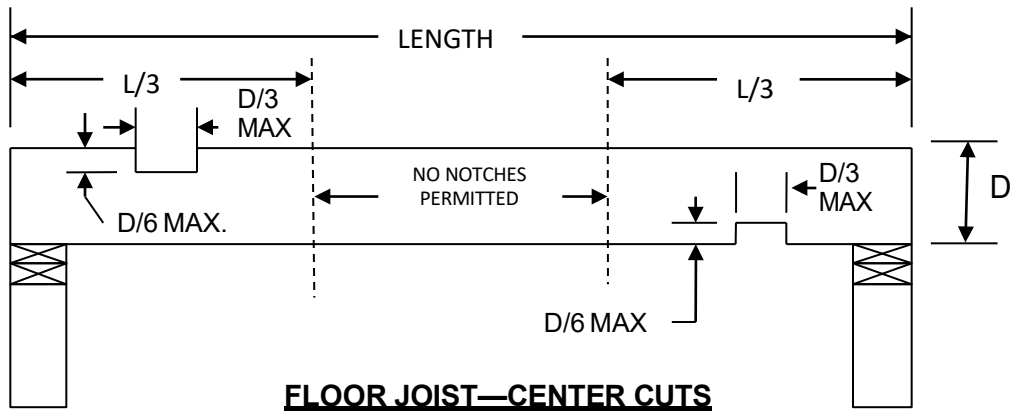
Contractors/homeowners can compromise the structural integrity of a building member by incorrectly cutting, notching, or drilling structural and non-structural members. The following information is a guide and does not necessarily cover all types of members.



Nonbearing Studs

Exterior and Bearing Studs

- **NOTCHING** – Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25% of its width. Studs in nonbearing partition may be notched to a depth not to exceed 40% of a single stud width.
- **DRILLING** – Any stud may be bored or drilled, provided that diameter of the resulting hole is no more than 60% of the stud width and the edge of the hole is no more than 5/8" to the edge of the stud, and the hole is not located in the same area as a cut or notch. Studs located in exterior walls or bearing partitions drilled over 40% and up to 60% shall also be doubled with no more than 2 successive doubled studs bored.



(Diagrams are not to scale.)

NOTCHING & BORING LIMITS

- Ends of joists notches: equal to or less than ¼ depth (D).
- Top or bottom of joists notches: equal to or less than 1/6th the depth (D).
- Notches shall not be located in the center 1/3 of the span.
- Bored holes shall not be within 2 inches of the top or bottom of the joists.
- The hole diameter shall not exceed 1/3 the depth of the joists.
- Holes are to be separated by a min. of 2".
- No holes are to be drilled with 2" of a notch.

Engineered wood products—Cuts, notches, and holes bored in I-joists, trusses, laminated veneer lumber, and glue-laminated members are **not permitted** unless the effects of such penetrations are specifically considered in the design by the manufacturer.

ALLOWABLE NOTCH AND BORED HOLE DIMENSIONS*							
JOISTS AND RAFTERS					BEARING STUDS		NONBEARING STUDS
NOMINAL	ACTUAL	D/6	D/4	D/3	.25D	.40D	.60D
4"	3 ½"	9/16"	7/8"	1 1/8"	7/8"	1 3/8"	2 1/8"
6"	5 ½"	7/8"	1 3/8"	1 7/8"	1 3/8"	2 ¼"	3 ¼"
8"	7 ¼"	1 ¼"	1 7/8"	2 3/8"	1 7/8"	2 7/8"	4 3/8"
10"	9 ¼"	1 ½"	2 3/8"	3 1/8"			
12"	11 ¼"	1 7/8"	2 7/8"	3 ¾"			
14"	13 ¼"	2 ¼"	3 3/8"	4 3/8"			

***The above dimensions are guidelines and are approximate.**