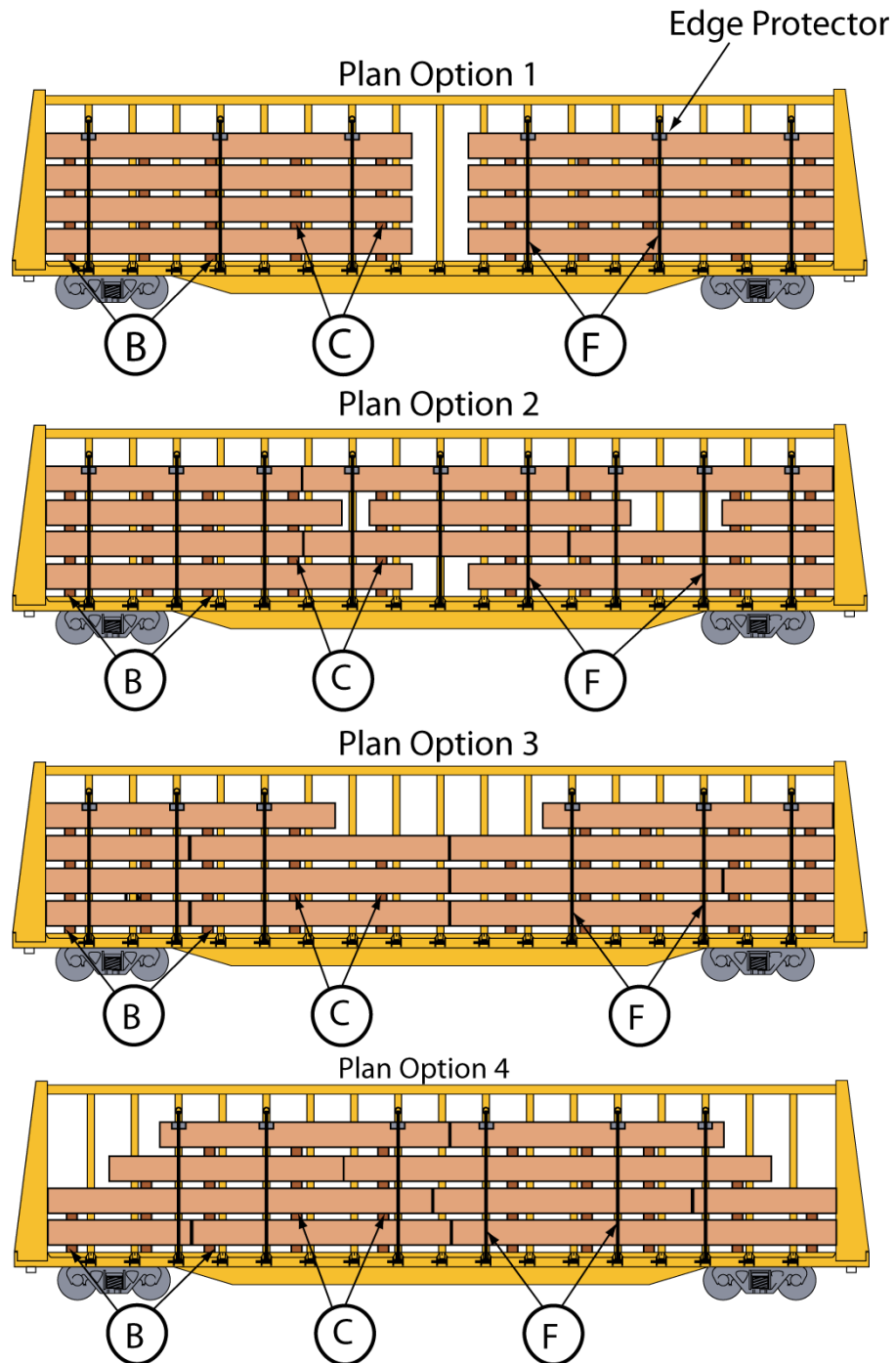


ENGINEERED-WOOD PRODUCTS, LVL, PSL AND LSL STRUCTURAL BEAMS
AND I-JOISTS, PACKAGED—BULKHEAD CENTER A-FRAME FLATCARS,
WITH CABLE OR WEB TIE-DOWNS

