Fig. 124-A (Concluded)
(New 01/13)

PIPE, STEEL, COATED OR UNCOATED, 24 IN. OD OR LESS, 40 FT TO 61 FT LONG—GONDOLAS

Item	No. of Pcs.	Description
C	3 per pile.	Bearing pieces: Minimum 2 in. × 4 in. lumber. Length must be approximately equal to width of car, but not less than width of load. Space suitably under each pile.
D	See Table 2.	Stakes ties: AAR-approved Type 1A Grade 6 polyester strapping. Place one tie close to top of car side and one across top of load. Intermediate ties required should be equally spaced between top and bottom ties. No substitution allowed.

Table 2.

	Pile Height Above Car Sides		
	2 ft or less	**Over 2 ft to 4 ft**	**Over 4 ft**
Number of Stake Ties	2 ties*	3 ties	4 ties as space permits

Note: *On loads 18 in. or less above car sides, space ties not less than 18 in. apart.

E_1	Sketch 1	Unitizing bands: AAR-approved Type 1A Grade 6 polyester strapping. Locate as far from bearing pieces and stakes as possible. Locate bands as illustrated in Sketch 1. No substitution allowed. See Table 3.

Table 3.

	Layers 1 to 10	Layers 1 to top load	Layers 5 to top load	Layers 5 to 12
Number of Bands	2 bands	2 bands	6 bands	2 bands

E_2	Sketch 2	Unitizing bands: AAR-approved Type 1A Grade 6 polyester strapping. Locate as far from bearing pieces and stakes as possible. Locate bands as illustrated in Sketch 2. No substitution allowed. See Table 4.

Table 4.

	Layers 1 to 4	Layers 1 to top load	Layers 3 to top load
Number of Bands	4 bands	4 bands	4 bands

F	Minimum 2 for each nested layer above top of car.	Friction mats: Transmat 2 mm rebonded 18 in. minimum × 10 ft. Place from one side of car to opposite side spaced evenly.
G	1 per side stake pair in any layer where the band is threaded. See Table 1.	Separators: horizontal, 2 in. × 4 in. lumber. Maximum length must not exceed width of car. Minimum length equal to width of load.

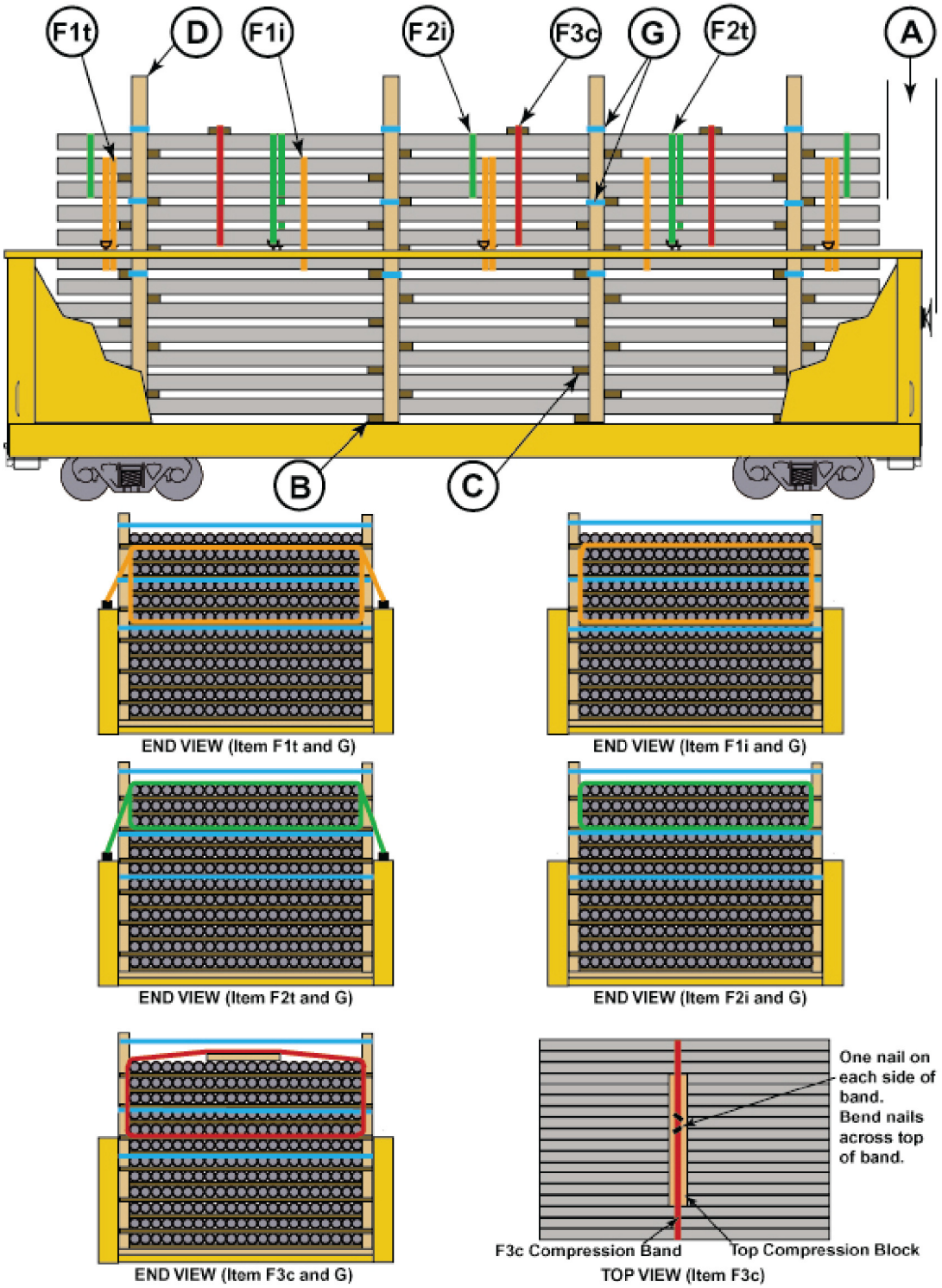
Notes and Additional Requirements:

