

# WTCA REPRESENTATIVE ROOF TRUSS SPANS

| DESIGN CRITERIA |           |
|-----------------|-----------|
| TOP CHORD LIVE  | = 30' PSF |
| TOP CHORD DEAD  | = 7' PSF  |
| BTM CHORD LIVE  | = 0' PSF  |
| BTM CHORD DEAD  | = 10' PSF |



| SPACING            |     |
|--------------------|-----|
| 24" L <sub>1</sub> | 47  |
| L <sub>0</sub>     | PSF |
| 15%                |     |

| SOUTHERN PINE |           |         |              |                      |
|---------------|-----------|---------|--------------|----------------------|
| 3/12          | TOP CHORD |         | BOTTOM CHORD |                      |
|               | 2x4       | 2x6     | 2x4          | 2x6                  |
| #1 DENSE      | 20'-2"    | 30'-0"  | 21'-8"       | 30'-0" <sup>2</sup>  |
| #1            | 19'-7"    | 29'-4"  | 20'-8"       | 28'-7"               |
| #2 DENSE      | 19'-4"    | 28'-10" | 17'-9"       | 25'-1'               |
| #2            | 18'-6"    | 27'-7"  | 16'-9"       | 23'-6"               |
| 4/12          | TOP CHORD |         | BOTTOM CHORD |                      |
|               | 2x4       | 2x6     | 2x4          | 2x6                  |
| #1 DENSE      | 22'-5"    | 33'-5"  | 26'-7"       | 33'-5" <sup>2</sup>  |
| #1            | 21'-10"   | 32'-7"  | 25'-5"       | 33'-5" <sup>2</sup>  |
| #2 DENSE      | 21'-8"    | 32'-0"  | 22'-0"       | 31'-2"               |
| #2            | 20'-8"    | 30'-8"  | 20'-9"       | 29'-2"               |
| 5/12          | TOP CHORD |         | BOTTOM CHORD |                      |
|               | 2x4       | 2x6     | 2x4          | 2x6                  |
| #1 DENSE      | 24'-1"    | 35'-11" | 30'-8"       | 35'-11" <sup>2</sup> |
| #1            | 23'-8"    | 35'-0"  | 29'-4"       | 35'-11" <sup>2</sup> |
| #2 DENSE      | 23'-2"    | 34'-4"  | 25'-7"       | 35'-11" <sup>2</sup> |
| #2            | 22'-3"    | 32'-11" | 24'-2"       | 34'-0"               |

| DOUGLAS FIR-LARCH |           |        |              |                     |
|-------------------|-----------|--------|--------------|---------------------|
| 3/12              | TOP CHORD |        | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR.         | 20'-6"    | 30'-8" | 27'-8"       | 30'-8" <sup>2</sup> |
| #1 & BETTER       | 19'-5"    | 29'-0" | 22'-1"       | 30'-8" <sup>2</sup> |
| #1                | 18'-9"    | 28'-0" | 18'-8"       | 27'-4"              |
| #2                | 17'-10"   | 26'-8" | 17'-4"       | 23'-11"             |
| 4/12              | TOP CHORD |        | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR.         | 22'-10"   | 34'-1" | 33'-2"       | 34'-1" <sup>2</sup> |
| #1 & BETTER       | 21'-8"    | 32'-4" | 28'-10"      | 34'-1" <sup>2</sup> |
| #1                | 20'-11"   | 31'-2" | 23'-11"      | 33'-8"              |
| #2                | 20'-0"    | 29'-9" | 21'-4"       | 29'-6"              |
| 5/12              | TOP CHORD |        | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR.         | 24'-7"    | 36'-8" | 36'-8"       | 36'-8" <sup>2</sup> |
| #1 & BETTER       | 23'-4"    | 34'-9" | 30'-8"       | 36'-8" <sup>2</sup> |
| #1                | 22'-7"    | 33'-6" | 27'-5"       | 36'-8" <sup>2</sup> |
| #2                | 21'-7"    | 32'-0" | 24'-7"       | 34'-3"              |

| SPRUCE - PINE - FIR |           |         |              |                      |
|---------------------|-----------|---------|--------------|----------------------|
| 3/12                | TOP CHORD |         | BOTTOM CHORD |                      |
|                     | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.           | 18'-9"    | 27'-11" | 19'-11"      | 27'-11" <sup>2</sup> |
| #1                  | 16'-11"   | 25'-3"  | 13'-7"       | 18'-8"               |
| #2                  | 16'-11"   | 25'-3"  | 13'-7"       | 18'-8"               |
| 4/12                | TOP CHORD |         | BOTTOM CHORD |                      |
|                     | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.           | 21'-0"    | 31'-4"  | 24'-7"       | 31'-4" <sup>2</sup>  |
| #1                  | 19'-1"    | 28'-4"  | 17'-0"       | 23'-2"               |
| #2                  | 19'-1"    | 28'-4"  | 17'-0"       | 23'-2"               |
| 5/12                | TOP CHORD |         | BOTTOM CHORD |                      |
|                     | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.           | 22'-8"    | 33'-9"  | 28'-6"       | 33'-9" <sup>2</sup>  |
| #1                  | 20'-8"    | 30'-8"  | 19'-11"      | 27'-5"               |
| #2                  | 20'-8"    | 30'-8"  | 19'-11"      | 27'-5"               |

| HEM-FIR   |           |         |              |                      |
|-----------|-----------|---------|--------------|----------------------|
| 3/12      | TOP CHORD |         | BOTTOM CHORD |                      |
|           | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR. | 19'-6"    | 28'-1"  | 25'-6"       | 29'-1" <sup>2</sup>  |
| #1        | 17'-11"   | 26'-9"  | 17'-11"      | 24'-9"               |
| #2        | 17'-2"    | 25'-6"  | 15'-4"       | 21'-4"               |
| 4/12      | TOP CHORD |         | BOTTOM CHORD |                      |
|           | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR. | 21'-9"    | 32'-5"  | 30'-10"      | 32'-5" <sup>2</sup>  |
| #1        | 20'-1"    | 29'-10" | 22'-1"       | 30'-7"               |
| #2        | 19'-2"    | 28'-5"  | 19'-0"       | 26'-5"               |
| 5/12      | TOP CHORD |         | BOTTOM CHORD |                      |
|           | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR. | 23'-6"    | 34'-11" | 34'-9"       | 34'-11" <sup>2</sup> |
| #1        | 21'-8"    | 32'-2"  | 25'-5"       | 34'-11" <sup>2</sup> |
| #2        | 20'-9"    | 30'-7"  | 22'-4"       | 30'-11"              |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches (Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as  $C_D$  in NDS®.

**FOOTNOTES**

1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

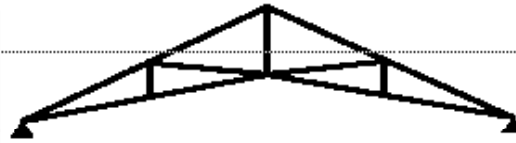
2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.



# WTCA REPRESENTATIVE ROOF TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE  | = 20 PSF |
| TOP CHORD DEAD  | = 10 PSF |
| BTM CHORD LIVE  | = 0 PSF  |
| BTM CHORD DEAD  | = 10 PSF |



|          |     |
|----------|-----|
| SPACING  | 40  |
| 24" o.c. |     |
| LDI      | PSF |
| 25%      |     |

| SOUTHERN PINE |           |         |              |                      |
|---------------|-----------|---------|--------------|----------------------|
| 3/12          | TOP CHORD |         | BOTTOM CHORD |                      |
|               | 2x4       | 2x6     | 2x4          | 2x6                  |
| #1 DENSE      | 22'-1"    | 32'-11" | 26'-5"       | 32'-11" <sup>2</sup> |
| #1            | 21'-6"    | 32'-2"  | 25'-3"       | 32'-11" <sup>2</sup> |
| #2 DENSE      | 21'-3"    | 31'-8"  | 21'-9"       | 30'-8"               |
| #2            | 20'-6"    | 30'-6"  | 20'-8"       | 28'-8"               |
| 4/12          | TOP CHORD |         | BOTTOM CHORD |                      |
|               | 2x4       | 2x6     | 2x4          | 2x6                  |
| #1 DENSE      | 24'-6"    | 36'-6"  | 31'-10"      | 36'-6" <sup>2</sup>  |
| #1            | 23'-11"   | 35'-8"  | 30'-6"       | 36'-6" <sup>2</sup>  |
| #2 DENSE      | 23'-7"    | 35'-1"  | 28'-7"       | 36'-6" <sup>2</sup>  |
| #2            | 22'-10"   | 33'-9"  | 25'-1"       | 35'-4"               |
| 5/12          | TOP CHORD |         | BOTTOM CHORD |                      |
|               | 2x4       | 2x6     | 2x4          | 2x6                  |
| #1 DENSE      | 26'-4"    | 39'-1"  | 36'-2"       | 38'-11" <sup>2</sup> |
| #1            | 25'-8"    | 38'-3"  | 34'-7"       | 39'-11" <sup>2</sup> |
| #2 DENSE      | 25'-5"    | 37'-7"  | 30'-6"       | 39'-11" <sup>2</sup> |
| #2            | 24'-6"    | 36'-2"  | 28'-8"       | 39'-11" <sup>2</sup> |

| DOUGLAS FIR-LARCH |           |         |              |                      |
|-------------------|-----------|---------|--------------|----------------------|
| 3/12              | TOP CHORD |         | BOTTOM CHORD |                      |
|                   | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.         | 22'-8"    | 33'-7"  | 33'-1"       | 33'-7" <sup>2</sup>  |
| #1 & BETTER       | 21'-5"    | 32'-0"  | 26'-8"       | 33'-7" <sup>2</sup>  |
| #1                | 20'-9"    | 31'-0"  | 23'-8"       | 33'-2"               |
| #2                | 19'-11"   | 28'-8"  | 21'-1"       | 29'-1"               |
| 4/12              | TOP CHORD |         | BOTTOM CHORD |                      |
|                   | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.         | 25'-0"    | 37'-3"  | 37'-1"       | 37'-3" <sup>2</sup>  |
| #1 & BETTER       | 23'-10"   | 35'-8"  | 31'-10"      | 37'-3" <sup>2</sup>  |
| #1                | 23'-1"    | 34'-4"  | 28'-6"       | 37'-3" <sup>2</sup>  |
| #2                | 22'-2"    | 32'-11" | 25'-6"       | 35'-7"               |
| 5/12              | TOP CHORD |         | BOTTOM CHORD |                      |
|                   | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.         | 26'-10"   | 39'-11" | 39'-10"      | 39'-11" <sup>2</sup> |
| #1 & BETTER       | 25'-8"    | 38'-2"  | 35'-9"       | 39'-11" <sup>2</sup> |
| #1                | 24'-10"   | 36'-10" | 32'-2"       | 39'-11" <sup>2</sup> |
| #2                | 23'-10"   | 35'-4"  | 29'-0"       | 39'-11" <sup>2</sup> |