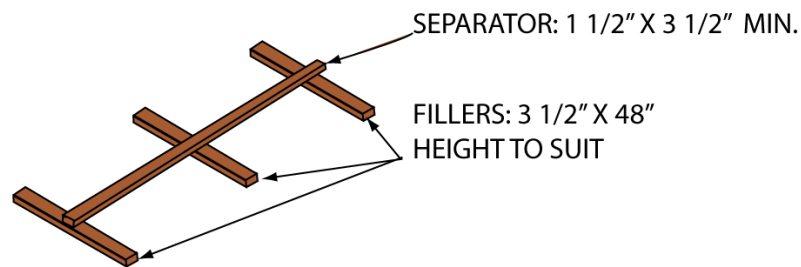
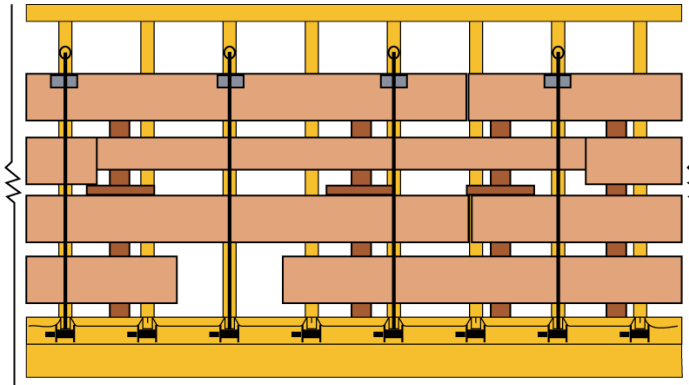
RAC 15113
New 02-2020



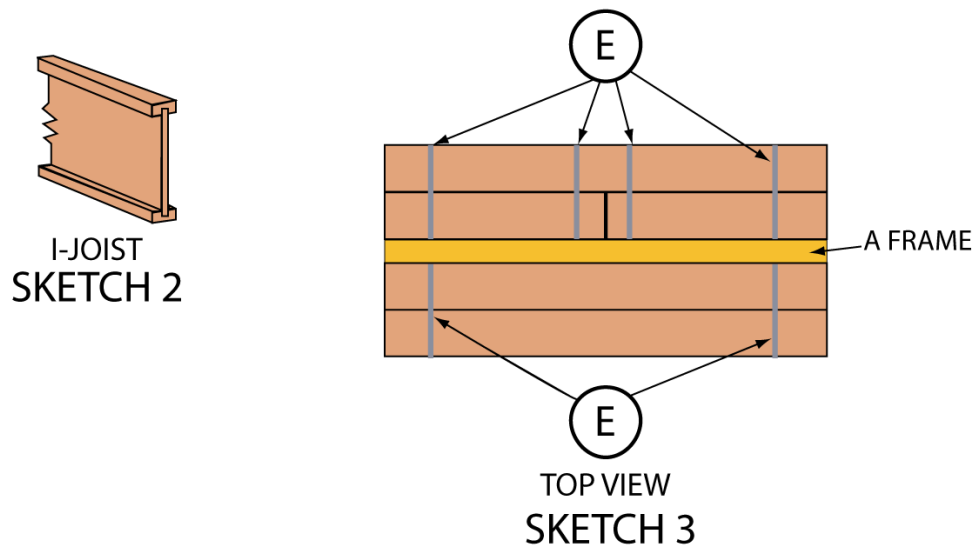
ENGINEERED-WOOD PRODUCTS, LVL, PSL AND LSL STRUCTURAL BEAMS
AND I-JOISTS, PACKAGED—BULKHEAD CENTER A-FRAME FLATCARS,
WITH CABLE OR WEB TIE-DOWNS