1. Height of load above car floor must not exceed 10 ft.
2. Load each alternate layer of pipe below sides of car as close as possible to opposite end walls. Two adjacent layers are permitted for use when loading at each end wall. See loading sketches.
3. Loads not exceeding the top of car sides/ends require eight unitizing bands when pipe is staggered per Note 2.
4. Center from end-to-end all layers above sides of car, with a minimum void of 24 in. from each end of the car.
5. Pipe under 12 ft long must be loaded below top of car sides.
6. Pipe located on the outside of pile must contact all stakes used on that pile.
7. Suitable nesting, blocking, or securement must be used to fill in crosswise voids.
8. In layers below the top of car side, no more than 30% of the length of the pipe in the layer should extend beyond the end of the next layer below.
9. Small-diameter pipe may be loaded inside larger-diameter pipe, only in layers below top of car sides.

Reference the General Rules in Section No. 1 of the *Open Top Loading Rules Manual* for additional details.

Fig. 124-B
(New 02/14)

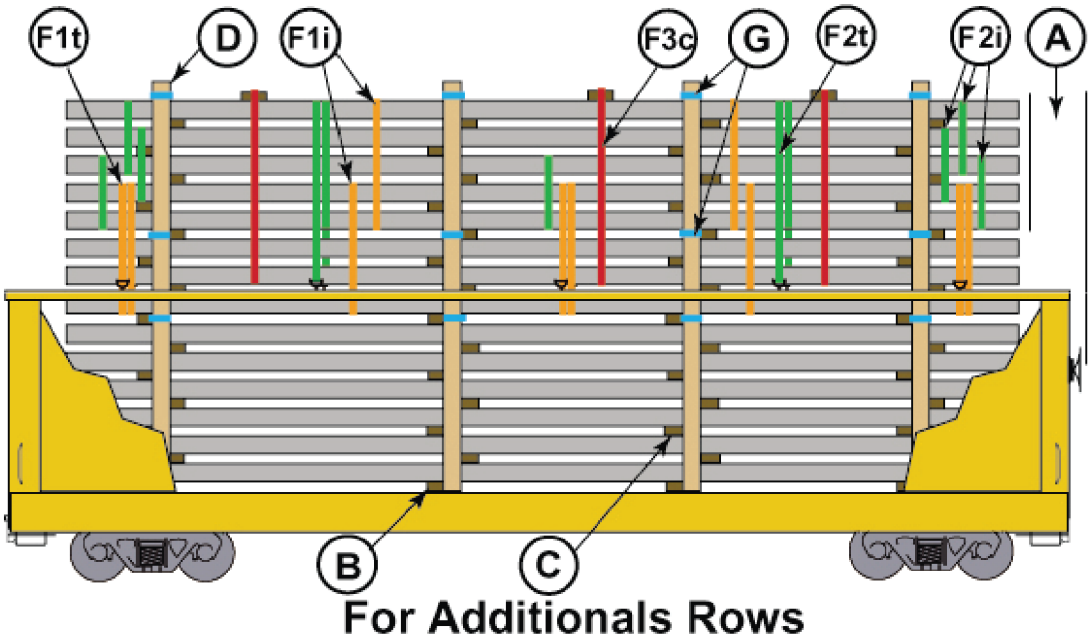
PIPE, STEEL, 26 IN. OD OR LESS, MAXIMUM 48 FT MIXED DIAMETERS, SECURED WITH NON-METALLIC STRAPPING—52-FT GONDOLAS

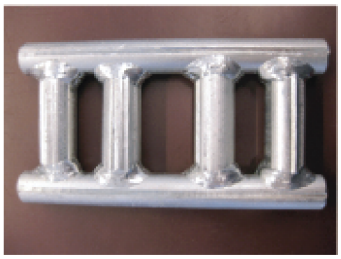


IMPLEMENTED 02/2014

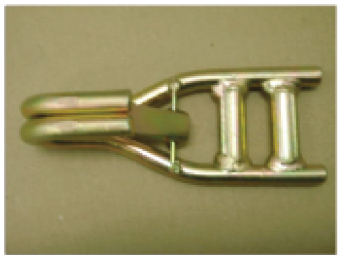
Fig. 124-B (Continued)
(New 02/14)

PIPE, STEEL, 26 IN. OD OR LESS, MAXIMUM 48 FT MIXED DIAMETERS, SECURED WITH NON-METALLIC STRAPPING—52-FT GONDOLAS





LADDER BUCKLE



HOOK

Item	No. of Pcs.	Description
A		Brake wheel clearance: see General Rule 2 in Section 1.
B	3 per pile.	Bearing pieces: 2 in. × 4 in. lumber. Length must be approximately equal to width of car, but not less than width of load. Space suitably under load.
C	3 per pile.	Separators: lumber, minimum 2 in. × 4 in., width must be at least 1 in. greater than height. Length equal to width of load plus width of side stakes.
D	3 pair per pile 34 ft long or less, 3 ft 6 in. or less above car side. 4 pair per pile over 34 ft long, 3 ft 6 in. or less above car side.	Side stakes: lumber. Stakes must be of sufficient length to allow for placement of stake ties, Item G, across top of load. Stakes should be equally spaced. Locate end stakes approximately 3 ft from ends of pipe contacting the stakes. Fill space between stakes and car side of stakes and load by nailing or securing fillers to stakes.

IMPLEMENTED 02/2014

Fig. 124-B (Concluded)
(New 02/14)