| SPRUCE - PINE - FIR |           |         |              |                      |
|---------------------|-----------|---------|--------------|----------------------|
| 3/12                | TOP CHORD |         | BOTTOM CHORD |                      |
|                     | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.           | 20'-9"    | 30'-11" | 24'-4"       | 30'-11" <sup>2</sup> |
| #1                  | 19'-0"    | 28'-3"  | 16'-9"       | 22'-11"              |
| #2                  | 18'-0"    | 28'-3"  | 15'-9"       | 22'-11"              |
| 4/12                | TOP CHORD |         | BOTTOM CHORD |                      |
|                     | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.           | 23'-1"    | 34'-4"  | 29'-7"       | 34'-4" <sup>2</sup>  |
| #1                  | 21'-4"    | 31'-7"  | 20'-9"       | 28'-4"               |
| #2                  | 21'-4"    | 31'-7"  | 20'-9"       | 28'-4"               |
| 5/12                | TOP CHORD |         | BOTTOM CHORD |                      |
|                     | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.           | 24'-11"   | 36'-11" | 33'-9"       | 36'-11" <sup>2</sup> |
| #1                  | 23'-0"    | 34'-0"  | 24'-1"       | 33'-1"               |
| #2                  | 23'-0"    | 34'-0"  | 24'-1"       | 33'-1"               |

| HEM-FIR   |           |         |              |                      |
|-----------|-----------|---------|--------------|----------------------|
| 3/12      | TOP CHORD |         | BOTTOM CHORD |                      |
|           | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR. | 21'-5"    | 31'-11" | 30'-9"       | 31'-11" <sup>2</sup> |
| #1        | 19'-11"   | 29'-8"  | 21'-9"       | 30'-2"               |
| #2        | 19'-1"    | 28'-4"  | 18'-9"       | 26'-0"               |
| 4/12      | TOP CHORD |         | BOTTOM CHORD |                      |
|           | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR. | 23'-10"   | 35'-5"  | 35'-3"       | 35'-5" <sup>2</sup>  |
| #1        | 22'-3"    | 32'-11" | 26'-5"       | 35'-5" <sup>2</sup>  |
| #2        | 21'-3"    | 31'-5"  | 23'-0"       | 32'-1"               |
| 5/12      | TOP CHORD |         | BOTTOM CHORD |                      |
|           | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR. | 25'-8"    | 38'-1"  | 37'-11"      | 38'-1" <sup>2</sup>  |
| #1        | 23'-11"   | 35'-5"  | 30'-1"       | 38'-1" <sup>2</sup>  |
| #2        | 22'-10"   | 33'-9"  | 26'-4"       | 37'-0"               |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

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struction" (NDS®) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches (V). For scissor trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (V/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>9</sub> in NDS®.

**FOOTNOTES**

1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

# WTCA REPRESENTATIVE ROOF TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE  | = 20 PSF |
| TOP CHORD DEAD  | = 10 PSF |
| BTM CHORD LIVE  | = 0 PSF  |
| BTM CHORD DEAD  | = 10 PSF |



| SPACING  |           |
|----------|-----------|
| 24" o.c. | 40<br>PSF |
| LDI      |           |
| 15%      |           |

| SOUTHERN PINE |                     |                     |              |         |
|---------------|---------------------|---------------------|--------------|---------|
| 3/12          | TOP CHORD           |                     | BOTTOM CHORD |         |
|               | 2x4                 | 2x6                 | 2x4          | 2x6     |
| #1 DENSE      | 23'-3" <sup>2</sup> | 32'-3" <sup>2</sup> | 23'-3"       | 32'-3"  |
| #1            | 23'-3" <sup>2</sup> | 32'-3" <sup>2</sup> | 22'-3"       | 30'-10" |
| #2 DENSE      | 23'-3" <sup>2</sup> | 32'-3" <sup>2</sup> | 19'-2"       | 27'-1"  |
| #2            | 22'-6"              | 32'-3" <sup>2</sup> | 18'-1"       | 25'-5"  |
| 4/12          | TOP CHORD           |                     | BOTTOM CHORD |         |
|               | 2x4                 | 2x6                 | 2x4          | 2x6     |
| #1 DENSE      | 28'-0"              | 39'-6" <sup>2</sup> | 28'-3"       | 39'-6"  |
| #1            | 27'-3"              | 39'-6" <sup>2</sup> | 27'-1"       | 37'-10" |
| #2 DENSE      | 26'-11"             | 39'-6" <sup>2</sup> | 23'-6"       | 33'-4"  |
| #2            | 25'-11"             | 38'-7"              | 22'-2"       | 31'-2"  |
| 5/12          | TOP CHORD           |                     | BOTTOM CHORD |         |
|               | 2x4                 | 2x6                 | 2x4          | 2x6     |
| #1 DENSE      | 30'-9"              | 46'-4" <sup>2</sup> | 32'-4"       | 45'-4"  |
| #1            | 29'-11"             | 44'-10"             | 31'-0"       | 43'-5"  |
| #2 DENSE      | 29'-8"              | 44'-1"              | 27'-2"       | 38'-7"  |
| #2            | 28'-6"              | 42'-5"              | 25'-7"       | 36'-1"  |

| DOUGLAS FIR-LARCH |           |                     |              |                      |
|-------------------|-----------|---------------------|--------------|----------------------|
| 3/12              | TOP CHORD |                     | BOTTOM CHORD |                      |
|                   | 2x4       | 2x6                 | 2x4          | 2x6                  |
| SEL. STR.         | 24'-10"   | 37'-4"              | 29'-6"       | 37'-4" <sup>2</sup>  |
| #1 & BETTER       | 23'-6"    | 35'-4"              | 23'-7"       | 32'-11"              |
| #1                | 22'-10"   | 34'-3"              | 20'-11"      | 29'-4"               |
| #2                | 21'-9"    | 32'-8"              | 18'-8"       | 25'-9"               |
| 4/12              | TOP CHORD |                     | BOTTOM CHORD |                      |
|                   | 2x4       | 2x6                 | 2x4          | 2x6                  |
| SEL. STR.         | 28'-6"    | 42'-8" <sup>2</sup> | 34'-11"      | 42'-8" <sup>2</sup>  |
| #1 & BETTER       | 27'-1"    | 40'-6"              | 28'-5"       | 40'-1"               |
| #1                | 26'-3"    | 39'-2"              | 25'-5"       | 35'-10"              |
| #2                | 25'-0"    | 37'-4"              | 22'-9"       | 31'-6"               |
| 5/12              | TOP CHORD |                     | BOTTOM CHORD |                      |
|                   | 2x4       | 2x6                 | 2x4          | 2x6                  |
| SEL. STR.         | 31'-4"    | 46'-10"             | 39'-2"       | 46'-10" <sup>2</sup> |
| #1 & BETTER       | 28'-10"   | 44'-7"              | 32'-3"       | 45'-6"               |
| #1                | 28'-11"   | 43'-1"              | 28'-11"      | 40'-11"              |
| #2                | 27'-8"    | 41'-2"              | 26'-0"       | 36'-3"               |

| SPRUCE - PINE - FIR |                     |                     |              |         |
|---------------------|---------------------|---------------------|--------------|---------|
| 3/12                | TOP CHORD           |                     | BOTTOM CHORD |         |
|                     | 2x4                 | 2x6                 | 2x4          | 2x6     |
| SEL. STR.           | 21'-5" <sup>2</sup> | 30'-1" <sup>2</sup> | 21'-5"       | 30'-1"  |
| #1                  | 20'-5"              | 30'-1" <sup>2</sup> | 14'-9"       | 20'-3"  |
| #2                  | 20'-5"              | 30'-1" <sup>2</sup> | 14'-9"       | 20'-3"  |
| 4/12                | TOP CHORD           |                     | BOTTOM CHORD |         |
|                     | 2x4                 | 2x6                 | 2x4          | 2x6     |
| SEL. STR.           | 26'-1"              | 37'-0" <sup>2</sup> | 26'-3"       | 37'-0"  |
| #1                  | 23'-9"              | 35'-3"              | 18'-3"       | 24'-11" |
| #2                  | 23'-9"              | 35'-3"              | 18'-3"       | 24'-11" |
| 5/12                | TOP CHORD           |                     | BOTTOM CHORD |         |
|                     | 2x4                 | 2x6                 | 2x4          | 2x6     |
| SEL. STR.           | 28'-10"             | 42'-7" <sup>2</sup> | 30'-1"       | 42'-7"  |
| #1                  | 26'-4"              | 39'-1"              | 21'-3"       | 29'-3"  |
| #2                  | 26'-4"              | 39'-1"              | 21'-3"       | 29'-3"  |

| HEM-FIR   |           |        |              |                     |
|-----------|-----------|--------|--------------|---------------------|
| 3/12      | TOP CHORD |        | BOTTOM CHORD |                     |
|           | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR. | 23'-6"    | 35'-3" | 27'-3"       | 35'-3" <sup>2</sup> |
| #1        | 21'-9"    | 32'-6" | 19'-3"       | 28'-8"              |
| #2        | 20'-10"   | 31'-1" | 16'-6"       | 23'-1"              |
| 4/12      | TOP CHORD |        | BOTTOM CHORD |                     |
|           | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR. | 27'-1"    | 40'-5" | 32'-7"       | 40'-5" <sup>2</sup> |
| #1        | 25'-1"    | 37'-5" | 23'-6"       | 32'-8"              |
| #2        | 24'-0"    | 35'-8" | 20'-4"       | 29'-4"              |
| 5/12      | TOP CHORD |        | BOTTOM CHORD |                     |
|           | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR. | 29'-10"   | 44'-5" | 36'-10"      | 44'-5" <sup>2</sup> |
| #1        | 27'-8"    | 41'-2" | 26'-11"      | 37'-7"              |
| #2        | 26'-6"    | 39'-3" | 23'-5"       | 32'-11"             |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

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Spans are given for 3/12, 4/12, and 5/12 roof pitches (Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as  $C_d$  in NDS®.

**FOOTNOTES**

1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.