RAC 15113 (Continued)

New 02-2020



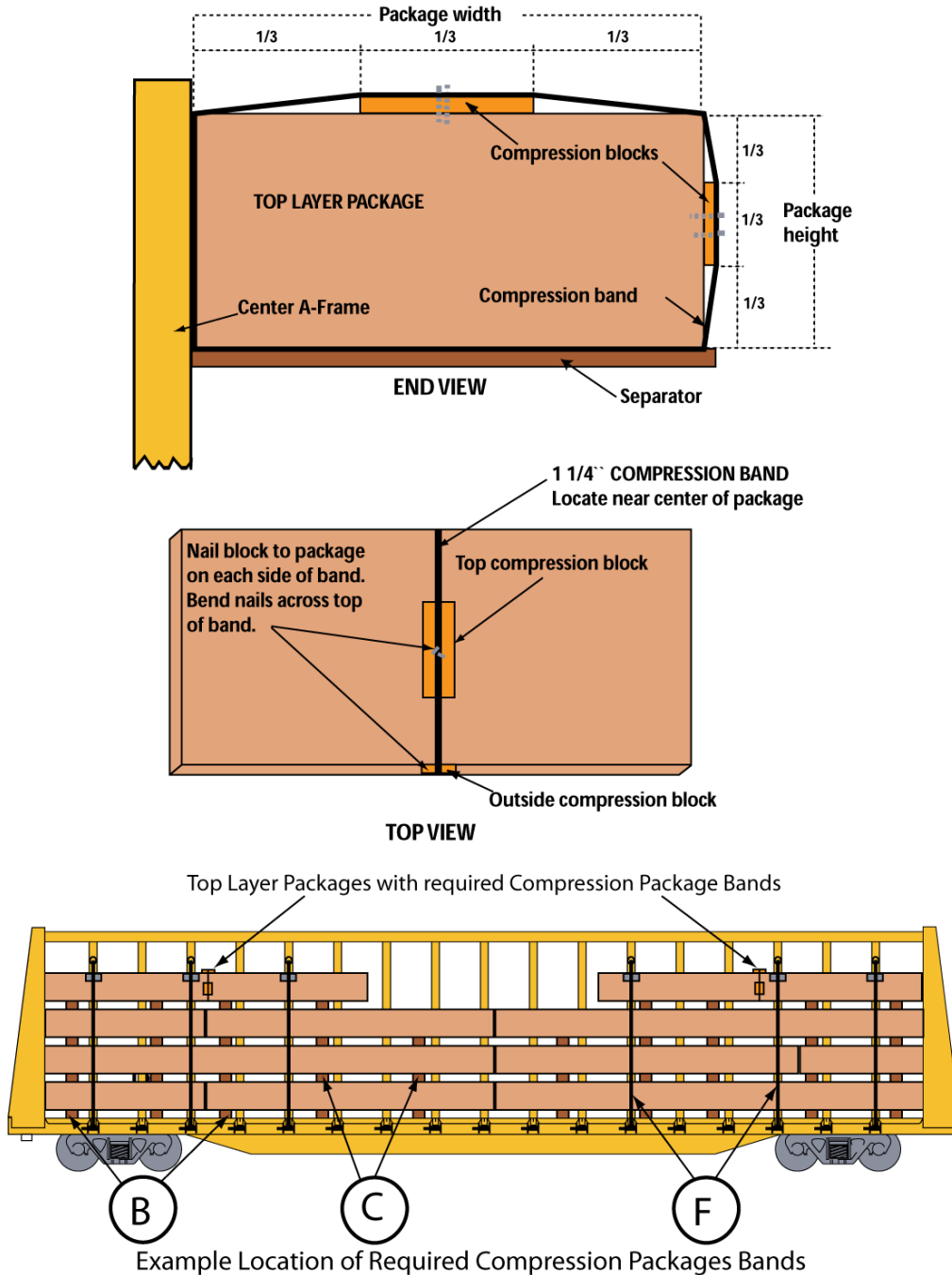
FILLERS
SKETCH 1



ENGINEERED-WOOD PRODUCTS, LVL, PSL AND LSL STRUCTURAL BEAMS
AND I-JOISTS, PACKAGED—BULKHEAD CENTER A-FRAME FLATCARS,
WITH CABLE OR WEB TIE-DOWNS

RAC 15113 (Continued)

New 02-2020



SKETCH 4

ENGINEERED-WOOD PRODUCTS, LVL, PSL AND LSL STRUCTURAL BEAMS
AND I-JOISTS, PACKAGED—BULKHEAD CENTER A-FRAME FLATCARS,
WITH CABLE OR WEB TIE-DOWNS

RAC 15113 (Continued)
New 02-2020

Item	No. of Pcs.	Description
A		Vacant
B	2 per package	Bearing pieces: cars are equipped with permanent floor bearing pieces wedged at 90° to A-frame.
Alt B	Minimum 2 per package 8 ft long or less. Add 1 for each additional 4 ft.	For cars not equipped with permanent bearing pieces Bearing pieces: lumber, 1 1/2 in. × 3 1/2 in. minimum, of one piece and preferably rough. Width must be at least 1 in greater than height and the length equal to width of bottom package. Laminated material may be used if AAR approved. Locate approximately 18 in. from each end of package with remaining pieces equally spaced.