PIPE, STEEL, 26 IN. OD OR LESS, MAXIMUM 48 FT MIXED DIAMETERS, SECURED WITH NON-METALLIC STRAPPING—52-FT GONDOLAS

Item	No. of Pcs.	Description
E1t F1i	3 F1t and 2 F1i per pile over 34 ft long, over 3 ft 6 in. above car sides.	Interlacing bands: approved Type 1A, grade 6 polyester bands with an MBS of 7,700 lb. Place under sixth row and back across the second row of the load and secure the three Items F1t to the hooks on each side of car, and tie the two Items F1i on top of second row with buckle. Strapping must be tensioned with the proper tensioning tool and sealed with the appropriate ladder buckle in accordance with manufacturer's recommendations. See End Views (Item F1t and G) and (Item F1i and G). **Note: F1t = F1 securement bands and F1i = F1 interlacing bands—do not substitute**
F2t F2i	2 F2t and 3 F2i per pile over 34 ft long, over 3 ft 6 in. above car sides.	Interlacing bands: approved Type 1A, grade 6 polyester bands with an MBS of 7,700 lb. Place under third row and back across the top row of the load and secure the two Items F2t to the hooks on each side of car, and tie the three Items F2i on top of upper row with buckle. Strapping must be tensioned with the proper tensioning tool and sealed with the appropriate ladder buckle in accordance with manufacturer's recommendations. See End Views (Item F2t and G) and (Item F2i and G). **Note: F2t = F2 securement bands and Ff2i = F2 interlacing bands—do not substitute**
F3c	3 with compression blocks.	Compression bands: approved Type 1A, grade 6 polyester bands with an MBS of 7,700 lb. Apply one compression block on top of the load. Blocks are to be lumber, minimum 2 in. × 4 in., length equal to one third the width of the surface to which they are to be applied. Position each block centrally across the load surface as shown. Encircle last five layers of pipe with the band, tying it over the block with buckle. Strapping must be tensioned with the proper tensioning tool and sealed with the appropriate ladder buckle in accordance with manufacturer's recommendations. To prevent band displacement, nail one nail on each side of band. Bend nails across top of band. See End View (Item F3c and G). **Note: F3c = F3 compression bands—do not substitute**
G	3 per pair of stakes.	Stake ties: approved Type 1A, grade 4 polyester bands with an MBS of 3,285 lb. Place one tie across top of load encircling both stakes. Strapping must be tensioned with the proper tensioning tool and sealed with the appropriate buckle in accordance with manufacturer's recommendations.

Notes and Additional Requirements:

1. Webbing at each end of load must be 8 ft from the end of the car.
2. All tie-down strapping should be as close as possible to separators.
3. To secure tie-down bands to D-ring, an approved AAR hook must be used in accordance with manufacturer's recommendations.
4. Height of load above car floor must not exceed 10 ft.
5. If the load extends 5 ft 6 in. above the car side or the load is 9 ft or higher above car floor, five pairs of stakes are required.
6. Pipe less than 12 ft long must be loaded below top of car sides.
7. Small-diameter pipe must not be loaded inside larger-diameter pipe, except when loaded below top of car sides.
8. This loading figure can be used with longer cars.

Reference the General Rules in Section No. 1 of the *Open Top Loading Rules Manual* for additional details.

