

Underfloor

General

- All formboards must be removed[408.4]
- Repair rock pockets or voids[local]
- Cripple wall <14in. sheathed or solidly blocked[602.9]
- Cripple wall >14in. braced as if first story + 15%, 18ft. max. spacing[602.10.2]
- Anchor bolts and hold-downs tightened (inspect before frieze blocking)[manu.]
- Frieze blocking req'd on sloped foundations ≥ 1:10[local]

Ventilation

- 1 sq.ft./150sq. ft. of under-floor area[408.1]
- Vent openings within 3ft. of each corner[408.1]
- Vents ≤3ft. of property line OK[302.2X2]

Access Openings

- Min. 18in. x 24in. if no mechanical equipment[408.3]
- Min. 22in. x 30in. if mechanical equipment present[1305.1.4]

Slab

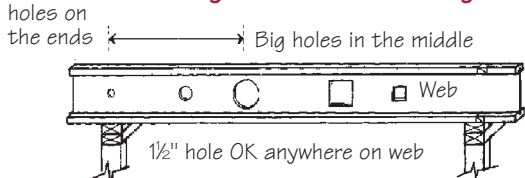
General

- Slab floor on grade min. 3½in. thick[506.1]
- Vapor barrier under habitable space[506.2.3]

Structural Slabs

- Elevated or wood-supported slab must be engineered[local]

Fig. b6 • TJI® Boring



Install "designed system" to manufacturer's instructions (installer must have copy on site).

Floor Framing

General

- Notching and boring joists and beamsbt-3, Fig. b11 [502.8.1]
- Floor/ceiling draftstopped if >1,000 sq. ft. (open web trusses)[502.12]
- Double joists under bearing walls[502.4]

Subfloor

- Untreated wood soil clearance: joists min. 18in., beams min. 12in. ...[323.1]
- Cripple wall <14in. sheathed or solidly blocked[602.9]

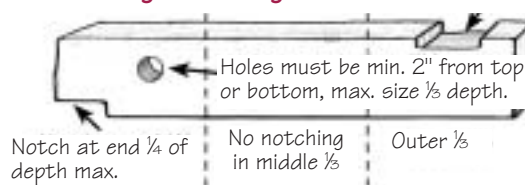
Joist Bearing

- On concrete—min. 3in.[502.6]
- On wood plates—min. 1½in.[502.6]
- Joist lap min. 3in. and three 10d nails[502.6.1]

Joist Blocking

- Joists blocked @ ends (SDC D1&D2 @ all supports)[502.7]
- Joists >2x12 blocked or bridged @ 8ft. o.c.[502.7.1]

Fig. b11 • Notching & Boring Joists Notch max. ¼ depth



bt-3 • Floor-Joist Spans, Notching & Boring

DF #2	Floor-joist spans—40lb. live load			Notching		Boring
	12" o.c	16" o.c.	24" o.c	End	Outer ⅓	2" to edge
2x6	10'9"	9'9"	8'1"	1⅜"	⅞"	1½"
2x8	14'2"	12'7"	10'3"	1⅞"	1¼"	2⅜"
2x10	17'9"	15'5"	12'7"	2⅜"	1½"	3⅞"
2x12	20'7"	17'10"	14'7"	2⅞"	1⅞"	3¾"

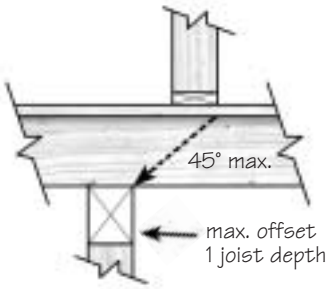
Based on IRC T502.3.1(2) & 502.8.1 and 10lb. dead load

Steel Framing

- Studs in line with joists, rafters, and trusses max. 3/4in. offset[603.1.2]
- No splicing of studs or structural members[603.3.6]
- SDC D1&D2 and high wind areas (≥110mph) req. add'l bracing OR[603.8.1] engineering[301.2]
- Harsh environments (e.g. coastal areas) req. min. G-90 protective coating[manu.]
- Sheathing fastened #8 min. screws every 6in. at edges 12in. field [T603.3.2(1)]

Fig. b7

Bearing-Wall Support



*60% hole OK on bearing wall if through only 2-doubled successive studs. All holes must be min. 5/8" from edge.

Fig. b8

Notching & Boring Studs

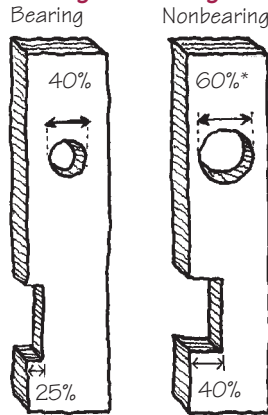


Fig. b10 • Anchoring to Masonry Walls

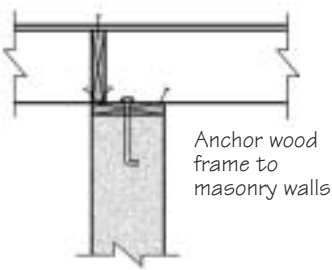
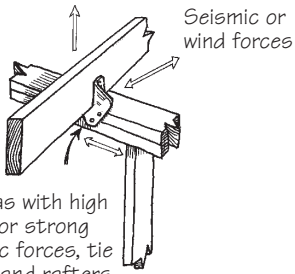


Fig. b9 • Hurricane & Seismic Retrofit



In areas with high winds or strong seismic forces, tie floors and rafters to sills.

Wall Framing

Top Plates

- Bearing wall intersections and corners must overlap[602.3.2]
- End joints must offset 24in. min.[602.3.2]
- #16 gauge steel straps over notches ≥ 50% of plate width[602.6.1]
- Single top plate OK if tied with 3in. x 6in. steel plate with 6-8d nails AND joists/trusses/rafters land within 1in. over stud[602.3.2X]
- Top plates face nailed 10d max. 24in. o.c.bt-11 [T602.3(1)]

Bearing Wall Support

- Double joists under parallel bearing walls[502.4]
- Wall perpendicular to joist max. offset from girder 1 joist size **Fig. b7** [local]

Corner Framing

- Exterior corners—3 studs min.[F602.3(2)]
- Hold-downs in place and tightened[manu.]

Stud Notching and Boring

- Bearing or exterior wall max. notch 25% boring 40%. **Fig. b8** [602.6]
- Boring to 60% OK if stud doubled and not >2 successive studs bored [602.6X]
- Nonbearing notches OK to 40%, boring OK to 60% **Fig. b8** [602.6]
- Holes no closer than 5/8in. to face of stud[602.6]

bt-4 • Stud Sizing, Spacing, Notching & Boring

Stud Size	2x4	3x4	2x6
Bearing walls (to 10ft. high)			
Supporting roof & ceiling	24in. o.c. ^a	24in. o.c. ^a	24in. o.c.
Roof & ceiling + 1 floor	16in. o.c.	24in. o.c.	24in. o.c.
Roof & ceiling + 2 floors	n/a	16in. o.c.	16in. o.c.
Notching <i>Fig. b8</i>	7/8in.	7/8in.	13/8in.
Boring <i>Fig. b8</i>	13/8in.	13/8in.	23/8in.
Boring 2 doubled consec.	2in.	2in.	33/8in.
Nonbearing walls			
Notching	13/8in.	13/8in.	23/8in.
Boring	2in.	2in.	33/8in.

a. Reduce to 16in. if utility grade studs are used.
Based on IRC T602.3(5) and 602.6