C	2 per package 16 ft long. Add 1 for each 10 ft or less	Separators: lumber, 1 1/2 in. × 3 1/2 in. minimum. Width to be 1 in. greater than height. Length must be equal to width of packages. Laminated material may be used if AAR approved. When side-by-side packages are not of equal height, it will be necessary to apply a minimum of three fillers to ensure that separators are on a level plane. Fillers are to be 3 1/2 in. wide by 48 in. long, height to suit. Secure each to separators with two 16-D nails. See SKETCH 1. (Use of separators optional.)
D	2 per package 40 ft long or less. Add 1 additional for packages over 40 ft long.	I-joist. See SKETCH 2. Package bands: 3/4 in. × .020 in. high tension, on I-joists in packages up to 49 1/2 in. wide by 24 in. high. May be substituted with approved 5/8 in. × .040 in. polyester strapping per Section 1, General Rule 19. On packages of I-joists over 49 1/2 in. wide and/or 24 in. high, 1 1/4 in. × .029 in. high tension bands must be used. May be substituted with approved non-metallic strapping as permitted in Section 1, General Rule 19.

ENGINEERED-WOOD PRODUCTS, LVL, PSL AND LSL STRUCTURAL BEAMS
AND I-JOISTS, PACKAGED—BULKHEAD CENTER A-FRAME FLATCARS,
WITH CABLE OR WEB TIE-DOWNS