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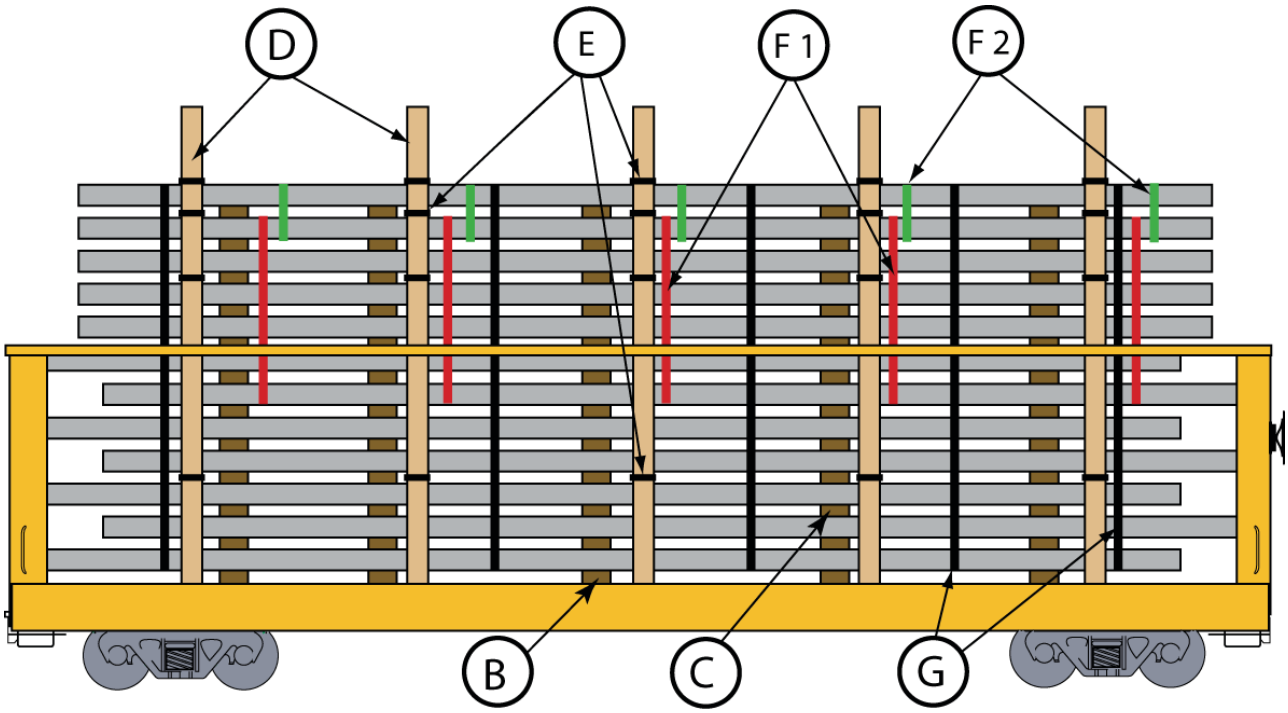
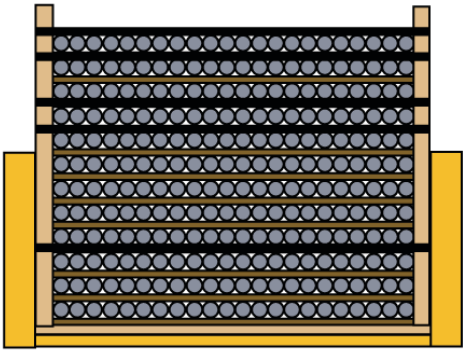
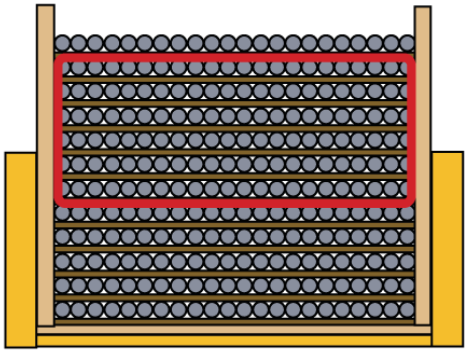
Fig. 124-C
(New 02/14)

PIPE, STEEL, 26 IN. MAXIMUM DIAMETER, UNIFORM OR MIXED LENGTHS AND DIAMETERS, SECURED WITH NON-METALLIC STRAPPING—GONDOLA CARS

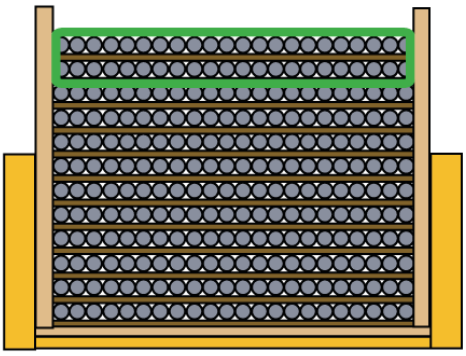




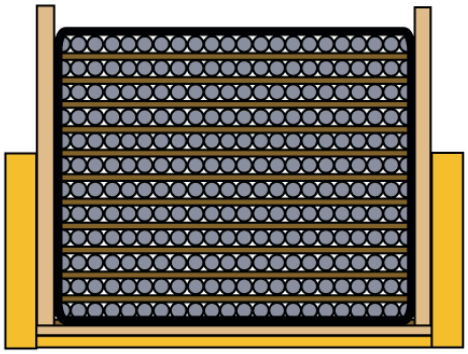
END VIEW (Item E)



END VIEW (Item F1)



END VIEW (Item F2)



END VIEW (Item G)

IMPLEMENTED 02/2014

Fig. 124-C (Concluded)
(New 02/14)

PIPE, STEEL, 26 IN. MAXIMUM DIAMETER, UNIFORM OR MIXED LENGTHS AND DIAMETERS, SECURED WITH NON-METALLIC STRAPPING—GONDOLA CARS