# WTCA REPRESENTATIVE ROOF TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE  | = 30 PSF |
| TOP CHORD DEAD  | = 7 PSF  |
| BTM CHORD LIVE  | = 0 PSF  |
| BTM CHORD DEAD  | = 10 PSF |



|          |     |
|----------|-----|
| SPACING  | 47  |
| 24" o.c. |     |
| LDI      | PSF |
| 15%      |     |

| SOUTHERN PINE |                     |                     |              |         |
|---------------|---------------------|---------------------|--------------|---------|
| 3/12          | TOP CHORD           |                     | BOTTOM CHORD |         |
|               | 2x4                 | 2x6                 | 2x4          | 2x6     |
| #1 DENSE      | 20'-5" <sup>2</sup> | 26'-5" <sup>2</sup> | 20'-5"       | 26'-5"  |
| #1            | 20'-5" <sup>2</sup> | 28'-5" <sup>2</sup> | 19'-7"       | 27'-1"  |
| #2 DENSE      | 20'-5" <sup>2</sup> | 28'-5" <sup>2</sup> | 18'-9"       | 23'-10" |
| #2            | 20'-5" <sup>2</sup> | 28'-5" <sup>2</sup> | 15'-10"      | 22'-4"  |
| 4/12          | TOP CHORD           |                     | BOTTOM CHORD |         |
|               | 2x4                 | 2x6                 | 2x4          | 2x6     |
| #1 DENSE      | 26'-2" <sup>2</sup> | 35'-1" <sup>2</sup> | 25'-2"       | 35'-1"  |
| #1            | 25'-1"              | 35'-1" <sup>2</sup> | 24'-1"       | 33'-6"  |
| #2 DENSE      | 24'-10"             | 35'-1" <sup>2</sup> | 20'-9"       | 29'-5"  |
| #2            | 23'-9"              | 35'-1" <sup>2</sup> | 19'-7"       | 27'-6"  |
| 5/12          | TOP CHORD           |                     | BOTTOM CHORD |         |
|               | 2x4                 | 2x6                 | 2x4          | 2x6     |
| #1 DENSE      | 28'-8"              | 40'-8" <sup>2</sup> | 29'-1"       | 40'-8"  |
| #1            | 27'-8"              | 40'-8" <sup>2</sup> | 27'-10"      | 38'-11" |
| #2 DENSE      | 27'-5"              | 40'-8" <sup>2</sup> | 24'-3"       | 34'-5"  |
| #2            | 26'-3"              | 39'-1"              | 22'-10"      | 32'-2"  |

| DOUGLAS FIR-LARCH |           |        |              |                     |
|-------------------|-----------|--------|--------------|---------------------|
| 3/12              | TOP CHORD |        | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR.         | 22'-11"   | 34'-5" | 26'-2"       | 34'-5" <sup>2</sup> |
| #1 & BETTER       | 21'-7"    | 32'-5" | 20'-10"      | 29'-2"              |
| #1                | 20'-10"   | 31'-4" | 18'-6"       | 25'-11"             |
| #2                | 19'-9"    | 29'-7" | 16'-5"       | 22'-9"              |
| 4/12              | TOP CHORD |        | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR.         | 26'-4"    | 39'-6" | 31'-7"       | 39'-6" <sup>2</sup> |
| #1 & BETTER       | 24'-10"   | 37'-3" | 25'-5"       | 35'-9"              |
| #1                | 24'-1"    | 36'-0" | 22'-8"       | 31'-10"             |
| #2                | 22'-10"   | 34'-2" | 20'-2"       | 27'-11"             |
| 5/12              | TOP CHORD |        | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR.         | 29'-0"    | 43'-5" | 35'-10"      | 43'-5" <sup>2</sup> |
| #1 & BETTER       | 27'-5"    | 41'-1" | 29'-2"       | 41'-1"              |
| #1                | 26'-7"    | 39'-9" | 26'-1"       | 36'-10"             |
| #2                | 25'-4"    | 37'-9" | 23'-4"       | 32'-6"              |

| SPRUCE - PINE - FIR |                      |                     |              |         |
|---------------------|----------------------|---------------------|--------------|---------|
| 3/12                | TOP CHORD            |                     | BOTTOM CHORD |         |
|                     | 2x4                  | 2x6                 | 2x4          | 2x6     |
| SEL. STR.           | 18'-10" <sup>2</sup> | 26'-5" <sup>2</sup> | 18'-10"      | 26'-5"  |
| #1                  | 18'-5"               | 26'-5" <sup>2</sup> | 12'-11"      | 17'-9"  |
| #2                  | 15'-5"               | 26'-5" <sup>2</sup> | 12'-11"      | 17'-9"  |
| 4/12                | TOP CHORD            |                     | BOTTOM CHORD |         |
|                     | 2x4                  | 2x6                 | 2x4          | 2x6     |
| SEL. STR.           | 23'-3" <sup>2</sup>  | 32'-8" <sup>2</sup> | 23'-3"       | 32'-8"  |
| #1                  | 21'-6"               | 32'-1"              | 18'-0"       | 21'-10" |
| #2                  | 21'-6"               | 32'-1"              | 16'-0"       | 21'-10" |
| 5/12                | TOP CHORD            |                     | BOTTOM CHORD |         |
|                     | 2x4                  | 2x6                 | 2x4          | 2x6     |
| SEL. STR.           | 26'-7"               | 38'-1" <sup>2</sup> | 27'-0"       | 38'-1"  |
| #1                  | 24'-0"               | 35'-8"              | 18'-10"      | 25'-10" |
| #2                  | 24'-0"               | 35'-8"              | 18'-10"      | 25'-10" |

| HEM-FIR   |           |         |              |                     |
|-----------|-----------|---------|--------------|---------------------|
| 3/12      | TOP CHORD |         | BOTTOM CHORD |                     |
|           | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR. | 21'-7"    | 32'-6"  | 24'-1"       | 32'-6" <sup>2</sup> |
| #1        | 19'-10"   | 29'-8"  | 16'-11"      | 23'-6"              |
| #2        | 19'-0"    | 28'-5"  | 14'-6"       | 20'-3"              |
| 4/12      | TOP CHORD |         | BOTTOM CHORD |                     |
|           | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR. | 24'-11"   | 37'-4"  | 29'-3"       | 37'-4" <sup>2</sup> |
| #1        | 22'-11"   | 34'-3"  | 20'-10"      | 28'-11"             |
| #2        | 22'-0"    | 32'-9"  | 17'-11"      | 24'-11"             |
| 5/12      | TOP CHORD |         | BOTTOM CHORD |                     |
|           | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR. | 27'-6"    | 41'-2"  | 33'-6"       | 41'-2" <sup>2</sup> |
| #1        | 25'-5"    | 37'-10" | 24'-2"       | 33'-8"              |
| #2        | 24'-4"    | 36'-1"  | 20'-11"      | 29'-3"              |

**GENERAL NOTES**  
 Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.  
 Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).  
 Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.  
 Spans are given for 3/12, 4/12, and 5/12 roof pitches (V). For scissor trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (V/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.  
 These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>9</sub> in NDS®.  
**FOOTNOTES**  
 1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.  
 3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.



# WTCA REPRESENTATIVE ROOF TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE  | + 20 PSF |
| TOP CHORD DEAD  | + 10 PSF |
| BTM CHORD LIVE  | + 0 PSF  |
| BTM CHORD DEAD  | + 10 PSF |



|          |     |
|----------|-----|
| SPACING  | 40  |
| 24" o.c. |     |
| LDI      | PSF |
| 25%      |     |

| SOUTHERN PINE |           |                     |              |                     |
|---------------|-----------|---------------------|--------------|---------------------|
| 3/12          | TOP CHORD |                     | BOTTOM CHORD |                     |
|               | 2x4       | 2x6                 | 2x4          | 2x6                 |
| #1 DENSE      | 24'-11"   | 34'-8" <sup>2</sup> | 25'-0"       | 34'-6"              |
| #1            | 24'-3"    | 34'-6" <sup>2</sup> | 23'-11"      | 33'-1"              |
| #2 DENSE      | 24'-0"    | 34'-6" <sup>2</sup> | 20'-7"       | 29'-2"              |
| #2            | 23'-1"    | 34'-6"              | 19'-5"       | 27'-3"              |
| 4/12          | TOP CHORD |                     | BOTTOM CHORD |                     |
|               | 2x4       | 2x6                 | 2x4          | 2x6                 |
| #1 DENSE      | 26'-6"    | 42'-5"              | 30'-3"       | 42'-5" <sup>2</sup> |
| #1            | 27'-8"    | 41'-6"              | 29'-0"       | 40'-6"              |
| #2 DENSE      | 27'-5"    | 40'-11"             | 25'-3"       | 35'-10"             |
| #2            | 26'-5"    | 39'-9"              | 23'-10"      | 33'-6"              |
| 5/12          | TOP CHORD |                     | BOTTOM CHORD |                     |
|               | 2x4       | 2x6                 | 2x4          | 2x6                 |
| #1 DENSE      | 31'-3"    | 46'-8"              | 34'-7"       | 46'-8" <sup>2</sup> |
| #1            | 30'-5"    | 45'-6"              | 33'-1"       | 46'-5"              |
| #2 DENSE      | 30'-2"    | 44'-10"             | 29'-1"       | 41'-4"              |
| #2            | 29'-1"    | 43'-2"              | 27'-5"       | 38'-8"              |

| DOUGLAS FIR-LARCH |           |         |              |                     |
|-------------------|-----------|---------|--------------|---------------------|
| 3/12              | TOP CHORD |         | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.         | 25'-4"    | 38'-0"  | 31'-7"       | 38'-0" <sup>2</sup> |
| #1 & BETTER       | 24'-1"    | 36'-2"  | 25'-4"       | 35'-5"              |
| #1                | 23'-4"    | 35'-0"  | 22'-6"       | 31'-7"              |
| #2                | 22'-4"    | 33'-5"  | 20'-0"       | 27'-8"              |
| 4/12              | TOP CHORD |         | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.         | 29'-0"    | 43'-5"  | 37'-3"       | 43'-5" <sup>2</sup> |
| #1 & BETTER       | 27'-7"    | 41'-4"  | 30'-5"       | 42'-10"             |
| #1                | 26'-9"    | 40'-0"  | 27'-2"       | 38'-5"              |
| #2                | 25'-8"    | 38'-3"  | 24'-4"       | 33'-10"             |
| 5/12              | TOP CHORD |         | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.         | 31'-10"   | 47'-7"  | 41'-8"       | 47'-7" <sup>2</sup> |
| #1 & BETTER       | 30'-4"    | 45'-5"  | 34'-4"       | 47'-7" <sup>2</sup> |
| #1                | 29'-5"    | 43'-11" | 30'-10"      | 43'-8"              |
| #2                | 28'-3"    | 42'-1"  | 27'-9"       | 38'-9"              |

| SPRUCE - PINE - FIR |                     |        |              |                     |
|---------------------|---------------------|--------|--------------|---------------------|
| 3/12                | TOP CHORD           |        | BOTTOM CHORD |                     |
|                     | 2x4                 | 2x6    | 2x4          | 2x6                 |
| SEL. STR.           | 23'-1" <sup>2</sup> | 32'-4" | 23'-1"       | 32'-4" <sup>2</sup> |
| #1                  | 21'-1"              | 31'-6" | 15'-11"      | 21'-8"              |
| #2                  | 21'-1"              | 31'-6" | 15'-11"      | 21'-9"              |
| 4/12                | TOP CHORD           |        | BOTTOM CHORD |                     |
|                     | 2x4                 | 2x6    | 2x4          | 2x6                 |
| SEL. STR.           | 26'-8"              | 39'-8" | 28'-1"       | 39'-8" <sup>2</sup> |
| #1                  | 24'-5"              | 36'-4" | 19'-8"       | 26'-10"             |
| #2                  | 24'-5"              | 36'-4" | 19'-8"       | 26'-10"             |
| 5/12                | TOP CHORD           |        | BOTTOM CHORD |                     |
|                     | 2x4                 | 2x6    | 2x4          | 2x6                 |
| SEL. STR.           | 29'-4"              | 43'-9" | 32'-2"       | 43'-9" <sup>2</sup> |
| #1                  | 27'-0"              | 40'-1" | 22'-10"      | 31'-5"              |
| #2                  | 27'-0"              | 40'-1" | 22'-10"      | 31'-5"              |

| HEM-FIR   |           |         |              |                     |
|-----------|-----------|---------|--------------|---------------------|
| 3/12      | TOP CHORD |         | BOTTOM CHORD |                     |
|           | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR. | 24'-0"    | 36'-0"  | 29'-3"       | 36'-0" <sup>2</sup> |
| #1        | 22'-4"    | 33'-4"  | 20'-8"       | 28'-8"              |
| #2        | 21'-5"    | 31'-11" | 17'-9"       | 24'-9"              |
| 4/12      | TOP CHORD |         | BOTTOM CHORD |                     |
|           | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR. | 27'-6"    | 41'-2"  | 34'-10"      | 41'-2" <sup>2</sup> |
| #1        | 25'-8"    | 38'-3"  | 25'-2"       | 35'-1"              |
| #2        | 24'-7"    | 36'-6"  | 21'-10"      | 30'-5"              |
| 5/12      | TOP CHORD |         | BOTTOM CHORD |                     |
|           | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR. | 30'-3"    | 45'-2"  | 39'-3"       | 45'-2" <sup>2</sup> |
| #1        | 28'-3"    | 42'-1"  | 28'-9"       | 40'-2"              |
| #2        | 27'-0"    | 40'-1"  | 25'-1"       | 35'-3"              |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches (Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>1</sub> in NDS®.