RAC 15113 (Continued)
New 02-2020

Item	No. of Pcs.	Description
D	2 per package 20 ft long or less. Add 1 for each additional 10 ft up to maximum of 5 per package up to 60 ft. Add 1 for each additional 20 ft or less over 60 ft long.	Veneer Lumber or (Solid) Beams in Packages Up to 49 1/2 in. Wide and Up to 16 in. High Package bands: 3/4 in. × .022 in. high tension, on any laminated veneer lumber or beams other than I-beams. May be substituted with approved 5/8 in. × .040 in. polyester strapping per Section 1, General Rule 19. May be substituted with approved non-metallic strapping as permitted in Section 1, General Rule 19.
D	2 per package 40 ft long or less. Add 1 additional for packages over 40 ft long.	Veneer Lumber or (Solid) Beams in Packages Over 49 1/2 in. Wide and/or Over 16 in. High Package bands: 1 1/4 in. × .029 in. high tension, on any laminated veneer lumber or beams, other than I-joists. Must be used on packages over 49 1/2 in. wide and/or over 16 in. high. May be substituted with approved non-metallic strapping as permitted in Section 1, General Rule 19.
E	As required. 2 per each package 18 ft long. Add 1 for each additional 20 ft long or less.	Layer encircling bands: 1 1/4 in. × .029 in. high tension bands. When various length packages are contained in a layer, the shorter packages must be banded to the longer length packages. When a layer consists of three or more side-by-side packages, it will only be necessary to band the two outside rows. On packages 18 ft long or less, locate bands approximately 4 ft in from each end of package. Locate others when needed, equally spaced. See SKETCH 3. May be substituted with approved non-metallic strapping as permitted in Section 1, General Rule 19.

ENGINEERED-WOOD PRODUCTS, LVL, PSL AND LSL STRUCTURAL BEAMS
AND I-JOISTS, PACKAGED—BULKHEAD CENTER A-FRAME FLATCARS,
WITH CABLE OR WEB TIE-DOWNS

RAC 15113 (Continued)
New 02-2020

Item	No. of Pcs.	Description
F	3 per each top package	Cables: 3/8 in. diameter, 8,800 lb. minimum breaking strength. Cable assemblies must be equipped with edge protectors. Winch assemblies must be equipped with a device to maintain tension. Prior to tightening, there must be a minimum of 2 1/2 wraps of cable around the winch drum. When practical, all cables must be used and must be free of kinks and tangles. Tension to be applied with an 18 in. bar or 3/4 in. ratchet. Cables are to be secured to A-frame in slot nearest to top of package.

Notes and Additional Requirements:

1. For the purposes of this figure, engineered-wood products include LVL (laminated veneer lumber), PSL (parallel-strand lumber), and LSL (laminated-strand lumber). Where veneer lumber is referred to, this includes LVL, PSL, and LSL product.
2. Package must be placed tight against the A-frame to prevent loosening of cables
3. Voids, if any, must be in center of load whenever possible and kept to a minimum (see **PLAN OPTION 1 AND 3**). Layers differing in combined length resulting in longitudinal void space, are to be configured so as to locate layers with the greatest void at the top of the load and descending in void length toward the bottom.
4. Top packages on either side of a void space greater than 4 ft must be protected with the following method to prevent package coring.

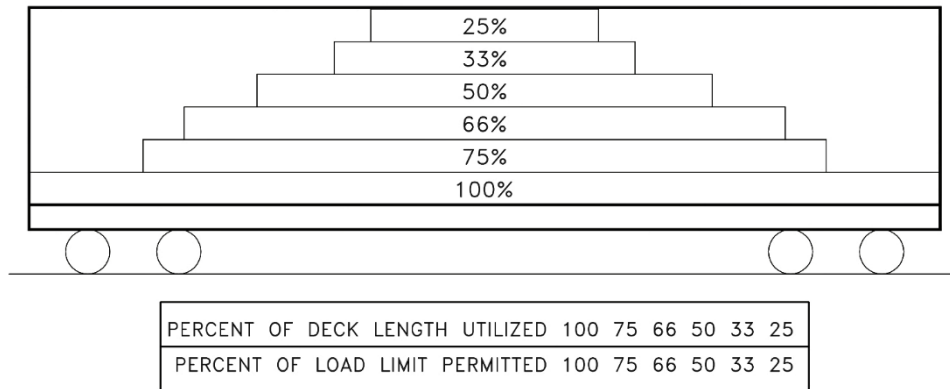
Compression package band: 1 1/4 in. × .029 in. high tension band. Apply one band to top packages on either side of a void space greater than 4 ft. Locate near the center of the package as shown in **SKETCH 4**. In accordance with **SKETCH 4**, apply two compression blocks, one on top of the package and one on the side of the package facing away from the centerbeam. Blocks are to be lumber, minimum 2 in. x 4 in., length equal to about 1/3 the width of the surface to which they are to be applied. Position each block centrally across the package surface as shown. Secure each block with a minimum of two nails. The nail length must be sufficient to penetrate package material at least 1 in. and have about 3/4 in. remaining above the block. Encircle the package with the band, placing it over both blocks, then bend the nail heads over the band as shown. (**SKETCH 4**)