Item	No. of Pcs.	Description
A		Brake wheel clearance: see General Rule 2 in Section 1.
B	3 per pile.	Bearing pieces: 2 in. × 4 in. lumber. Length must be approximately equal to width of car, but not less than width of load. Space suitably under each pile.
C	3 per pile.	Separators: lumber, minimum 2 in. × 4 in., width must be at least 1 in. greater than height.
D	5 pair.	Side stakes: hardwood 4 × 4 minimum. Stakes must be of sufficient length to allow for placement of stake ties, Item E, across top of load. Stakes should be equally spaced. Locate end stakes approximately 3 ft from ends of pipe contacting the stakes. Fill space between stakes and car side of stakes and load by nailing or securing fillers to stakes.
E	4 per pair of stakes.	Stakes ties: approved Type 1A polyester strapping Grade 4 with an MBS of 3285 lb. Place one band midway between the floor and the top cord of the car; one across the top of the load; and one every 20 in. above the side of the car circling both stakes. Strapping must be tensioned with the proper tensioning tool and sealed with the appropriate buckle in accordance with the manufacturer's recommendations. **Do not substitute.**
F1	5 minimum.	Interlacing bands: approved Type 1A polyester strapping Grade 6 with an MBS of 7,700 lb. Interlace minimum of two rows of pipe below top of car side to top over the second row of pipe from the top. Locate as far from bearing pieces and stakes as possible.Strapping must be tensioned with the proper tensioning tool and sealed with the appropriate ladder buckle in accordance with the manufacturer's recommendations. **Do not substitute.**
F2	5 minimum.	Interlacing bands: approved Type 1A polyester strapping Grade 6 with an MBS of 7,700 lb. Interlace top two rows of pipe. Locate as far from bearing pieces and stakes as possible.Strapping must be tensioned with the proper tensioning tool and sealed with the appropriate ladder buckle in accordance with the manufacturer's recommendations. **Do not substitute.**
G	5 minimum.	Encircling bands: approved Type 1A polyester strapping Grade 6 with an MBS of 7,700 lb. Circle entire load. Locate as far from bearing pieces and stakes as possible.Strapping must be tensioned with the proper tensioning tool and sealed with the appropriate ladder buckle in accordance with the manufacturer's recommendations. **Do not substitute.**

Notes and Additional Requirements:

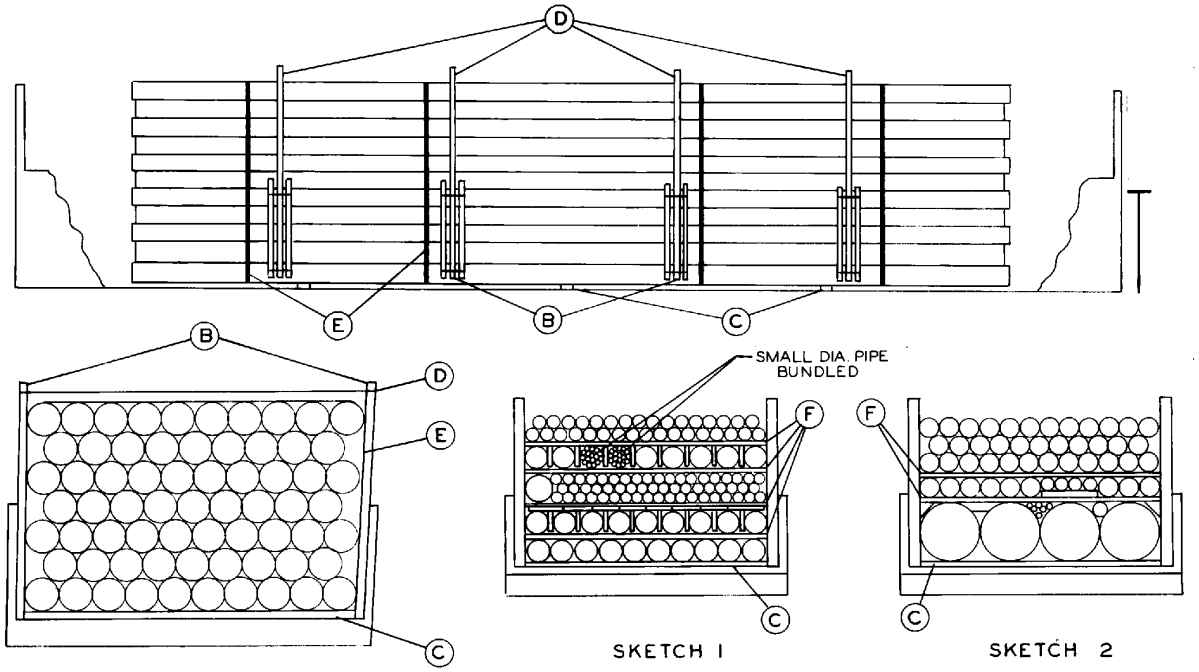
1. Rows of pipe below the sides of the car must be staggered as per drawing minimum 2 ft at each end.
2. Height of load above car floor must not exceed 10 ft.
3. If the load extends 5 ft 6 in. above the car side, or the load is 9 ft or higher above car floor, five pairs of stakes are required.
4. On loads 18 in. or less above car sides, space ties not less than 18 in. apart.
5. Pipe less than 12 ft long must be loaded below top of car sides.
6. Small-diameter pipe must not be loaded inside larger-diameter pipe, except when loaded below top of car sides.
7. Pipe located on the outside of pile must contact all stakes used on that pile.
8. Suitable nesting, blocking, or securement must be used to fill in crosswise voids.