**FOOTNOTES**

1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
INDEX



# WTCA REPRESENTATIVE ROOF TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE  | = 20 PSF |
| TOP CHORD DEAD  | = 10 PSF |
| BTM CHORD LIVE  | = 6 PSF  |
| BTM CHORD DEAD  | = 10 PSF |



|          |     |
|----------|-----|
| SPACING  | 40  |
| 24" o.c. |     |
| LDI      | PSF |
| 15%      |     |

| SOUTHERN PINE |                     |                     |              |                     |
|---------------|---------------------|---------------------|--------------|---------------------|
| 3/12          | TOP CHORD           |                     | BOTTOM CHORD |                     |
|               | 2x4                 | 2x6                 | 2x4          | 2x6                 |
| #1 DENSE      | 24'-0" <sup>2</sup> | 33'-2" <sup>2</sup> | 24'-0"       | 33'-2"              |
| #1            | 23'-7"              | 33'-2" <sup>2</sup> | 23'-0"       | 31'-7"              |
| #2 DENSE      | 23'-4"              | 33'-2" <sup>2</sup> | 19'-7"       | 27'-8"              |
| #2            | 22'-4"              | 33'-2" <sup>2</sup> | 18'-6"       | 25'-11"             |
| 4/12          | TOP CHORD           |                     | BOTTOM CHORD |                     |
|               | 2x4                 | 2x6                 | 2x4          | 2x6                 |
| #1 DENSE      | 27'-9"              | 41'-7"              | 30'-3"       | 41'-7" <sup>2</sup> |
| #1            | 27'-0"              | 40'-6"              | 28'-11"      | 39'-9"              |
| #2 DENSE      | 26'-9"              | 39'-11"             | 24'-9"       | 34'-9"              |
| #2            | 25'-5"              | 38'-3"              | 23'-4"       | 32'-6"              |
| 5/12          | TOP CHORD           |                     | BOTTOM CHORD |                     |
|               | 2x4                 | 2x6                 | 2x4          | 2x6                 |
| #1 DENSE      | 30'-6"              | 45'-7"              | 35'-6"       | 45'-7" <sup>2</sup> |
| #1            | 29'-9"              | 44'-6"              | 34'-2"       | 45'-7" <sup>2</sup> |
| #2 DENSE      | 29'-5"              | 43'-10"             | 29'-4"       | 41'-5"              |
| #2            | 28'-3"              | 42'-1"              | 27'-8"       | 38'-9"              |

| DOUGLAS FIR-LARCH |           |         |              |                     |
|-------------------|-----------|---------|--------------|---------------------|
| 3/12              | TOP CHORD |         | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.         | 24'-8"    | 37'-1"  | 31'-4"       | 37'-1" <sup>2</sup> |
| #1 & BETTER       | 23'-4"    | 35'-1"  | 24'-8"       | 34'-3"              |
| #1                | 22'-8"    | 33'-11" | 21'-9"       | 30'-4"              |
| #2                | 21'-6"    | 32'-3"  | 19'-3"       | 26'-5"              |
| 4/12              | TOP CHORD |         | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.         | 26'-3"    | 42'-4"  | 38'-10"      | 42'-4" <sup>2</sup> |
| #1 & BETTER       | 26'-10"   | 40'-3"  | 30'-11"      | 42'-4" <sup>2</sup> |
| #1                | 26'-0"    | 38'-11" | 27'-4"       | 38'-1"              |
| #2                | 24'-10"   | 37'-1"  | 24'-2"       | 33'-2"              |
| 5/12              | TOP CHORD |         | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.         | 31'-1"    | 46'-6"  | 45'-1"       | 46'-6" <sup>2</sup> |
| #1 & BETTER       | 29'-7"    | 44'-3"  | 36'-2"       | 46'-6" <sup>2</sup> |
| #1                | 28'-8"    | 42'-9"  | 32'-1"       | 45'-0"              |
| #2                | 27'-5"    | 40'-10" | 28'-7"       | 39'-5"              |

| SPRUCE - PINE - FIR |                     |                      |              |         |
|---------------------|---------------------|----------------------|--------------|---------|
| 3/12                | TOP CHORD           |                      | BOTTOM CHORD |         |
|                     | 2x4                 | 2x6                  | 2x4          | 2x6     |
| SEL. STR.           | 22'-1" <sup>2</sup> | 30'-10" <sup>2</sup> | 22'-1"       | 30'-10" |
| #1                  | 20'-3"              | 30'-2"               | 14'-11"      | 20'-6"  |
| #2                  | 20'-3"              | 30'-2"               | 14'-11"      | 20'-6"  |
| 4/12                | TOP CHORD           |                      | BOTTOM CHORD |         |
|                     | 2x4                 | 2x6                  | 2x4          | 2x6     |
| SEL. STR.           | 25'-11"             | 38'-9" <sup>2</sup>  | 27'-10"      | 38'-9"  |
| #1                  | 23'-6"              | 35'-0"               | 18'-10"      | 25'-7"  |
| #2                  | 23'-6"              | 35'-0"               | 18'-10"      | 25'-7"  |
| 5/12                | TOP CHORD           |                      | BOTTOM CHORD |         |
|                     | 2x4                 | 2x6                  | 2x4          | 2x6     |
| SEL. STR.           | 28'-7"              | 42'-8" <sup>2</sup>  | 32'-11"      | 42'-8"  |
| #1                  | 26'-1"              | 38'-9"               | 22'-8"       | 30'-6"  |
| #2                  | 26'-1"              | 38'-9"               | 22'-8"       | 30'-8"  |

| HEM-FIR   |           |         |              |                     |
|-----------|-----------|---------|--------------|---------------------|
| 3/12      | TOP CHORD |         | BOTTOM CHORD |                     |
|           | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR. | 23'-4"    | 35'-0"  | 28'-8"       | 35'-0" <sup>2</sup> |
| #1        | 21'-7"    | 32'-3"  | 19'-10"      | 27'-4"              |
| #2        | 20'-8"    | 30'-10" | 16'-10"      | 23'-6"              |
| 4/12      | TOP CHORD |         | BOTTOM CHORD |                     |
|           | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR. | 26'-10"   | 40'-1"  | 35'-9"       | 40'-1" <sup>2</sup> |
| #1        | 24'-10"   | 37'-1"  | 25'-0"       | 34'-4"              |
| #2        | 23'-10"   | 35'-5"  | 21'-3"       | 29'-5"              |
| 5/12      | TOP CHORD |         | BOTTOM CHORD |                     |
|           | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR. | 29'-7"    | 44'-1"  | 41'-9"       | 44'-1" <sup>2</sup> |
| #1        | 27'-6"    | 40'-10" | 29'-6"       | 40'-10"             |
| #2        | 26'-3"    | 39'-0"  | 25'-3"       | 35'-1"              |

**GENERAL NOTES**  
 Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.  
 Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

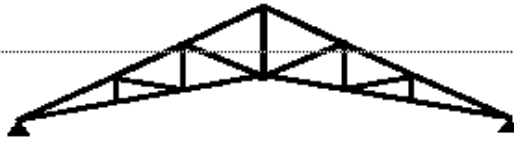
struction" (NDS®) of the American Forest & Paper Association (AFPA).  
 Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.  
 Spans are given for 3/12, 4/12, and 5/12 roof pitches (V). For scissor trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (V/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.  
 These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>9</sub> in NDS®.  
**FOOTNOTES**  
 1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.  
 3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

# WTCA REPRESENTATIVE ROOF TRUSS SPANS

| DESIGN CRITERIA |        |
|-----------------|--------|
| TOP CHORD LIVE  | 40 PSF |
| TOP CHORD DEAD  | 7 PSF  |
| BTM CHORD LIVE  | 0 PSF  |
| BTM CHORD DEAD  | 10 PSF |



| SPACING             |     |
|---------------------|-----|
| 24" <sub>o.c.</sub> | 47  |
| LDI                 |     |
| 15%                 | PSF |

| SOUTHERN PINE |                      |                     |              |         |
|---------------|----------------------|---------------------|--------------|---------|
| <b>3/12</b>   | TOP CHORD            |                     | BOTTOM CHORD |         |
|               | 2x4                  | 2x6                 | 2x4          | 2x6     |
| #1 DENSE      | 20'-11" <sup>2</sup> | 29'-0" <sup>2</sup> | 20'-11"      | 29'-0"  |
| #1            | 20'-11" <sup>2</sup> | 29'-0" <sup>2</sup> | 20'-0"       | 27'-7"  |
| #2 DENSE      | 20'-11" <sup>2</sup> | 29'-0" <sup>2</sup> | 17'-0"       | 24'-2"  |
| #2            | 20'-5"               | 29'-0" <sup>2</sup> | 16'-1"       | 22'-8"  |
| <b>4/12</b>   | TOP CHORD            |                     | BOTTOM CHORD |         |
|               | 2x4                  | 2x6                 | 2x4          | 2x6     |
| #1 DENSE      | 25'-9"               | 36'-6" <sup>2</sup> | 26'-6"       | 36'-6"  |
| #1            | 24'-11"              | 36'-6" <sup>2</sup> | 25'-4"       | 34'-9"  |
| #2 DENSE      | 24'-8"               | 36'-6" <sup>2</sup> | 21'-6"       | 30'-4"  |
| #2            | 23'-7"               | 35'-3"              | 20'-3"       | 28'-5"  |
| <b>5/12</b>   | TOP CHORD            |                     | BOTTOM CHORD |         |
|               | 2x4                  | 2x6                 | 2x4          | 2x6     |
| #1 DENSE      | 28'-4"               | 42'-4" <sup>2</sup> | 31'-6"       | 42'-4"  |
| #1            | 27'-8"               | 41'-2"              | 30'-1"       | 41'-6"  |
| #2 DENSE      | 27'-2"               | 40'-7"              | 25'-9"       | 36'-3"  |
| #2            | 26'-1"               | 38'-10"             | 24'-3"       | 33'-11" |