ENGINEERED-WOOD PRODUCTS, LVL, PSL AND LSL STRUCTURAL BEAMS
AND I-JOISTS, PACKAGED—BULKHEAD CENTER A-FRAME FLATCARS,
WITH CABLE OR WEB TIE-DOWNS

RAC 15113 (Continued)

New 02-2020

5. When package lengths do not permit combining of packages end to end in a layer (see **PLAN OPTION 4**), packages may be centered on the car provided the weight distribution table contained in Section General Rule 3 Rule 3.5.2, is followed.



6. Package or packages in a layer may overhang end of package or packages in the layer below by a maximum of 3 ft at each end of load. No package in any layer is to overhang end packages in the bottom layer by more than 3 ft. When possible, longer packages must be located in bottom portion of load and end overhangs kept to a minimum. (see main drawing)
7. Bridging of voids is allowed with the following restrictions. Total of all voids in any single layer is restricted to 14 ft. long by 32 in. high with a maximum void in any layer to be no greater than 9 ft. long by 32 in. high. Packages on each side of void must be at least 2 ft. longer than the length of void. Packages bridging the void must span a minimum distance past each end of the void, such that the full length of the bridging package cannot shift to be unsupported in either direction over the void. (see **PLAN OPTION 2**).
8. Maximum Side Overhang of package or packages in a layer restricted to no more than one half the width of the outside board with a maximum allowed overhang of 6 in. No package in the bottom or any layer may exceed the outside edge of bearing pieces by more than 1 in.
9. A layer may be no more than 6 in. narrower per side than the layer immediately below with the exception of the top layer which may be 24 in. narrower per side than the layer immediately below.

ENGINEERED-WOOD PRODUCTS, LVL, PSL AND LSL STRUCTURAL
BEAMS AND I-JOISTS, PACKAGED—BULKHEAD CENTER A-FRAME
FLATCARS, WITH CABLE OR WEB TIE-DOWNS

RAC 15113 (Concluded)

New 02-2020

10. Package height must not exceed package width. The maximum package height variance in a single layer must not exceed 3 in. except in the top layer.
11. Package height must not exceed package width. The maximum package height variance in a single layer must not exceed 3 in. except in the top layer.
12. All packages must be a minimum of 12 in. wide.
13. Narrowest packages must be located to the inside of load when the layer on one side of the A frame consists of more than one package widthwise.
14. Dunnage, attached or otherwise, must not be placed on top of permanent floor risers or bearing pieces.
15. Height of load must not exceed height of A-frame.
16. Where the use of lumber is referred to in this figure, it may be substituted with AAR-approved laminated material per Section 1, General Rule 11.6. Material used for bearing pieces, separators, vertical stabilizers, or guide rails, whether laminated or solid lumber, must not be coated.
17. I-joists in a single package must be limited to one layer high within the package.
18. Load weight distribution must be in accordance with AAR General Rule 3.5.2 indicating the percentage of deck length utilized versus correspondent permissible percentage of load limit for that length, see table below.

Allowable load limit on reduced deck length utilized

<i>Percent of deck length utilized</i>	<i>100</i>	<i>75</i>	<i>50</i>	<i>25</i>
<i>Percent of load limit permitted</i>	<i>100</i>	<i>75</i>	<i>50</i>	<i>25</i>

Reference the General Rules in Section 1 of the Open Top Loading Rules Manual for additional details.