

**This Tech Note must be used in conjunction with the appropriate PWT Technical Guide.**

**A qualified design professional must verify that the joist adjacent to and opposite to the direction of the shift can support the additional load.**

**The load on the joist adjacent to the shifted joist in the opposite direction of the shift is increased.**

The increase in load on that joist is a function of the original spacing and the size of the shift.

- a 3" shift when the original spacing is 12" oc is an increase in load of 13%, a significant increase.
- a 3" shift when the original spacing is 16" oc is an increase in load of 10%, a significant increase.
- a 3" shift when the original spacing is 19.2" oc is an increase in load of 8%, a significant increase.
- a 3" shift when the original spacing is 24" oc is an increase in load of 7%, a significant increase.

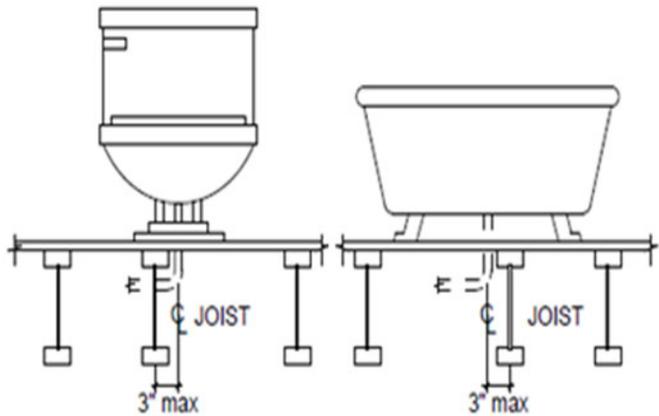
In order to ensure that a floor system is design such that any of the joists can be shifted; the original, unshifted, designs stresses must be limited accordingly.

For additional information, contact your PWT distributor.

Max Stress Indices and Deflection Ratio to Allow a 3" Shift in I-Joist Spacing				
Design Criteria	Original Spacing			
	12" oc	16" oc	19.2" oc	24" oc
Max SI	0.88	0.91	0.92	0.94
L/480	L/546	L/528	L/522	L/511
L/360	L/410	L/396	L/392	L/383
L/240	L/273	L/264	L/261	L/256

**How to Use**

- The critical joist is not the one that moved, it is the one that moved away from!
- Analyze the design criteria for the joist that was not moved, and which now has a larger distance from the moved joist.



Using Exacte by PWT:

**11-7/8" PWI 20S at 24" oc Designed to LL/480, TL/240**

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3498 ft-lb	8' 6"	3755 ft-lb	0.932 (93%)	D+L	L
Shear	836	16' 10-3/8"	1485 lb	0.563 (56%)	D+L	L
LL Defl inch	0.391 (L/513)	8' 6-1/16"	0.418 (L/480)	0.940 (94%)	L	L
TL Defl inch	0.489 (L/411)	8' 6-1/16"	0.836 (L/240)	0.580 (58%)	D+L	L

**The Joist next to this one can be shifted 3"**

**11-7/8" PWI 20S at 12" oc Designed to LL/480, TL/240**

**Analysis Results**

Analysis	Actual	Location	Allowed	Capacity	Comb.	Case
Moment	3380 ft-lb	10' 9"	3755 ft-lb	0.900 (90%)	D+L	L
Shear	637	1-5/8"	1485 lb	0.429 (43%)	D+L	L
LL Defl inch	0.524 (L/486)	10' 9-1/16"	0.531 (L/480)	0.990 (99%)	L	L
TL Defl inch	0.786 (L/324)	10' 9-1/16"	1.061 (L/240)	0.740 (74%)	D+L	L

**The Joist next to this one cannot be shifted 3"**

Our literature is updated frequently, so please visit [www.pwtewp.com](http://www.pwtewp.com) for the most current version of our specifications.

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**Cal. Prop 65 Warning:**  
 WARNING: Drilling, sawing, sanding or machining wood products can expose you to wood dust, a substance known to the State of California to cause cancer. Avoid inhaling wood dust or use a dust mask or other safeguards for personal protection. For more information go to [www.P65Warnings.ca.gov/wood](http://www.P65Warnings.ca.gov/wood).

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