| DOUGLAS FIR-LARCH |           |         |              |                     |
|-------------------|-----------|---------|--------------|---------------------|
| <b>3/12</b>       | TOP CHORD |         | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.         | 22'-9"    | 34'-2"  | 27'-5"       | 34'-2" <sup>2</sup> |
| #1 & BETTER       | 21'-5"    | 32'-2"  | 21'-6"       | 30'-0"              |
| #1                | 20'-9"    | 31'-1"  | 18'-11"      | 26'-7"              |
| #2                | 19'-7"    | 29'-5"  | 16'-9"       | 23'-2"              |
| <b>4/12</b>       | TOP CHORD |         | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.         | 26'-2"    | 38'-3"  | 34'-4"       | 39'-3" <sup>2</sup> |
| #1 & BETTER       | 24'-8"    | 37'-0"  | 27'-2"       | 37'-8"              |
| #1                | 23'-11"   | 35'-9"  | 23'-11"      | 33'-4"              |
| #2                | 22'-8"    | 33'-11" | 21'-2"       | 28'-0"              |
| <b>5/12</b>       | TOP CHORD |         | BOTTOM CHORD |                     |
|                   | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.         | 28'-10"   | 43'-2"  | 40'-4"       | 43'-2" <sup>2</sup> |
| #1 & BETTER       | 27'-3"    | 40'-10" | 32'-1"       | 43'-2" <sup>2</sup> |
| #1                | 26'-5"    | 38'-5"  | 28'-4"       | 39'-8"              |
| #2                | 25'-2"    | 37'-8"  | 25'-2"       | 34'-7"              |

| SPRUCE - PINE - FIR |                     |                      |              |         |
|---------------------|---------------------|----------------------|--------------|---------|
| <b>3/12</b>         | TOP CHORD           |                      | BOTTOM CHORD |         |
|                     | 2x4                 | 2x6                  | 2x4          | 2x6     |
| SEL. STR.           | 19'-2" <sup>2</sup> | 26'-11" <sup>2</sup> | 19'-2"       | 26'-11" |
| #1                  | 18'-3"              | 26'-11" <sup>2</sup> | 13'-0"       | 17'-11" |
| #2                  | 18'-3"              | 26'-11" <sup>2</sup> | 13'-0"       | 17'-11" |
| <b>4/12</b>         | TOP CHORD           |                      | BOTTOM CHORD |         |
|                     | 2x4                 | 2x6                  | 2x4          | 2x6     |
| SEL. STR.           | 23'-10"             | 33'-10" <sup>2</sup> | 24'-3"       | 33'-10" |
| #1                  | 21'-4"              | 31'-10"              | 18'-4"       | 22'-3"  |
| #2                  | 21'-4"              | 31'-10"              | 18'-4"       | 22'-3"  |
| <b>5/12</b>         | TOP CHORD           |                      | BOTTOM CHORD |         |
|                     | 2x4                 | 2x6                  | 2x4          | 2x6     |
| SEL. STR.           | 26'-4"              | 39'-6" <sup>2</sup>  | 28'-11"      | 39'-6"  |
| #1                  | 23'-10"             | 35'-5"               | 19'-7"       | 26'-7"  |
| #2                  | 23'-10"             | 35'-5"               | 19'-7"       | 26'-7"  |

| HEM-FIR     |           |         |              |                      |
|-------------|-----------|---------|--------------|----------------------|
| <b>3/12</b> | TOP CHORD |         | BOTTOM CHORD |                      |
|             | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.   | 21'-5"    | 32'-3"  | 25'-0"       | 32'-3" <sup>2</sup>  |
| #1          | 19'-8"    | 29'-6"  | 17'-3"       | 23'-11"              |
| #2          | 18'-10"   | 28'-2"  | 14'-8"       | 20'-6"               |
| <b>4/12</b> | TOP CHORD |         | BOTTOM CHORD |                      |
|             | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.   | 24'-9"    | 37'-1"  | 31'-6"       | 37'-1" <sup>2</sup>  |
| #1          | 22'-9"    | 34'-0"  | 21'-10"      | 30'-0"               |
| #2          | 21'-10"   | 32'-6"  | 18'-6"       | 25'-8"               |
| <b>5/12</b> | TOP CHORD |         | BOTTOM CHORD |                      |
|             | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR.   | 27'-4"    | 40'-10" | 37'-2"       | 40'-10" <sup>2</sup> |
| #1          | 25'-3"    | 37'-7"  | 26'-0"       | 35'-10"              |
| #2          | 24'-2"    | 35'-10" | 22'-2"       | 30'-5"               |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches (Y). For scissors trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as  $C_d$  in NDS®.

**FOOTNOTES**

1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.



# WTCA REPRESENTATIVE ROOF TRUSS SPANS

**DESIGN CRITERIA**

TOP CHORD LIVE = 20 PSF  
 TOP CHORD DEAD = 10 PSF  
 BOT. CHORD LIVE = 0 PSF  
 BOT. CHORD DEAD = 1R PSF



**SPACING**  
24" o.c.

**LDI**  
25%

**40**  
PSF

**SOUTHERN PINE**

| 3/12     | TOP CHORD |                      | BOTTOM CHORD |         |
|----------|-----------|----------------------|--------------|---------|
|          | 2x4       | 2x6                  | 2x4          | 2x6     |
| #1 DENSE | 24'-9"    | 35'-10" <sup>2</sup> | 25'-11"      | 35'-10" |
| #1       | 24'-0"    | 35'-10" <sup>2</sup> | 24'-10"      | 34'-1"  |
| #2 DENSE | 23'-10"   | 35'-8"               | 21'-1"       | 29'-10" |
| #2       | 22'-11"   | 34'-3"               | 19'-11"      | 27'-11" |

| 4/12     | TOP CHORD |        | BOTTOM CHORD |                     |
|----------|-----------|--------|--------------|---------------------|
|          | 2x4       | 2x6    | 2x4          | 2x6                 |
| #1 DENSE | 28'-3"    | 42'-3" | 32'-7"       | 42'-3" <sup>2</sup> |
| #1       | 27'-5"    | 41'-3" | 31'-2"       | 42'-3" <sup>2</sup> |
| #2 DENSE | 27'-3"    | 40'-6" | 26'-8"       | 37'-8"              |
| #2       | 25'-3"    | 39'-1" | 25'-2"       | 35'-1"              |

| 5/12     | TOP CHORD |         | BOTTOM CHORD |                     |
|----------|-----------|---------|--------------|---------------------|
|          | 2x4       | 2x6     | 2x4          | 2x6                 |
| #1 DENSE | 31'-0"    | 46'-4"  | 36'-5"       | 46'-4" <sup>2</sup> |
| #1       | 30'-2"    | 45'-2"  | 36'-9"       | 46'-4" <sup>2</sup> |
| #2 DENSE | 29'-11"   | 44'-7"  | 31'-7"       | 44'-6"              |
| #2       | 28'-10"   | 42'-11" | 29'-10"      | 41'-9"              |

**DOUGLAS FIR-LARCH**

| 3/12        | TOP CHORD |         | BOTTOM CHORD |                     |
|-------------|-----------|---------|--------------|---------------------|
|             | 2x4       | 2x6     | 2x4          | 2x6                 |
| SEL. STR.   | 25'-1"    | 37'-9"  | 33'-9"       | 37'-9" <sup>2</sup> |
| #1 & BETTER | 23'-11"   | 35'-11" | 26'-7"       | 36'-11"             |
| #1          | 23'-2"    | 34'-9"  | 23'-5"       | 32'-9"              |
| #2          | 22'-2"    | 33'-2"  | 20'-8"       | 28'-6"              |

| 4/12        | TOP CHORD |        | BOTTOM CHORD |                     |
|-------------|-----------|--------|--------------|---------------------|
|             | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR.   | 28'-9"    | 43'-1" | 41'-9"       | 43'-1" <sup>2</sup> |
| #1 & BETTER | 27'-5"    | 41'-0" | 33'-3"       | 43'-1" <sup>2</sup> |
| #1          | 26'-7"    | 39'-9" | 29'-5"       | 41'-0"              |
| #2          | 25'-5"    | 38'-0" | 26'-1"       | 35'-9"              |

| 5/12        | TOP CHORD |        | BOTTOM CHORD |                     |
|-------------|-----------|--------|--------------|---------------------|
|             | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR.   | 31'-7"    | 47'-3" | 47'-0"       | 47'-3" <sup>2</sup> |
| #1 & BETTER | 30'-2"    | 45'-1" | 38'-10"      | 47'-3" <sup>2</sup> |
| #1          | 29'-3"    | 43'-8" | 34'-6"       | 47'-3" <sup>2</sup> |
| #2          | 28'-0"    | 41'-9" | 30'-9"       | 42'-5"              |

**SPRUCE - PINE - FIR**

| 3/12      | TOP CHORD |        | BOTTOM CHORD |                     |
|-----------|-----------|--------|--------------|---------------------|
|           | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR. | 23'-0"    | 33'-3" | 23'-10"      | 33'-3" <sup>2</sup> |
| #1        | 20'-11"   | 31'-2" | 18'-1"       | 22'-0"              |
| #2        | 20'-11"   | 31'-2" | 16'-1"       | 22'-0"              |

| 4/12      | TOP CHORD |        | BOTTOM CHORD |                     |
|-----------|-----------|--------|--------------|---------------------|
|           | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR. | 26'-5"    | 39'-6" | 30'-0"       | 39'-6" <sup>2</sup> |
| #1        | 24'-2"    | 36'-0" | 20'-4"       | 27'-7"              |
| #2        | 24'-2"    | 36'-0" | 20'-4"       | 27'-7"              |

| 5/12      | TOP CHORD |        | BOTTOM CHORD |                     |
|-----------|-----------|--------|--------------|---------------------|
|           | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR. | 29'-1"    | 43'-5" | 35'-5"       | 43'-5" <sup>2</sup> |
| #1        | 26'-9"    | 39'-9" | 24'-3"       | 33'-0"              |
| #2        | 26'-9"    | 39'-9" | 24'-3"       | 33'-0"              |

**HEM-FIR**

| 3/12      | TOP CHORD |        | BOTTOM CHORD |                     |
|-----------|-----------|--------|--------------|---------------------|
|           | 2x4       | 2x6    | 2x4          | 2x6                 |
| SEL. STR. | 23'-10"   | 35'-8" | 30'-11"      | 35'-8" <sup>2</sup> |
| #1        | 22'-2"    | 33'-1" | 21'-5"       | 29'-8"              |
| #2        | 21'-2"    | 31'-8" | 18'-2"       | 25'-4"              |

| 4/12      | TOP CHORD |         | BOTTOM CHORD |                      |
|-----------|-----------|---------|--------------|----------------------|
|           | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR. | 27'-4"    | 40'-10" | 38'-5"       | 40'-10" <sup>2</sup> |
| #1        | 25'-5"    | 37'-11" | 26'-11"      | 37'-0"               |
| #2        | 24'-4"    | 36'-3"  | 22'-11"      | 31'-9"               |

| 5/12      | TOP CHORD |         | BOTTOM CHORD |                      |
|-----------|-----------|---------|--------------|----------------------|
|           | 2x4       | 2x6     | 2x4          | 2x6                  |
| SEL. STR. | 30'-1"    | 44'-10" | 44'-7"       | 44'-10" <sup>2</sup> |
| #1        | 28'-1"    | 41'-9"  | 31'-9"       | 43'-11"              |
| #2        | 26'-10"   | 39'-10" | 27'-3"       | 37'-10"              |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.  
 Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches (V). For scissor trusses (sloped bottom chords), the

bottom chord pitch is one half of the top chord (V/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>9</sub> in NDS®.