Reference the General Rules in Section No. 1 of the *Open Top Loading Rules Manual* for additional details.

IMPLEMENTED 02/2014

Fig. 125 (Rev. 09/94)
(New 11/78)

PIPE, STEEL, 26 IN. O.D. OR LESS, , UNIFORM OR MIXED LENGTHS AND DIAMETERS—GONDOLAS WITH FIXED STEEL STAKES AND HIGH END BULKHEADS



Item	No. of Pcs.	Description
A		Vacant.
B	4 pairs per car.	Steel stakes: 4 in.× 4 in. × .250 in. wall, length equal to height of bulkhead, suitably spaced. Secure to gondola sides with two 1 in. high tensile steel bolts.
C	3 per pile.	Bearing pieces: 2 in. × 4 in. lumber, length equal to width of car, suitably spaced.
D	1 each pairs Items B.	Stake ties: 1 1/4 in. × .029 in. high tension band, or six strands No. 11 gauge wire. Locate across top of pile.
E	3 per pile 34 ft or less, 4 per pile over 34 ft.	Encircling bands: 1 1/4 in. × .029 in. high tension bands, suitably spaced. Bands to encircle entire load.
F	3 per pile between each tier. Use only when necessary for separation of pipe.	Separators: 2 ft × 4 ft lumber, length equal to width of load, not to extend beyond inside face of stakes. Locate over Item C.

Notes and Additional Requirements:

1. Pipe under 12 ft length must be loaded below car sides.
2. Small-diameter pipe must not be loaded inside large-diameter pipe except below car sides.
3. Height of load must not exceed the height of bulkheads plus one half of the diameter of the largest pipe on top tier.
4. Where voids arise crosswise in the load, suitable filler pieces must be used.
5. 5.1. When mixed diameters are loaded in same layer, except top layer, the layer must be leveled off with additional pipe or suitable blocking.
   5.2. When a layer of small-diameter pipe is loaded on top of larger-diameter pipe, suitable supports must be used under Items F or two 2 in. × 4 in. blocks placed side by side, or equivalent must be used for each separator required.
6. Flat metal strips or heavy paper may be placed between pipe where separations are required for identification purposes.
7. If additional Items B are required, use stakes of 4 in. × 4 in. hardwood, length to suit, secured to each other by a 1 1/4 in. × .029 in. high tension band at top of pile and near top of car side.
8. Tubular steel poles, tapered or made of two or more sections of different diameter, must be loaded with large and small ends alternated in each layer. Use fillers when necessary to equalize load.
9. Pipe on outside of pile must contact all stakes used for that pile.
10. All pipe in contact with steel stakes must engage at least two stakes with a minimum of 3 ft at each end of pipe.

Reference the General Rules in Section No. 1 of the *Open Top Loading Rules Manual* for additional details.