**FOOTNOTES**

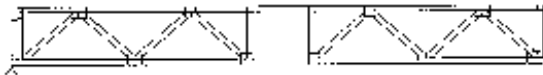
1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

# WTCA REPRESENTATIVE FLOOR TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE  | = 40 PSF |
| TOP CHORD DEAD  | = 5 PSF  |
| BTM CHORD LIVE  | = 0 PSF  |
| BTM CHORD DEAD  | = 5 PSF  |



|         |            |     |
|---------|------------|-----|
| SPACING | <b>16"</b> | OC  |
| LOAD    | <b>50</b>  | PSF |
| SLOPE   | <b>0%</b>  |     |

| SOUTHERN PINE |           |              |          |           |              |
|---------------|-----------|--------------|----------|-----------|--------------|
| 16"           | TOP CHORD | BOTTOM CHORD | 18"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 29'-0"    | 26'-2"       | #1 DENSE | 31'-0"    | 27'-0"       |
| #1            | 28'-0"    | 25'-0"       | #1       | 31'-0"    | 26'-6"       |
| #2            | 24'-4"    | 24'-0"       | #2       | 27'-0"    | 25'-6"       |
| 20"           | TOP CHORD | BOTTOM CHORD | 22"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 34'-0"    | 29'-4"       | #1 DENSE | 36'-0"    | 31'-0"       |
| #1            | 33'-4"    | 28'-0"       | #1       | 35'-9"    | 29'-6"       |
| #2            | 29'-0"    | 27'-0"       | #2       | 31'-0"    | 28'-3"       |
| 24"           | TOP CHORD | BOTTOM CHORD | 26"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 38'-0"    | 33'-4"       | #1 DENSE | 41'-0"    | 35'-0"       |
| #1            | 37'-9"    | 31'-0"       | #1       | 40'-0"    | 32'-3"       |
| #2            | 33'-0"    | 30'-0"       | #2       | 35'-0"    | 31'-0"       |

| DOUGLAS FIR - LARCH |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 27'-3"    | 27'-3"       | SEL. STR. | 30'-9"    | 30'-9"       |
| #1                  | 27'-3"    | 26'-8"       | #1        | 30'-9"    | 28'-6"       |
| #2                  | 27'-3"    | 24'-6"       | #2        | 30'-9"    | 26'-2"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 31'-2"    | 31'-2"       | SEL. STR. | 37'-7"    | 37'-7"       |
| #1                  | 34'-2"    | 30'-2"       | #1        | 37'-7"    | 31'-10"      |
| #2                  | 34'-3"    | 27'-8"       | #2        | 36'-6"    | 29'-2"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 41'-0"    | 41'-0"       | SEL. STR. | 44'-5"    | 42'-10"      |
| #1                  | 41'-0"    | 38'-2"       | #1        | 42'-8"    | 34'-10"      |
| #2                  | 38'-3"    | 30'-6"       | #2        | 39'-8"    | 31'-8"       |

| SPRUCE - PINE - FIR |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 24'-6"    | 24'-0"       | SEL. STR. | 26'-9"    | 26'-9"       |
| #1                  | 24'-0"    | 21'-0"       | #1        | 26'-0"    | 22'-2"       |
| #2                  | 24'-0"    | 21'-0"       | #2        | 26'-0"    | 22'-2"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 29'-0"    | 29'-0"       | SEL. STR. | 31'-0"    | 31'-0"       |
| #1                  | 28'-0"    | 23'-6"       | #1        | 30'-4"    | 25'-0"       |
| #2                  | 28'-0"    | 23'-6"       | #2        | 30'-4"    | 25'-0"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 33'-0"    | 33'-0"       | SEL. STR. | 35'-0"    | 34'-9"       |
| #1                  | 32'-2"    | 26'-0"       | #1        | 34'-0"    | 27'-2"       |
| #2                  | 32'-2"    | 26'-0"       | #2        | 34'-0"    | 27'-2"       |

| HEM - FIR |           |              |           |           |              |
|-----------|-----------|--------------|-----------|-----------|--------------|
| 16"       | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 25'-0"    | 25'-0"       | SEL. STR. | 27'-0"    | 27'-0"       |
| #1        | 24'-6"    | 24'-6"       | #1        | 26'-9"    | 25'-7"       |
| #2        | 23'-6"    | 22'-6"       | #2        | 25'-6"    | 24'-2"       |
| 20"       | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 29'-4"    | 29'-4"       | SEL. STR. | 31'-6"    | 31'-6"       |
| #1        | 29'-0"    | 28'-4"       | #1        | 31'-6"    | 30'-0"       |
| #2        | 27'-6"    | 25'-6"       | #2        | 29'-6"    | 27'-1"       |
| 24"       | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 34'-0"    | 31'-0"       | SEL. STR. | 36'-0"    | 36'-0"       |
| #1        | 33'-0"    | 31'-0"       | #1        | 35'-0"    | 32'-6"       |
| #2        | 31'-6"    | 28'-4"       | #2        | 33'-4"    | 29'-6"       |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

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Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches (Y). For scissor trusses (sloped bottom chords),

the bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as  $C_D$  in NDS®.

**FOOTNOTES**

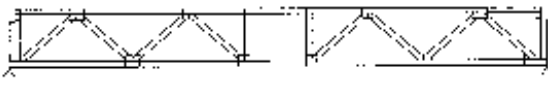
1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

# WTCA REPRESENTATIVE FLOOR TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE  | = 40 PSF |
| TOP CHORD DEAD  | = 10 PSF |
| BTM CHORD LIVE  | = 0 PSF  |
| BTM CHORD DEAD  | = 5 PSF  |



|         |          |           |
|---------|----------|-----------|
| SPACING | 16" o.c. | 55<br>PSF |
| LDI     | 0%       |           |

| SOUTHERN PINE |           |              |          |           |              |
|---------------|-----------|--------------|----------|-----------|--------------|
| 16"           | TOP CHORD | BOTTOM CHORD | 18"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 28'-0"    | 26'-2"       | #1 DENSE | 30'-0"    | 27'-0"       |
| #1            | 27'-0"    | 25'-9"       | #1       | 29'-6"    | 26'-0"       |
| #2            | 24'-4"    | 23'-0"       | #2       | 27'-0"    | 24'-2"       |
| 20"           | TOP CHORD | BOTTOM CHORD | 22"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 32'-9"    | 29'-0"       | #1 DENSE | 35'-0"    | 31'-0"       |
| #1            | 31'-9"    | 28'-9"       | #1       | 34'-0"    | 30'-6"       |
| #2            | 29'-0"    | 26'-0"       | #2       | 31'-0"    | 27'-0"       |
| 24"           | TOP CHORD | BOTTOM CHORD | 26"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 37'-0"    | 33'-0"       | #1 DENSE | 39'-0"    | 34'-7"       |
| #1            | 36'-0"    | 32'-0"       | #1       | 38'-9"    | 33'-8"       |
| #2            | 33'-0"    | 28'-5"       | #2       | 35'-0"    | 30'-0"       |

| DOUGLAS FIR - LARCH |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 26'-9"    | 20'-9"       | SEL. STR. | 29'-2"    | 29'-2"       |
| #1                  | 25'-9"    | 25'-6"       | #1        | 28'-2"    | 27'-2"       |
| #2                  | 25'-2"    | 23'-4"       | #2        | 27'-6"    | 25'-0"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 31'-6"    | 31'-6"       | SEL. STR. | 33'-9"    | 31'-9"       |
| #1                  | 30'-3"    | 28'-9"       | #1        | 32'-6"    | 30'-3"       |
| #2                  | 29'-7"    | 26'-3"       | #2        | 31'-9"    | 27'-9"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 36'-0"    | 30'-0"       | SEL. STR. | 38'-0"    | 34'-0"       |
| #1                  | 34'-3"    | 31'-9"       | #1        | 36'-8"    | 33'-2"       |
| #2                  | 34'-0"    | 29'-1"       | #2        | 36'-0"    | 30'-3"       |

| SPRUCE - PINE - FIR |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 24'-2"    | 24'-2"       | SEL. STR. | 26'-8"    | 26'-8"       |
| #1                  | 24'-0"    | 20'-0"       | #1        | 26'-0"    | 21'-1"       |
| #2                  | 24'-0"    | 20'-0"       | #2        | 26'-0"    | 21'-1"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 29'-0"    | 29'-0"       | SEL. STR. | 29'-9"    | 30'-0"       |
| #1                  | 28'-0"    | 22'-2"       | #1        | 30'-0"    | 23'-9"       |
| #2                  | 28'-0"    | 22'-2"       | #2        | 30'-0"    | 23'-9"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 33'-0"    | 31'-8"       | SEL. STR. | 34'-8"    | 33'-0"       |
| #1                  | 32'-0"    | 24'-9"       | #1        | 34'-0"    | 25'-9"       |
| #2                  | 32'-0"    | 24'-9"       | #2        | 34'-0"    | 25'-9"       |

| HEM - FIR |           |              |           |           |              |
|-----------|-----------|--------------|-----------|-----------|--------------|
| 16"       | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 25'-0"    | 25'-0"       | SEL. STR. | 27'-6"    | 27'-6"       |
| #1        | 24'-8"    | 24'-0"       | #1        | 27'-0"    | 25'-4"       |
| #2        | 23'-7"    | 21'-8"       | #2        | 25'-8"    | 23'-0"       |
| 20"       | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 29'-8"    | 29'-8"       | SEL. STR. | 31'-9"    | 31'-9"       |
| #1        | 29'-0"    | 27'-0"       | #1        | 31'-0"    | 28'-4"       |
| #2        | 27'-6"    | 24'-7"       | #2        | 30'-8"    | 25'-9"       |
| 24"       | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 34'-0"    | 34'-0"       | SEL. STR. | 35'-9"    | 35'-9"       |
| #1        | 33'-0"    | 29'-7"       | #1        | 35'-0"    | 31'-0"       |
| #2        | 31'-6"    | 27'-0"       | #2        | 33'-0"    | 28'-1"       |

**GENERAL NOTES**  
 Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.  
 Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).  
 Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.  
 Spans are given for 3/12, 4/12, and 5/12 roof pitches (Y). For scissors trusses (sloped bottom chords),

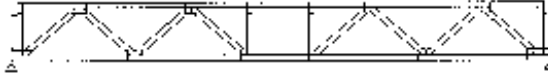
the bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.  
 These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>o</sub> in NDS®.  
**FOOTNOTES**  
 1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.  
 3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

A  
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# WTCA REPRESENTATIVE FLOOR TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE: | = 40 PSF |
| TOP CHORD DEAD: | = 10 PSF |
| BTM CHORD LIVE: | = 0 PSF  |
| BTM CHORD DEAD: | = 10 PSF |



|         |     |
|---------|-----|
| SPACING | 60  |
| 16" OC  | PSF |
| L.D.I.  | 0%  |

| SOUTHERN PINE |           |              |          |           |              |
|---------------|-----------|--------------|----------|-----------|--------------|
| 16"           | TOP CHORD | BOTTOM CHORD | 18"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 27'-8"    | 25'-0"       | #1 DENSE | 29'-9"    | 26'-3"       |
| #1            | 27'-0"    | 24'-0"       | #1       | 29'-0"    | 25'-6"       |
| #2            | 24'-6"    | 21'-0"       | #2       | 27'-0"    | 22'-4"       |
| 20"           | TOP CHORD | BOTTOM CHORD | 22"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 32'-8"    | 28'-0"       | #1 DENSE | 34'-9"    | 29'-1"       |
| #1            | 31'-6"    | 26'-9"       | #1       | 33'-6"    | 28'-0"       |
| #2            | 29'-0"    | 24'-0"       | #2       | 31'-0"    | 25'-0"       |
| 24"           | TOP CHORD | BOTTOM CHORD | 26"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 36'-9"    | 31'-0"       | #1 DENSE | 39'-0"    | 32'-2"       |
| #1            | 35'-8"    | 30'-0"       | #1       | 38'-7"    | 31'-0"       |
| #2            | 33'-0"    | 26'-2"       | #2       | 34'-0"    | 27'-4"       |

| DOUGLAS FIR - LARCH |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 26'-6"    | 26'-6"       | SEL. STR. | 29'-0"    | 29'-0"       |
| #1                  | 25'-9"    | 23'-4"       | #1        | 28'-0"    | 25'-0"       |
| #2                  | 23'-0"    | 21'-1"       | #2        | 27'-1"    | 22'-7"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 31'-5"    | 31'-5"       | SEL. STR. | 33'-7"    | 33'-7"       |
| #1                  | 30'-0"    | 26'-4"       | #1        | 32'-4"    | 28'-0"       |
| #2                  | 29'-7"    | 24'-1"       | #2        | 31'-9"    | 25'-2"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 36'-0"    | 36'-0"       | SEL. STR. | 38'-0"    | 38'-0"       |
| #1                  | 34'-9"    | 29'-2"       | #1        | 36'-6"    | 30'-4"       |
| #2                  | 34'-0"    | 26'-7"       | #2        | 36'-0"    | 27'-9"       |

| SPRUCE - PINE - FIR |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 24'-2"    | 23'-2"       | SEL. STR. | 26'-9"    | 25'-2"       |
| #1                  | 24'-0"    | 18'-2"       | #1        | 26'-0"    | 19'-6"       |
| #2                  | 24'-0"    | 18'-2"       | #2        | 26'-0"    | 19'-6"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 29'-0"    | 26'-9"       | SEL. STR. | 31'-0"    | 28'-0"       |
| #1                  | 28'-2"    | 20'-6"       | #1        | 30'-0"    | 22'-0"       |
| #2                  | 28'-2"    | 20'-6"       | #2        | 30'-0"    | 22'-0"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 33'-0"    | 29'-2"       | SEL. STR. | 35'-0"    | 31'-0"       |
| #1                  | 31'-2"    | 23'-0"       | #1        | 33'-0"    | 24'-0"       |
| #2                  | 31'-2"    | 23'-0"       | #2        | 33'-0"    | 24'-0"       |

| HEM - FIR |           |              |           |           |              |
|-----------|-----------|--------------|-----------|-----------|--------------|
| 16"       | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 25'-0"    | 25'-0"       | SEL. STR. | 27'-4"    | 27'-4"       |
| #1        | 24'-6"    | 22'-0"       | #1        | 27'-0"    | 23'-1"       |
| #2        | 23'-5"    | 20'-0"       | #2        | 25'-6"    | 21'-0"       |
| 20"       | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 29'-8"    | 29'-8"       | SEL. STR. | 31'-9"    | 31'-9"       |
| #1        | 29'-0"    | 25'-0"       | #1        | 31'-0"    | 26'-0"       |
| #2        | 27'-7"    | 22'-2"       | #2        | 29'-4"    | 23'-6"       |
| 24"       | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 33'-9"    | 33'-9"       | SEL. STR. | 35'-9"    | 35'-9"       |
| #1        | 33'-0"    | 27'-2"       | #1        | 33'-0"    | 28'-7"       |
| #2        | 31'-4"    | 24'-9"       | #2        | 33'-4"    | 26'-0"       |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches (Y). For scissors trusses (sloped bottom chords),

the bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as  $C_D$  in NDS®.

**FOOTNOTES**

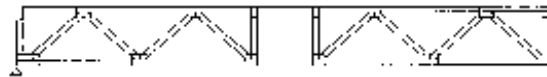
1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

# WTCA REPRESENTATIVE FLOOR TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE  | = 40 PSF |
| TOP CHORD DEAD  | = 6 PSF  |
| BTM CHORD LIVE  | = 0 PSF  |
| BTM CHORD DEAD  | = 6 PSF  |



|         |          |           |
|---------|----------|-----------|
| SPACING | 24" o.c. | 50<br>PSF |
| L.D.I.  | 0%       |           |

| SOUTHERN PINE |           |              |          |           |              |
|---------------|-----------|--------------|----------|-----------|--------------|
| 16"           | TOP CHORD | BOTTOM CHORD | 18"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 23'-0"    | 22'-4"       | #1 DENSE | 27'-0"    | 24'-0"       |
| #1            | 24'-9"    | 22'-0"       | #1       | 26'-9"    | 23'-0"       |
| #2            | 24'-0"    | 19'-1"       | #2       | 26'-3"    | 20'-3"       |
| 20"           | TOP CHORD | BOTTOM CHORD | 22"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 29'-2"    | 25'-3"       | #1 DENSE | 31'-3"    | 27'-0"       |
| #1            | 26'-9"    | 24'-6"       | #1       | 31'-0"    | 25'-9"       |
| #2            | 28'-3"    | 23'-3"       | #2       | 30'-0"    | 22'-9"       |
| 24"           | TOP CHORD | BOTTOM CHORD | 26"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 34'-0"    | 28'-0"       | #1 DENSE | 35'-9"    | 29'-2"       |
| #1            | 33'-0"    | 27'-0"       | #1       | 34'-9"    | 28'-0"       |
| #2            | 31'-2"    | 24'-0"       | #2       | 32'-9"    | 25'-0"       |

| DOUGLAS FIR - LARCH |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 26'-8"    | 26'-6"       | SEL. STR. | 29'-2"    | 28'-3"       |
| #1                  | 25'-6"    | 21'-4"       | #1        | 27'-2"    | 22'-8"       |
| #2                  | 23'-6"    | 19'-6"       | #2        | 25'-3"    | 20'-8"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 31'-6"    | 30'-0"       | SEL. STR. | 33'-6"    | 31'-5"       |
| #1                  | 28'-8"    | 24'-3"       | #1        | 30'-3"    | 25'-6"       |
| #2                  | 26'-8"    | 23'-2"       | #2        | 28'-3"    | 23'-2"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 36'-0"    | 33'-0"       | SEL. STR. | 37'-6"    | 34'-6"       |
| #1                  | 31'-8"    | 26'-6"       | #1        | 34'-2"    | 27'-8"       |
| #2                  | 29'-6"    | 24'-3"       | #2        | 30'-6"    | 25'-4"       |

| SPRUCE - PINE - FIR |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 24'-0"    | 21'-3"       | SEL. STR. | 26'-9"    | 23'-0"       |
| #1                  | 21'-0"    | 16'-9"       | #1        | 22'-9"    | 17'-9"       |
| #2                  | 21'-0"    | 16'-9"       | #2        | 22'-9"    | 17'-9"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 29'-0"    | 24'-1"       | SEL. STR. | 30'-0"    | 25'-3"       |
| #1                  | 24'-1"    | 18'-9"       | #1        | 25'-3"    | 19'-9"       |
| #2                  | 21'-1"    | 18'-9"       | #2        | 25'-3"    | 19'-9"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 32'-0"    | 26'-9"       | SEL. STR. | 33'-0"    | 27'-9"       |
| #1                  | 27'-0"    | 20'-8"       | #1        | 28'-0"    | 21'-8"       |
| #2                  | 27'-0"    | 20'-8"       | #2        | 28'-0"    | 21'-8"       |

| HEM - FIR |           |              |           |           |              |
|-----------|-----------|--------------|-----------|-----------|--------------|
| 16"       | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 25'-0"    | 25'-0"       | SEL. STR. | 27'-4"    | 26'-6"       |
| #1        | 24'-3"    | 20'-0"       | #1        | 26'-0"    | 21'-3"       |
| #2        | 23'-0"    | 18'-0"       | #2        | 24'-7"    | 19'-5"       |
| 20"       | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 29'-6"    | 28'-2"       | SEL. STR. | 31'-7"    | 29'-7"       |
| #1        | 27'-4"    | 22'-7"       | #1        | 29'-0"    | 24'-0"       |
| #2        | 26'-0"    | 20'-5"       | #2        | 27'-4"    | 21'-4"       |
| 24"       | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 33'-8"    | 31'-2"       | SEL. STR. | 35'-1"    | 32'-7"       |
| #1        | 30'-3"    | 25'-0"       | #1        | 31'-6"    | 26'-6"       |
| #2        | 28'-8"    | 22'-8"       | #2        | 30'-0"    | 23'-7"       |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

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struction" (NDS®) of the American Forest & Paper Association (AFPA).

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the bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>o</sub> in NDS®.

**FOOTNOTES**

1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

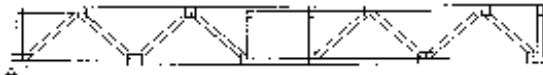
2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

A  
B  
C  
D  
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# WTCA REPRESENTATIVE FLOOR TRUSS SPANS

| DESIGN CRITERIA |          |
|-----------------|----------|
| TOP CHORD LIVE  | = 40 PSF |
| TOP CHORD DEAD  | = 10 PSF |
| BTM CHORD LIVE  | = 0 PSF  |
| BTM CHORD DEAD  | = 5 PSF  |



|         |                 |
|---------|-----------------|
| SPACING | <b>24"</b> o.c. |
| LDI     | <b>55</b>       |
|         | PSF             |

| SOUTHERN PINE |           |              |          |           |              |
|---------------|-----------|--------------|----------|-----------|--------------|
| 16"           | TOP CHORD | BOTTOM CHORD | 18"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 24'-0"    | 21'-4"       | #1 DENSE | 26'-2"    | 23'-0"       |
| #1            | 23'-9"    | 20'-9"       | #1       | 25'-9"    | 22'-0"       |
| #2            | 23'-6"    | 18'-2"       | #2       | 25'-2"    | 19'-2"       |
| 20"           | TOP CHORD | BOTTOM CHORD | 22"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 28'-2"    | 24'-2"       | #1 DENSE | 30'-0"    | 25'-3"       |
| #1            | 27'-9"    | 23'-3"       | #1       | 29'-9"    | 24'-9"       |
| #2            | 26'-4"    | 20'-6"       | #2       | 28'-1"    | 22'-0"       |
| 24"           | TOP CHORD | BOTTOM CHORD | 26"      | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 32'-2"    | 26'-3"       | #1 DENSE | 33'-9"    | 28'-0"       |
| #1            | 31'-9"    | 25'-9"       | #1       | 33'-0"    | 27'-11"      |
| #2            | 29'-3"    | 23'-0"       | #2       | 31'-0"    | 24'-0"       |

| DOUGLAS FIR - LARCH |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 26'-9"    | 25'-2"       | SEL. STR. | 29'-2"    | 27'-1"       |
| #1                  | 24'-0"    | 20'-3"       | #1        | 25'-6"    | 21'-9"       |
| #2                  | 23'-0"    | 18'-8"       | #2        | 23'-5"    | 19'-9"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 30'-9"    | 28'-7"       | SEL. STR. | 32'-5"    | 30'-0"       |
| #1                  | 27'-0"    | 23'-0"       | #1        | 28'-4"    | 24'-3"       |
| #2                  | 25'-0"    | 21'-0"       | #2        | 26'-2"    | 22'-0"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 34'-0"    | 31'-6"       | SEL. STR. | 35'-4"    | 33'-9"       |
| #1                  | 30'-9"    | 25'-4"       | #1        | 31'-1"    | 26'-4"       |
| #2                  | 27'-4"    | 23'-2"       | #2        | 28'-6"    | 24'-2"       |

| SPRUCE - PINE - FIR |           |              |           |           |              |
|---------------------|-----------|--------------|-----------|-----------|--------------|
| 16"                 | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 24'-11"   | 20'-2"       | SEL. STR. | 25'-9"    | 21'-8"       |
| #1                  | 20'-0"    | 16'-0"       | #1        | 21'-3"    | 17'-0"       |
| #2                  | 20'-0"    | 16'-0"       | #2        | 21'-2"    | 17'-0"       |
| 20"                 | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 27'-0"    | 23'-0"       | SEL. STR. | 28'-6"    | 24'-3"       |
| #1                  | 23'-0"    | 18'-0"       | #1        | 24'-0"    | 19'-0"       |
| #2                  | 23'-0"    | 18'-0"       | #2        | 24'-0"    | 19'-0"       |
| 24"                 | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 30'-0"    | 25'-3"       | SEL. STR. | 31'-3"    | 26'-3"       |
| #1                  | 25'-0"    | 20'-0"       | #1        | 26'-0"    | 21'-4"       |
| #2                  | 25'-0"    | 20'-0"       | #2        | 26'-0"    | 21'-4"       |

| HEM - FIR |           |              |           |           |              |
|-----------|-----------|--------------|-----------|-----------|--------------|
| 16"       | TOP CHORD | BOTTOM CHORD | 18"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 25'-0"    | 24'-0"       | SEL. STR. | 27'-0"    | 25'-3"       |
| #1        | 22'-9"    | 19'-0"       | #1        | 24'-1"    | 20'-3"       |
| #2        | 21'-4"    | 17'-2"       | #2        | 23'-0"    | 18'-4"       |
| 20"       | TOP CHORD | BOTTOM CHORD | 22"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 28'-8"    | 27'-0"       | SEL. STR. | 30'-2"    | 28'-4"       |
| #1        | 25'-9"    | 21'-7"       | #1        | 27'-0"    | 22'-7"       |
| #2        | 24'-2"    | 19'-7"       | #2        | 25'-4"    | 20'-7"       |
| 24"       | TOP CHORD | BOTTOM CHORD | 26"       | TOP CHORD | BOTTOM CHORD |
| SEL. STR. | 31'-7"    | 29'-9"       | SEL. STR. | 33'-0"    | 31'-0"       |
| #1        | 28'-2"    | 24'-0"       | #1        | 30'-6"    | 24'-9"       |
| #2        | 26'-7"    | 21'-4"       | #2        | 28'-0"    | 22'-4"       |

**GENERAL NOTES**

Truss spans shown are examples of truss spans for the loadings and truss configurations shown. The tables are not intended to be used for design purposes or specific projects.

Spans have been determined in accordance with the "National Design Standard for Metal Plate Connected Wood Truss Construction," (ANSI/TPI 1-1995) of the Truss Plate Institute (TPI), and the 1991 edition of the "National Design Specification® for Wood Con-

struction" (NDS®) of the American Forest & Paper Association (AFPA).

Tables shown are not intended to limit trusses to these loads, lumber, shapes and configurations. See your WTCA member truss manufacturer for actual truss designs and solutions to custom profiles. Some representative spans for the configurations shown may vary with each manufacturer.

Spans are given for 3/12, 4/12, and 5/12 roof pitches (Y). For scissors trusses (sloped bottom chords),

the bottom chord pitch is one half of the top chord (Y/2). Spruce-Pine-Fir spans are taken from Canadian SPF design values.

These representative spans have been reviewed by TPI and WTCA engineers. LDI = Load Duration Increase, also known as C<sub>9</sub> in NDS®.

**FOOTNOTES**

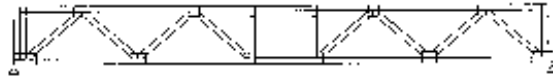
1. Representative spans shown assume that the moisture content of the lumber does not exceed 19% at time of manufacture and during end use.

2. Representative span for this lumber species and grade has been limited to the representative truss span that can be achieved by the lumber grades provided in this table.

3. Representative span for this lumber grade has been limited by the maximum bottom chord panel length based on applying a 200 lb. concentrated load to represent a construction worker standing on the bottom chord.

# WTCA REPRESENTATIVE FLOOR TRUSS SPANS

| DESIGN CRITERIA |        |
|-----------------|--------|
| TOP CHORD LIVE  | 40 PSF |
| TOP CHORD DEAD  | 10 PSF |
| BTM CHORD LIVE  | 0 PSF  |
| BTM CHORD DEAD  | 10 PSF |



|         |        |    |
|---------|--------|----|
| SPACING | 24" PS | 60 |
| LDI     | 0%     |    |

| SOUTHERN PINE |           |              |            |           |              |
|---------------|-----------|--------------|------------|-----------|--------------|
| <b>16"</b>    | TOP CHORD | BOTTOM CHORD | <b>18"</b> | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 24'-0"    | 19'-6"       | #1 DENSE   | 26'-0"    | 21'-0"       |
| #1            | 23'-6"    | 18'-9"       | #1         | 25'-8"    | 19'-9"       |
| #2            | 22'-4"    | 16'-4"       | #2         | 24'-0"    | 17'-1"       |
| <b>20"</b>    | TOP CHORD | BOTTOM CHORD | <b>22"</b> | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 24'-0"    | 22'-0"       | #1 DENSE   | 29'-2"    | 21'-2"       |
| #1            | 27'-6"    | 20'-9"       | #1         | 28'-9"    | 22'-2"       |
| #2            | 25'-4"    | 18'-4"       | #2         | 27'-0"    | 19'-4"       |
| <b>24"</b>    | TOP CHORD | BOTTOM CHORD | <b>26"</b> | TOP CHORD | BOTTOM CHORD |
| #1 DENSE      | 30'-9"    | 24'-4"       | #1 DENSE   | 32'-0"    | 25'-2"       |
| #1            | 30'-0"    | 23'-6"       | #1         | 31'-6"    | 24'-9"       |
| #2            | 28'-0"    | 20'-4"       | #2         | 29'-0"    | 21'-6"       |

| DOUGLAS FIR - LARCH |           |              |            |           |              |
|---------------------|-----------|--------------|------------|-----------|--------------|
| <b>16"</b>          | TOP CHORD | BOTTOM CHORD | <b>18"</b> | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 26'-0"    | 23'-0"       | SEL. STR.  | 27'-6"    | 21'-6"       |
| #1                  | 23'-0"    | 18'-4"       | #1         | 24'-4"    | 19'-6"       |
| #2                  | 21'-0"    | 16'-8"       | #2         | 22'-5"    | 17'-8"       |
| <b>20"</b>          | TOP CHORD | BOTTOM CHORD | <b>22"</b> | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 29'-4"    | 26'-2"       | SEL. STR.  | 31'-0"    | 27'-6"       |
| #1                  | 25'-8"    | 20'-6"       | #1         | 27'-2"    | 21'-9"       |
| #2                  | 24'-0"    | 18'-9"       | #2         | 25'-0"    | 19'-9"       |
| <b>24"</b>          | TOP CHORD | BOTTOM CHORD | <b>26"</b> | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 32'-4"    | 29'-0"       | SEL. STR.  | 34'-0"    | 30'-0"       |
| #1                  | 28'-4"    | 23'-0"       | #1         | 29'-9"    | 24'-0"       |
| #2                  | 26'-3"    | 20'-9"       | #2         | 27'-5"    | 21'-6"       |

| SPRUCE - PINE - FIR |           |              |            |           |              |
|---------------------|-----------|--------------|------------|-----------|--------------|
| <b>16"</b>          | TOP CHORD | BOTTOM CHORD | <b>18"</b> | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 23'-0"    | 18'-8"       | SEL. STR.  | 24'-6"    | 20'-0"       |
| #1                  | 19'-2"    | 14'-3"       | #1         | 20'-6"    | 15'-3"       |
| #2                  | 19'-2"    | 14'-3"       | #2         | 20'-6"    | 15'-3"       |
| <b>20"</b>          | TOP CHORD | BOTTOM CHORD | <b>22"</b> | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 16'-0"    | 21'-0"       | SEL. STR.  | 27'-2"    | 22'-3"       |
| #1                  | 22'-0"    | 16'-1"       | #1         | 23'-2"    | 17'-0"       |
| #2                  | 22'-0"    | 16'-1"       | #2         | 23'-2"    | 17'-0"       |
| <b>24"</b>          | TOP CHORD | BOTTOM CHORD | <b>26"</b> | TOP CHORD | BOTTOM CHORD |
| SEL. STR.           | 29'-0"    | 23'-4"       | SEL. STR.  | 30'-0"    | 24'-3"       |
| #1                  | 24'-1"    | 17'-9"       | #1         | 25'-0"    | 18'-3"       |
| #2                  | 24'-1"    | 17'-9"       | #2         | 25'-0"    | 18'-3"       |

| HEM - FIR  |           |              |            |           |              |
|------------|-----------|--------------|------------|-----------|--------------|
| <b>16"</b> | TOP CHORD | BOTTOM CHORD | <b>18"</b> | TOP CHORD | BOTTOM CHORD |
| SEL. STR.  | 24'-3"    | 22'-0"       | SEL. STR.  | 26'-0"    | 23'-3"       |
| #1         | 21'-9"    | 17'-0"       | #1         | 23'-0"    | 18'-2"       |
| #2         | 20'-7"    | 15'-3"       | #2         | 22'-0"    | 16'-2"       |
| <b>20"</b> | TOP CHORD | BOTTOM CHORD | <b>22"</b> | TOP CHORD | BOTTOM CHORD |
| SEL. STR.  | 27'-4"    | 24'-9"       | SEL. STR.  | 29'-0"    | 26'-0"       |
| #1         | 24'-6"    | 19'-4"       | #1         | 26'-0"    | 20'-4"       |
| #2         | 23'-2"    | 17'-3"       | #2         | 24'-3"    | 18'-2"       |
| <b>24"</b> | TOP CHORD | BOTTOM CHORD | <b>26"</b> | TOP CHORD | BOTTOM CHORD |
| SEL. STR.  | 30'-3"    | 27'-4"       | SEL. STR.  | 31'-8"    | 28'-6"       |
| #1         | 27'-0"    | 21'-4"       | #1         | 28'-3"    | 22'-3"       |
| #2         | 25'-8"    | 19'-2"       | #2         | 26'-9"    | 20'-0"       |

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A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
INDEX